DEVELOPMENTAL ENGLISH PROFESSORS' EXPERIENCES WITH
LEARNING MANAGEMENT SYSTEMS AT AN URBAN
COMMUNITY COLLEGE: CHALLENGES, BENEFITS,
AND OTHER PERCEPTIONS

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ABSTRACT

Universities and colleges are embracing and utilizing technology to a rapidly increasing

extent, responding to its cost-effectiveness and efficiency as well as the regularity with

which 21st century students rely upon it in their everyday lives. Chief amongst the

technology used in higher education are Learning Management Systems (LMS), such as

Blackboard, Sakai, and CANVAS. Urban community colleges have also embraced LMS,

but with student bodies that often lack regular access to or extensive experience with

using technology for socio-economic or generational reasons, the outcomes from using

LMS can be very different to those experienced at four-year institutions that generally

serve a more affluent, traditionally-aged demographic. In particular, students in

developmental courses, or those courses designed for individuals who could not test into

college-level courses, can be particularly challenged when it comes to using LMS in their

studies as it is an additional component to which they must acculturate in higher

education whilst attempting to rectify their skills deficiencies. For faculty teaching

developmental students, this can raise the question of whether it is important to acclimate

students to the technology they will be called upon to use in the 21st century classroom or

whether the sole focus should be remediating students' lacking academic skills. This

qualitative, interpretivist, constructivist-activist/pragmatic study uses interviews with

urban community college professors who use or reject the college's LMS (i.e. CANVAS)

to varying extents in their classrooms, non-participant observations of the course

components those professors who use CANVAS post online, and course artifacts to

examine and reflect upon professors' experiences with employing or eschewing such

technology with their students.

This dissertation is dedicated to

Gregory Horton, who has supported

me endlessly; Connie Lewis, who has

always been my cheerleader; Dr. Catherine

Schifter, who has been in my corner since

day one of my degree; and, most of all,

Robert Lewis, who always encouraged me to

"get that sheepskin."

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INTRODUCTION

The Issue

Technology has become an undeniable reality in the modern university or college classroom. Its ability to cut printing costs, streamline record keeping and financial transactions, and expand course offerings through distance education options has encouraged colleges to convert more of their services to digital operations (Bowen, 2013; ECAR, 2014b). For many students at traditional, four-year colleges and universities, these conversions are welcome ones in a number of ways; students can access course materials and monitor their grades with ease, and there is a reliable means of ensuring coursework has been submitted on time. In addition, many four-year university professors benefit from improved communication with students, easier record keeping and grading options, and better management of their assignments (ECAR 2014a; ECAR 2014c; Falvo & Johnson, 2007; Messineo & DeOllos, 2005; Prensky, 2001). In short, technology is taking higher education into the 21st century, and many students and professors are reaping the rewards of its influence.

Of course, all of the above statements rest on the assumption that the students and professors using the technology are at least functionally proficient with it and have regular access to it. While this may be true for many four-year university and college students, who are predominantly middle-class "digital natives" - those born into a world where technology has always been heavily used (Prensky, 2001) – urban community

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college students do not necessary have the same relationship with technology and, as such, may not be comfortable with its use in the classroom (The Executive Office of the President, 2014; Mamiseishvili & Deggs, 2013; Messineo & DeOllos, 2005). Many urban community college students come from lower-income brackets (Darling & Smith, 2007; Regier, 2014), which often means they have little experience using technology because they cannot afford a personal computer, and their schools may well have been too underfunded to offer adequate computer training or exposure (Hess & Leal, 2001; Jonaitis, 2012; Pavia, 2004; Richtel, 2012; Stine 2010b). Moreover, a lot of urban community college students are older than their four-year counterparts; the last time many of them were inside of a classroom, technology was not used to the extent it is today (American Association of Community Colleges, 2014; Darling & Smith, 2007). When students lack computer proficiency, their comfort and ability levels with technology in the classroom can be very low.

Since technology is a broad term and has many applications within higher education, this study will focus most specifically on the use of Learning Management Systems (LMS), or "a framework that allows the relatively easy creation of online course content and the subsequent teaching and management of that course including various interactions with students taking the course" (EDUCAUSE as cited in Watson & Watson, 2007, p. 29). The use of LMS has become ubiquitous, enjoying the highest adoption rate of any academic application (EDUCAUSE Learning Initiative, 2015) and appearing at 99% of institutions (ECAR 2014d); 82% of institutions that serve non-traditional students, like urban community colleges, recognize the changing educational landscape and are becoming increasingly reliant upon LMS, too (Bell & Federman, 2013; Chernish,

DeFranco, Lindner, & Dooley, 2005; Ortiz-Rodriguez, Telg, Irani, Roberts, & Rhoades, 2005; Prensky, 2001; Stine, 2010b). The popularity of LMS, then, is undeniable.

Research Questions

But, to what extent are the faculty that teach these non-traditional students - particularly those in Developmental English courses - accepting the LMS that is quickly taking over their campuses? This study used a community college in a large, northeastern, American city - hereafter referred to as Northeastern Urban Community College (NUCC) - as its focal point, examined the experiences of its professors in using or rejecting the college's chosen LMS, CANVAS, and asked the following questions:

1. How did Developmental English professors in the sample set at an urban community college report their usage of LMS in the classroom? Within the sample, were there any identifiable demographical or ideological patterns in who chose to use/reject LMS in their courses?

2. What reasons did these professors have for using or not using LMS in their courses? Were their decisions based on perceptions of their students, their pedagogical beliefs, or other factors?

3. How did the professors who use LMS in their courses demonstrate their use of this technology in their courses? To what extent and in what ways did they utilize LMS? Was their usage consistent with their self-reporting?

These questions were important ones to ask because urban community colleges make huge impacts on the cities in which they are situated and the lives of the students they serve (American Association of Community Colleges, 2014). Northeastern Urban Community College boasts a number of economic contributions it makes to its city,

including the following: 78% of graduates becoming employed in the city itself and 93% gaining employment in the greater metropolitan area, reducing unemployment and dependence upon government assistance; $87.1 million dollars in labor and non-labor income added to the city; and millions contributed to the city's economy from the college's and students' spending as well as tax revenue (Anonymous, 2015c). Urban community colleges and their students are integral to their cities' social and economic well-being.

In order for urban students and their cities to continue on this upward trajectory, though, it seems students need their instructors to prepare them to work with technology, so they have the skills necessary for the 21st century workforce. This may sound like a simple need to fill, but one cannot begin to unravel the question of how to close the digital divide and equip urban community college students for the competitive, tech-savvy educational and professional landscapes that lie ahead unless researchers uncover the reasons why instructors do/do not use technology in their classrooms. For example, students' lacking skills with and access to technology, caused by their socio-economic statuses or age, may affect instructors' decisions about whether/how to utilize tools like LMS. In short, until the educational research community knows the stories of the professors deciding whether/to what extent technology should be used in urban community college classrooms, it cannot possibly decide which actions – if any – should be taken regarding LMS use moving forward.

Definition of Terms

In order to ensure clarity, it was important some terms were better defined so their meaning and usage in this study could be understood. The histories and broader

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applications of these terms are covered in the literature review, but they were used more specifically to the focus of this study throughout this piece. To begin with, Developmental English, as it pertained to this study, referred to linked reading and writing courses taken by students who did not test into English 101, the first college-level English course at the college. These courses do not count toward a student's graduation, but he/she must pass them before moving on to English 101 and college-level courses in other disciplines, like history, where college-level reading and writing skills are necessary to succeed.

The term professor, as it was used in this piece, referred to instructors of numerous ranks in the college. Because students at the college do not know the difference in their instructors' ranks, this is the term they apply to all faculty. As such, this was the term adopted consistently throughout this dissertation, but it was actually applied to adjunct instructors, visiting lecturers, and professorial faculty alike.

When classifying professors into categories indicative of their levels of usage, the terms heavy, moderate, and light were employed. In this study, those who identified themselves as heavy users were faculty whose classes are entirely or almost entirely paperless; all or nearly all assignments are completed on or submitted through CANVAS. Additionally, multimedia resources are regularly posted and viewed; discussion forums and other forms of off-campus communication are utilized; and students are expected to log in at least once daily. Those professors who considered themselves to be moderate users accepted some assignments through CANVAS, posted multimedia resources on occasion; and utilized off-campus communication options. Those who identified as light users delivered almost all course material through lecture and/or on paper and generally

only used CANVAS to post their syllabuses and contact their students off campus since these are departmental minimums, and there is no other way to email students without collecting their email addresses and manually entering them into the address field of a non-CANVAS email account.

LMS, in the broader context, refers to Learning Management Systems, or online platforms through which faculty can post files and videos, communicate with students, and accept/grade assignments from their students, among other functions. In this study, LMS referred specifically to CANVAS, the LMS adopted by the college being studied.

Community colleges are sometimes referred to as two-year institutions or junior colleges. Only the term community college was used in this study, however, because very few students at the college complete their degrees in two years due to outside obligations, such as family, work, the need to take developmental courses before embarking on credits that count toward their degrees, and financial constraints. The term junior college was not applied because this term has largely fallen out of fashion.

The use of the word urban in this study connoted a large city environment. More specifically, as it was used here, "urban" referred to a city with a population of one million or more residents. This definition was chosen because it contextualizes the size and scale of the college and the breadth/diversity of the students it serves.

Finally, the term northeastern was used to indicate this college's location in a city on the northeastern corridor of the United States. This was to provide the reader with a rough geographical location as well as the regional context that shapes the lives of the students and faculty in question.

Limitation

It is important to note that the findings of this study were limited to one community college in one city located within a specific region of the country. Therefore, geographical and regional differences might render some of the findings less applicable or pertinent to other regions or settings where the population being served is different socioeconomically or culturally.

CHAPTER 2

LITERATURE REVIEW

When reviewing the current pool of literature, one must cobble together a number of sources in order to gain any understanding of faculty members' experiences using LMS in urban community colleges. While there are articles that explore access to technology for urban students, the majority of this literature focuses on K-12 classrooms, not higher education classrooms (Greenhow, Robelia, & Hughes, 2009; Hess & Leal, 2001; Zhang, 2009). Similarly, as noted above, there are articles exploring students' and instructors' experiences using LMS, but these articles almost exclusively focus on the experiences of traditionally-aged, middle-class students and their instructors at four-year institutions with only passing mention of urban students at best (ECAR, 2014a; ECAR 2014b; ECAR 2014c; Messineo & DeOllos, 2005; Ortiz-Rodriguez, Telg, Irani, Roberts & Rhoades, 2005; Santilli & Beck, 2005; Straumsheim, 2014). Additionally, many articles focus on the use of technology in the classroom broadly, but, aside from a series of studies conducted by EDUCAUSE and pieces written about the findings of these studies, few focus on LMS specifically (Alexander, 2014; Darling & Smith, 2007; Grajek, 2015; Lawless & Pellegrino, 2007; Lucas 2013; Mishra & Koehler, 2006; Rosenfeld & Martinez-Pons, 2005; Soares, 2013). Therefore, the literature is missing a significant area of examination; the convergence of faculty members' experiences, the urban community college, and the specific use of LMS has not yet been covered, which means the foci of the research questions posed by this study have not yet been explored. Nevertheless, some important guidance can be taken from the existing literature pool and applied to this particular study.

Learning Management Systems

For 21st century faculty, LMS provide a means through which they can create, share, and store files, communicate with students, manage their courses, and assess students' work (ECAR, 2014d). For the 21st century student, LMS account for a great deal of how students interface with their professors and other classmates as well as how they submit and complete assignments. In fact, it has become one of the three most preferred ways students have of communicating with their professors, alongside face-to-face conversations and email interaction (ECAR, 2014d), and there is a great push from students to increase the modes of communication LMS have to offer as mobile devices become more prominent in their lives (Straumsheim, 2014). LMS have become an indispensable part of today's higher education classroom that has revolutionized the way faculty run their courses and students take them.

The rampant adoption of LMS paints a very idealistic image of their role on college campuses. For all of its benefits, though, LMS also present some complex issues for institutions, professors, and students. As previously mentioned, LMS have become a staple at the majority of college campuses, but their meteoric rise has also led to an oversaturation in the marketplace that has resulted in a competitive bidding war. In fact, 93% of the LMS market is held by just five companies, all vying for a larger piece of the pie (Lang & Pirani, 2014). Still the leader in the field, Blackboard now has to battle a number of competitors whereas it was once dominant. These competitors, such as CANVAS, Sakai, and Moodle, have upped the ante by going open source, meaning they have made their code freely available for the public to use and modify, which makes them far less attractive prospects to be taken over by giants, like Blackboard, since all the

larger company would inherit by taking over an open source system is support and development services it likely already has (Kolowich, 2011). Buying a contract with the open-source LMS is still a worthwhile venture for institutions, though, as the company that runs it still owns the copyright, and additional functionality is available in the cloud-based version that is not available in the free version ("The Changing Cost of Open Source," 2015). The smaller companies have gone this route to assure their prospective clients they will not sell out to the larger systems, giving the client greater faith in the budding company (Keller, 2011). This has eaten into Blackboard's dominance in the market, and with 15% of colleges reporting their intent to switch LMS within three years (EDUCAUSE Learning Initiative, 2015; Kolowich, 2010; Kolowich, 2011; Straumsheim, 2014), the arena is sure to keep shifting, further altering the experiences professors and their students have with their courses.

When reviewing this literature, one cannot help but make two observations. First, the existing studies about LMS almost exclusively focus on the role of LMS in four-year colleges and universities with very little mention of community colleges. Four-year colleges and community colleges serve very different functions and students, so what holds true for one may not be applicable to the other. Therefore, a gap exists in regards to the experiences of urban community college students and their professors when using LMS. Moreover, the research to date has mostly been conducted by one institution, EDUCAUSE, leaving a far too concentrated pool of literature. Additional studies are needed from a more diverse collection of sources in order gain a greater and wider understanding of how LMS is changing the college experience for nontraditional students and the faculty who teach them.

Faculty and Technology

One important point the literature reveals is that professors who know how to create socially relevant online learning communities that give students a more active, collaborative role in their education see lower attrition rates and higher engagement than those who only use the most basic functions, such as file sharing and email (Chernish, DeFranco, Lindner, & Dooley, 2005; ECAR 2014a; ECAR 2014b; Gredone, 2010; Messineo & DeOllos, 2005; Mishra & Koehler, 2006; Zhang, 2009). Those who make extensive yet well-guided use of online communication tools, such as discussion groups and email, receive extremely positive feedback from their students, who appreciate the flexible and interactive nature of their courses over being restricted to face-to-face or class time-only discussion. These students also enjoy using their personal devices for active learning in the classroom and report finding them to be less distracting when they were actually used within the context of class (ECAR 2014a; ECAR 2014b; Gredone, 2010; Greenhow, Robelia, & Hughes, 2009; Ortiz-Rodriguez, Telg, Irani, Roberts, & Rhoades, 2005). In short, faculty who know how to build true learning communities online and utilize the technology they have extensively see positive student outcomes.

Of course, if it were as easy as simply choosing to use technology more, many more professors would be doing it. Unfortunately, there seem to be many obstacles in their way - even at four-year institutions. Faculty at colleges and universities support the use of technology, including LMS, in their classrooms to a large extent. As previously mentioned, they approve of increased off-campus communication with their students as well as the ease of content sharing. However, they do have a number of strong concerns and frustrations with technology at large and LMS in particular in their classrooms

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(Straumsheim, 2015). To begin with, many express frustration with the limitations and slow service they feel inhibit what they can do in their courses. Abel, Brown, and Suess (2013) found faculty were willing to utilize LMS in their classrooms in new and innovative ways, but understaffed centralized IT service centers meant that faculty suggestions were put on the backburner as maintaining the status quo of operations was all the service centers had the staff to do regularly. As a result, faculty members' requests for new services and apps could take months at best to come to fruition, discouraging faculty from incorporating LMS into their classes further and creating the impression that IT simply got in the way of teaching and learning rather than supported it (Abel, Brown, & Suess, 2013; Bowen, 2013; ECAR 2014a; Grajek, 2015; Lucas, 2013). With too little staff to accomplish much more than sustaining day-to-day operations, IT support simply cannot foster the sort of synergy between technology, teaching, and learning professors are seeking.

Compounding faculty's institutional limitations with using technology, including LMS, in their courses is a lack of training provided to them. According to a study conducted by EDUCAUSE, 57% of the faculty members in their sample feel they could be better instructors if they knew how to use LMS better, but they feel stymied by their inexperience with technology, so they do not use it to its full potential. This, they report, hinders their ability to truly engage their students with online content and to use online tools to get students to communicate with each other outside of the classroom (ECAR, 2014a; Straumsheim, 2014). In fact, 74% of faculty see LMS as a worthwhile teaching tool, but the actual percentage of them who use it daily is only 47% because many are not sure how to use it past its most basic functionality (ECAR, 2014b). Training often exists

for rudimentary skills, such as logging in, file sharing, and fundamental usage, but budget constraints often limit institutions from providing training that will increase students' engagement in their courses (Grajek, 2015; Warger, 2011). More extensive training in how to use these technologies as actual pedagogical tools and not just technical aids would expand the possibilities of how faculty can use them and, thus, improve the student outcomes institutions see as a result: "This is more than just training on a particular technology. It is, as the saying goes, the difference between giving a man a fish and teaching him how to fish" (Grajeck, 2015, p. 19). Teaching faculty how to use technology might get them using it, but this is not the same as teaching them how to use it meaningfully.

Faculty also feel their students could benefit from more technological training. While today's students are considered digital natives and use technology heavily in their lives, their skill sets might not be consistent with what is expected at the postsecondary level (Thomas & Lorang, 2014). Students are said to have skills that are "widespread, but not deep" (ECAR, 2014c, p. 10), meaning they know how to perform many basic, functional tasks, but they are limited when it comes to the productivity of their usage (Kolowich, 2011). While faculty members' limited practice caused by their own lacking skills is partly to blame for lackluster LMS usage, students' skill deficiencies are also a problem. In fact, in a study conducted by Santilli and Beck (2005) examining the experiences of faculty at Nova Southeastern University with utilizing LMS, 65% of the participants said students' lack of technological skills was the largest obstacle they faced in trying to conduct their courses. Students know how to use technology for their own personal needs, but they lack basic computing skills that are integral to success in college,

such as using Microsoft Word effectively, according to 39% of the faculty surveyed by the EDUCAUSE Center for Analysis and Research (2014a). Students may use technology often, but the ways they use it aren't necessarily in tune with the ways their professors expect them to.

Complicating how professors address the issue of students' skills in their classrooms is a digital divide amongst students. Though many students lack the fundamental skills they are called upon to use in college, a significant number don't. This can drastically affect the way students perceive their professors' attempts to use IT and, as a result, professors' sense of how to proceed. Those students who feel comfortable and have experience with technology feel it really augments what happens in their courses and are more engaged with courses that use it heavily. However, those who have had limited experience, about 44%, found technology distracting in their courses and wished they'd had better training with using specific technology, like LMS (ECAR, 2014c). Faculty have noticed this divide, and 54% report wishing their students had been better prepared to use college-specific technology, like LMS, before taking their courses (ECAR, 2014b); 30% report having to train students or have their TAs train their students to be able to use technology as proficiently as the course demands (ECAR, 2014a). With two different populations and skill sets to serve simultaneously, many professors struggle to find the right balance between being innovative and inclusive.

In reviewing the literature, then, it becomes clear that, in order for LMS and other technology to be effectively used in the classroom, both faculty and students need considerably more in-depth and purposeful training. As Rosenfeld and Martinez-Pons (2005) point out, while "the teacher plays a key role in determining not only how but how

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well technologies are used in classrooms, and thus the extent to which technologies improve student performance" (p. 146), students' abilities to successfully engage with online materials as a result of good course design significantly improve instructors' experiences with utilizing technology with their classes. In turn, instructors who see positive results when using technology in their classrooms are more inclined to try more extensive and creative methods of using it later. This, it follows, leads to the positive student outcomes that come from more innovative use of technology in the classroom, and the cycle continues (Gredone, 2010; Hull, 2010; Rosenfeld & Martinez-Pons, 2005). However, without adequate training for both the students and the professors involved, this positive cycle cannot be set into motion.

Insufficient support and inadequate training are not all that are holding faculty back from adopting more technology in their courses; academic dishonesty was another concern. While the focus of the literature on this issue is explicitly on distance-education classes rather than on-campus classes using LMS, LMS provided the means through which students cheated, and these issues could still apply to online portions of on-campus classes. Several studies found that students in distance education courses self-report cheating more often in these courses than in traditional lecture-based classes. In fact, in their study, Raines et al. (2011) found that out of 1,028 graduate and undergraduate students, 60% reported "breaking the rules, dishonesty and not using [their] own brain[s]" when discussing their conduct in online courses (p. 83). This is because the students felt it was easier to cheat and not get caught online; indeed, some felt this was a benefit of taking online courses (Raines et al, 2011). Distance education, it seems, can provide a great deal of temptation for students to be dishonest.

The variety of methods with which students cheat is extensive, too. In a 2004 study conducted by Kenneth Chapman, 75% of the students he'd surveyed admitted to cheating in their online courses. 24% admitted to cheating on web-based exams, and 42% said they would cheat on their online exams if the opportunity presented itself. Moreover, faculty and administration were more likely to accept academic dishonesty in their online courses than their on-campus courses (as cited in Bell & Federman, 2013). This acceptance generally comes from a failure on faculty and administrators' behalves to establish clear boundaries for what constitutes academic dishonesty online, combined with the difficulty of proving wrongdoing has taken place in a remote location; recognizing these shortcomings leads faculty and administrators to let dishonesty, such as searching online for answers during online tests and accessing materials in advance from previous students, slide because they either recognize their role in not preventing it or cannot imagine how to do so (Raines et al., 2011; Smith, 2013). Academic dishonesty is rampant and difficult to prevent/prove, causing many faculty to shy away from online learning and LMS.

<center>Developmental English</center>

Amongst the students most likely to struggle adjusting to many aspects of higher education, technology withstanding, are those in developmental courses. Developmental courses are those courses created for students who, after taking a college placement test, do not demonstrate the necessary skills to succeed in college-level curricula. The goal of these courses is to strengthen students' lacking skills so they are then able to keep up with the demands of college-level courses. Most often, developmental education is offered for reading, writing, and mathematics (Brothen & Wambach, 2012; CCRC, 2010; Conforti,

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Sanchez, & McClarty, 2014), but this study will focus specifically on students enrolled in two Developmental English courses - one in reading and one in writing - that have been linked together for students testing into the lowest levels for both skills since these skills are seen to complement each other. Developmental English courses generally focus on basic writing competencies, such as grammar and essay structure, and fundamental reading tasks, like summary and identifying the main idea of a passage. They were originally and are still occasionally called remedial courses to denote the effort institutions make to remedy students' lacking skills while some refer to them as basic courses in reference to the level of competency covered. However, the term Developmental Education has become more widely embraced by practitioners since the connotation is more positive, and it encapsulates the goal of these programs, which is to *develop* students intellectually and academically so that they might succeed at the college level (Bailey, Jeong, & Cho, 2010; Boylan & Bonham, 2007). Regardless of which terminology is used, though, developmental courses aim to increase access to higher education for those lacking the expected academic proficiency.

As education has become a more open enterprise, the need for these courses and increased support for the educationally underprepared has expanded. While the first reported occurrence of developmental courses happened in the 1600s, when the universities began accepting a new population of middle-class students who had benefitted from less expensive means of printing reading materials but were not as polished as the traditionally aristocratic student body (Relles & Tierney, 2013), these courses really formally began with the Serviceman's Readjustment Act of 1944, commonly known as the G.I. Bill. The most popular offering of the act was the provision

of a free college or trade-school education to any active serviceperson or veteran. Many

servicepeople saw the opportunity to get an education they could not have otherwise

afforded and enrolled in colleges in droves. In 1947, just three years after the G.I. Bill

had been signed into effect by President Franklin Roosevelt, 49% of students enrolled in

higher education were veterans. By 1956, just under half of the 16 million World War II

veterans in the country had taken part in a vocational or degree program (Batten, 2011;

U.S. Department of Veteran Affairs, 2013). The G.I. Bill made postsecondary education

possible for many who would otherwise have not had the chance.

However, many of these people, coming from working-class and possibly even

minority backgrounds, did not always possess the skills the largely white, middle-class

college population came to campus already having mastered. Nearly two-thirds of those

who enrolled in degree programs lacked the competencies necessary to thrive in a post-

secondary setting, leading colleges to ask what they had to do in order to support their

new student bodies, and the answer was remediation (Parker, Bustillos, & Behringer,

2010; SUNY, 2014). Thus, the first dedicated developmental courses were created to help

bridge the gap between where these students were and where they needed, in the eyes of

their respective institutions of higher education, to be.

If the G.I. Bill altered post-secondary education, the Higher Education Act of

1965 completely revolutionized it. Under Title IV of the act, financial assistance to attend

colleges and universities would be provided to students showing economic need. Those

requiring the greatest assistance would receive grants to get postsecondary education or

vocational training while others would be able to take out low-interest loans to help fund

their studies. The act also stipulated that remedial services would be provided to students

who needed them (Higher Education Act, 1965), meaning those who were academically underprepared could still have a chance at getting a college degree. As money and educational background no longer inhibited those who had not served in the military – e.g. many women, who still did not make up a significant portion the armed forces – from going to college, The Higher Education Act took the small opening made in the doors to academia by the G.I. Bill and turned it into a wide open portal.

With so many non-traditional students seeking higher education, and with the legal responsibility to ensure even the least prepared of these were educated, colleges and universities had to create developmental programs that focused on teaching and shoring up skills that were heretofore assumed prerequisites for admission to college. In answer to this newly-established demand, colleges and universities scrambled to create developmental courses to serve their incoming body of often underprepared students. Since the Higher Education Act of 1965 stipulated that developmental services be offered to students now admitted despite not meeting previously-held academic standards (Higher Education Act, 1965), support services in reading, writing, and math became crucial. In 1971, for example, 13.7% of white students, 22.1% of black students, and 36.9% of Asian students (mostly second language-learners) were expected to need developmental courses and tutoring (Pryor, Hurtado, Saenz, Santos, & Korn, 2007). The changing student body created a new demand for educational support.

Higher education, fulfilling its legal obligation to do so, created developmental courses, which soon became ubiquitous, widely-used resources on campuses around the country. By 2000, 76% of four-year universities and 98% of all two-year institutions reported offering at least one developmental course (Pryor, Hurtado, Saenz, Santos, &

Korn, 2007). Today, 40% of all undergraduates are recorded as having taken at least one developmental course (Barbatis, 2010; Parker, Bustillos, & Behringer, 2010; Rutschow & Schneider, 2011; Wilson, 2012). As a result of the increased access to postsecondary education created by the G.I. Bill and Higher Education Act of 1965, developmental education has become a supply and demand enterprise.

Unfortunately, knowing how to best serve these students is a challenge many colleges continue to face. Completion rates for developmental students are abysmal. At two-year colleges, only 28% of developmental students ever attain a degree, compared to the 43% of non-developmental students who do. At four-year institutions, only 52% of developmental students ever earn a bachelor's degree, compared to the 78% completion rate of their non-developmental counterparts (Bailey, Jaggers, & Scott-Clayton, 2013; Brock, 2006; Conforti, Sanchez, & McClarty, 2014; Rutschow & Schneider, 2011). Therefore, a developmental student is highly likely to never receive his/her degree. These courses have been called gatekeeper courses at best and legal means of segregation at worst (Otte & Mlynarczyk, 2010). They are accused of being costly to institutions (Oblinger, 2010; Pretlow & Wathington, 2012), offering students access to higher education in name only (Webb-Sunderhaus, 2010), and many believe the delay they place in students' journeys to get degrees can serve as an obstacle that leads students to give up altogether (Rose, 2011). With such low success rates and negative allegations against them, it is important developmental programs contemplate the efficacy of their practices, including how they utilize technology to prepare students for further studies and vocational placement.

Student Access in Developmental English

Developmental programs were born from the idea that everyone should have

access to higher education, but, for some developmental students, technology can feel

like it is restricting that access. The "digital divide," or the gap in computer access caused

by age, income, physical disability, or other limitations (Oblinger, 2010; Richtel, 2012;

Van Dijk, 2006), is profoundly felt in urban developmental classrooms, where many

lower-income and older students end up (American Association of Community Colleges,

2014; The Executive Office of the President, 2014; Mamiseishvili & Deggs, 2013), and it

can raise a lot of questions for professors teaching these courses. On the one hand, these

professors are aware that their students will be expected to be proficient with computers

at four-year transfer institutions or in the workforce. Moreover, these professors would

like to reap the same benefits, mentioned above, that their four year-counterparts do. On

the other hand, using this technology presents many issues. First, there is the question of

whether/how students will be able to access computers when they are off campus in order

to complete or upload assignments online (Jonaitis, 2012; Messineo & DeOllos, 2005;

Oblinger 2010). Second, there is the time that must often be given over to training

students how to use technology (e.g. how to use email, send attachments, log on to

Learning Management Systems, word process their work, etc.) that even professors at

four-year colleges, where one would assume students are better prepared to work with

technology, complained about losing. Finally, there is the reticence from students to

engage with resources that are unfamiliar to them (Messineo & DeOllos, 2005; Stine

2010b). For the urban community college professor, then, there is a real quandary: a

failure to use technology can leave students unprepared for future institutions of

education or employment, but the use of technology can alienate students from their learning or waste valuable instruction time on training.

The issue of access is one that weighed heavily on the focus of this study. Urban students generally come from low-income backgrounds and school systems that limit their access to technology by not providing them with the training and exposure to computers their white, more affluent, suburban counterparts receive (Messineo & DeOllos, 2005). Comparing the college-graduation rates between social classes, a clear picture develops between rich and poor. By the age of 24, the percentage of those in the top income quartile earning a degree has risen from 40% in 1970 to 72% in 2011 with online programs being credited for many students' decisions to get their degrees - even if that happens after the traditional graduating age of 22. In the bottom three quartiles, however, fewer than 20% can expect to earn their bachelor's degrees with only 10% in the bottom quartile ever getting theirs (Regier, 2014). Technology is ever-evolving, and a lot of middle and upper-class people are embracing all of the exciting, rapid changes constantly being made, recognizing the fantastic opportunities they open. Unfortunately, these changes are costly, making them unattainable to many marginalized members of society:

> In a sense it seems irrelevant to talk about how electronic discourse in a medium like e-mail can hide markers of race, class, or gender or that network use may allow a group or individual to cross lines of social stratification more easily...It is increasingly unlikely that individuals of lower income, education, and people of color are online. (Grabill qtd. in Stine, 2010b, p. 136)

In this view, technology is merely widening the gap between the haves and the have-nots. Those who constantly find themselves on the periphery of society (i.e. minorities, the

poor, and the educationally underprepared) are unable to access the technology that is

revolutionizing the world and are being left behind.

For developmental students, technological limitations are set in place at an early

age. According to Hess and Leal (2001), insufficient and inefficient distribution of funds

for technology to urban schools has made it difficult to close the digital divide and

properly equip urban students for the "new economy" (p.766). This deficient funding

contributes largely to developmental students' lack of computer literacy since they have

often received inadequate training with computers and do not know how to use them even

when they have regular access to them on their colleges' campuses (Jonaitis, 2012). This

is particularly problematic because a delineation is created between the "information

rich" and "poor" (Selwyn, 2006, p.274) that can be socially exclusionary:

> Unequal access to computer technology introduces new sources of
> inequality into the processes of staying informed, exercising free speech,
> and enjoying economic benefits and choices. In a practical way, computer
> technology amplifies the civil and economic rights of those that have it
> over those that don't. (Brandt, 2001, p.48)

Failing to teach urban students how to use technology proficiently may create a further

disadvantage in their quests to advance themselves in society; many already must battle

older forms of discrimination, such as racism and classism, and without computer skills,

they will have another obstacle before them.

Age can also play a significant role in a developmental student's ability to

become proficient with technology. As previously mentioned, for older, middle and

upper-class students, the increasingly technological college campus has made earning a

degree later in life possible with online programs being a popular means of

accomplishing this goal. The same cannot be said, however, of those in lower

socioeconomic brackets (Regier, 2014). While there have been significant pushes to at least get computers into public schools, little attention has been given to increasing adults' technological literacy, leaving many poorer adults with no way to hone their skills and keep pace with their middle and upper-class counterparts (Stine, 2010b). The result is that older students arrive to colleges that are filled with computers and faculty who expect their students to know basic computing skills and become confused and overwhelmed. When their lacking technological skills are combined with the reading, writing, or math deficiencies so common amongst developmental students, older students can become discouraged, causing them to leave or fail out of their courses (Stine, 2010a). Additionally, these students struggle to use the on-campus computers more than younger students because they often have great responsibilities in their lives and need to be home or taking care of their families when they are not in class, so, for them, technology is an added hassle that makes getting an education more difficult than it already is (ECAR, 2005). For older developmental students, then, technology can simply be another stumbling block in their attempts to earn a degree.

Age can certainly be a hurdle when it comes to using technology, but for developmental students, youth and prior experience may still not translate to success in the classroom. Access to technology has increased for younger urban students with studies reporting that poorer students actually spend more time on digital devices than their more affluent counterparts. However, this time is generally spent gaming or using social media, not learning the computer skills necessary to succeed in college or the workforce (Jonaitis, 2012; Ritchell, 2012). Therefore, while many developmental students know how to use technology informally, they do not understand where the line

of formality lay and how the ability to instantly publish does not necessarily mean one's work is polished or of an acceptable standard (Klages & Clark, 2009). Prior experience is not necessarily beneficial to students if that experience has not been effectively directed.

Furthermore, for many academically underprepared urban students, their relationships to computers are disjointed, deficient, and even adversarial. A lot of developmental students struggle to see the connection between computers and writing, thinking of writing as something one does with a pen and paper and the mechanical act of typing as being what one does on the computer. Compounding their minimal in-school training, many developmental students have limited home access or older, unreliable computers, leaving them with scant typing and word processing skills (Pavia, 2004; Stine 2010b). Additionally, in many of the communities from which these students hail, there is a fear and skepticism surrounding technology that can make them wary of using computers (Jonaitis, 2012). This can cause a sense of detachment for them in the online or connected classroom, where professors provide computers as the means through which students can compose and craft their ideas, as students view the computers as a tiresome means of production (Pavia, 2004; Stine 2010b). Today's urban student may have more access to technology than ever before, but if proper training and guidance are not provided and/or if the technology students have at home is unreliable, students may still find themselves overwhelmed and lost in college.

It becomes clear, then, that at urban community colleges, students lacking technological access are not in the minority, which changes the way instructors must think profoundly (Darling & Smith, 2007). Many of the obstacles affecting access to and

proficiency with computers are issues at Northeastern Urban Community College. 76% of the student body is comprised of minorities, and 84% of the full-time students are on financial aid despite the low-cost tuition (Anonymous, 2015d), placing the students in the racial and socio-economic demographic most likely to have had limited access to technology in their schooling or at home (The Executive Office of the President, 2014; Hess & Leal, 2001; Mamiseishvili & Deggs, 2013; Messineo & DeOllos, 2005). Moreover, more than 53% of the student body is aged 25 or older, with 25 being the median age, meaning that, for many, the technologies used in today's college classrooms were not as prevalent in their previous schooling. As nearly two-thirds of the students entering the college need to take at least one developmental course, the limitations students have coming into the college are most profoundly felt here since these are the first courses at the beginning of students' acculturation processes (Anonymous, 2015b); it is largely in developmental education that these students will learn to "sink or swim" as they begin the frenzied process of learning how colleges want them to speak, write, behave, and utilize technology.

<center>A Gap in the Literature</center>

To date, the literature has provided many of the elements explored in this study. Issues of student access, successful design, and the need for professional development have all been covered, but they have not been applied to the specific interests of this study. Most of the research conducted thus far has focused on either urban K-12 students or predominantly middle-class, four-year college students with only cursory mention of faculty experiences. None have combined these elements and examined how urban community college professors experience the burgeoning use of technology in higher

education in their developmental classrooms. Moreover, most of the literature has taken a broad approach to the concept of technology, exploring it as a nebulous concept that can be interpreted many ways – LMS, distance education, use of multimedia, etc. To offer a more precise analysis, this study narrowed the focus down to LMS specifically since the literature has indicated this accounts for the majority of how students interface with their professors outside of the classroom in many institutions (ECAR, 2014d; Ortiz-Rodriguez, Telg, Irani, Roberts, & Rhoades, 2005; Straumsheim, 2014). By pulling all of these elements together and exploring urban community college professors' experiences with LMS in their developmental classrooms, this study helped address an important gap in the literature.

CHAPTER 3

METHOD

As this study sought to examine and analyze the experiences of urban community college professors teaching developmental courses, a qualitative approach was deemed most appropriate. The research questions did not seek quantifiable answers. Instead, they intended to determine the effects context-specific factors, such students' access to and experience with technology as a result of their socio-economic statuses and age, had on faculty members' perceptions of using LMS in their classrooms. The answers to these questions varied significantly from instructor to instructor, and the complexity and nuances of these responses were greater than could be captured in a survey, statistic, or other positivist approach.

For these reasons, this study adopted an interpretivist approach. It did not seek to propose any changes or calls for action as the critical theory paradigm might have; instead, it aimed only to present the experiences of the faculty participants, thus "enacting the social reality of the actors" (Hirschheim, 2010). While much of the work in urban education adopts the more activist approach of critical theory, it was important to ascertain how faculty experienced the use of LMS in their classrooms and why they did/did not choose to adopt it before deciding what the next steps should be. As there is currently such a gap in the literature regarding faculty experiences with LMS with developmental students in urban community colleges, pushing for action before knowing the factors informing faculty members' decisions seemed premature and misguided at this juncture.

The data collection process began with the distribution of a survey about faculty members' experiences with and attitudes toward using the college's LMS, CANVAS, in their classrooms. All members of the English department received a copy of the survey in their mailboxes. This method of distribution was chosen over electronic distribution methods since this study aimed to learn about the experiences of both faculty who did and did not use CANVAS or only used it to a limited degree; it might have followed that those who opted out of using CANVAS might also not have been comfortable using email or online surveys, which might have alienated them from the participant pool. Only paper copies of the survey were distributed in order to avoid accidental duplication of responses from faculty members who might have responded to an online version and without realizing the paper copy in their mailboxes was the same survey.

Though this study sought to find the experiences of developmental English professors, all faculty in the English department (i.e. those who teach developmental and those who teach some or only college-level courses) were asked to fill in the survey and indicate their CANVAS usage for college-level courses (if any) and developmental courses (if any) they taught in order to get context about the department's experiences and attitudes. That is to say, for the interests of this study, the comparison of how faculty teaching college-level courses experienced using CANVAS in their classrooms was of interest even though they were not the population at the focus of the study because if their answers differed greatly from the developmental faculty's, it might have shed some light on whether the course level at which one teaches has an effect on his/her experience with using CANVAS.

At the end of the survey, those who would be teaching the two linked Developmental Reading and Writing courses - the lowest-level courses taught at the college - in the Summer and Fall 2015 semesters were asked whether they would be willing to be interviewed about their experiences and whether, within that pool, those who used CANVAS moderately or heavily would allow the online components of their courses to be observed. The faculty teaching these linked courses were chosen as the focus of this study to remove some possible variables from the data collected. Developmental courses are populated by students who are new to the college and CANVAS; those in higher-level courses are more likely to have been taught to use CANVAS by their previous instructors, which could affect the experience their current professors have with using CANVAS in their courses.

Additionally, there are actually three levels of Developmental English courses at the college - the linked reading and writing courses, a Developmental Writing course that is linked with a college-level study skills class, and a Developmental Writing without any other courses linked to it. However, only faculty teaching the linked Developmental Writing and Reading courses were chosen in order to remove the question of whether students' improved reading skills (i.e. those who take Developmental Writing by itself or with the college-level study skills class are stronger readers than those who take it with the Developmental Reading course and, thus, need no remediation in that regard) affected their ability to navigate CANVAS and, as a result, improved their professors' experiences using it. While the experiences of the college-level and higher developmental professors would have still been very relevant and valid to the research questions of this study, including them in the scope at this particular stage might have spread the results too

thinly and offered less telling data than keeping the population more restricted for the time being. The responses of professors teaching higher-level courses would be an interesting component to add to future additions to this study as it grows beyond a nascent stage.

The survey was also only offered to those teaching on-campus courses since students who sign up for hybrid or distance-learning courses are likely to have greater confidence using LMS, which could have presented data that was not representative of the average professor's experience teaching lower-level courses at the college. In fact, the college offers only three sections of Developmental English (all three are the unlinked writing course) and two sections of Developmental Math courses online because there are so few students capable of successfully completing an online course at this stage of their college education.

Moreover, distance education courses at the college tend to attract students from four-year colleges who want to take their general education courses at a more affordable institution. The presence of these students would have skewed the data collected as even a few of them could have vastly affected a faculty member's perceptions about the efficacy of the methods and design he/she adopted for that particular course. Again, the data from these professors would have held great value to the broader interests of this study, but this is information that would be useful further down the line after the data from this initial phase has been collected and analyzed; it could add some fascinating supplemental information and a basis for comparison in future incarnations of this current study.

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Departmental Demographics and Survey Results

Email correspondence with the English Department Assistant Chair and the results of the survey offered some interesting context to the study and its selection of participants. According to the Assistant Chair of the English Department in an email dated April 15th, 2015, there are 238 members of faculty in the English Department. Of those, 112 of those are considered full-time, 119 are part-time (these are not all active every semester due to fluctuating enrollment), and there are seven visiting lecturers (this number also fluctuates based upon enrollment and a mandatory 70/30 full-time to part-time ratio successfully bargained for by the powerful faculty union). About 40% of the faculty (95 out of the 238) teach developmental courses on average, and of those, 51 are full-time, 42 are part-time, and two are visiting lecturers. 22% of the department, or about 52 faculty members, teach the linked reading and writing course in a given semester. Of those, 27 are full-time, 24 are part-time, and one is a visiting lecturer. As enrollment and staffing needs fluctuate from semester to semester, these numbers are subject to change slightly between terms, but this is the general count.

Of the 238 total faculty members in the English Department, 63 responded to the survey. Of those 63 faculty members, 61 had been teaching in higher education for at least six years; 41 had been teaching in higher education for 10 or more, so these were relatively to very experienced faculty members. As figure 1 shows, almost all of the respondents had at least some experience teaching Developmental English with 57% having more than five years' worth of experience teaching those courses.

Figure 1. Length of Time Teaching Developmental English

How long have you taught Developmental English?

Answered: 63   Skipped: 0
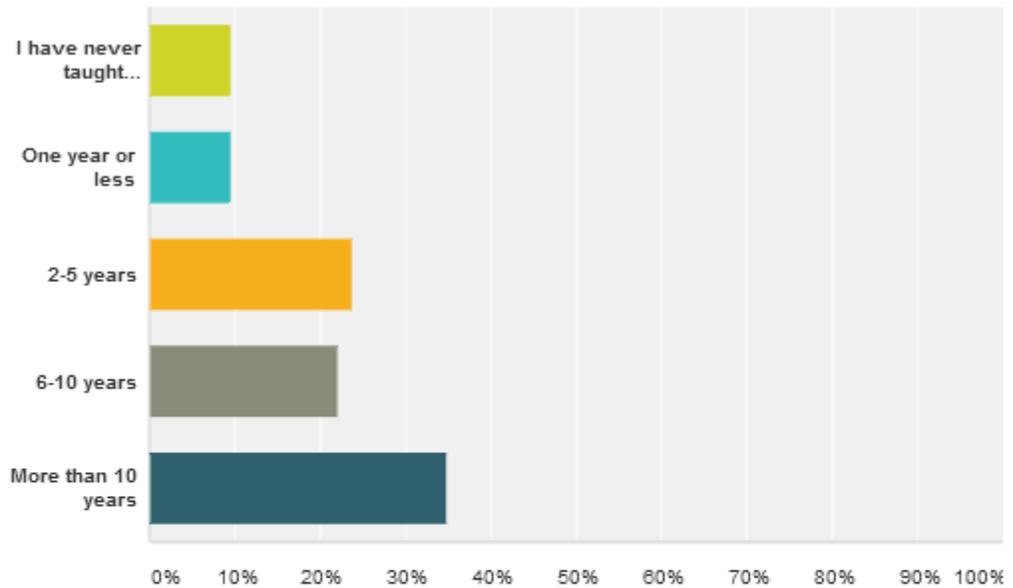
Answer Choices	Responses	
I have never taught Developmental English	9.52%	6
One year or less	9.52%	6
2-5 years	23.81%	15
6-10 years	22.22%	14
More than 10 years	34.92%	22
Total		63

The vast majority of the faculty who responded, almost 86%, had at least one year of experience using LMS. However, despite this experience, almost 43% still described themselves as light users (the remaining faculty were equally split between heavy and moderate usage). This number becomes clearer when one examines *how* faculty self-reported using CANVAS; though 46% said they used CANVAS every day or almost every day, and 27% said they go on at least a few times a week, it seems, for the vast

majority, this is largely just for off-campus communication (CANVAS is the only means by which faculty can email their students now), file sharing, and record keeping (figure 2), all basic ways of using CANVAS. More advanced functions, like accepting and grading major and minor assignments, performing group work, and taking quizzes did not score as highly.

*Figure 2.* Ways Faculty Use CANVAS
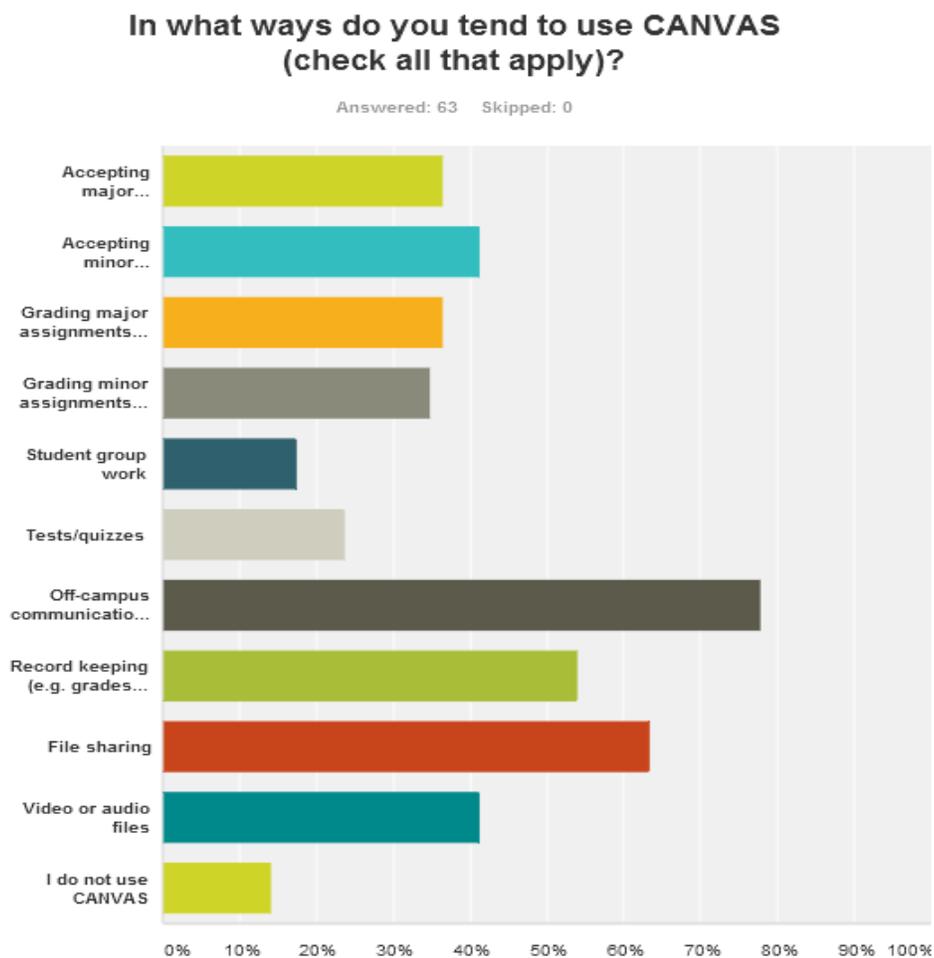
Those respondents who liked CANVAS used it mainly for their personal convenience, organization, recordkeeping, flexibility for students unable to attend, and paper saving. Those who didn't use CANVAS didn't use it because they didn't know

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how to use it and/or preferred their paper resources/traditional methods of teaching more.

Very interestingly, of those who taught college-level courses, over 60% felt computer-mediated instruction added a great deal to their courses (figure 3).

Figure 3. College-Level Faculty's Attitudes about LMS

Which of the following best describes your attitude toward computer-mediated instruction for college-level English students?

Answered: 63   Skipped: 0
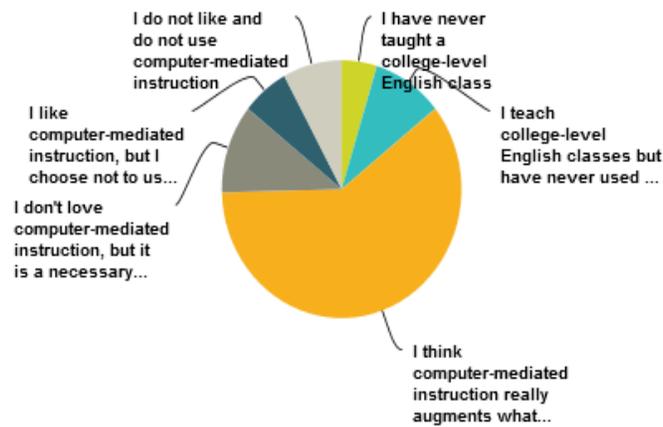
Answer Choices	Responses	
I have never taught a college-level English class	4.76%	3
I teach college-level English classes but have never used it in my class	9.52%	6
I think computer-mediated instruction really augments what happens in my class	60.32%	38
I don't love computer-mediated instruction, but it is a necessary evil, so I use it	11.11%	7
I like computer-mediated instruction, but I choose not to use it	6.35%	4
I do not like and do not use computer-mediated instruction	7.94%	5
Total		63

For those who taught Developmental English, this number dropped to only 35% (figure 4), indicating an overall departmental attitude that CANVAS was not as effective a teaching tool for developmental students as it was for college-level ones.

Figure 4. Developmental Faculty's Attitudes about LMS

Which of the following best describes your experience with computer-mediated instruction for Developmental English students?
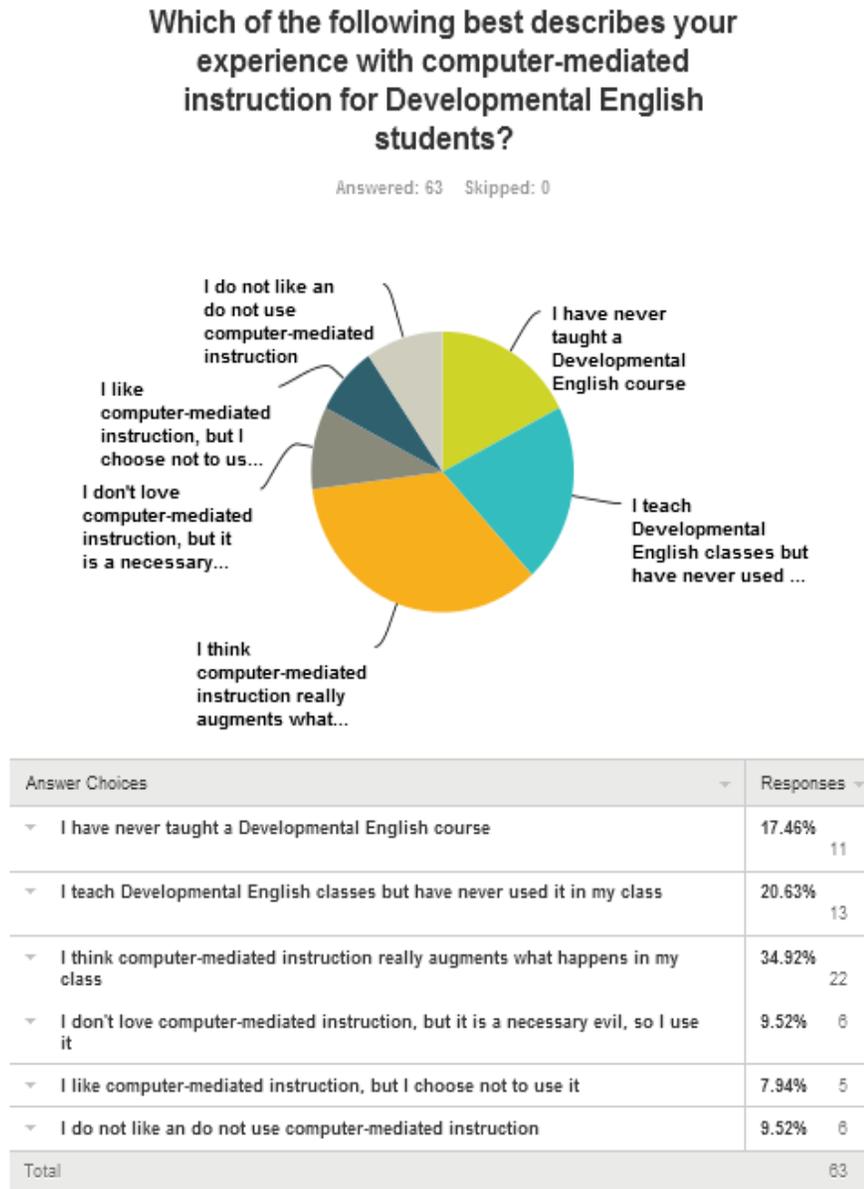
Answered: 63   Skipped: 0

Answer Choices	Responses	
I have never taught a Developmental English course	17.46%	11
I teach Developmental English classes but have never used it in my class	20.63%	13
I think computer-mediated instruction really augments what happens in my class	34.92%	22
I don't love computer-mediated instruction, but it is a necessary evil, so I use it	9.52%	6
I like computer-mediated instruction, but I choose not to use it	7.94%	5
I do not like an do not use computer-mediated instruction	9.52%	6
Total		63

Those respondents teaching the linked Developmental Reading and Writing courses who agreed to be interviewed and observed were asked to leave their contact information next to their checked consent boxes at the bottom of the survey so the interview could be scheduled. Of those who responded, the following participants were chosen: five who used CANVAS heavily, five who used it moderately, and five who used

it lightly. The reason for this sample selection was to get a more comprehensive snapshot of faculty's experiences and attitudes whilst keeping the scope of the study manageable for one person. Thus, a cross-sectional, purposeful sample was used. Where possible, participants of varying age groups were chosen, but too few respondents in the heavy and moderate user categories meant that those who responded yes were automatically selected in those categories; there was a larger participant pool to choose from in the light/non-user category, but every respondent was in his/her 60s or 70s, limiting the age diversity of those participants.

Once the 15 participant professors were selected, formal interviews were arranged. During these interviews, the instructors were asked to discuss their experiences with CANVAS or lack thereof. The professors were asked why they did/did not use CANVAS and which experiences led to their decisions to use/not use CANVAS. They were also asked whether the college and its student population had any bearing on their decision, whether they felt pressured by the college or department to use CANVAS, and whether it had augmented or hindered their teaching at any given time amongst other questions. Based upon their responses, follow-up questions were asked, as appropriate, to yield the most complete and well-rounded data. Unlike questionnaires, which are static and can limit the extent to which a participant answers a selected question, the interview format is dynamic, which allowed the professors to expound upon their ideas more freely. In the end, the interviews were transcribed, coded, triangulated, and member-checked to ensure the conclusions being drawn were accurate portrayals of the data collected.

After the interviews, the researcher performed non-participant observations of the online components of the course sections belonging to those professors who used

CANVAS heavily and moderately. In these observations, the researcher focused upon how the professor used CANVAS to create a classroom community, how course content and delivery were structured, and the ways in which CANVAS was used to augment/supplement what took place in physical classroom meetings. The purpose of these observations was to get a sense of the classroom dynamic that was created by using CANVAS and to witness the interactions between the students, faculty, and CANVAS. In short, this was a chance to see the experiences professors discussed in their interviews in action and determine whether they were consistent with the professors' perceived level of usage self-reported during interviews.

Artifacts in the form of course documents and assignments also helped inform the analysis. A large part of determining the extent to which professors were using CANVAS was examining the assignments they provided in order to see what role CANVAS played in achieving the course objectives. This was significant because, according to the literature, a professor's competence and confidence with using CANVAS is relevant to his/her experience with it; those who used it creatively and confidently would have been more likely to get a positive student response, which would have almost certainly improved the professors' outlooks on using such technology in their classrooms (Gredone, 2010; Greenhow, Robelia, & Hughes, 2009; Hull, 2010). Examining the nature of the work being assigned (or not being assigned) on CANVAS helped determine whether the assertions made in the literature about four-year institutions held true for these urban community college professors.

The non-participant observations and artifact collection did not yield much data despite expectations going in. This may have, in part, been due to the researcher's

somewhat limited access to the course materials. In order to protect the privacy of the students in the course, the researcher was limited only to an "observer" role in the heavy and moderate users' courses. This was to prevent students' sensitive personal information, such as grades, forum posts, and email correspondences with faculty, from being seen by an outside party in observance of federal student privacy laws (FERPA). Thus, the researcher could only see how the faculty used CANVAS to post files and assignments and send announcements to their classes. Essentially, faculty used CANVAS much as they reported in their interviews, and since their interviews provided far more useful detail about their usage, that was the data that was examined and analyzed in the following sections. Though this was not the most fruitful form of data collection in this particular study, it may offer information of interest in future studies, and, thus, further efforts to pursue this topic should still consider keeping it within the data collection methods.

While the assertions made in the literature about faculty's creative use of technology correlating with the positivity of their experiences using it were of interest, they did not guide the focus or analysis of this study. Instead, this study allowed the participants to speak freely during their interviews and analyzed the data collected to see which theoretical framework best fit the participants'' responses. To help achieve this, the researcher used open coding to pull out key concepts that came to light in the interview transcripts, memoing to identify significant patterns within the data, and then integration to select the theoretical frameworks that seemed to encompass the ideas that most commonly surfaced (Carter & Little, 2007). By adopting this approach to data analysis, the study remained open to the ideas presented by the participants and made

sense of the ideas as they related to each other rather than trying to slot them into a pre-selected agenda. At this early stage of the study, when so little is known about faculty members' experiences using LMS in developmental, urban community college classrooms, it was important to remain open to the myriad possibilities the participants' responses could have yielded as the groundwork for this area of research still needs to be laid, and narrowing the focus too soon could have led this study and future installations of it down the wrong path.

Once the data were analyzed, using the process listed above, the constructivist-activist and pragmatic paradigms were found to be the most applicable to this study. Much of what the participants had to say revolved around the concept of knowledge building readily found in the constructivist-activist paradigm (Ertmer & Ottenbreit-Leftwich, 2010; Murphy & Rodriguez-Manzanares, 2008), but there were also some very prevalent concerns amongst faculty that questioned the usefulness, effectiveness, and convenience of using CANVAS that spoke to the pragmatic framework (Rogers, 2003; Bennett & Oliver, 2011; Buabeng-Andoh, 2012). The extent to which these theories apply to the responses of the participants has been detailed more fully in the discussion portion of this piece.

<div align="center">Limitations</div>

Despite all efforts to make this study unbiased and comprehensive, there was one limitation that was encountered. As previously mentioned, the number of heavy and moderate users willing to be interviewed was limited. Thus, everyone who identified as a light or heavy user and agreed to be interviewed was selected. The reason so few heavy and moderate users were willing to be interviewed is unknown, but this limited the

selectivity the researcher could apply when picking participants. In the light user category, there was a great deal more choice as more light users were willing to be interviewed. That said, the range of users in the moderate and heavy categories did still manage to be quite diverse in terms of age and representatively diverse in terms of sex, so, though not ideal, the lack of selection did not seem to skew the results too heavily toward one demographic.

The above-listed limitations are not ideal, but they do not negate the overall objective or value of this study. A wider array of courses/course delivery methods for analysis would have been optimal, but, with only one researcher working on this study, restricting its breadth and focus for the time being was the most responsible decision to make as it decreased the possibility of bias or faulty analysis resulting from too much data for one person to properly process. A greater selection of participants in the heavy and moderate categories would have been more ideal, but the participants who did agree to be interviewed were still relatively diverse in comparison to the departmental demographics, so, in the end, this issue did not negatively impact the credibility or value of this study.

In the end, this study provided a strong foray into a topic that is sorely missing from the current literature; though the scale of the study may have been small, it provided an excellent inroad for future explorations of urban community college professors' experiences using LMS in their developmental classrooms. Any perceived shortcomings caused by the above-listed limitations can mostly be rectified by augmenting the data with future and/or better-staffed studies. For the time being, however, an important conversation has been started, making this study a valuable contribution to the field.

The College

Northeastern Urban Community College is located in a large city on the northeastern seaboard. Over 34,000 students attend the college's four major campuses and smaller satellite campuses or take classes at their workplace through a special program designed to help employers improve the credentials of their workers. Credit and non-credit courses are available, and there are more than 70 associate degree and certificate programs from which students can choose. The college is fully accredited, and more than 75% of the students enrolled in transfer programs go on to four-year institutions to further their education (reference withheld).

The Students

The student body at Northeastern Urban Community College is very diverse. 76% of the students who attend are minorities with blacks and Hispanics comprising the bulk of that percentage (53.4% and 12.4%, respectively). The majority of students, 62%, are women, and, as previously mentioned, 53% of the students are over 25 with the median age being 25. Most of the students are from working-class and low-income families with 84% of the full-time students and 67% of all students being on financial aid despite the low-cost tuition. Nearly two-thirds of the students entering the college must take at least one developmental course before being able to take college-level courses and embarking on their degrees. On average, just over half of the students placed in their Developmental English courses pass each semester (reference withheld).

The English Department

The English Department faculty at Northeastern Urban Community College teaches a range of courses, including composition, literature, creative writing,

communications, and drama courses, but as nearly two-thirds of the students who attend

Northeastern Urban Community College must begin their courses in at least one

developmental course (Anonymous, 2015b), there is always a great need for faculty to

teach developmental courses. A source of controversy within the college and the

department has been the elimination of a course at the college that was for students

whose entrance test scores were lower than those students who used to place into the

linked reading and writing course. That course has now been turned into five-week,

tuition-free, grant-funded workshops. The students who take those workshops are not

actual students at the college whilst taking the workshops, but if they complete the

workshop without falling foul of the strict attendance policies, they are given the

opportunity to take the placement test again. If they pass the placement test, they are

placed in whichever course in the college their scores suggest they should take; if they

fail, they are given the opportunity to take a three-week repeaters' workshop with a

similarly strict attendance policy. Students who pass the placement test at the end of the

three-week repeater workshop will place into whichever course their scores dictate, but

those who fail cannot take the course again; they are referred to Adult Basic Education

(ABE) courses outside of the college to brush up on their skills further. They must wait

two years for their placement test scores to expire before they can try again.

Recently, an online option has been made available to these students, too.

Students are given a ten-week login to a skills-improvement course. They have to

complete 30 hours' worth of coursework within that ten-week window in order to be

allowed to retest; if they do not pass the first time and still have time remaining in their

login, they must complete another 15 hours in order to retest again. Like on-campus

workshop students, those who do not pass after their second attempt at retesting are referred to ABE classes and must wait two years before attempting to take the test again

There is tension between some department members and the college regarding the cancellation of the lower-level course. Some in the department speculate it was cut in the interest of saving money that would have been spent paying the instructors that taught them. The college's official stance on the matter is that students who are in developmental education for too long have terrible degree completion rates, so acceleration through Developmental English is the best way of keeping students motivated and moving toward graduation. They cite many studies as well as the college's own institutional research to support this assertion, and, indeed, there are studies to bolster their claims (Conforti, Sanchez, & McClarty, 2014; The Executive Office of the President, 2014; Rutschow & Schneider, 2011). Nevertheless, there are department members who feel this is a disservice to students in the greatest need of instructional support and worry students will simply be passed along without the fundamental skills they need to succeed. Mention of this controversy comes through in several interviews.

This study interviewed 15 faculty members who would be teaching the linked reading and writing courses in the summer or fall semester of 2015, both of which are 15-week courses. Five of those faculty members used CANVAS lightly (the department now demands faculty members at least post their syllabuses on CANVAS, and CANVAS is the only method faculty have of emailing students now), five proclaimed to use it moderately, and five said they used it heavily. The data from these interviews as well as an interview with a dean within the distance education office at the college appear below. The interview with the dean appears first in order to provide additional context for the

faculty interviews.After that, the faculty interviews are organized into self-reported groups, with the light users' interviews appearing first, followed by the moderate and then heavy users.

CHAPTER 4

DATA

The Institutional Perspective on CANVAS

Janice

Janice is a dean in the distance education office at Northeastern Urban

Community College. She has been at the college since October of 2011, but she has

"been in higher ed for a long time." Her office is spacious and tidy with carefully kept

records that are well-organized in filing cabinets and folders all around her. She is able to

call to hand files that help her supply information on the history of CANVAS at the

college and is eager to share them as she wants to see CANVAS succeed there. One item

she refers to is a detailed timeline and report her office produced to help justify the

decision for the college to move to CANVAS. She refers to this document constantly

throughout the interview and provides a copy to this study to provide institutional

context.

Beginning the Process

Janice's arrival to Northeastern Community College prompted the move to

CANVAS. She and others observed that the college was lagging behind other institutions

of higher education by using a very small, local, "mom-and-pop" LMS that was very

limited in its capacities. These limitations were restricting what the college could do with

its online learning options and were also making faculty reluctant to take on the challenge

of teaching online since the LMS was seen as "clunky" and "difficult to master"

(reference withheld). The need for change was apparent from the very beginning for Janice, which prompted her to take action.

The college had been with its former LMS since 1998 and simply kept renewing its five-year contracts with the company without much thought for growth. With the end of a five-year contract looming, Janice knew the time to act was upon her or else the college would have to live with that LMS for another five years: "When I got here, we had been using [the former LMS] for many, many years…it seemed like it was kind of now or never." As online learning options were becoming a "central component" of learning activities at the college, the college simply could not afford to limit itself further:

> We were cheating ourselves if we didn't really take a look…we realized we'd never really looked before. We started with [the former LMS] back in 1998, and we just sort of stuck with them. A lot of people were very happy with that situation, but there were a lot of people who felt it was doing the college a serious disservice to not look at what else was on the marketplace.

The former LMS had been sufficient at one point, but with online learning becoming more popular, the college could no longer remain complacent and had to find a more robust system in order to stay current.

From January through May of 2012, an action team comprised of 13 members - eight faculty members and five administrators - formed and evaluated the eight vendors who'd responded to the college's RFP, or Request for Proposal. These vendors entered into an open bid for the college's business, which can be a time-consuming process: "It takes a long time to look at these vendors and to get a group together to look at them." The procedure entailed the vendors coming on campus to present their products, other colleges being polled about their experiences with their chosen LMS, faculty being surveyed for what they wanted out of an LMS, and the action team using rubrics to score

the LMSs that had been narrowed down as finalists during "hands-on" testing. In the end,

the choice to go to CANVAS was unanimous, which shocked and delighted everyone on

the team: "The group decided unanimously, which I thought was really amazing, that we

should go with CANVAS. That part was really nice, you know, that just everyone

agreed." The extensive search for the right LMS had been a successful one.

The Roll Out

The negotiation process between the college's purchasing team and Instructure

(the company that runs CANVAS) took longer than hoped for because of "contract stuff,"

so while the initial goal was to roll CANVAS out in the summer of 2012, Fall 2012 was

the earliest it could happen. The initial focus was just on distance education courses, but

on-campus professors could use it if they wanted at this time: "Really, the focus was

really on our online courses by that point because face-to-face courses were welcome to

start using it, but we had to get off of [the former LMS]…by the summer of 2013." To

aid in the transition period – "There's got to be a transition period, which we had" - the

college worked out a nine month extension with the former LMS, so there was an overlap

period that allowed those who had come to rely upon the former LMS time to adjust.

Though slightly delayed, the gradual roll-out of CANVAS appeared to be working.

Faculty Reaction. The faculty reaction has been "overwhelmingly positive," according to

Janice. Some faculty were reluctant about CANVAS because they had grown accustomed

to the former LMS and liked the personalized customer service one could get from a

company so small the owners were recognizable figures on campus:

> There are certainly some faculty – there's a couple I can think of that, um,
> still are resistant….They were just used to the system that we had with
> [the former LMS]. Maybe it's also a difference of – [the former LMS]
> wasn't created here, but it was a local company - very, very small. They

were basically, you know, you know a mom and pop shop. They were nice people, so I think there was a connection there. We saw them. Their headquarters were in the city…You'd see them on a regular basis. You could call them up and say, "Gee. I'd like to see so and so," and because they had such a small customer base, they could entertain making changes that faculty wanted…People just had personal relationships with the people there that they don't feel with [the larger company].

Nevertheless, many faculty have embraced the way CANVAS can be used to shape their classrooms. To provide a specific example, many professors like the numerous ways CANVAS communicates with students: "One of the things that really sold faculty on using CANVAS when we were, you know, doing the evaluation and that I still hear from faculty is, you know, some of the ways you can communicate with students." Faculty can email their students, make announcements, blog with them, and even send text messages, which has all been enormously popular.

Though the college admits it doesn't "do a particularly good job of letting students know...that there are various notification methods that are not set up automatically," the professors are pleased with a number of functions. For instance, students can customize how they get their information from their professors:

…if they want to get text notifications, they can put their cellphone number in there… they can customize how often they can get their texts, what kinds of texts they can get, that they can get them at all, you know. They can get notifications through Facebook. They don't have to friend people…You can get tweets if you're a Twitter person. And, it's not even an all or nothing. You can, kind of, customize, um, if my faculty makes an announcement I can get a tweet right away, at the end of the day, at the end of the week. There's a lot of customization in there. But the faculty interaction is one of the things that convinced faculty we wanted to use it.

There are additional benefits of CANVAS for instructors. One is its clean interface that helps focus students' attention in the right places. Another is the fact that all of CANVAS's tools are ADA (Americans with Disabilities Act) compliant, and the

National Federation for the Blind gave CANVAS a gold star – its highest rating. This helps reduce the frustration of building an online course that is ADA compliant, and it also assures instructors they are meeting the needs of all their students effectively. Additionally, CANVAS has video and audio tools that open the door for many new means of teaching and engaging students, and it also works well on all mobile browsers, making access for students convenient and easy. Even subjects one would not imagine translating to CANVAS easily, like Math, are able to benefit from CANVAS: "Math professors can take an equation they solved on a Smartboard and upload it to CANVAS directly so students can see the work the professors used to arrive at their solutions." The faculty feedback, then, has been very positive.

Administration's Reaction

The administration is largely happy with the changeover to CANVAS, but one difficulty for them is the inability to compare costs between the former LMS and CANVAS. As Janice says, "It's hard to compare costs 'apples to apples'" because the former LMS was for online courses only, so the college was charged per head count. On-campus faculty and students did technically have access, but since many didn't know about it, they didn't take advantage of it. Instead, on-campus professors largely used the file-sharing options on the college's portal if they wanted to use any technical tools in their classrooms, "which was limited…there was just a lot it didn't have." With CANVAS open to all courses and "available to everybody" – be they online or on-campus – making an accurate per capita comparison in costs is pretty much impossible. However, with so many professors comfortable with and happy to use CANVAS to

create online courses, the college is reaping the benefits of increased faculty interest in teaching online courses, which, of course, pleases the administration.

CANVAS on Campus

CANVAS has largely been embraced on the college's campus by faculty, administration, and students alike. Today, "65% of on-campus classes are using CANVAS," and there is a push for the number to keep growing; all courses must at least have their syllabuses posted to CANVAS. By switching to CANVAS from the former LM, the college has allowed itself to catch up to other higher education institutions in terms of online offerings and technological components to courses rather swiftly, and the current trajectory of faculty adoption indicates the progress will continue.

<div align="center">The Faculty Perspective</div>

In the following section, the interviews with 15 faculty members appear. As previously mentioned, these interviews were conducted with faculty who self-identified as being heavy, moderate, or light users. Additionally, these faculty members hold different ranks, have different levels of teaching experience and time at Northeastern Urban Community College, and are of varying ages. To help the reader get an overview of the faculty members' different attributes, Table 1 has been provided in advance of the data from the interviews conducted with them. This table denotes faculty members' names, ages, ranks, and levels of teaching experience.

Those faculty listed as adjuncts taught at the college part-time on a contingent basis with no options for tenure because of their part-time status. At NUCC, an adjunct faculty member may teach no more than two classes in a given semester, but he/she can find additional work with the college doing some advising or tutoring or even teaching

the aforementioned workshops created for students who did not pass the college's entrance exam since these do not count as official classes at the college and, thus, pay hourly. Visiting lecturers were also contingent in their employment status; they were adjuncts in higher seniority pools that were given temporary full-time status and benefits without the opportunity for tenure in order to maintain the 70/30 full-time to part-time ratio mandated by the college's union.

Faculty listed as instructors were full-time, tenure-track faculty who had been hired within the last four years and possessed a master's but not a doctoral degree at the time of their hiring. In order to teach at the college, all faculty – both full-time and part-time – must hold at least a master's degree. At NUCC and many other community colleges, however, one does not need to have a doctorate to be considered for a full-time, tenure-track position. Thus, the entry-level title of instructor is used to denote full-time faculty who have been hired in the last four years without a doctoral degree.

The assistant professors may also have been hired within the past four years, but if that were the case, they would have possessed a doctoral degree at the time of their hiring, thus their higher starting status. Additionally, assistant professors may have been hired without possessing a doctoral degree, but in that case, they had been working at the college for at least four years; after four-years of full-time employment, instructors are automatically promoted to assistant professorship at this college, but all other promotions must be applied for, and one must wait at least four years after a promotion to apply for further promotion. Thus, those listed as associate professors have been at the college for at least four years, but they do not necessarily possess doctoral degrees.

Table 1. Table of Faculty Attributes

Faculty Name	Self-Described Level of LMS Use	Rank	Age	Years of Teaching Experience	Years at NUCC
Ruth	Light	Associate Professor	60s	38	22
Dana	Light	Associate Professor	70s	43	24
David	Light	Associate Professor	60s	36	36
Lisa	Light	Associate Professor	60s	38	38
Samantha	Light	Visiting Lecturer	60s	35	33
Rebecca	Moderate	Assistant Professor	40s	9	7
Melanie	Moderate	Assistant Professor	30s	9	4
Anne	Moderate	Associate Professor	30s	13	11
Mark	Moderate	Adjunct Lecturer	50s	28	18
Carla	Moderate	Adjunct Lecturer	60s	9	4
Jocelyn	Heavy	Associate Professor	50s	23	18
Nancy	Heavy	Assistant Professor	30s	8	4
Theresa	Heavy	Adjunct Lecturer	60s	17	17
Brian	Heavy	Assistant Professor	30s	14	9
Vicki	Heavy	Instructor	40s	6	1

The Faculty Perspective on CANVAS: Light/Non-users

Ruth

Ruth is a full-time faculty member in the English Department at Northeastern

Urban Community College. She is in her 60s, has been teaching at the college for more

than twenty years, and has no intention of leaving until she retires. She teaches

Developmental English (English courses for those students who could not test into

college-level English) exclusively because she believes these are the students in the

greatest need of devoted instructors. When asked to explain her self-reported low-level of

CANVAS usage, Ruth claims she uses it, "chiefly to make announcements to the whole

class," which is the minimum level of usage permitted by the department.

Lack of Proficiency, Training, and Support for Professors

Ruth says her resistance to using CANVAS arises from "a complex amalgam of

reasons." The first reason she states is that she doesn't know she's been adequately

trained to use CANVAS in the classroom. She admits this may be "in part" her "own

fault" since she only "went to one session."

Ruth is very passionate about the need for instructors to be properly trained to not

only use CANVAS but to actually *teach* with it. She believes it's important that

computers are used as tools to augment teaching by people who are properly trained to

use them as instructional tools rather than objects with which to distract their students.

Computer usage, she says, "has to be highly supervised" and must not just serve as

busywork. Because she believes she has not been adequately trained to use CANVAS as

a teaching tool, greater use of it on her part, Ruth feels, could result in busywork as

opposed to actual learning. Ruth feels the college is not currently providing actual

instructional training with CANVAS and, thus, she thinks she is ill-equipped to use it in

her classroom.

Despite her complaints about there being insufficient CANVAS training for

instructors, Ruth thinks it is important that faculty use CANVAS to at least some extent

to create consistency and help students adjust to it:

> The larger the institution, the more standardization helps, in some ways. I
> think if all of us agreed to use it for at least certain minimal things, such as
> announcements - the more of us that use it, the more students are
> acculturated to using it. So, institutionally, yeah, I think it probably would

be a good idea if we all used it, even if for just one or two minimal functions.

Ruth expresses her gratitude that the college allows a great deal of personal freedom to faculty members in regard to the extent to which they must use CANVAS. She is relieved no one is forcing her to use the gradebook or attendance functions as she is comfortable with neither. Ruth feels faculty at the college should adopt CANVAS to at least a minimal degree across the board for consistency's sake, but she certainly doesn't feel everyone must be equally proficient in their use of it.

Students Lacking Skills and Access

Not all of Ruth's reservations about using CANVAS are related to what she perceives as a lack of training for faculty, however. Indeed, a lot of Ruth's misgivings about computer usage in the classroom are quite specific to the population her college serves, with developmental students being at the heart of that: "…at [a local, urban, four-year institution], for example, I taught for twenty-five years. I would expect my students to be far more computer savvy. A lot of my current developmental students don't even know how to use email. I'm serious… I don't think I would find that at [the four-year institution]." For her, then, a large factor in her decision to forgo using CANVAS is her students' lack of knowledge and experience with computers that limits its usefulness. If one must teach her students how to use a computer before even embarking on the content-based skills that are severely lacking for many of these students, then using technology as a teaching tool becomes a wash since there simply isn't enough time for students do all of this in the short span of their developmental courses. This is especially true when one takes into consideration the low pass rates for developmental students in their courses the first time around, coupled with the fact that financial aid will only pay

for them to take it one more time (Anonymous, 2015a); with time ticking, every

instructional minute counts, and, for Ruth, these minutes are best spent on reading and

writing, not learning how to use computers in order to learn how to read and write.

The manner in which her students process information is another factor in why

she uses CANVAS so sparsely. For example, when discussing her decision to not post

her grades into the gradebook function on CANVAS, Ruth claims this simply does not

work with the mindset of developmental students:

> My developmental students on the whole - and this is a terrible stereotype
> because it doesn't apply to all of them - but they tend to be very literal.
> They tend to be obsessed with minutiae, rather than the big picture, which
> is part of their problem. They'll ask you before an essay, "Well, how many
> quotes do I have to use, and how many pages does this have to be?"
> Rather than saying, "I'm not going to count; what matters is the big
> picture." Did you follow the assignment? Do you have a headline that
> actually works? They're obsessed with minutiae. I think this is part of their
> high school training. I feel that if they have access to their grades, they're
> going to be online constantly checking them rather than doing their
> reading assignments.

To her mind, too much knowledge provides the opposite of power; it makes students

obsessive, myopic, and distracted from, "the very things that would actually help them

improve those grades."

However, Ruth is not completely opposed to computer-mediated education. She

does believe it can be effective and would be more open to using it for students who are,

better-prepared to work it: "I would be less loath to experiment with that at the upper

levels - in regular 101, 102, etc. It's with the students most at risk, i.e. developmental

English students, that I'm the most cautious of it, in that respect." Technological

instruction may have a place in pedagogy, according to Ruth, but the developmental

classroom is not it.

In fact, Ruth feels that if CANVAS is ever going to work in the developmental classroom, the college has to shoulder some of the responsibility for ensuring these students are ready to use it: "If you're going to admit students to our school, it's, in my opinion, on you to make sure that they know how to use email, through an orientation; which, of course, we don't, in my opinion, have." Ruth is referring to the college's optional orientation session for newly-admitted students, which lasts just a few hours and focuses mostly on conveying the importance of balancing hours at work with hours spent studying. To her mind, this session is missing some of the most vital information students need to survive their first year, like how to use e-mail or the college's portal. Starting the semester without this knowledge is extremely detrimental for students. This semester alone, she is teaching a number of students who severely lack computer skills, most notably three men who have just finished serving prison sentences. With no access to computers during their incarceration, these men are woefully behind, unable to even log on to the college's main portal to access important registration and financial aid channels. In Ruth's estimation, it is unacceptable that these students were allowed to enroll at the college without the most basic tools they would need to survive.

To this end, Ruth is working on creating an orientation program that helps give explicit computer instruction (she will give the responsibility of teaching these skills to someone else who is more confident with the technology) and also explicitly addresses other "acculturation issues," such as coming to class with writing implements and other necessary supplies, appropriate language and demeanor in a classroom, and punctuality: "All these things just seem to take up more, and more, and more class time that we can hardly afford to give up, given the low level of most of their verbal skills. That's why I

think orientation is an absolute must. I don't think the college can whine about attrition and yet not provide orientation to students who come in so needy in so many ways." Ruth wants the college to be more proactive in getting students ready for college, and she is willing to do her part to see that happen.

Students' Need for Interaction

Ruth's concerns about technology and students go beyond their knowledge of or training with computers and extend to their interpersonal needs as well. Her feelings on this have been arrived at after careful consideration. She has done a great deal of research on the issue and has files to hand. She is able to pull out articles on command and reference a number of books. One such article she references is entitled "Do Our Kids Have Too Much Tech?" from *The New York Times.* She says the copy she has is her last copy, so she will have to get more reproduced. The article looks at whether an initiative by the Obama administration to put computers in as many classrooms as possible is actually a positive one. In particular, the article looks at those students most likely to be potentially harmed by such moves - a population about whom Ruth worries greatly:

> It probably diminishes all students, to some extent, but according to these studies, specifically working-class, African American students because that population, allegedly, is not getting the compensatory verbal stimulation they need at home. Their moms are working a lot. Their moms, often, aren't even home - a lot of single parent households. They're not getting the daily verbal interaction that they need. Once they get these, what for them are toys, they're hooked - not on the educational aspect of it, but games, and so on.

She proceeds to read long passages of interest aloud, and she also references numerous other articles and pieces of research she has encountered that agree with the conclusion that poorer black children receive less social interaction and, thus, are likely to be stymied in their written, verbal, and reading skills. In short, a possible lack of verbal

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interaction makes African-American students more prone to be harmed, not helped, by technology in the classroom, according to her research.

Tying this research back to her own work, Ruth reasserts her concerns about using CANVAS with her developmental students:

> I would say that my reservations…would go as far as Developmental English in and the urban community college classroom because most of my students, my opinion or not, it's not an IQ problem for them. They've never been exposed to reading. They've never read. They haven't had to read. Nothing has required them to read…They're given electronic toys at a younger age as pacifiers, which is part of the problem. The last thing they need, in my opinion, is more of that.

Ruth does, indeed, see the value of CANVAS and technology, but she wishes students, faculty, and the administration alike would be more judicious in their acceptance and usage of it:

> I think our society is really remiss in buying into a lot of technologies that, indeed, are convenient and helpful. I haven't gotten rid of them. I use the computer. I'm not [a fellow colleague with a reputation for not using computers in any capacity] in our department, who refuses to email. I also think we tend to just be corporate patsies. I think we just buy into everything they're selling us - the technological revolution being foremost among it - without looking at the long range consequences of this. I see enough ADHD undiagnosed in my students to know that I don't want them on screens more than they already have to be. I want them to learn to fall in love with paper again.

Ruth thinks computers can be great aids, but she just wants to exercise caution.

Old Systems Worked Better

The students' limitations with computer usage and need for more interaction are not all that hold Ruth back from using CANVAS, though. She also finds it to not be very user-friendly. When asked about whether she thinks CANVAS compares less favorably to traditional teaching methods in any ways she can think of, Ruth brings acculturation up

again and explains how it can affect students' academic performance if instructor guidance is lacking:

> Whatever pedagogy is being used on CANVAS, I would say that I would be really worried about any kind of lesson I was giving in which I weren't there. Why? Because my students often don't read instructions well. Frequently, they take tests and bomb out because they didn't follow the instructions that I thought I had specified really clearly. During a test, I can be there in the classroom and say, "If you're not sure what you're being asked to do, come up to see me." I've salvaged a few grades that way whereas if they were doing it online, they would bomb.

While this is particularly true of her developmental students, Ruth thinks it really applies to many of the students in the gatekeeper courses (courses intended to weed out those students with insufficient skills to obtain a college degree, such as developmental courses and freshman composition) since she thinks it is impossible for students' reading skills to improve as much as they need to in 14-week long courses; even the students who pass these courses, she believes, have skills deficiencies because they came in so weak to begin with. To expect these students to be able to do the sort of self-directed study one is often called upon to do with computer-mediated instruction, she feels, is too tall of an order early into students' college experiences.

She also has complaints about the functionality and offers the example of how cumbersome messaging students can be for her. While one can make it so that only the courses he/she wants to see will come up as default courses to message, for some reason, this is not working for Ruth: "Every time I enter CANVAS, to make an announcement, even, I have to scroll down through the hundreds of courses I've taught here, to find the courses I want. That alone takes two to three minutes, and it's hard on my eyes." She has gone to her department chair, who is a heavy-user and champion of CANVAS, to have this problem rectified, but "it didn't stick," and the settings went back to making her

choose from a list of every course she has taught at the college over the course of several years. She finds this lack of functionality frustrating, time-consuming, and physically straining.

She is also frustrated that she cannot see the messages she has sent to students, offering them help or expressing concern:

> I have sent at least fifteen messages in one class - long messages - to students that I was concerned about because they were in danger of failing, or their attendance was in danger of my withdrawing them. I have no record of that. That pisses me off! That really drives me nuts because I don't have anything to present to them or, if needed, to my department head at the end of the semester to say, "Look at how often I reached out to this student."

With increasing scrutiny of student pass rates every semester, and with, on average, more than half of developmental education students not passing their courses, faculty feel a greater need to prove their efforts to keep these students on track and help them pass. For Ruth, not being able to produce this proof and not knowing whether her messages were ever received (since they often go unanswered) is deeply troubling: "I never hear anything. I don't know if it's because they haven't seen them. Have they even received them? I have no idea. This drives me mad."

She brings up her inability to see her sent messages to students again later in the interview but adds she is at least encouraged to hear that professors teaching two sections of the same course can now send messages to both sections of the course simultaneously. This, she feels, will save her a great deal of time since having to send her messages separately "has consumed so much of [her] time this semester." She also worries that she is not getting all of her messages from students because she sometimes receives notifications that she has gotten messages but cannot find them. This, she blames on

students being able to email her through the designated email channel or by clicking on small message icons next to her avatar; she receives messages sent through email, but the ones sent through the link next to the avatar are not in her inbox, and she sometimes stumbles across them accidentally weeks after they were sent with no idea how she even came across them at that time. This makes her worry students will feel she is ignoring them when they do make the effort to reach out to her, which is the last thing she wants them to think. She also has no idea how the CANVAS app for mobile devices works, whether her students have to pay for it, or what it would allow them to do if they did have it, so she feels very "stymied" by all of this confusion and uncertainty. Ruth has not given up on CANVAS altogether and is appreciative of improvements Instructure (the company that owns and runs CANVAS) makes to its LMS; nevertheless, she feels there are too many unknowns for her to embrace it fully.

After the interview, she is shown how to access her sent messages on CANVAS. She is delighted as she pulls one up. It is easily two typed pages long with key phrases in bold font in order to make them more noticeable to the student. She is excited to learn she can access these messages, but her excitement dies down when she realizes the messages only go so far back in time, for one has to archive messages in order to keep them from being deleted once the sent message box is full. Moreover, there is no way to organize archived messages into folders, making it cumbersome to locate specific messages after a while. For her, this is a major shortcoming of CANVAS.

Time and effort also factor into why she doesn't use CANVAS for certain tasks, like taking attendance. For her, it is already "bureaucratically demanding enough" to take attendance on paper every class and get it right since her students are not all present by

the beginning of class, and attendance fluctuates greatly from class to class and week to week. It is important an instructor at the college get attendance grades correct because the majority of the students at the college, 78% (Anonymous, 2015d), are attending through funding provided by the federal Pell Grant; students who stop attending before certain time frames in the semester have elapsed may not get their financial aid refund checks or may have to pay their financial aid back to the college under a new system. Many students rely upon their aid to pay household bills and buy food while they're attending classes, so inaccurate attendance reports can result in major financial woes for them.

Since Ruth does not teach in a computer classroom or a classroom with any computer access for the instructor, putting her attendance records into CANVAS would require the additional step of entering the grades on her computer after class has met, and she feels this would open her up to making even more errors, which could result in problems with her students:

> I mean, I don't really think when you're dealing with little tiny symbols, "Here, Present, Late, Absent," and you're entering them on a computer screen for not five, but let's say sixty students - there's a high rate of clerical error involved, unless you're really taking your time. Who among us, I would ask, really, has the time to be careful? I don't. Therefore, I know I would be prone to make an occasional error, which would lead to ridiculous confrontations, which I don't want to get bogged down by.

In this regard, CANVAS is simply an unnecessary burden on her time that can only lead to trouble.

Another complaint Ruth has of CANVAS is its inability to offer faculty access to important data about students:

> I find it maddening that I can't access my students' data forms through CANVAS. Often, when I'm thinking about a student, I want to check something about their data, like, "What was their placement score?" or, "Are they in the right course? Is this the second time they've taken it?" -

just to check up to be sure again. Can't! Got to go back through Banner
[the college's database] and do all that.

Toggling back and forth between CANVAS and the database is a source of frustration for

her because the college's former email system was linked in through Banner, making

one's means of file-sharing, communicating, and accessing data about students a one stop

shop of sorts. Now, she must take additional steps to get the same information she once

had all in one place – a limitation Ruth hates.

While reflecting upon ways CANVAS could help her improve her teaching

practice, Ruth can't really think of anything specific other than, only half-jokingly,

suggesting it ring, "bells that students could hear when they're watching TV at night that

say, 'Check CANVAS! Urgent announcement just made on CANVAS!'" She admits she

has not given much thought to incorporating CANVAS into her classes more because of

her frustrations with its lacking functionality, user-friendliness, and appropriateness for

the student population she serves. She believes there probably is more CANVAS could

do, but, given her concerns, she is content to use her current methods of teaching.

Dana

Dana is a full-time faculty member in her early 70s. She is currently teaching

what is referred to as a half-time schedule, which is a way of easing into retirement that

allows her to keep her full-time status and pay whilst teaching only half the course load

of a full-timer. Faculty do this in the years leading up to full retirement to smooth the

transition between outgoing full-time faculty and incoming full-time faculty. She has

taught at Northeastern Urban Community College since the 1990s and taught at many

other schools and colleges before that. Since coming to this college, she has only taught

developmental courses, but she taught college-level courses at her previous institutions.

The interview was held in an empty classroom on a professional development day for faculty because a department meeting has just taken place next door, so this was a convenient time and place for her. Dana teaches at one of the college's satellite campuses. She has been teaching for forty-odd years now and has strong views on pedagogy as well as a deep passion for her Developmental students.

Lack of Proficiency, Support, and Training for Professors

Dana considers herself a light user of CANVAS. While she does post files for students to access, she does not rely upon this as the sole way of giving her students the materials they need where at all possible. There is no duplication center on Dana's campus, so she must plan in advance to send her copying requests to the main campus so she can get them photocopied. She says getting the copies sent back takes too long, so she goes to the main campus to pick her copies up, which is very inconvenient for her. Therefore, she sometimes does not have the paper copies she needs, making CANVAS helpful in that regard.

That is where the convenience of CANVAS ends for Dana. To begin with, using CANVAS can be time-consuming for her and cause her to create errors without realizing it:

> I don't touch type, so when I type my materials I type the old two finger newspaper style pretty quick. It used to be wonderful on a regular typewriter, electric typewriter - only certain brands. Once the computer came out with a computer keyboard, it's so sensitive that if I'm going fast, I have typos by hitting the corners of keys. As an English teacher, I don't want any materials to go out with typos because I don't want my students to do that, of course, and I have a lot of them. Then, I have to go back and correct each of them and to do anything else on ... Especially grade book things, it would take me forever to enter grades accurately due to my typing problem. To do this, to do that, I can't. I have to look at the keys when I type and then look up. That is an overwhelming reason why I don't do more with CANVAS.

An increased likelihood of errors and the time it would take to correct those errors are almost enough by themselves to keep Dana from using CANVAS more heavily.

Typing difficulties are not the only factor deterring Dana from CANVAS. Overall, Dana doesn't like it because she doesn't "find it intuitive at all" and was "very happy" with the college's prior system because she knew how to use that one, and it allowed her to do the two things she wishes to do online - email and post files. She's learned how to use CANVAS to email and post items, but she gets confused and has technological problems she can't explain or even confidently attribute to CANVAS:

> I can't do it on my home computer. There's no ... maybe because it's Firefox Mozilla, but I can't find a button. I can find the people part, and the class part. Once I get the whole class up, whether I want to send it to the whole class or specific ones, at home only, I can't find the button to send. That may be just somewhere where I don't know or it just isn't showing. I have that with my bank account, too. I just have to know to hit enter. I've tried different things. I can do it at school, but I'm going half-time. I'm only there twice a week, and sometimes I want to send things from home. That's a problem. I don't think that's a problem with CANVAS itself. It's a problem with my software at home.

Dana has called for help with this issue, but she says IT support was not very helpful: "I emailed them one time and they said, 'Oh you'll have to bring your computer in.' I thought, 'Oh, come on. I'm not going to do that.' I just deal with it." With limited skill, access, and support, Dana has little reason to want to use CANVAS more extensively.

Dana did attempt to learn how to use CANVAS better, attending a training session that promised to show her how. Unfortunately, the speed and intensity of the training session were too great, and Dana was put off:

> I just want to know how to post materials and how to do email. He went into so many other features. Oh, you can text. I don't text. I don't even have a cellphone. You can text your students while they're in another class, and you can change your assignments, and you can do this and that.

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> Even if I could text, I don't want to bother my students when they're in another class. I don't want to be changing things so often. I'd rather announce them in class and put it in an email rather than all these different categories they have, which may be good for other people and their needs for curriculum and teaching but not for me.

Too much information too soon and too great a focus on instant communication caused the training session Dana attended to fall flat in her mind; "more specialized workshops" in which just a few skills at a time are covered would encourage her to use CANVAS more.

Regardless of the speed and intensity of the training sessions, Dana thinks instructors should take pause and consider whether they are qualified to deliver computer-mediated instruction and whether the digital materials they have actually accomplish anything beyond what traditional texts do. Currently, she feels faculty are not equipped to do this, and they are not being trained to do so either:

> I don't think most teachers in the English department anywhere are qualified. You have to be trained with this stuff. I haven't really seen - maybe there exists somewhere for what we do in [the linked reading and writing courses] some really good things - but I haven't seen them. I'm wary that all these commercial - that all the textbooks have commercial supplements and go into our databases. I've looked at them, and they're not truly interactive. They're just instead of what I do, instead of hard copies, they're there.

Dana would like faculty using technology to be more judicious in their use and think about whether the technology they adopt is actually enhancing their courses or simply complicating them unnecessarily.

Students Lacking Skills and Access

The college's student population brings many difficulties for professors attempting to use CANVAS, according to Dana, with access being a major one:

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...if all the students were proficient and had computers at home, I'd put much more on CANVAS. Say it's your responsibility. What happens sometimes, even if I do put things on CANVAS, and I do print out some things in class for those who don't have that capability - even those who have it at home, they don't bother to print it out, or they don't have a printer, or they don't want to spend the money for the paper. They'll come to class, and then they're taking up class time to print out. My class time is all kind of scheduled.

With only 14 weeks to help developmental students overcome their reading and writing skills deficiencies, Dana feels spending time on computer-related tasks is not wise. While posting online is helpful for some students, there are simply too many in developmental courses who cannot or do not reap the benefits because they either cannot access, cannot afford, or do not wish to engage with the online materials.

Once students have moved beyond the developmental level, though, Dana believes computer-mediated instruction can become more appropriate:

If 101 and 102 students are truly 101 and 102 students, and not just remedial students being passed on, and if they can read analytically and have critical thinking skills, I think it's a great idea, not to completely substitute for a class. I like the idea at that level, which they're starting to try here, and they've tried it at proper four-year schools - I don't mean proper - I mean four-year schools, of having ... What do they call it? They don't meet all of the time in the classroom, maybe once a week in class … [interviewer suggests hybrids] The hybrids. I think that's a super-duper idea if students are motivated and they will do the stuff outside of the classroom. You can have some things, I've seen done with...They have to post a reaction to a reading in a certain time period. Other people post, and they can react. I think it's a wonderful idea. I've never done it, but I think it's a great idea...Not to completely take over a classroom.

Students' improved reading and thinking skills in college-level courses can make computer-mediated instruction work, in Dana's opinion, but, to be clear, she reiterates the group for which it would not work - "Definitely not developmental" - due to their limited reading and critical thinking skills.

Almost as quickly as she finishes saying this, however, she inserts a small, possible caveat that addresses the issue of student access in developmental courses: "I don't know if I would change that if I knew that all the developmental students had computers at home and were proficient. I don't know how I would feel about that. Maybe on a limited basis." Right after entertaining the thought, though, Dana backs away from it, reasoning the material would have to be "very well devised," and she would not know how to do that and doesn't know anyone who has or could.

As Dana continues, it becomes clear she is far more open to computer-mediated instruction when student access and limited skills are not an issue:

> I think at most four-year universities these days, even middle level, like Penn State or Syracuse - not the Iveys - I think that students have gotten used to using computers in high school, certainly. Maybe these days even in middle schools. I don't think there's a proficiency problem or there's a problem of access because they all seem to have them. Parents get them for them when they're in high school. I think that makes a big difference. That and the point I already made about for developmental, certainly, people who devise these things, these exercises, and units, and interactive whatnot really need to be skilled...I think on the college level, if there were really good materials, and if they weren't supplanting the whole class, just substituting for it, yeah I think it could be useful, very good.

With fewer hurdles standing in their way, college-level and middle-class students would have a far better chance of benefitting from computer-mediated instruction, to Dana's mind.

Dana does think computer-mediated instruction could offer some benefits to developmental students in theory, though. As many lack critical reading skills, she feels computers could be used to help them discern between reputable sources and untrustworthy ones. To her mind, this is something from which all students could benefit:

> One of the things I like about computers is when you assign some kinds of reading or some kind of research on the internet to find out more about a

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topic or an issue more in depth. There's so much of a wealth of material that, although you can get lost in the hall of mirrors, I think students really benefit as future citizens being able to evaluate the wild west of the internet and what's valid and what's not. Which I think students, even at four-year schools - not Ivies maybe - really need to know how to do. It's on the internet. It must be gospel, right?

Most students, Dana feels, could gain from learning to question the wealth of information at their fingertips. Since she knows that is where today's students will turn for their resources, it makes sense to teach students how to evaluate what they find, and where better to teach that lesson than online?

When questioned as to whether it was a good or bad thing that the college is experimenting with putting more of its developmental courses online and encouraging its faculty to use CANVAS more, Dana's answer is mixed:

> It's somewhere in between. Again, we have an urban student population. People are coming here for the first time, and 60% of them get placed in developmental. Since they eliminated our first developmental course, which is called A level, in [the linked reading and writing course] half the students should have been in A level, which doesn't exist anymore. They are really lost when it comes to computer things and internet things. I mean they can look up what Beyoncé's new dress is, and they can do social media, but other than that. I think for the ... What was the question? For the developmental ...I think that they should take into consideration the needs of our students in developmental and the economic needs.

This lack of consideration for the students' economic needs is a real concern of Dana's because she feels the pressure from the college to promote online courses leads students to sign up for online courses without realizing exactly what they're signing up for:

> What really gets me is the - I don't know if this is on your survey or not or relevant - but students here, especially developmental students, "Oh! I can take an English elective online. I can take this online. I don't have to go to class. That'd be great!" They don't have the time management skills.

> There's a high dropout rate from those courses from students who started in developmental.

Dana doesn't necessarily have a problem with the college putting more courses online or being enthusiastic about CANVAS, but she does think the needs of the students should be taken into consideration, and students should be advised accordingly.

Dana has heard "anecdotally" that many online courses have had significant problems due to students' lack of computer experience but says the college continues to forge ahead on the endeavor:

> I've heard a few of them speak and say, "Well it's really tough because you get many, many emails from students. They don't know how to this. They don't know how to do that. Technical problems with the computer. Accessing." I heard this in the old [system]. You spend so much time answering these emails when it's really basic stuff, and it's all explained in other documents. This wasn't for [the linked reading and writing course]. I heard that they started a hybrid course. I don't know what happened with that. About two years ago with [the developmental writing course] only online.

When she is informed this online only developmental writing standalone course still exists and that a hybrid version of the linked reading and writing course is being piloted in the fall, she's clearly surprised and curious about how it is going.

Dana is not entirely negative about the college's approach to encouraging more online activity. She praises the college for having a workshop students can attend to learn how to use computers well. If the students attend faithfully, they get heavily discounted, refurbished computers. Dana says the college-level students that know about the program are good about taking advantage of it, but few students and teachers know about it because IT does not get the word out well or hold the workshops regularly enough. This program is a step in the right direction, as far as Dana is concerned, but she says there

needs to be more information and a greater attempt to increase awareness about it if it is

to be truly helpful to the student body.

Students' Need for Interaction

Dana sees the value in the sort of computer-mediated instruction CANVAS can

offer, but she feels it cannot supersede traditional instruction for developmental students

because they are in too great a need of interaction with each other and their professors

and because they might not be able to use or access computers well enough to make it a

productive endeavor. Students' ability to work with other classmates and their instructor

is integral to understanding the skills taught in the linked reading and writing course in

Dana's opinion:

> The interaction between the students if you're doing something with
> grammar - and so many of our students don't know terminology. I try to
> avoid that as much as I can. The helping verb, right? We don't the use the
> word gerund for those kinds of things. You just call it I-N-G words. They
> need, in the classroom, the teacher to not only be able to explain things
> well but to be able to work with each other. You really can't get this on a
> system like CANVAS.

This is not to say Dana thinks CANVAS could not be used as an instructional

means successfully with students in the linked reading and writing course. She thinks it

could work very well, but she has a number of reservations about it:

> I think, ideally, [CANVAS would be] an instructional means for part of
> the course because developmental students need the interaction in the
> classroom with each other and with the teacher. For part of the course in
> developmental - it would have to be done on class time because of the
> computer problem with - not all of them have it - and this and that. I think
> ideally it's a great idea, not to completely supplement cla- not to
> completely take over but as a supplement.

She doesn't want to dismiss the idea of CANVAS being used as an instructional tool in

the developmental classroom altogether, but with such a great need for interaction and so

little skill using computers, developmental students would need it used sparingly and thoughtfully if at all.

Dana does think some students - particularly shy ones - can benefit from the discussions that take place in LMS since they might feel more open when they're not in a face-to-face setting, but the example she can think of where this worked was in a graduate class her husband took a number of years ago, not in a developmental or even undergraduate course. While she sees the value in what occurred in that setting, with more experienced students, she believes even then online instruction should only comprise "35% of a course. Maybe 40." Clearly, for Dana, computer-mediated instruction has potential but limited use in the classroom with even experienced students benefitting from it being used less than half of their time in their courses.

Old Systems Worked Better

Despite her misgivings about computer-mediated instruction, Dana tried to consider any benefits it might have over traditional means of teaching. She felt there was potential for CANVAS to offer greater support with grammar instruction, but she also felt the time and labor required to make this the case almost negated the possibility:

> It could have ... Well, I've already done it and I share it, not that mine is the perfect one. There could be grammar ... I don't even know what you call it. Interactive grammar exercises. They could do something like that. Again, I've seen exercises like that in Harcourt Brace. Their editions if you buy their ... I don't think that they're that good. At least, I give four or five, at least, exercises say for fragments or subject-verb agreement in my document, so they can see different approaches to it. The publishers have one thing. It seems to be pretty dry and not really well thought out. I don't think they can do that well. It would take a committee. It would take forever. I share mine with whoever wants it. They can do what they want with it. No, I don't think they could do anything.

Clearly, Dana feels the instructor is an integral part of grammar instruction since he/she

knows what students need and can tailor the exercises accordingly, but she does believe

technology, at least when accompanied by an instructor, can offer students some valuable

skills

> I like showing my students, to some extent, the search engines on the
> internet and how you kind of mediate between what's valid and legitimate
> sources and what to look for - (giving an example) those are just
> sensational postings by some 7th grader in some advanced class.

She believes technology - LMS or otherwise - can offer some useful tools for instructors,

but the success of these tools relies heavily upon the instructor and his/her ability to apply

them to the students' needs. Moreover, these tools are not particularly necessary as the

instructor can just as easily make his/her own resources or borrow a colleague's in many

cases.

Dana is not completely against CANVAS, though. She believes faculty should be

proficient to a certain extent: "...be able to post documents for your course, to be able to

post your syllabus...I think it's really important, at least to learn that much." In fact, she

has found it can be useful for students in a number of ways. To begin with, it can be very

helpful to students who have had to miss class as she can post any resources she handed

out online so they can access it. This, she says, is particularly important because her

classes "only meet twice a week," and sometimes she wants them "to get it before they

come to the next class" so they don't fall too far behind. Dana finds CANVAS is also a

nice way to give students additional grammar practice:

> One thing I do, which I really like, which I started before CANVAS, and
> now it's posted under CANVAS, is I've taken from - we do a lot with basic
> grammar, or we should be in developmental, so I've spent a lot of time
> going on the internet - "fragment exercises" - and a whole bunch would
> come up. Then, I would really go through them. I would only choose those

to put in my file, my document, that I figured were fairly good, and also that the students could get the answers as a self-study. I have a whole bunch of categories with four, five exercises from the internet, fragments, subject-verb agreement, adjectives, all these things. I have them on my file in one clump. I call them extra internet grammar exercises.

In this sense, Dana thinks CANVAS can be helpful, but she only ever sees this as an additional resource for students to do on their own. Her students, it seems, share this view because when she entertained the thought of no longer using a formal grammar book in order to save students money, they rejected the idea: "they said they wanted a book. They felt secure with a grammar book." In response to her students' wishes, Dana elects to only use CANVAS for optional, supplemental, self-guided study for basic skills, sticking to more traditional means of delivery at the formal level.

David

David is a full-time faculty member in his 60s. Like Dana, he is entering half-time mode. He has taught at this college and another community college in the suburbs in the past. David classifies himself as a light user of CANVAS. He only uses CANVAS to post his syllabuses and major assignments and to send messages to his students. The interview was conducted in David's office at the end of the semester.

Lack of Proficiency, Support, and Training for Professors

David's decision to not use CANVAS more than he is required to has arisen from a number of factors, but David did not feel a lack of proficiency with CANVAS was at the heart of why he doesn't use it more extensively. He admits he "doesn't know all of CANVAS's capabilities" and has attended some training sessions to see what CANVAS has to offer, but he says those training sessions, "haven't shown [him] anything so far."

He is nonplussed about this, however, as he is completely content with his current

method of teaching and really has no interest in using CANVAS.

Students Lacking Skills and Access

When asked about the use of computer-mediated instruction with the population

he is serving and whether he saw any difficulties using CANVAS might bring, David

acknowledged the lack of access his students had but saw this as a surmountable barrier:

> ...urban inner city students are less affluent and would be less likely to
> have access to computers and would be less likely, by virtue of their
> previous education, to be as computer literate as my middle-class students.
> That's the only obstacle I can see...they can always use the computer labs
> here on campus.

David knows the "reality" of the college's student population is that their computer

access and literacy may well be subpar, but he feels there are enough resources offered to

them on campus to overcome this. Thus, it is not a reason he elects not to use CANVAS

more fully.

Students' Need for Interaction

David's lack of interest in CANVAS, he believes, does not come from a dearth of

experience with computer-mediated instruction. He has, in the past, taught distance

education courses though he admits this was 18 years ago and closer to what would be

considered a cross between a hybrid and a correspondence course today since technology

limited what could be done online and necessitated on-campus visits and the U.S. Postal

Service. In that course, he found the students did as well in those in his purely on-campus

courses; he just didn't enjoy the experience of teaching online because he feels he didn't

get to know his students as well without seeing them face-to-face:

> ...I didn't get to see my students very often. I didn't get to know them. I
> tend to be very good at remembering names and faces. Seeing names on a

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computer screen and only communicating with students that way, didn't appeal to me as much aesthetically or emotionally.

For David, the disconnect between him and his students took a lot of the pleasure away from teaching. Nevertheless, he believes it can open the doors of education up for people who are not able-bodied and give them access to learning they might otherwise not have been able to receive. He also believes it can benefit shy students because "it [makes] them talk" since everyone has to respond to general questions set forth by the instructor. However, those are the only two populations David can see reliably benefitting from the use of computer-mediated instruction. In fact, for able-bodied students, he "would be more selective about advocating computer-mediated instruction" because he feels so much of the classroom dynamic is lost when learning goes online - even partially.

Developmental students, he says, are in greater need of interpersonal interaction and thus, need to capitalize upon this as fully as possible in the classroom. He feels developmental students, "are not well socialized in many instances and need the experience of how to behave in a classroom and how to conduct themselves." This applies not only to classroom etiquette toward their professors but also interaction with each other. David references a linked course the previous semester that had a student who was blind in it. The student needed help to find her way to her seat, so David delegated this role to his students. He said this turned into a real "bonding experience" for the class. In that same class, he also said the small group assignments he gave created "a spirit of community" that computer-mediated instruction could have obstructed. In short, David thinks there is too much that can be gained from face-to-face interaction that should not be compromised in favor of CANVAS or other technological interventions.

Old Systems Worked Better

David's strongest reason for not using CANVAS seems to be his belief that it simply does not improve upon the systems already in place. In terms of technology, David far preferred the college's previous online system devised for file sharing and emailing purposes. He found this to be much more efficient and user-friendly:

> I'm used to teaching with paper and Xeroxes. I think, in particular, I found CANVAS to be not as user friendly as the [former system on the college's portal] that we used to have. I thought, even though it was touted as an improvement on the college's technological capabilities, it was actually less convenient for me to use. I want to contact my classes a group. It was faster and more transparent with [the old system]. In particular, I don't like the fact that CANVAS doesn't give you an immediate copy of the email you send out there. There's a time lag, and I never understood why...When I go into CANVAS to send a message to one of my classes, I notice that you have to be very careful with the mouse because if you don't put it in exactly the right place, it won't do what you want it to do. The way it comes up on my screen. I don't like the format of the messages that students send to me on CANVAS. It says, "Notification: You have a message on CANVAS" instead of having a return address that I can look at more quickly.

These shortcomings in communicating with his students are frustrating for David, but it is his sole means of emailing his students unless he wants to take each of their email addresses down by hand, so he has little choice but to use it.

Communication difficulties are not all that keep David from embracing CANVAS, though; he also finds grading is far easier when done on paper:

> It's mainly that I don't like doing assignments and receiving it through CANVAS. I don't like grading on a screen. I just have never been able to do that as effectively. I want to be able to have a hard copy in front of me so I can make interlinear comments, and I can see the essay more easily if it's in hard copy just because of conditioning, I suppose.

David finds receiving and grading assignments to be much easier and more comfortable when done the traditional way. To his mind, CANVAS adds nothing to the grading

process and only serves to complicate it. When asked whether he felt a different LMS would rectify the issues he'd had with CANVAS, he admitted he was not familiar with any other systems, but, given his dissatisfaction with CANVAS, if another LMS were offered, he "probably would prefer to use another one."

If another LMS were to persuade him to change his teaching methods, though, it would have to really tout some significant improvements before he'd be inclined to jump onboard with it because, for all of his frustrations with some of the functionalities in CANVAS, at the end of the day, what is prohibiting him from using it the most is that it simply does not seem to improve upon his current teaching practice:

> ...[the college] hasn't shown me anything that CANVAS can do that's superior to traditional methods of teaching...It's not that I know of anything specific that's lacking; it's just that I haven't seen anything yet. Like, where's the beef?

David certainly sees shortcomings with CANVAS - namely in how he is able to communicate with students and how students interact with him and each other - but his reasons for not using CANVAS more extensively are compounded by the fact that he just can't see anything CANVAS has to offer that traditional methods of instruction can't do just as well or better. As a result, he is happy to continue teaching as he always has done, which he feels serves his students very well. As David himself puts it: "I don't think it's doing the students a disservice if a faculty member doesn't use CANVAS." Confident he is doing what is best for his students, then, David will continue to opt out of using CANVAS.

Lisa

Lisa is a full-time faculty member in her 60s who has been with the college for decades. She loves teaching developmental students, so she teaches developmental

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classes every semester. She is a very light user of CANVAS, using it only to email students and post her syllabus. She says she uses it to the extent she does because it is "part of the school," and she is intrigued by the discussion board function on CANVAS, but she has not used it and is content to keep using CANVAS as sparingly as she currently does: "...frankly, I don't use it that much, and I do not have my assignments on CANVAS." The interview takes place in her office during exam week at the end of the semester.

Lack of Proficiency, Support, and Training for Professors

A large part of Lisa's reticence to use CANVAS arises from her uneasiness with it. She doesn't feel she's "that proficient at the computer" and is confused by CANVAS. She says she does get adequate support from the college when she needs it, but she never feels at ease using it and, thus, elects largely not to: "That's how I feel. I have to call IT all the time, I'm a mess, and I admit that...I'm not like some people that are really totally computer illiterate. I do Word, I do all of those things, but I never feel quite as comfortable as I should. I'm being honest." That said, Lisa understands why the college wants to promote more CANVAS usage since it gets "people ready for jobs and for four-year schools"; she is just thankful the college allows her to opt out of CANVAS due to her unease.

Students Lacking Skills and Access

Lisa is not totally opposed to computer usage in the college-level classroom since these students are more "adept at using the computer," but she does "worry" about its use for developmental students. This concern arises from the developmental students' lacking

reading and computer skills that can cause a lot of problems that can interfere with their

learning:

> ...I think that our developmental courses are skills courses sometimes.
> Certainly the reading, number one...The bottom line, students who are not
> that computer literate are going to have a problem in a course, and I think
> it can affect not only what they're learning but their course work and their
> final grade in general.

Though computer-mediated instruction can be beneficial to more experienced or

advanced students, Lisa believes is can be an impediment for developmental students,

whose lacking reading and technological skills can leave them at risk of failure if

technology plays too prominent a role in their classrooms.

   Developmental students' lacking communication skills can also make computer usage

difficult, according to Lisa:

> As far as Developmental Ed is concerned, I believe that having too much of the

course on

> CANVAS or on computer, the students are not that adept at writing yet,
> and it's a problem...Sometimes, people have problems trying to express
> themselves on the computer. Suppose something gets lost. Suppose an
> email gets lost, and the time's running out. That's another thing. That
> worries me. I worry that a student can feel really pushed. A student can
> feel that he or she can't get this done. I feel that there can be an emotional
> block...

As so many developmental students already have a number of obstacles ahead of them,

including lacking literacy skills, troubled personal lives, and inadequate preparation for

college, Lisa believes placing another hurdle in their paths can make the course seem too

"daunting" to continue on.

   Another factor in her decision to not use CANVAS more is the fact that she does

not feel the college has the technological capacity to fully support it and make it user-

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friendly for students. This lack of adequate access and support on campus, coupled with

their lack of access at home can create headaches for students:

> My husband was on the board of [a local four-year university], and I
> toured [that university's] tech center, and I was amazed. It was like a little
> city. I find CANVAS, at times, to be rather confusing. I assume everything
> at the other schools might be confusing, too, but I believe that, and I might
> be wrong, but I believe because they're using so much tech at these other
> schools, I think their programs might be a little bit more ... I'm looking for
> the word ... friendly?

Lisa feels that improved technology on campus might lead to improved resources for

students that would make CANVAS less problematic.

Exacerbating the issues of students' lacking skills and inadequate technological

support on campus is their lack of access off campus and discomfort with using

CANVAS or computers much at all:

> ...some students are just a lot better without using it that much...I've had
> students say to me, "This teacher has everything on CANVAS and
> sometimes I can't get it."...students tell me they did not want their class
> totally on computer or a computer classroom, and they opted out of
> hybrids at times.

Without the skills or access to use CANVAS regularly or proficiency, the college's

students are, in Lisa's experience, reluctant to use it. With this in mind, Lisa opts out of

using CANVAS more than is departmentally mandated in order to be responsive to the

population she is serving and their needs.

Students' Need for Interaction

Of all Lisa's reasons for not using CANVAS, the need for interaction between

students and faculty reigned supreme. Lisa feels there are a plethora of reasons why

interaction between students and faculty is simply too important to defer to online

interventions of any sort. When she is first questioned on the issue, Lisa wants to make it

clear how opposed she is to online only education for urban students inexperienced with

using technology and lacking reading and interpersonal skills:

> I don't think that online completely is good for most students because they
> don't get that engagement with the teacher. They don't have that
> interpersonal work with the teacher, and I feel that on the computer, it's
> too impersonal at times. I also feel that there's a danger that somebody else
> is helping them while they're there, and that worries me. I want my student
> to get the grade, not mommy or daddy or boyfriend or girlfriend.

Lisa admits that experienced undergraduate students coming from a strong educational

background would be fine with an online-only course, and she feels the same way about

graduate students, but for students whose academic and interpersonal skills are not up to

par, she believes it is not a good fit.

When Lisa is reminded this interview is not really looking at online-only courses

but rather the use of computer-mediated instruction in the classroom, she does not really

feel much differently. For her, interpersonal contact with her students is "number one."

CANVAS, she feels, interferes with that, which she feels is a disservice, particularly for

her developmental students:

> ...I think a lot of my developmental students have not had true educational
> experiences where they've been able to express themselves et cetera,
> verbally. I think that CANVAS or any type of computer situation becomes
> a variable in the communicative event...I'm just not that comfortable. I'm
> fine, for instance, if students have used PowerPoints in their speeches, et
> cetera and their presentations. That's fine...Of course, but I'm there, and we
> can talk about them, and I feel better that way.

Lisa's concern is two-fold. On the one hand, she worries that computer usage can

interfere with students' opportunities to communicate with one another and express

themselves - something she feels developmental students get to do too infrequently

because of the often-restrictive educational environments from which they hail. On the

other hand, Lisa wants to ensure she is always there as a resource for her students to

clarify or explain any questions or misunderstandings they have. If students are left adrift

on the internet, they may run into complications or completely misinterpret information

and have no way of rectifying or possibly even realizing it, and that is simply too great a

risk to run in Lisa's eyes.

Significantly, Lisa also senses a need for students to know their instructors care

about them, and this is difficult to do with a computer standing in the way, she says:

> I think there's that personal touch with the student. I think it's a way of
> showing the student that the teacher really cares. When I'm there, I can
> show them that. I also think that there are questions or ideas or things that
> come up that can only really be handled with a teacher there and
> immediately.

Student-faculty interaction is integral to the classroom dynamic for Lisa. Students need to

interface with their professors in order to develop a relationship, and they need their

professors to assist them in the moment - when the student is still engaged and curious -

in order for learning to occur. That bond and the ability to assist students in the moment

are what will keep students coming to class and wanting to learn, an important factor

given the aforementioned attrition rates in developmental courses. For Lisa, then, it is

very simple: connect with students rather than having students connect to computers, and

they'll have a better chance of succeeding.

Old Systems Worked Better

Like other light users, Lisa is not entirely opposed to CANVAS, but she simply

can't see how it improves upon systems that were already in place at the college and had

been for years:

> It was simpler before we had CANVAS, quite frankly, for somebody like
> me. I'm getting a little bit better with CANVAS, but I still have to ask
> people for help. I just feel that, and again this is just me, there are too
> many hoops. I used to be able to get to email so easily. Now I don't, you

> know, to email my entire class… [The old email system]. I was used to
> [the old email system]. I guess because I was used to it, I found it much
> easier, so that's how I feel.

Once again, CANVAS's system for emailing students is off-putting to a faculty member. Lisa, like others, finds the new system cumbersome, complicated, and confusing and would like to return to the previous method of emailing students. She is aware that she might be in the minority as far as people who are so flummoxed by the new system, but she still feels CANVAS could make emailing students a simpler task.

A large part of Lisa's misgivings about CANVAS are due to her sense computers are being given too much prominence with too little consideration of what they are replacing. She expresses concern repeatedly about "everything depending on CANVAS," even likening computers to *The Blob* - an unstoppable force, creeping up to consume the unsuspecting. She is worried that, in all of the excitement of what computers can do for students and institutions, people are losing sight of some very important considerations:

> I think it's good in the sense that the college wants to get people ready for
> jobs and for four-year schools, but I think it's a bad thing that there has to
> be this thing where everything has to be on computer. A computer is
> everything. A computer is a tool. It is not a panacea, and I tell my students
> this. I worry that it is becoming too invasive at times. I guess that's the
> word I want, invasive at times.

While preparation for life beyond the college is a notable benefit of CANVAS, Lisa thinks it is being used to address issues it can't possibly fix and could even worsen, such as students' lacking sense of connection to the college, their classes, and their professors. As she reiterated a few times earlier, Lisa thinks good old-fashioned face-to-face instruction is the answer to these problems, not more isolated time on a screen.

Even the way Lisa grades reflects her belief that traditional methods better serve her students: "...I don't see the idea of having everything on the computer, including

marking the papers. I like to grade my papers looking at them with a red pen or a blue pen. I feel that I owe my students that." She also dislikes the move toward everything going paperless, particularly when it comes to dispersing important information to students: "Quite frankly, a syllabus has to be handed to the students. I feel that way." Like her interpersonal interactions with her students, the way Lisa disseminates feedback and information is best done without intercession from a computer in her mind; the tangibility of paper in these acts demonstrates an additional level of care and connection that a computer screen simply can't.

<div align="center">

Samantha

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Samantha is a part-time faculty member in her sixties who occasionally is offered a visiting lecturer status, temporarily giving her the workload and benefits of someone who is full-time. She teaches the linked developmental reading and writing courses exclusively but prefers using traditional teaching methods to do so. She is quick to point out that she is "not a technophobe" and that she holds a master's degree in Educational Technology so that it is clear her reasons for not using CANVAS are based in pedagogical ideology. The interview is conducted at the end of the semester in a special office set aside for faculty members to relax and collect their thoughts. It is quiet inside this office with little traffic flowing through as the interview begins.

Lack of Proficiency, Support, and Training for Professors

Samantha considers herself adept at using computers. However, CANVAS has not appealed to her for a number of reasons. She claims to have attended trainings on CANVAS about a year ago, but she was put off of using CANVAS because it was inflexible. At the training, she was informed that once one publishes a course in

CANVAS (i.e. makes the course "go live" so students can see and interface with the content), he/she "can't go back and tinker with it." She thinks this feature may have changed since that time, but she does not feel compelled to find out for sure since she is not interested in using it anyway.

Samantha would possibly be more inclined to consider using CANVAS if there were more of a dialogue about the implications of using it at the college. Currently, she feels the administrators in charge of CANVAS do an excellent job of informing faculty about changes and new features, but she believes what is really needed is the opportunity to discuss computer-mediated instruction openly as an institution:

> Honestly, what I'd love to see here is an ongoing and robust dialogue among faculty about the use of computer-mediated instruction. What are the implications? How does this line up with what we understand about adolescent and adult learning? What are some of the implications?

She believes the college has gotten so wrapped up in the functionality of CANVAS that is has overlooked the teaching philosophies behind it. Until a forum opens to discuss these matters, Samantha is unlikely to increase her CANVAS usage.

Students Lacking Skills and Access

Beyond her philosophical reservations about using CANVAS, Samantha also feels it is not in the best interest of her developmental students. Because these students are often underprepared for and unfamiliar with how higher education operates, she feels adding computers into the mix may rob them of the opportunity to build the foundations they need to be successful:

> For me, the issue, as I said earlier, with its use with developmental students is...that they're here for the first time or the second time, and they have less experience of what college demands. I'm not sure it's so much the level of maturity or engagement as much as it is a lot of stuff is new. And, I think they need to develop certain skills, certain cognitive and

metacognitive skills in the real world before they can then use them in a virtual setting.

With so much new terrain to cover, developmental students need to engage with other students and faculty and get comfortable with the institution on a personal level before they can progress onto using computers as their means of contact as far as Samantha is concerned. The experience and comfort with their surroundings and subject matter they would gain in a traditional setting would better prepare them for the road ahead, and, thus, Samantha does not want to push them onto computers before they've had the opportunity to acclimate themselves to the college landscape.

In keeping with the intrapersonal needs of her students, Samantha also rejects premise that CANVAS is a good way to make education transparent for students. She specifically references the online grading feature in her objection:

> ...I know one of the arguments is, "Oh, students can log in, and they can see how they're doing at any given moment of the semester." I want my students to develop that meta cognitive skill of tracking their own progress. So, what I do in my syllabus is have a sheet that basically says, "Here are the major assignments. Here are the possible points - empty column, you can fill it in as we go along. So, you never really need to say, 'Ms. Abrams, how am I doing?'" So it's tricky, I'm probably coming across as a Luddite curmudgeon, but I feel that technology, our technologies are continuing to do so many more cognitive tasks for us that - especially with our students who need to learn how to do cognitive tasks - it takes it away from the learning curve in that.

CANVAS may make students' grades available instantly and in real time, making faculty members' grading more transparent, but Samantha feels this misses the point. What students really need, she feels, is to learn how to keep track of their own progress and figure out where they stand without the assistance of a computer. Automatic grading is convenient, but it also makes students passive and dependent when they need to be deductive and aware.

Students' Need for Interaction

Amongst Samantha's chief concerns about using CANVAS is the fact that it reduces the amount of interaction she feels students so desperately need in their first semester. At the college, this largely means students in developmental classes, but it can also mean students who placed into college-level English courses yet are new to the college environment. While they are adjusting to their new setting, Samantha believes face-to-face interaction with faculty and other students is essential to students' growth:

> I typically work with incoming students, first semester students who have to learn a lot of rules and routines at the college. And, because they are first semester students, and I'm thinking not just reading and writing but also helping them acclimate to college culture, I think there's really important value in having as much face to face contact as possible - even when it comes to distributing and discussing assignments...I want the primary experience for incoming students to be as much face to face and high touch as possible.

With so much to learn about their subject matter and how to be students in today's higher education landscape, the college's incoming freshmen should not be relying on computers to communicate with others or engage with their coursework, according to Samantha. While online options can be expedient and convenient, they do not provide the same quality of involvement students require to become fully acculturated to the college as she sees it.

Samantha expounds upon her response by discussing the academic skills that are lost when learning goes online. She feels faculty are "losing something" when they "take away the hands on dimension" and utilize computers. There is a certain connection missing when screens become the focus of the classroom. Students turn their attention away from each other, and the text becomes less real: "I think there is something fundamentally different between encountering learning in life a screen at a time and

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encountering it within a book or an article in a magazine." Learning on the screen is disjointed, almost soulless, and this is the last thing students just arriving to college need to experience to Samantha's mind.

Moreover, Samantha says, when students are directed to screens, they miss out on the ways a classroom dynamic can affect one's appreciation and understanding of a piece:

> You can see each other, you can be in community. You can argue with me, "But that can happen through Skype!" It's a whole different experience ... So, as I sit here for a moment in silence, what I'm thinking is in the classroom, in a discussion, where I'm pondering over an article or something, you can have silences that have a richness or even a pedagogical experience to them, right? Because people are thinking. I don't think computer-mediated instruction is able to support that or even value that.

As computer-mediated instruction can make learning seem like a checklist of activities and exercises to be completed, Samantha feels it can make learning too task-oriented and omit the moments in which a student gets to grapple with ideas and, perhaps, change his/her perspective on a piece as a result of further reflection.

Lastly, Samantha is concerned that a sense of community is lost with CANVAS. While she knows features, such as discussion boards, and programs, such as Skype, have been put in place to help students connect with each other and build a sense of community online, she doesn't think the experience is nearly as meaningful:

> In my teaching, I'm all about building a learning community in the classroom. And, again, I think that doesn't happen as readily or as deeply when it's online...You build a very different kind of relationship in an in-person classroom community than you do online. It's richer, it's more nuanced, yeah.

Online features may help students message and speak to each other, but they offer a shallower version of communication than one finds when speaking face-to-face, she says.

Certain inflections of the voice, facial gestures, and sensations that shape the way

individuals grow to perceive and appreciate each other can be overlooked, making

interpersonal communication the act of simply exchanging content-based information

rather than conveying oneself more fully in Samantha's opinion.

Old Systems Worked Better

Samantha is not totally opposed to computer-mediated instruction "as long as the

curriculum drives the technology and not the other way around." However, her

experience teaching, and even her degree in Educational Technology, have taught her that

"sometimes the best tool for the job is a pencil." Echoing her earlier sentiments,

Samantha argues that traditional methods of teaching give students time to pause and

reflect, to gather their thoughts and consider how they compare to the thoughts of others.

When computers are introduced to the equation, product takes priority to over process;

work is completed and submitted, but how that work came to take form is of little

consideration. Samantha wants her students to appreciate their "developmental

trajectory" and not just focus on numbers and end goals.

Samantha is also concerned that the haste to embrace technology could facilitate

educational inequity. While the push to incorporate technology into classes at the college

is an attempt to keep the college consistent with other educational institutions -

particularly the four-year universities to which some students may wish to transfer - these

efforts might actually put the college's students at a disadvantage to their more affluent

counterparts elsewhere as she sees it:

> Technology enthusiasts, especially administrators out of touch with the
> classroom, are going to want to put up the newest wires and bells and
> whistles without enough consideration for the curriculum implications.
> Diane Ravitch is an education historian… [she] had made a remark some

time ago that still holds up, which is, in the future, she said, everybody's
going to learn through computers. But, privileged, rich kids, educationally
privileged people, they'll have teachers, too. That always stuck in my
head.

Samantha wonders whether the focus with computer-mediated instruction will be

primarily on getting students online and working on computers for the sake of preparing

them to do so later on without much thought about the quality of learning. She believes

those who teach more affluent students, though still embracing technology, will be more

inclined to think about the quality of education and intercede with more traditional

methods when the need arises. Because the additional onus of ensuring they are computer

literate is alleviated, these instructors might focus more on conveying content and

ensuring subject-related learning is taking place than they do on making their courses

cutting edge and technologically progressive.

With all of that said, Samantha does think she could be more open to CANVAS

and use it more extensively in her courses. The only problem is that she has a hard time

thinking about where it would actually improve upon what's already taking place:

> ...I need to step it up a bit and introduce CANVAS and use it even if it's in
> the second part of my semester. I'm trying to think if I'll be using it for the
> interactive features or just the storage features. A lot of what goes on in
> my classroom is group discussion about things we read, facilitated by me.
> I don't see that being replicated really, really well. Even if I posted, say,
> even workshopping a student paper. I could post it online. People would
> have the criteria to use. They could talk back and forth online amongst
> themselves. It just feels, that task, to me, belongs in the real world domain.
> It's just too clunky otherwise.

She is certainly aware of the functions CANVAS has to offer, but Samantha still feels

traditional means of delivering content and conducting classroom activities are the more

logical, practical options. Students can discuss ideas on CANVAS, and they can review

each other's work, but Samantha believes the way these activities are conducted in her

classroom currently works really well and helps build the sense of community she values so much. Until she thinks of a way CANVAS can augment or improve upon more traditional methods of teaching, she is content to stick with her current plan.

<div align="center">Commonalities amongst the Light Users</div>

<div align="center">*Pedagogy Must Come First*</div>

Chief amongst the concerns light users had about computer-mediated instruction was the need for proper pedagogical training in how to purposefully use computers so that they enhance learning and don't detract from it. Ruth, for instance, felt the college did not offer such training and was concerned that CANVAS would become busywork for students. She thought too many instructors believed they were teaching with CANVAS when, really, to her mind, they were just file sharing and posting exercises. This lacked pedagogical rigor, in her eyes, and, thus, she was reluctant to adopt it more herself. Dana echoed this sentiment, saying instructors in the English department were not qualified to deliver their courses electronically. The way many were using CANVAS, she says, was simply another way of delivering content but not a better way; because they lacked pedagogical training, though, they could not see this for themselves. Samantha agreed with Dana and thought it was important to ensure that technology was not being given priority or precedence to instruction. She worried that professors' focuses would lie more with how they could use CANVAS to cover material than how they could most effectively cover the material to ensure the students learned.

For many, then, without proper pedagogical instruction, using CANVAS in one's classroom can be a case of putting the cart before the horse; with so much attention focused on what *can* be done on CANVAS, the college and its faculty could be

overlooking whether a skill or concept *should* be done on CANVAS in order to achieve the greatest level of student learning and attainment.

While lack of proper pedagogical training is partly why the light users favored traditional teaching methods over computer-mediated ones, their preference also came down to the fact that they simply could not see any appreciable improvement technology had to offer. Ruth believed leaving computers out of the equation gave students the opportunity to focus more deeply on their reading without the distraction of what could seem to be a toy to many. Dana acknowledged that online resources could be helpful as a supplement, but she had not seen any that she felt superseded what she had come up with and been using for years; the computer-mediated instruction did not ask the students to interact with or engage with the material in any meaningful way, according to her. David did not see the need for computers in effective teaching at all. He had attended trainings to see what CANVAS had to offer, but he left feeling there was a lot of buzz around not very much substance. And, Lisa believed the guiding role an instructor plays is too crucial to students' learning to omit it from the equation even partially. This was particularly true of developmental students, for her, as she felt their interaction with the professor was what allowed them to progress. Finally, Samantha believed traditional methods of instruction called upon students to use their metacognitive and analytical skills far more than computer-mediated activities. These skills, she thought, were essential to college success, and, thus, sticking with methods that work was the best course of action.

The light users seemed pretty unanimous in their concerns that form could take place over function in the classroom if instructors adopt CANVAS too extensively. No

matter how open each was to the idea of use CANVAS at least a little more extensively than they currently do, they all felt an instructor's guidance and know-how were too integral to defer to technology. Some, like Dana, Lisa, and Samantha, were impressed or curious about some functions within CANVAS, but, at the end of the day, they could not see a massive enough improvement to swap it in for their current practices.

<center>*Students' Reading Skills are Too Limited*</center>

Another factor inhibiting the light users from using CANVAS more extensively was developmental students' limited reading skills. Ruth felt CANVAS could be a distraction, keeping students from focusing on their skills as they get caught up in the minutiae and gadgetry of what is taking place online. She was also concerned that CANVAS would cause many of them to fail because online exercises, when not highly supervised, rely upon students being able to read well enough to self-direct their study. In Ruth's mind, the students are not equipped to do this and could end up faltering without their instructors guiding them through. Dana shares a similar view, saying developmental courses are not the place to use extensive online exercises because the students cannot read well enough to make the exercises purposeful. With teacher guidance, she does think some critical reading skills could be done well online, such as evaluating the credibility of sources, but that is about the extent of where she sees it being useful. Lisa seemed particularly uneasy about using computer-mediated instruction, saying the students' lacking reading skills could cause them to be left behind as their courses surge ahead, and they don't know how to process the information or directions they've been given.

Reading, then, seems to be an essential skill to successful online learning for many of the light users, and they fear developmental students could be left behind in

computer-mediated courses because they simply don't have the reading skills to keep up. These faculty members agree one must be able to read, analyze, and self-direct when learning online, and the developmental students don't have strong enough skills to keep up with what is being asked of them. In an effort to modernize the students' education, faculty members could be forgetting their students' deficiencies and teaching the course at a pace and level the student cannot manage in the view of the light users.

Students Need Interaction

Across the board, the light users felt students needed interaction, and CANVAS would stand in the way of that. Ruth believed urban, developmental students were too often ignored or placated and, thus, had not developed their interpersonal skills or critical thinking. Dana and Samantha felt students needed to interact with their material more than online exercises asked them to, so too much learning would be lost if their courses went too heavily online. David thought the interpersonal exchanges between him and his students and his students and each other was an integral component to the classroom community and learning environment. With computers interceding, that dynamic would be lost and, with it would go the spirit of the class. Lisa saw the interaction between the instructor and his/her students as the lynchpin of the learning process for developmental students. While she could imagine more advanced and experienced students managing with some computer-mediated instruction, for her, developmental students need to interface with their professors too greatly to let computers stand in during their class time.

The light users were all on the same page when it came to the need for student interaction. While, for some, like David, this need did not change from developmental to

college level, most felt developmental students were in the greatest need of face-to-face interaction. Their ability to connect with their classmates, their instructors, and their course materials relied on interpersonal communication that was not mediated by technology. As a result, none of the light users were particularly open to increasing the presence of technology in their developmental courses.

<p align="center">*Students Left Out of the Loop*</p>

Two of the light users felt students were not adequately informed of what it meant to use computers in their learning. Ruth believes the college should be orienting students to use the computer and making them aware of how computers will factor into their education. Currently, she feels they are being sent into the classroom with no idea how central a role computers will play in their lives. Dana seconds this notion and feels students should be explicitly told what it means to take a course online as she thinks some see it as a way to spend less time on campus without realizing that time spent off-campus is time that should be spent in independent study.

As Ruth and Dana see it, if students don't know what it means to take a course in which the computer even partially mediates the instruction, they cannot be successful. Too often, technology has been a source of distraction in their lives, so they may well not know what awaits them when their courses turn to the screen for help. If the college did more to ensure its students were properly advised about and trained for computer-mediated courses, Ruth and Dana feel the students would be more likely to excel.

<p align="center">*Emailing is Too Difficult*</p>

Emailing with CANVAS seemed to flummox all of the light users. For Ruth, the problem was keeping track of messages. She was not always sure her students received

her messages because she was not sure her messages were sent in the first place due to CANVAS's limited communication records. She also found her students had multiple ways of messaging her, some of which she could not find, leaving her worried she would accidentally ignore them. Also, she and David both struggled to find the students they wanted to email because they had problems with the functionality of CANVAS's email system, finding it finicky and temperamental. Finally, Ruth, Lisa, and David all expressed discontent with CANVAS's email system not being linked up to the college's banner system. This, they said, made the process of checking in on students' records laborious and cumbersome. In order to get important information that could be relevant to their emails, the three said one would have to have toggle back and forth between systems at once, which seemed unnecessarily complicated and impractical.

This CANVAS issue was particularly troublesome for the light users. Since CANVAS became the only means through which faculty could email their students without having to keep the students' individual emails on file, the instructors all felt the system had to be more user-friendly. Communicating with students when they are off-campus is too important a task, they felt, to be left in a state of confusion and uncertainty, so this was a major concern of theirs.

Easier to Make Mistakes

Ruth and Dana both felt CANVAS made them more inclined to make errors that were bothersome. Ruth's concern lay mostly in the attendance and record-keeping functions on CANVAS; since she did not teach in a computer classroom, putting her attendance in CANVAS would entail transposing her entries from her roll book to CANVAS, creating the additional risk of putting the wrong entry down. This, she said,

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could lead to confrontations with or problems for her students. Dana, on the other hand, was more concerned with the typographical errors she could make that would damage her credibility as someone who is fit to teach grammar and punctuation to her students. A simple typo could either confuse her students or make them think she didn't know any better, which is a real issue for someone who is supposed to have a command of English conventions and the authority to teach them.

For both Ruth and Dana, CANVAS puts an unnecessary step into a system that worked very well for them already. These mistakes may seem minor, but the larger consequences of them could lead to troubles or uncertainties for their students, and, to them, that simply wasn't worth the risk.

<div align="center">The Faculty Perspective on CANVAS: Moderate Users</div>

<div align="center">*Rebecca*</div>

Rebecca is a full-time faculty member who is in her 40s. She has been at the college for a few years and has taught at other community colleges as well. She considers herself a moderate user of CANVAS and uses it to store her class handouts and sometimes generate class discussions. She also uses it as a portal for online sources she wishes her students to access, such as grammar quizzes and videos. However, she does not use it for grading purposes or for accepting assignments from students. As she puts it, "It's largely for my convenience." Rebecca mostly sees CANVAS as a means of not having to carry a lot of materials around in paper form and also as a way to get the class doing activities they would otherwise be doing on the board with pretty much the same result, like posting and evaluating each other's thesis statements. The interview takes place in Rebecca's office during final exams week.

Level of Proficiency, Support, and Training for Professors

One of Rebecca's frustrations with CANVAS is that she feels there is not adequate customer support for faculty or students. When she or her students have had struggles with CANVAS, finding the party responsible for sorting those problems out has been difficult, taking as long as three weeks. While she understands complications will happen anywhere that uses technology, she believes it would be easier to get help quickly at a four-year university where a larger support network might be available.

What Rebecca thinks would be most helpful is a different system of training. Currently, she feels the trainings are not very productive, and that, rather than learning how to use CANVAS, faculty members are left to "sit there and play with CANVAS by yourself, and that's not really that helpful." In some sessions, she says, too much time is spent on features she isn't interesting in using. What she feels would be far more effective and efficient would be to have a dedicated staff member to whom faculty could come directly for individualized advice when problems occur. This, she says, would make faculty far more inclined to use CANVAS and use it well: "Can somebody come to my office, or can I come see somebody? Is there some place I can drop in and actually get an answer to why my attachments aren't showing up?...There wasn't anybody that I could contact and just say, 'What's the deal with this?'" This person should also be available to students, says Rebecca, because when students don't know how to use CANVAS, everyone suffers: "If [students] had access to a person, if they could walk into a computer lab and say, 'I can't get into CANVAS,' and there was a person who was sitting there, whose designated job was to sit with that student and get them into CANVAS, I just think our lives would be easier, and so would theirs." From Rebecca's

perspective, without dedicated support staff for CANVAS holding comprehensive hours

for individualized instruction, the college is making it difficult for faculty to see the full

extent of advantages CANVAS has to offer.

This lack of assistance has left Rebecca unsure of how to use CANVAS in many

ways, some of which are pretty common tasks a professor would want to perform:

> There are things I still can't do on CANVAS. There are things that - like
> when I want to post a website for them to go to, I have to post it in a
> discussion board because I haven't figured out how to do a real link from
> CANVAS...There have been things like that - sending attachments has
> been a nightmare for me with CANVAS. I don't know if it's because when
> I use different browsers, they just don't show up, but sometimes I'll email
> my entire class, and there's an attachment, and they don't get it. I look at
> their email, and it doesn't come through. I don't know what I'm doing…

If she and/or her students had someone they could directly go to and troubleshoot through

these problems with, Rebecca would be far more likely to use CANVAS for these tasks

and others. But, in her experience, since that help has been hard to come by, it's just

easier to go without CANVAS in many cases.

Despite these issues, however, Rebecca does think it is important faculty use

CANVAS to at least a minimal extent, such as the departmentally-required posting of

syllabuses. If faculty don't know how to do this, she reasons, it will, "become something

else that our secretaries have to do," which would be a time-consuming and unnecessary

burden on them. With greater support available, she is confident more faculty would

embrace CANVAS and prevent such problems from occurring.

Students Lacking Skills and Access

When it comes to using CANVAS with developmental students, Rebecca thinks it

is a good thing for, "...some students." Some of her students take to CANVAS easily and

benefit greatly from the resources she is able to post there for them. Others, however,

have a hard time getting past their technological difficulties and never quite get the hang

of it:

> I try to introduce them to that stuff because I think it's really helpful for
> some of them. The ones it doesn't work for, it doesn't work at all. Like, the
> ones who don't have computers, who don't have access, who really don't
> get what's happening when you tell them to sign on to CANVAS, who will
> tell you they don't have their password halfway through the semester. I try
> not to rely on the computers to do anything I can do myself, but I want to
> expose them to all the different options, and that's one of them. I use it as a
> welcome to the world of computers.

In an attempt to help her developmental students get past their prior lack of computer

training, Rebecca uses CANVAS to make them comfortable with technology and to

improve their proficiency both with computers and with reading and writing.

Unfortunately, for those who cannot wrap their heads around how to use CANVAS or

who do not have regular access outside of class, the benefits of her attempts are very

limited.

This mixed response to CANVAS from her students is another repercussion of the

lacking support staff at the college and their inability to work with students in a way that

is helpful to them, namely face-to-face, according to Rebecca. At one point, she learned

of a person who was meant to help students and faculty when problems arose. However,

that individual did not know the college's student body well enough to know how to

effectively help them, and that, along with some other shortcomings within CANVAS's

design, limited the extent to which students were helped:

> The problem was, she would get back to them by their [college] email, and
> a lot of students either aren't checking their [college] email, or they don't
> have a password for that either. That became another problem. I also think
> that just the fact that the CANVAS password isn't something they choose
> makes it much more difficult because they're all - like they all have to
> check their phones to get their password. I don't have any students who I
> can just say, sign on to CANVAS, and they just go and do it. I think that if

we had a better system where you could actually just choose your
password, it would make a lot more sense.

With only some of her students knowing how to use CANVAS proficiently, and with the

others not being able to get help in a way that works for them, Rebecca finds many

obstacles in her attempts to use CANVAS more robustly. If help were more available and

more responsive to the needs and habits of the college's student body, she might feel

differently.

No matter how much support is offered, though, Rebecca knows there is a larger

problem support staff cannot solve: student's lack of access to computers. With so many

students not having computer access outside of class, there are certain inherent

limitations within the college's population that prevent fuller CANVAS usage from

Rebecca:

> ...I think the problem of access is the biggest problem whether it's because
> of passwords or because students just don't have computers at home. I
> never require my students to get anything off of CANVAS - like I never
> don't give them a physical copy of an article or an assignment. I always
> hand it to them, but then it's available on CANVAS for them if they can
> get to it. I also only use it in the classroom where I know everybody has
> computer access. That's one of the shortcomings...

For Rebecca, mandating CANVAS usage amongst her students isn't fair since it puts an

undue hardship on those who don't have computers of their own. While there are

computers for students to use on campus, many hold down at least one job and/or have

family obligations that make spending extra time on campus after class impossible.

Therefore, if it can't happen in class, Rebecca will simply elect not to use CANVAS for

her intended activities.

All of these factors combined leave Rebecca feeling that computer-mediated

instruction is better for college-level students than it is for developmental ones. College-

level students, she feels, are more experienced with computers and navigating the college

landscape, eliminating some of the complications one faces with CANVAS usage:

> ...with the developmental students, I feel like we're facing so many other
> challenges that - for example, if I try to do those sort of computer learning
> tools in the classroom, I'm more likely to get the, "I can't get it to work!"
> kind of questions than I think you would at the next level up. Also, just in
> terms of responsibility, if I were to ask students to watch a video or
> something like that outside of the classroom, I don't know that they would
> do it. It's developmental, and I think as you get further along, maybe you
> would have them better trained.

Still developing their content-based and study skills, developmental students already have

a number of difficulties to overcome with their learning. Throwing technology they don't

know how to use into the mix or asking them to work independently with those tools

when they're still figuring out how to manage their study habits opens up a can of worms

for instructors who intend to use CANVAS more extensively. As a result of this, Rebecca

opts to keep her CANVAS usage somewhat limited and within the confines of the

classroom.

New Systems Can Work Better at Times

Despite the aforementioned complications and reservations Rebecca has about

CANVAS, she still thinks it has a lot to offer that improves upon traditional instructional

methods. It can make students more autonomous or even give them the courage to

participate in class discussions when they might not have done so otherwise:

> I do think that the ease of access to documents twenty-four hours a day -
> that they can actually get things that they don't have to contact me for - not
> that they don't contact me for them anyway - but I think that does make it
> easier. Then, I think the other thing is it really does get some people
> involved in the discussion who wouldn't be involved otherwise when I
> force them to post something, and then we can talk about what's been
> posted. Now, they've already said something, and I can comment on what
> they said and you know, "Oh! That was a great idea! Let's talk about that!"
> It might bring a student into the conversation that it might not have before.
> I would say those are the two strengths.

There are certainly a number of limitations within CANVAS Rebecca sees, but the advantages it does have are valuable enough to keep her using it beyond the bare minimum. The ability to teach students how to be more independent and to encourage them to be more engaged in class is invaluable to Rebecca because these are two of the skills developmental students need the most.

<div align="center">Melanie</div>

Melanie is a full-time professor in her thirties. She has been at the college for a few years on a full-time basis and before that was an adjunct at this and other colleges. She uses CANVAS primarily for record-keeping with grades and attendance, file posting, and smaller assignment submissions. She also uses the discussion board function at times. She does not, however, have her students submit major assignments or exams through CANVAS. The interview takes place in her office during final exams week.

Level of Proficiency, Support, and Training for Professors

Melanie is actually very pleased with the way the college has handled the roll-out of CANVAS for faculty. She says the college has introduced CANVAS as a "friendly recommendation" rather than a mandate and has been very helpful to faculty as they adjust to the new system. She feels there have been a lot of workshops that have enabled faculty to become aware of functions or capabilities on CANVAS they did not know about previously. Just this past semester, she says, she learned, "a few things about CANVAS… that prompted me to go back and talk to other people and figure out 'How does this work?' and 'How do you get around this little problem?'" As far as she is concerned, those who don't want to use CANVAS are not being forced to, and those who do want to have ample access to training and resources to improve their ability to work

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with it. To Melanie, this is an ideal approach as it maintains freedom while encouraging faculty to learn and adopt new approaches to teaching.

Students Lacking Skills and Access

Melanie's attempts to use CANVAS have had mixed results. She has been somewhat stymied by her students' lack of computer access or expertise:

> [Using CANVAS] has not been as effective as I would like it to be because there have been some problems over the course of the semesters with students either accessing CANVAS or their knowledge of CANVAS tends to be limited. Their knowledge of a learning management system, the technology itself, tends to be limited in ways that I found really surprising, I guess. For example, some of my students had a hard time just even accessing CANVAS because just getting a username and a password blocked them from the very first step. That was a big thing that we had to work through in class. This is how you setup your password, and don't use any other email address, use only your - you know. Those sorts of things.

Melanie feels this issue could be rectified if there were crash courses for students in how to use CANVAS and other technology to help them get a stronger grasp on at least the fundamental skills, such as logging in or accessing files, as it would help them begin the course in a better standing. At the moment, many are coming in unaware of what they're getting into, she says, and with better preparation, they might find the transition to be easier or, at the very least, opt for a section of the course that does not use CANVAS very much. She thinks this is particularly important for students signing up for fully online courses, like the standalone developmental writing course, or hybrid courses, like the linked developmental reading and writing course the college is currently piloting.

Like Rebecca, Melanie thinks CANVAS is definitely beneficial to some students, namely those who are able to figure it out and navigate it well. For the other students, however, CANVAS can be a major source of frustration:

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> I think that for some of the students, once they were able to learn that language and learn what the system is, like, and make it make sense in their own understanding, then, yes, it worked, but if you have a variety of different students in the class at different learning levels, then that may not work so well. I had students who still had problems with CANVAS even towards the end of the semester and then were completely frustrated and hardly ever checked it and would just email me directly about information even though I'd say, "It's on CANVAS," but they still wouldn't. I never quite understood, and they didn't quite always articulate what it was, just said, "I just don't get it."

For some developmental students, then, getting the hang of CANVAS is possible even without a great deal of prior knowledge. For these students, the course runs smoothly, and the benefits of CANVAS are clear. For the students who don't catch on, however, CANVAS can serve as a source of major frustration, making their time on the course difficult. Melanie does point out, though, that college-level students at this college and ones at which she's taught in the past can also struggle. She teaches fully online, college-level courses at Northeastern Urban Community College and has taught them in the past at other institutions and has found that her college-level students also experience teething problems at first. However, unlike her developmental students who struggle to come to grips with CANVAS, her college-level students usually have things figured out within "the first couple of weeks."

Other obstacles in using computer-mediated instruction for developmental students are their study skills and self-discipline. Many developmental students lack strong study skills, self-direction, and time management, which can make even traditionally delivered courses challenging. The larger the role computers play in a course, the more students have to learn to direct themselves, and that can be a problem: "...you do have to really be self-disciplined. A lot of faculty members complain about the lack of discipline in the early stages." That said, Melanie wants to be clear that not all

developmental students lack these skills, and/or some acquire those skills very quickly, so one cannot make a "blanket statement" about developmental students and computer-mediated instruction: "We have students that are coming from such diverse backgrounds. We have students that have had really hard rough lives, and their level of self-awareness and what they're able to do is sometimes phenomenal. They're very insightful about things." Melanie does feel computer-mediated instruction can work very well for some developmental students, and she is "very excited" to see how the piloted hybrid courses for the linked reading and writing classes go. For many developmental students, she believes, computer-mediated instruction is a feasible and beneficial endeavor; considerations just need to remain in mind for those who are not as technologically inclined.

Students' Need for Interaction

Melanie doesn't have much to say about the level of interaction students need in a course, but she does feel the need for this varies from course to course. When the course lends itself to an interactive online format, and when the students themselves are adequately prepared to work with technology, computer mediated instruction can work "very well." However, in some courses, "it might be better to have a face-to-face than online completely," and, given her mixed success with using CANVAS moderately in her developmental courses, for the time being, using computers more extensively is not an idea she is pursuing: "I think not everyone functions well from minimal guidance learning processes. In certain courses, specifically skills-based courses, you need a balance. That's why it's more moderate and not all in." Melanie does not see computer-mediated instruction as a barrier to interaction amongst students and faculty as much as

some of the light users did, but she does think face-to-face instruction is best when covering fundamental skills.

New Systems Can Work Better at Times

Melanie has very positive things to say regarding CANVAS's role at the college and with developmental students. As long as it is used as something that, "...enhances and not disrupts and discourages students in their learning environment," she believes it has great potential to be helpful, particularly to those "...students who are self-motivated, who benefit from minimal guidance and...whose reading and writing levels are maybe a bit higher than maybe the rest of the class, so they don't need an overhaul - they just need soft touches." Placement in developmental classes can be tricky. Some stronger students wind up in the courses because they did not do well on the entrance exam, and getting those students placed in English 101 can be difficult once sections have filled and the semester is underway. Other students were correctly placed and are missing fundamental skills, but they learn quickly and soon outpace their classmates, who may need the entire semester to even get a tenuous grasp on the material. For those students, computer-mediated instruction can be a godsend because they can access more advanced materials rather than growing bored as the rest of the class moves at a slower pace. This capacity to aid with differentiated instruction is a definite benefit of CANVAS in Melanie's eyes.

For stronger and weaker students alike, Melanie feels CANVAS provides excellent practice with becoming more "proactive" in their education. Rather than following a more traditional, passive role wherein students wait for instructors to deliver all material and are completely dependent on the instructor for everything, CANVAS gives students independent access to information and resources:

I feel that it ideally helps the students be more aware of where they're at in the course and to be more proactive in how they get information. Instead of emailing me a whole bunch of times about what is this or explain the assignment, they can go right to CANVAS. I tend to, especially if we have major papers, I provide a very detailed page of what they're expected to do, how we're developing the process of the writing deadlines and texts that can be used as well as supplemental information. I feel it helps them become a bit more proactive so I'm thinking of the students in that regard. Again, it helps them be more aware of where they're at in the course so there are no surprises with attendance or things of that nature.

As students take charge of their own learning, they begin to show initiative. Melanie's even begun to see students submitting their work early as because they've grown more confident. Able to see their own grades and attendance status and to find answers to questions on their own, students can become more empowered and engaged - a definite positive in Melanie's book.

This proactiveness can help students augment their learning in a number of ways. Melanie posts readings and links for the course on CANVAS, and some of the students read them in advance of class time, giving them a greater mastery of the material and enabling them to practice their skills independently before checking in with their instructor. Melanie says she sees greater progress in the courses for the students who do this than those that don't. Students who are struggling with the course can practice their skills using the plethora of links and supplemental exercises she has stored on CANVAS, shoring up their skills if they have the discipline and wherewithal to do so. Melanie points out that, without CANVAS, students would either have to wait for her to email or print these resources out or might not bother at all, considering it too much of a hassle. This, she feels, is an undeniable asset.

Melanie also thinks using CANVAS more often would be good for many instructors in that it would push them out of their comfort zones "...and learn something

in a different way." Doing so might help them consider the learning process from their students' perspectives as, she says faculty are constantly calling upon their students to do what frightens them, learn new skills, and adopt new ways of doing things. It is only fair that faculty should do the same and attempt new methods of teaching: "We ask our students to do the same, so why not?" It might, she believes, remind faculty what it is like to be in unfamiliar territory again.

However, CANVAS does pale in comparison to traditional teaching methods in some regards in Melanie's opinion. Most immediately, there is the fact that some students simply aren't comfortable with or do not like going online. CANVAS may offer great opportunities for learning enrichment and empowerment to students, but if they won't log on in the first place, it's largely lost on them:

> Again, the limitations are concerning, and a hesitancy sometimes about actually going to CANVAS throws that for a loop a bit. That's something that I think down the line we need to sort out or figure a better way to approach it. In terms of the pedagogical stuff, I know there's a debate about it democratizes information using these learning management systems, and it helps them become their own learners. That's interesting, but I think it's only fitting for students who are there, who can actually do that, and who understand what it means to take on their learning processes for themselves and own it. Again, repeating the word, be proactive about it.

As she sees it, then, CANVAS can be a valuable resource that can empower developmental students, but in order to increase that impact, some thought needs to be given over to how it is used, so it benefits a greater portion of students more reliably.

Regardless of how much thinking the faculty does about how to use CANVAS, Melanie thinks its shortcomings will inevitably frustrate them, at times, which might make faculty members less inclined to abandon their more tried and tested teaching methods. Beyond the difficulty students have logging in, they also sometimes face

confusion when CANVAS doesn't display properly in certain browsers. This means that students can't see certain features and files she has posted but aren't computer savvy enough to know their choice in browser might be to blame. This can fluster students and make them even less comfortable with using the system than they already are. On the same token, the browser issue can cause students to not see comments she has posted to their assignments, and if they are not aware that the browser is the issue, they can miss out on valuable feedback that would help them improve upon their performance. In this sense, paper and pen comments may seem to be the safer option for many reluctant faculty members.

Deadlines can also become confused in CANVAS if one is not careful. The system asks professors to choose both the date the assignment is due and the date the assignment closes; if the instructor does not remember to make both dates the same, it can appear to students that there are two different deadlines. Those who know how to interpret the two different dates can figure it out on their own, but those who can't can be seriously mislead, leaving the instructor in the position of having to clarify:

> For the ones who are new, like in the beginning, before they get used to the rhythm of the course, it throws them off a little bit. I think those are small details. They can get ironed out pretty quickly with announcements that clarify that issue. Again, it's been mostly the frustration of navigating through the course, especially for students who just aren't used to what this whole learning management system means...It's like a whole new world.

Melanie acknowledges the relative ease of setting students straight when it comes to deadline confusion, but she also points out this problem can serve as yet another source of frustration for students already unsure about and uncomfortable with computers and learning management systems. A traditional handout with due dates printed on it or

which directs students to the syllabus for the due date would avoid this problem, and that is an issue she would like to see CANVAS sort out.

<p style="text-align:center;">*Anne*</p>

Anne is a full-time faculty member in her thirties who identifies as a moderate user of CANVAS. She says she uses CANVAS to post media and additional resources for her students, to display grades, and to respond to students' requests, but she doesn't use have students submit their assignments, and she doesn't grade their assignments on CANVAS either. She also feels her skill level with CANVAS is only moderate, which keeps her from using it as much as she could be. The interview takes place in a faculty office. It is final exams week at the college.

Level of Proficiency, Support, and Training for Professors

Anne admits she was not immediately enthusiastic about CANVAS. In fact, she says she was "reluctant" to use it and only began using it, "...because the college switched to CANVAS and was training on it." She has grown to like it for a lot of functions and feels there is a definite push from the college to use it with "lots of emails about trainings" but not the necessary resources or support for faculty members to back that up. She believes there should be more computer rooms on campus, and they should have the set up a few currently do where the computers are along the outside wall, but there are traditional tables in the middle where the class can meet. Other computer classrooms have students either sitting in horizontal rows, facing both their computer screens and the professor or in vertical rows that put the screen in front of the student but the faculty member to the side; no alternative seating is available in either of these setups. She feels the arrangement she prefers is the most "appropriate" one because it allows for

computer usage and traditional instruction as well. This, she claims, would help

instructors ease into CANVAS usage, knowing they could always opt out of it mid-

semester, if they like, without having to compete with computers for students' attention

or changing rooms.

Anne also feels there could be a greater effort on behalf of the college and

Instructure to draw faculty into using CANVAS. For instance, she says, a faculty focus

group could be developed so faculty members could collaborate on ways to use and

improve CANVAS. She feels this would not only help faculty members learn better how

to use CANVAS's existing functions, it would also help Instructure develop new

functions based on the focus group's feedback. Anne suspects there are, "...a lot of really

cool things that could happen to enhance CANVAS," but, currently, faculty members are

using it in isolation and are not able to exchange ideas. If the college and Instructure were

open to hearing from the faculty, she believes, there would be more enthusiasm and

support for CANVAS at the college.

Students Lacking Skills and Access

One definite difficulty Anne sees with using CANVAS in developmental courses

is that, "A lot of developmental level students are lacking basic computer skills, so we

spend a couple of days setting them up on how to use Word even." This can cost a lot of

class time and cause a lot of anxiety as students try to navigate a system that is unfamiliar

to them. Faculty do their best to help, sometimes without the aid of having computers on

which to provide demonstrations in the room:

> How to use CANVAS, how to get the password, like check your spam
> folder. Password went into the spam folder. There's a lot of frustration and
> anxiety in those first couple of days if we're in a computer classroom. If
> we're not in a computer classroom, I'm really not instructing them on how

> to use CANVAS, and somehow, they're either figuring it out on their own,
> or not figuring it out, and that's a problem.

With so little prior computer experience and often limited access to technology, developmental students are not as easily able to figure out how to use CANVAS on their own or follow a set of written instructions that might not take unexpected factors, such as passwords going into spam folders, into consideration. It can take a lot of time and energy from instructors to get students over this hurdle, and if there are no computers in the room, this can make matters even worse. As Anne sees it, this is a definite cause for faculty reluctance when it comes to adopting CANVAS into their practices.

When asked whether she thinks this would be a challenge she would face at a four-year institution or an institution that served a more affluent student body, she answers no. The students at those colleges and universities, "...might have more experience with using desktops or laptops" whereas, "I think a lot of stuff happens on students' phones here. So, their knowledge is more of these small screens, like IPhone, smartphone variety." While there is a CANVAS app, and some CANVAS functions will work on mobile devices, one's ability to use CANVAS from those devices only is severely limited, so desktop or laptop access is essential. With so few students able to afford desktops or laptops, though, the ability to use or even log on to CANVAS regularly is not a given, which factors into Anne's decision to use CANVAS only to the extent she does.

Students' Need for Interaction

Another factor affecting Anne's usage of CANVAS is that she has some reservations about losing interaction with and amongst her students when CANVAS is in the picture. She, too, is worried they are spending too much time engaging with their

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phones and not enough engaging with each other or their professors, but she doesn't let

this put her off of using CANVAS altogether and, instead, tries to handle it through

classroom management:

> It's kind of like a cliché, but I know that students are always on their
> phones, and they very much want technology. I am strict about when
> students are engaging with CANVAS - or engaging even with Word - and
> when they're looking at me or talking with each other.

Anne wants her students to know that there is a time and place for technology in her

classroom. She also wants them to understand that technology, though very useful and

educationally enriching, will not take the place of traditional engagement or interaction; it

will only be a supplement.

Anne mentions her favorite computer room layout again, saying how the

computer-free tables in the middle of the room are great places, "Where we can have

discussions...and talk face to face." The setup of these rooms, she says, enables faculty

members to get the best of both worlds by using CANVAS when it is appropriate to

instruction or in some way enhances the learning experience and by having students

retreat from the computers and focus on their instructor and each other when that is the

more appropriate method to take. If more rooms had this setup, she feels, more

instructors might be inclined to embrace CANVAS because they wouldn't feel they had

to be "all in" when it comes to computer-mediated instruction.

New Systems Can Work Better at Times

Anne can definitely see a lot of advantages CANVAS has over traditional

instructional methods. Namely, she likes how in-tune it can be with her pedagogy and

how it can increase access for students who need additional time with their instructional

materials or who have special needs:

> Once I started using it, I felt like I incorporated it. It felt relevant to my pedagogy. Being able to show media and then have students be able to look at it afterwards and also helping students with disabilities - to have the materials posted online - also, people who struggle with materials management. So, originally, I would say that I just did it because everybody else was doing it - you're kind of forced to - but, then I found it to be in sync with most of my values.

Though a reluctant adopter at first, Anne has been able to find a lot of positive uses of CANVAS that have supported her students in ways traditional teaching methods could not. Thanks to CANVAS, her students can review material on their own, manage their files more easily, and make adjustments to support their individual needs, like clicking on closed captions or enlarging text. These capabilities fit right in with Anne's desire to help her students achieve.

Not all of Anne's experiences with CANVAS have been so wholly positive, though. She has mixed feelings about putting students' grades online. On the one hand, she likes the transparency and the regularity with which students are kept abreast of their progress. On the other hand, it can focus their attention in the wrong direction:

> In terms of grades, it makes students much more up on what their grades are. To have them posted online, kind of constantly, which I think can be also a negative, too, because their students become a little bit more grade-focused than learning-focused. If I type in the wrong, like I type in a 3 instead of a 100, they freak out! It's creating more transparency, but that itself can have some problems.

Anne had similar problems when she did not know how to work with CANVAS's due dates; her students were getting notifications assignments were due when they weren't, which caused a great deal of panic and confusion. Anne likes her students to be informed, but too much information can serve as a distraction for students worried about whether they will pass a course and unaccustomed to receiving information in an online avenue. To her mind, this is both a benefit and a detriment of using CANVAS.

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Anne definitely sees the value of using CANVAS, but she also feels it is not essential. She believes, "...a faculty member can be just as effective as a teacher without using CANVAS," if he/she has effective teaching practices already in place. That said, she thinks faculty should be at least open to using CANVAS before making the decision not to use it at all: "If the teacher is not using because they're afraid of it, that's not clearly the best thing. If you're being reflective, part of that is being open to what's become mainstream and looking into it and at least trying." For her part, Anne does constantly reflect on when and whether to use CANVAS. She has found the ease of sharing media is "really good," for helping all of her students, particularly the ones with disabilities. However, she has "been shy to try the grading on CANVAS" because she likes the traditional way of grading so much: "I like so much to write with a pen on papers. Sometimes, I say to my students, soon I'm going to get with it and do the grading on CANVAS, but not right now." For the time being, Anne prefers to stick to an older method of doing things, but she continues to ponder that decision as she goes along.

Of course, Anne's reservations about grading on CANVAS were not helped when the site experiences technical issues for a few hours right as grades were due. Most faculty most likely knew nothing about it, but a few noticed that, in the very early morning hours, their grades were completely missing. The issue was quickly resolved, and all grades were restored, but the anxiety this caused Anne was enough to make her steer away from online grading for the foreseeable future:

> I lost a lot of sleep over that because everything was gone...I was very concerned about what would - would I lose my job because I didn't have a backup of the grades? And, what am I going to say to my students with things like that? Whereas, grading things in a book is - unless there is a fire - is pretty safe.

Grading online may be fast and convenient, but it does leave one vulnerable to technological malfunctions, and the threat of that as well as the experience of it temporarily happening, were enough to make Anne cling closely to some of her traditional practices instead of adopting new ones.

<p style="text-align:center">Mark</p>

Mark is a part-timer in his 50s. He often gets a visiting lecturer position and was waiting to hear whether this would be happening for him in the upcoming semester. He considers himself a moderate user of CANVAS because his classes did, "...maybe, like, 20% of the work we did for the class on CANVAS" in the developmental writing course and "more so" for the developmental reading course. He says his class was in a computer room, and "at least part of the class, or maybe one day out of the week, the class would work on the computers." He also uses it for attendance records, but most of his assignments were turned in on paper.

The interview takes place in the classroom where Mark will hold class in a little while. It is an open and bright computer room that is far more spacious than other computer rooms on campus because it is located in a newer building. The setup is such that horizontal rows of computers face the instructor's station at the front of the classroom. It is midway through the semester.

Level of Proficiency, Support, and Training for Professors

Mark admits he does not attend trainings or professional development programming - he does not have to as a part-time faculty member - so, he has little to say on this issue except that he does not feel the college has pressured him to use CANVAS

in any way. The choice has been solely his, and he has been able to figure it out on his own because, "It just made sense. It's easy to use."

Students Lacking Skills and Access

Mark's students have largely done very well adjusting to CANVAS. He does have some older students who struggle with it and technology in general, but he says they're in the minority. Part of the problem, he says, it that the link from the college's portal to CANVAS puts the acronym LMS after CANVAS, which confuses students who don't know what LMS means. Otherwise, he largely has positive things to say about his students' ability to adjust to CANVAS:

> Students, my students at least, haven't had any problem getting familiar with it, getting comfortable using it. Maybe, at first, in a group of 20 students, I had maybe four or five students who don't know how to log on to CANVAS or can't find CANVAS...I always have a few older students, too, in a classroom, so they're a little less computer literate or a little intimidated by computers. Once they get familiar with it, and once they start using it, there's no barriers really to its use.

Mark acknowledges there are some students who have difficulties, but, for the most part, he says these are in the minority, and most adjust very well to using it. As this is the case, Mark does not see it as an obstacle to using CANVAS. In fact, he believes it would be problematic to use the students' lack of prior experience with computers as a reason to not use CANVAS as, "Pedagogically, everyone's using computers now. You can't get any job really that isn't going to use a computer in some way, so students have to be at ease with it." Whatever initial difficulties students may have with CANVAS, Mark feels they are overcomable, so faculty should not let this scare them off since the students need to become adept at using technology if they are to be successful in the future.

In addition to using it to get students' computer proficiency up to speed, Mark also uses CANVAS to get their time management and study skills in order. A large portion of the students have come from a shaky educational background where expectations were low and excuses were accepted. For many, the adjustment to the expectations commonly held of college students can be a shock, and Mark sees CANVAS as a way to get the message across to students that excuses won't work anymore:

> Well, I'd say initially getting it set up, getting students familiar with it, just sort of instilling the expectation that you have to use CANVAS. The assignments have to be turned in through CANVAS. Excuses like, "CANVAS was down" or, "I don't have my password" aren't accepted. I'd say just maybe initially in the first few weeks, ironing that sort of stuff out.

The learning curve can be a little steep in the beginning as students acclimate to both college and regular computer use, but Mark feels the students are able to make these adjustments and rise to the demands of college.

Mark does hold his students to high standards, but his older students do necessitate some rule bending:

> ...initially, for a few older students or a few students who aren't really computer savvy, there's a little bit of learning curve time, and just getting them familiar with the basics of turning on the computer, finding CANVAS...The initial set-ups tend to be a little bit stressful. Some students, "Oh! My neighbor has already completed her assignment, and I'm still not even logged into CANVAS!" Definitely for the older students, they'll be a little bit stressed out and panicked at the start.

Mark is willing to make certain concessions as he has, "...students who have zero computer experience whatsoever, don't know how to turn on a computer, can't type." These students still have to use CANVAS for smaller projects and to check/send messages, but he will allow them to handwrite their assignments. He will also let them have extra time for in-class assignments because, "It took you 30 minutes just to get

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logged into CANVAS, so you're going to need more time. Just take it and do it as homework, give me a hard copy." As much as he tries to enforce certain standards with his students, Mark knows he must yield to some extenuating circumstances, or else CANVAS will serve as a barrier to the very students he is trying to prepare for the future. He does add, however, that while he is "happy" to make accommodations for these students, it would be harder for him to do if he had a "larger number of classes or students," so he is not certain how his approach would work for a full-timer.

Nevertheless, Mark still sees computer proficiency as an integral skill for his students if they want to survive in future institutions of work or study. When discussing his experiences working at a local four-year college, Mark notes that LMS usage was the expectation:

> [The four-year college's] students, their first questions are, "Is this on Blackboard? Are you going to put this on Blackboard? Do I have to write this down, or is it going to be on Blackboard?" That sort of thing. They definitely seem much more at ease with using it and have expectations that everything will flow through Blackboard.

As many of the students at Northeastern Urban Community College want to transfer to four-year institutions, it is important they are prepared for the way courses are run there. Even if they do not want to transfer, they will still need to be computer literate in the workplaces they aspire to join. With this goal in mind, Mark enforces CANVAS usage, making exceptions only when it would serve as an obstacle to students' learning.

Students' Need for Interaction

Mark is not very concerned about CANVAS interfering with students' abilities to interact with each other. This is partially due to the limitations he puts on CANVAS usage in his classroom, but he does feel CANVAS can be a means through which students engage

with one another: "Well, you can do a little collaborative work on CANVAS. You can

require peer reviews, and it will sort of randomly assign peers to the students in the class,

which I think is kind of fun." Mark says this process of peer review can actually yield

better results than face-to-face peer reviews because students' comments can be kept

anonymous, so the students are far more inclined to be honest with each. When they have

to work in face-to-face pairs, they tend to shut down for fear of hurting the other person's

feelings.

New Systems Can Work Better at Times

A big part of why Mark likes CANVAS is because, "It makes grading easier,

tracking grades easier, getting feedback to the students. You can do it at any time, pretty

much." He finds it eases the logistics of classroom and information management, making

policies and procedures concrete and information easier for him to provide and students

to receive. This means his expectations are clear to students, and they have a more

consistent experience in class as a result:

> Again, I think there's no ambiguity. At least, it looks like there's no elbow
> room or margin of error when you're using CANVAS like that...I think the
> built-in date deadlines and time deadlines make it more concrete for the
> students to see...It's right there in CANVAS. It's still on CANVAS if you
> want to go back and check it...Also, I think for attendance purposes to
> have something that is, sort of, black and white and unambiguous for the
> students motivates them to come to class. They can check their attendance
> at any time on CANVAS and see that they already have six absences, and
> one more, and they can't pass the class. It's not like they can just say, "Oh,
> you know, there's a mistake in your attendance book, or you wrote it down
> in the wrong column." It's right there on CANVAS. I put CANVAS on the
> overhead projector when I take attendance, so they can see if there's a big
> red X or a green check for their name.

This transparency and consistency are very helpful in getting students to adjust to college

and its demands. They remove doubts about fairness, accuracy, and consistency and hold

students accountable to a tangible standard of which they are completely aware at any given time. Unlike traditional methods of accepting work or taking attendance, using CANVAS removes the question marks, secrecies, and grey areas, which means students know exactly where they stand at any given time.

   Mark has even come up with some creative ways CANVAS can help him take attendance and uphold his classroom expectations:

> I'm a little bit old-fashioned and nerdy when it comes to attendance and being on time, so... I'll have a quiz set up on CANVAS, and it will be open from, like, 8:40 to 8:55, so I'm like, "Alright, you've got 15 minutes to log into CANVAS. That will also count as your attendance. Take the quiz." So, students who wander in 15 minutes late looking cool suddenly realize that there's 120 seconds left for them to get on CANVAS and do the quiz.

Unlike a professor's roll book, there is no arguing with CANVAS; if one were present in time to take the quiz, he/she would have taken the quiz or complained about technical difficulties preventing him/her from doing so. This is precisely the lack of ambiguity Mark likes so much in using CANVAS and one of his major reasons for doing so.

   When it comes to grading, Mark is not as exclusively devoted to CANVAS. While he believes it makes grading papers for his college-level students fast and easy, he doesn't feel any time is saved when grading the work of his developmental students:

> For some reason, I still like to grade the [developmental writing] papers by hand. They're short enough and have the sort of errors that I think just work better in terms of seeing it in paper and ink that something's been circled or some comments have been written: "This needs to be fixed."

For this task, CANVAS does not really offer a marked improvement over the traditional method, so Mark opts not to use it. His CANVAS usage is pragmatic, so when it does not serve a logical purpose or provide a palpable advantage, he will forgo it.

While he thinks it is perfectly acceptable to refrain from using CANVAS when it is not the more logical option, Mark does not agree with faculty members who eschew it or technology altogether, feeling it is a grave disservice to the college's students:

> I think there should be an expectation that college classes are sort of being done in a modern and computer literate savvy way and that, if you're still doing things completely in pen and ink and photographs, mimeographed syllabuses and all that stuff, that it sort of probably sends the wrong message to the student that these are the expectations, as far as technology goes...Like any college class at [Northeastern Urban Community College], there's an expectation of computer literacy and facility and that not doing that, I think, probably is sending the wrong message. Yeah, not appropriate, yeah.

Mark rails against professors who send these messages to students because he feels they should lead by example. Their students will be entering universities and workplaces that will demand they have some level of computer literacy, and so their faculty should be leading by example. As a moderate user, he does not believe faculty members must subscribe completely to CANVAS, but he does think they should at least rise to the accepted standard in the academic world so the college's students have the same quality of education and preparation students at other institutions do.

Carla

Carla is a part-time faculty member in her sixties who has been at the college for a few years. She considers herself a moderate user, but as she discusses her use of CANVAS, it occurs to her how much she really likes it. She has been working with it for about a year now and uses it in "just about every class" to display PowerPoint presentations on the screen at the front of her classroom that students can access later on if need be. She also puts their attendance and some assignments on it. She does, however, prefer hard copies of work over electronic ones and only wants students to submit work

electronically if they cannot be present the day an assignment is due. The interview takes place in a faculty office on the first day of the new semester.

Level of Proficiency, Support, and Training for Professors

Despite her enthusiasm for CANVAS, Carla admits she has had and continues to have some difficulties with it. These have been minor and easily fixed, however, so she doesn't mind very much. She initially only started using CANVAS because she thought she had to due to the number of emails sent out about it by the college and the volume of training sessions offered. When she heard the college would be abandoning its old LMS and file sharing platform, she thought, "Oh my goodness! I better learn this! I honestly thought we had to use it."

She was very nervous about adopting CANVAS, but she attended some training classes and, "...just moved right into it." This is due, in part, to the training and support the college offers. She thinks it is enormously helpful and has high praise for an administrator at the heart of the CANVAS rollout, who has been patient and supportive in answering her questions. She is still working on getting some features to work the she wants them to, though. For example, the attendance function will automatically factor students' attendance into their grades, and she does not like that - she only wants it to record whether they are absent, late, or present. However, she is confident it can be worked out and, in the course of the interview, it actually comes to her how she can fix the problem.

Carla thinks other faculty members need to be as proactive in learning to use CANVAS and even feels "it would be a good idea [for the college] to enforce it" to encourage greater "coordination and less confusion." Carla understands why older faculty

members would be reluctant to use it, though. She worried it would throw her off and imagines they do, too, but despite feeling "challenged" when trying to figure things out, she says, in time, she is able to make it work: "I have to play around, but I get it after a while. If I can do it, anyone can do it. Seriously." Carla is certain that faculty members who are reluctant to use CANVAS would feel differently if they attended trainings and gave themselves the time to tinker with it as she feels they will see it is a system that is very possible to learn no matter how low one's computer proficiency is.

Students Lacking Skills and Access

Carla isn't bothered by the students' lacking computer skills and thinks, in fact, this is exactly why faculty members need to use CANVAS and other forms of technology in the classroom: "They need to learn the technology. They need to be easy with the computer." Carla thinks this is true of both developmental and college-level students at the college because they will all need to be computer literate in order to succeed at their transfer institutions or workplaces. To omit technology at the classroom would put the students at a considerable disadvantage when they move on to these places.

Students' Need for Interaction

Carla also sees no problem with CANVAS when it comes to students interacting with each other and her. In fact, she believes it helps her connect with her students in many ways: "I think because I enjoy using it, I think it carries over to the students. It's one more tool that I use." Her enthusiasm for CANVAS makes the students think positively about it, which gives them a common point at which they can engage, she says.

Carla also think CANVAS makes the students take a more active role in their learning, causing them to interact with the material rather than adopt a passive role. She used to teach at a school for the deaf, so she got used to never turning her back on her students and giving them as much visual stimulation as possible. CANVAS helps her do this in new ways for her students at this colleges: "I'm a very visual person, so I like having the ability to, "Oh! Let's do this. Oh! Look what I found here! There!" I think because of my enthusiasm, I think it does carry over." With a jubilant professor at the helm and visual stimuli to draw them in, Carla's students become excited about their learning, which makes them participate more in class:

> I certainly found that it does help the students when I'm using it in the classroom. They readily can see the information, so not only are they hearing it, but it's visual. If I'm "lecturing" it's a combination of both. Sometimes, I will have them do projects right in class with assignments on the board.

CANVAS enables her students to work together and work with her rather than letting Carla do all of the talking. This, for Carla, is powerful motivation to continue to use CANVAS and increase her skills with it.

New Systems Can Work Better at Times

When it comes to how she delivers material, Carla unwaveringly endorses CANVAS over traditional methods, like lecturing. As previously mentioned, she feels this offers students additional stimulation and impetus to participate more actively in class. She also likes how it keeps her organized and focused. She has, in fact, begun, "...structuring all [her] classes around it now." She decides what she wants to teach, develops a PowerPoint for it, and considers what material will go in it. Since CANVAS enables her to incorporate multimedia into her presentations, it really brings her teaching

to life: "It's better than standing up there lecturing or whatever. It's just another tool." And, she adds, one of her favorite features is that, if she forgets anything at home, she can always pull it up on CANVAS. When compared to traditional lecturing, CANVAS easily comes out on top for Carla.

Carla also appreciates the multiple and immediate channels of communication CANVAS makes possible. While email can send students a message, students at the college do not like to check their emails, meaning many messages are never received. However, students do seem more inclined to check CANVAS, and some even have alerts sent to their phones whenever a new grade or announcement comes through. This makes it easier for professors to reach out to their students more quickly and, very importantly, through a means by which the students might actually receive the message: "If I have an announcement, I can put it up there and say, 'Look at this! Look at that! Oh! I forgot! Come prepared for this! Come prepared for that!'" Providing a viable method of communicating with students, CANVAS trumps even email for Carla.

Despite all of her love for CANVAS, though, Carla still prefers the traditional means of receiving students' work: "I like a hard copy." As previously mentioned, she will accept electronic copies from students who are ill or unable to attend class the day an assignment is due, but she does not like grading electronically, and she prefers to physically receive papers from students for the time being. She is not entirely ruling out the possibility of ever grading or accepting assignments electronically, but, for now, she is content to continue with a more traditional approach. This is the one regard in which Carla leans toward more orthodox practices.

Commonalities amongst the Moderate Users

Training/Support or Lack Thereof

This was an issue that split the moderate users. Rebecca and Anne felt the college offered a lot of trainings, but the efficacy of those trainings was questionable. Rebecca thought faculty were often left to their own devices during these trainings while Anne believed the trainings would be better delivered in the form of faculty focus groups so instructors could learn from each other, and Instructure could make the changes faculty requested. Rebecca also felt there should be better-targeted support for faculty and students that was easier to access and cognizant of the students' needs and behaviors. Melanie and Carla, on the other hand, felt the college was very helpful and supportive, allowing faculty to learn how to use CANVAS quickly and easily. The moderate users could not quite agree upon whether the college was training and supporting its faculty sufficiently.

Lacking Computer Skills Can Cause Issues

There was more agreement across the group on this issue. All of the moderate users agreed that the students' lack of computer skills and access could be an issue when using CANVAS. In particular, Rebecca, Melanie, Anne, and Mark all mentioned the difficulty students can have when logging in to CANVAS for the first time. The manner in which passwords are sent to students can cause a lot of panic and frustration, according to these faculty members, which can make the initial introduction of the LMS very difficult. Rebecca felt students at a four-year college would get more support due to the size and improved technological resources on campus whereas Mark, Melanie, Anne, and Carla said they believed four-year college students would make a smoother adjustment to

CANVAS than the students at Northeastern Urban Community College because of their experience with technology. Rebecca and Melanie said this rendered CANVAS useful to only some students - those most able to adjust. Mark and Carla, however, saw the problems students had with CANVAS as being the exact reasons faculty at Northeastern Urban Community College should train students to use CANVAS - the help the students keep up with their four-year counterparts if they decided to transfer.

The students' lacking computer skills and access were not in dispute for the moderate users. Though they saw this as a potential source for confusion and frustration, they also thought the support they got from the college in rectifying any problems was lacking. A more experienced, affluent student body would have fewer problems in the eyes of most of the moderate users, but this, some felt, was precisely why it was all the more important to push students forward.

Can Improve Study Skills and Autonomy

Most of the moderate users felt a great advantage to using CANVAS was that it could improve students' study skills and autonomy. Rebecca and Melanie both worried that their students lacked certain study skills necessary to succeed in computer-mediated courses. Both were concerned that students would not watch or look at important material if left to their own devices online. However, Rebecca and Melanie shared the view with Anne and Mark that CANVAS could be used to rectify students' lacking study skills and content-based confusions by encouraging students' autonomy. These faculty members all felt CANVAS could give students access to course materials and allow them to practice content-based skills online without having to wait for or consult with their professors. It

also gave them the option to work ahead or review material in between classes, too. They felt this was a major strength of CANVAS's.

Unfortunately, the students' lacking skills make CANVAS's shortcomings seem more profound, according to a few moderate users. Aside from the aforementioned password issues, there were also problems with files and features not appearing in some web browsers. Additionally, the deadline entries for faculty can appear to indicate two different dates if faculty are not very careful. When problems do arise, the students lack the computer knowledge to know when the problem is the result of a faculty slip up or technical malfunction and not because of their own lacking skills and knowledge.

Using CANVAS with a student body that lacks resources and know-how can be very tiresome, time-consuming, and frustrating, but the moderate users seem to agree that there can be tremendous benefits that could serve students well in the future.

Can Get Students Engaged

Mark and Carla both thought CANVAS made it easier for students to engage with the work. Mark liked the collaboration CANVAS could foster between parties who may have been bashful otherwise. Carla, on the other hand, liked how CANVAS could get students engaged in the lectures through the use of visual and audio aids. Both felt their use of CANVAS got students actively involved in their learning, which they saw as a major advantage of using it.

Faculty Should Use CANVAS

All but one of the moderate users agreed that faculty members should be using CANVAS, but their reasons differed somewhat. Rebecca felt faculty opting out of CANVAS could end up putting more pressure on the support staff, who would most

likely be tasked with the more menial jobs faculty averted. Melanie thought faculty

should learn CANVAS to keep their teaching styles fresh and current and also to be able

to empathize with students more as the faculty struggled to learn a new skill at their

students did the same. In fact, Mark had the strongest view of faculty using CANVAS,

saying instructors needed to get with the times for their students' sake as their students

would need to be computer literate to have a chance of succeeding in the future. Faculty

who refused to use it, he said, should just retire. Carla agrees with Mark about the need to

prepare students for the future and adds that she was once a reluctant user who became a

great fan of CANVAS after a little time and patience. In fact, she thinks using CANVAS

beyond the bare minimum should be mandatory because of what the students can stand to

gain from their professors' use of technology. While the moderate users didn't seem to

think it was essential faculty members adopt CANVAS extensively as the main method

of teaching, they did agree a minimum should be set and upheld that exceeds the current

one.

Instructor Must Remain at Helm

No matter how enthusiastic the moderate users were, they felt strongly that

CANVAS should play second fiddle to teacher-led instruction. Rebecca measures this by

asking herself what she is able to do by herself without computer intervention in order to

ensure she is not turning to CANVAS for its bells and whistles with no regard for

whether it is most appropriate. Anne wanted clear boundaries - even physical ones in the

form of the room setup - between computer-mediated and professor-led instruction. She

felt she had too much to offer her students to defer them to computers in her place.

Perhaps the clearest indicator of the value these faculty put on their role in the classroom

is the fact that all but one reported grading the traditional way, with pen and ink. For Rebecca, this decision was made from the intention of not putting undue burdens on her students who lack computer access and/or know how. Anne likes the security of knowing her grades are glitch-proof; if CANVAS crashes, her grades are all on paper, rendering them unaffected. Mark does grade his college-level students' work on CANVAS, but for developmental students, he still grades by hand because he finds it quicker and easier to do given the shortened length of their papers and the nature of their errors. Carla did not specify the reason for her preference for pen and ink other than to say she just felt more comfortable grading that way.

<div align="center">The Faculty Perspective on CANVAS: Heavy Users</div>

<div align="center">*Jocelyn*</div>

Jocelyn is a full-time faculty member in her 50s. She has been at the college for a long time and describes herself as a heavy user. She uses CANVAS to "organize" all of her classes, saying she, "think[s] of it as a shell." She uses CANVAS to post all of her materials as well as her lesson plans, video links, and files of materials she's distributed in class. She also uses the attendance feature, homework submissions, and email. She has not yet used it for quizzes or grading, however. The interview takes place during the last week of the semester in an empty classroom next to where a faculty meeting for the English department has just taken place.

Level of Proficiency, Support, and Training for Professors

Jocelyn is very pleased with the support she receives at the college as she learns to use CANVAS. She feels the administrators have been very "responsive" to the requests faculty have made. For instance, faculty asked for a way to merge their linked

courses on CANVAS as students became confused when navigating between two different CANVAS pages. That has been addressed. So were requests to have an attendance feature included. Jocelyn is very pleased with the college's attentiveness to faculty members' needs.

Jocelyn also feels the college has been, "...doing pretty good" with providing training to the faculty, and she is confident more hands-on assistance would be available if faculty should require it:

> They've been responsive to the way we use it. I believe there's lots of workshops. I know for a fact if I went up and sat in that room outside of [a distance learning administrator's] office and asked for help, I could go up there, put my whole course together, and they would help me do it.

Jocelyn notes the constant stream of emails offering training for CANVAS as well as the CANVAS-related programming during professional development days/weeks that ensure everyone has the opportunity to get training on CANVAS regardless of his/her teaching schedule. She is very impressed with the administration's patience and generosity in getting faculty members set up to use CANVAS in their courses. These have been integral to her decision to embrace CANVAS to the extent she has.

In fact, Jocelyn is so impressed with how well the college has been handling CANVAS, she would like to see its role expanded:

> I think we should be using it for assessment. Yeah, that would be really cool. Groups, we use it for groups. I think we're just starting to figure out how to use it for groups, how to use it for sharing and collaborating. Yeah, those are new things.

There has been a push for assessment at the college, and Jocelyn believes CANVAS would be a great forum to make that happen. It would provide collaborative flexibility, allowing faculty to work remotely and at times that suit their busy schedules.

It would allow for clear organization and communication amongst the different parties at work, and it would maintain records of everything that had been done. Jocelyn's positive experiences with the college's CANVAS support have made her want to explore new possibilities.

Students Lacking Skills and Access

For all of Jocelyn's enthusiasm about CANVAS, she does admit that the students' lack of computer access restricts the extent to which she uses it. Knowing she can't assume her students have computer access outside of class, she needs to ensure that learning is still possible for all of her students:

> Yeah, some of our students don't have computers at home. They don't have Internet access at home. Some of them don't have cell phones. We tend to think that everybody has a cell phone now. Yeah, one reason why I don't do everything online - the online thing is secondary to the classroom. The classroom is still primary. I feel I can make the assumption that if the student signed up for the class, then they can come to class.

Jocelyn tries to keep the material open to all of her students regardless of their computer access at home, but this does not mean she absolves her students of all responsibility to use CANVAS once class has ended. She knows that her students need to find a way to navigate the modern college campus where computer usage is often the expectation: "There's access to computers. They need to know how to use their resources and find their way around." However, she also wants to be responsive to their need for fundamental instruction, so if this means limiting her CANVAS usage to the classroom only, so be it. For Jocelyn, then, CANVAS is an important part of how she teaches and prepares her students for the classroom, but she always tries to be judicious in this endeavor.

Students' Need for Interaction

Interaction is very important to Jocelyn. While she loves CANVAS, she still feels she is, "most helpful to [her students] in person" and wants to ensure computers don't interfere with, "...the interaction, the human contact." It is in her interactions with students Jocelyn feels she is most helpful to them - particularly her developmental ones. She feels her personal touch can help alleviate the anxiety many of them feel when they enter a classroom - especially a computer classroom:

> The reason why I want to work with my developmental students one-on-one is because I can see their reaction to their work. I can see when they are panicking when they shouldn't. I feel like I can step in and, by noticing their facial expressions, or how they're reacting to it, I can help them become more comfortable with the work. I can help them over their anxieties better. I don't think that translates through the computer.

Jocelyn even goes as far as hugging her students and patting them on the back to help relax and reassure them. She's aware that many teachers have shied away from touching their students from fear of lawsuits, but she doesn't care. She wants, "...to show these people that we care about them...I think that can be lost over the computer." For all of her excitement about CANVAS and its capabilities, Jocelyn wants to ensure it never stands in the way of her connecting with her students.

An important aspect of this connection, for Jocelyn, is the ability to see how her students engage with the material. Rather than relying on a score from an online quiz to tell her how her students are processing the information they're studying, Jocelyn keeps a close eye on what her students are doing and tries to anticipate their needs from there:

> I can see where their eyes are on the page. When they pick up something to read, I can see where their eyes are going. I can see how they're orienting themselves to the page. I can get in there and say, "Whoa, whoa,

whoa, whoa, wait a minute here. Notice the heading up here." I notice
these kinds of things by seeing where their eyes go on the page and stuff
like that. I am saying not that developmental students are special in any
way, but they have affective issues that I don't think you can really deal
with over the computer as well.

Jocelyn relies upon personal interaction with her students not only for the

purposes of reassuring but also as a means of assessment. While computers can provide

opportunities for exciting individual and group assignments, they are not always the best

means of appreciating a student's grasp of material; the instructor, she feels, is still the

best means for that.

She recalls a recent semester when her class was assigned to a computer

classroom when she wasn't expecting it to be. While the computers were useful for some

groupwork projects, and the students managed to bond well, she still had misgivings

because she has, "...had all student computer classrooms before and felt the computers

literally got in the way of them interacting and seeing each other's facial expressions and

stuff like that." Jocelyn values classroom community and believes, "...social learning is

the way we learn." For that reason, she thinks interpersonal exchanges are too important

to the learning process to be inhibited by anything. CANVAS is a useful tool to augment

her teaching in many ways, but she never wants it to impede the bonding that takes place

in her classes. For this reason, she prefers the classrooms where computers line the

periphery, but there is still a computer-free table in the center of the room to facilitate

interaction.

New Systems Often Work Better

Jocelyn has a lot of praise for CANVAS and the way it can help the college's

students in ways traditional methods could not. She is a strong proponent of universal

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design, which means, "...that you look at diversity in your classroom for the purpose of inclusion. You want to be able to include as many people in the learning process as possible." For her students with physical disabilities and learning disorders, Jocelyn feels CANVAS is a real asset. If they cannot make it to a class, or if they need more time to review material again, they can simply access it through CANVAS so that the student can stay on top of what the rest of the class is learning. Jocelyn feels instructors should find, "...a way of looking at the student's absence not as a disability, but as a difference; a difference that needs to be respected and accommodated without lowering standards." CANVAS allows Jocelyn to make the necessary accommodations for these students discretely and with ease, keeping the student part of the learning community. Without CANVAS, these students might not be able to access material so readily and might either fall behind or become discouraged and give up altogether.

It is not only her disabled students who are served by CANVAS, though. Jocelyn thinks it helps all of her students stay on track and remain engaged throughout the semester, particularly when they are absent:

> Probably, if you miss a class, and you don't get the handout, and you
> know it's due next class, you may be reluctant. You don't want to go to
> that next class because you don't want to, in front of everybody, be like, "I
> didn't get it." My students were going online, and they could see with the
> little lesson plan blurb that I left what we worked on; links to videos and
> things that we talked about in class would be right there. It was just easier,
> I think, for them. If they missed a day, it was easier for them to hop right
> back up on the bus.

CANVAS helped students maintain their momentum even in the face of absence, which, in turn, allowed them to keep progressing. To stress her point, Jocelyn points out that this past semester, after having been on sabbatical, she didn't leave enough time to get her courses ready on CANVAS, so she decided to go without it for that semester. She didn't

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think it would make that much of a difference, but, "It was a real issue with the students who were missing. It was just harder to stay in touch with them. It was harder for them to stay in touch with the class... I feel like I had more students fall away this semester than I have in the past, though." As the attrition rates for developmental students can be so high for so many reasons - personal tragedy, financial hardship, academic difficulties, financial struggles - CANVAS helps Jocelyn reduce the problem slightly by keeping students engaged, encouraged, and current with what is happening in the classroom even if they can't make it to class that day.

Jocelyn also feels this increases personal responsibility, proactive learning, and transparency for her students. Instead of waiting for the professor to catch them up on what is missing through email or in person, the students can go online for themselves and get everything they need. Additionally, they always know what their grades are at any given time, so, "...things don't look arbitrary to them, or things don't seem to come out of the blue." In the spirit of keeping students involved and enrolled in her classes, Jocelyn wants them to be able to get the information they need at any given time without being so reliant upon her. These are valuable skills, she feels, for their futures in academics and the workforce, so, as a Developmental English professor, she likes to get students in these practices early on.

Another significant advantage Jocelyn sees with CANVAS is that it allows her to, "...be more flexible but also, at the same time, hold high expectations." While there is the aforementioned flexibility CANVAS offers for students who are disabled or absent, there is also the ability for instructors to stay on top of students' progress and communicate with them easily about it: "I would look at who handed their paper in. I could email the

people who hadn't emailed their paper in or handed their paper in and bug them. It's just a great, fluid way of being with the students and being present with them. I like it." Additionally, Jocelyn uses CANVAS to welcome her students to the course at the beginning of the semester and make her expectations clear from the start. She can then "walk them through the end of the semester," when deadlines can easily be forgotten or ignored and warn them when they could be putting themselves at risk for potential failure. Her efforts, she says, are helped by the fact that CANVAS has an app for students' phones, and while many students lack computer access at home, a lot of them do have cellphones, so she can reach them when they're on the go, too. The ability to connect with her students so easily and regularly is a definite advantage over traditional means of communication to Jocelyn's mind.

About the only disadvantage Jocelyn sees for CANVAS when compared to traditional methods of instruction is that it can sometimes give students too much information. She recalls a time when she wanted to move some items around in her calendar for the semester. What she did not realize was that every move she made sent a notification to her students, so they got very confused until she was able to clear it up for them. Without CANVAS, she could have tinkered with her course schedule more easily without causing an uproar, but the problem was minor and short-lived, so she still holds a glowing opinion of CANVAS overall.

<div align="center">Nancy</div>

Nancy is a full-time faculty member in her thirties who has been at the college for a handful of years. She considers herself a heavy user, in part, because she teaches online courses, but even in her face-to-face courses, which are primarily developmental, she

uses it a lot. She collects all or most of her assignments, grades them, and uses the gradebook function so students can see their grades at any given time. The interview takes place in a faculty office during exam week.

Level of Proficiency, Support, and Training for Professors

Nancy is very confident and comfortable using CANVAS. She finds it very "intuitive" - more so than Blackboard, which she used for several years at another local college. In fact, Nancy feels her CANVAS skills are strong enough to train other faculty members, so she offered a session during the college's professional development week that was supposed to detail how she used CANVAS in her on-campus classes. However, the faculty who attended came to ask questions about very basic elements of using CANVAS, like how to log on, that diverted the agenda for her presentation. It was then that Nancy realized how much anxiety and how little knowledge some faculty members had about using CANVAS. Nevertheless, she believes the college is right to encourage CANVAS usage amongst the faculty because it pays out major dividends for the students that are detailed below.

Students Lacking Skills and Access

Nancy acknowledges there are some complicating factors with using CANVAS in this particular college. Chief amongst them is the fact that students often lack computer access, which, she says, can be a major barrier for them. She knows there are plenty of computer labs on campus students can use, but she also notes that, for many, getting to campus can be difficult with their busy work and life schedules, so using those computer labs can be difficult, creating a "barrier." This can cause a great deal of anxiety for the students:

I feel like they, students, frequently talk about being worried about, "I don't have a computer at home. Is that going to - how am I going to hand in assignments?" That does require advanced planning. I think that's probably much more of a hurdle for them than it is for students who live on campus and have 24 access to computer labs or have their own computers...I think maybe there's the overwhelming factor of students don't feel comfortable with computers, and they just feel it's way too much to learn all at once when they're kind of vulnerable anyway.

Nancy is sympathetic to the students' concerns, but she also knows the modern college campus is a connected one, and that means students will have to learn to adjust if they want to earn their degrees. This can be stressful for them, but it also teaches them time management skills because they have to plan ahead for when they will have computer access and how they can capitalize upon that time. Therefore, Nancy continues to use CANVAS and give students the technical instruction they need while they figure out how to incorporate it into their lives. This may not be an issue students at more affluent colleges face, but as many of this college's students want to transfer on to four-year institutions, they will have to know how to navigate this problem if they want to keep up with their future classmates: "I feel like also it's valuable that they know how to use the computer and use CANVAS because they'll have to be using it in other courses." CANVAS, then, provides the opportunity for professors to address students' lacking skills and better prepare them for the paths they want to take in the future.

Students' Need for Interaction

Nancy thinks CANVAS can actually increase students' interactions, not diminish them. In particular, she says it improves her interactions with the students and helps create extra class time, in a sense, to discuss ideas: "I can talk to them one on one more than I could in the classroom setting. It gives us this extra time and space outside of the classroom to be more personalized, to talk about their work in a more direct way, specific

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way. That's awesome." With every minute of instructional time often spoken for, it can be difficult for instructors to give students follow up to the individualized feedback they've been given on assignments. With CANVAS, the conversation about the assignment can continue after class has ended and at any hour of the day since students can reply to professors' feedback. This helps keep students engaged with their learning and emboldens them to ask questions they might have been too shy or felt too overwhelmed to ask in class. So, for Nancy, this is a form of interaction that cannot be undervalued.

New Systems Often Work Better

Nancy sees undeniable benefits for using CANVAS in place of traditional instructional methods. For starters, she thinks accountability is a huge factor in its favor. Students are able to keep better track of their work and keep themselves organized with CANVAS far better than they did with paper submissions in Nancy's experience:

> I think it teaches them how to be accountable for their own work. Here they are submitting it. There's a record of it. There's not the disregard for their own work that sometimes happens on paper. They just lose it. They don't keep track.

Students also keep better track of their deadlines and are less-inclined to make excuses for why they did not have their work in on time once the ground rule is established that no excuses will be accepted. Nancy is not put in the position to have to defend why one student's work was accepted five minutes after class began but another's was rejected 20 minutes after class began like she had to when accepting paper submissions: "...it cuts back on the haggling over late assignments." CANVAS's deadlines are hard and fast, so one must be responsible and submit his/her work on time since there is no badgering CANVAS for mercy.

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It's not only students who are more accountable, though. Nancy also thinks CANVAS makes her give clearer and more timely feedback. It also eliminates any ambiguity in her grading policies since, again, there is a record of everything that has transpired:

> I think it makes me accountable to them. It makes my grading policy really clear. I feel like I'm very accountable. If I'm giving them a grade, I'm explaining why in the comment box or something. I think it's great for transparency and accountability.

Nancy notes that with borderline students, in particular, this accountability can be crucial since, she says, they have a lot of excuses or crutches they like to fall back on. To keep these students focused and committed, she requires them to respond to her feedback so they don't just read it and forget about it or ignore it altogether. Rather than spend countless hours trying to put thoughtful feedback on students' assignments only to have those students lose the assignment and, with it, the feedback, Nancy can easily grade and comment upon her students' work and know there is an easily-accessible record to which they can both return.

Transparency is another asset Nancy sees in CANVAS. When Nancy first arrived at the college, she noticed how confused developmental students were about their grades because, at the end of the semester, they are only awarded either a P (passing), F (failing), or MP (making progress but didn't pass) grade rather than a numerical amount that translates in a traditional A-F grade. She tried using a number of online tools to give her students a running account of how they were performing, and when CANVAS came to the college, she immediately began to use it for this purpose:

> I feel like that it requires transparency in grading, which I feel like is a big deal in developmental classes that so many teachers don't seem - so many students don't seem to know why they're getting the grades they're getting.

Not that by using CANVAS you'd have to use grade book. It just seems like it would push people into the direction of transparency and accountability and also just communicating with them easily through the inbox. It just makes everything so cut and dry.

Nancy believes students have the right to know their grades at any given time, and they should also be able to understand those grades. She mentions the issues that are sometimes raised in the Developmental English committee meetings where there are reports of students not knowing they were in danger of failing. Nancy thinks if these professors used a clearer grading system than P, F, or MP all semester long and then just assigned a number range to each of those grades (e.g. 70%-100% equals a P), students would know where they stood all semester and would not receive a nasty shock at the end.

Nancy also praises CANVAS for the flexibility it provides students. So many students have to work long hours in order to make ends meet, and a great number of them have children or elderly family members to care for, too. This means the students face a lot of obstacles in getting to class and submitting their work. While Nancy still has a clear attendance policy and upholds deadlines, she is grateful students can access the work when they're not able to make it to class so they don't fall behind and then become overwhelmed. She also likes that she can make the assignment submissions be flexible. Rather than saying a paper is due at the beginning of class on a specific day and limiting students to in-person submissions only, she can create a submission portal on CANVAS that is open for an entire week, giving the students the opportunity to work on and submit assignments whenever it fits into their busy schedules for that given week:

They tend to be full-time workers with families. Some of them work two, three jobs. I've heard from so many that the amount of hours that they just work on the job is unreal. Once, somebody mentioned recently 70 hours a

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week… [They] are submitting assignments at random hours of the night after their kids have gone to bed. I mean, it just seems to serve lots of different people around the city who otherwise couldn't get to campus or make the class hours work.

Nancy thinks CANVAS gives her students a greater chance to succeed. If a student has a family emergency or has just worked a graveyard shift the night before an assignment is due, he/she no longer has to choose between being with his/her family or getting sleep and coming to class to submit the work. Additionally, that student doesn't have to worry about missing class the day the assignment is being returned because he/she can check in with CANVAS to see how he/she performed. This is particularly important in the age of FERPA, a federal law making it illegal for faculty to email grades to their students. Flexible submission options help professors cater their courses to the needs of their students without having to forgo standards.

The only downside Nancy sees to CANVAS is one that is inevitable with using computers at all - glitches. As a rule, she says CANVAS works smoothly and is very reliable, but there are times when students go to see their feedback from her, and it comes up on the screen in very small print. Other times, CANVAS and the college's computers don't speak well to each other, so the marginal comments she writes in the essay-grading feature, Croc-a-Doc, won't print out, making it difficult for students to work with what she's given them. And, occasionally, a students' work won't save if the internet connection is compromised. These issues can be frustrating for the students and for Nancy because it can blur the lines between what is a genuine hardship and what is an excuse. It can certainly open a can of worms:

> I mean I think I've had a few students freak out and probably use it as an excuse as to why they were failing. That doesn't happen frequently, but I think it happened to me this semester with one student, who just didn't

hand anything in because she - it became this crutch. "I don't understand it! I don't understand it!" But, she didn't come to my office hours ever to figure it out.

Nancy admits these issues are all rare, but they are, nevertheless, concerns that arise in a computer-mediated classroom that would not occur in a more traditional setting. But, given how infrequently these issues occur, she sees no point in letting them deter her from reaping the numerous benefits CANVAS has to offer.

Theresa

Theresa is a part-time faculty member in her sixties. She has been at the college for many years. She considers herself a heavy user of CANVAS because she uses it, "...virtually every day." She uses it to take attendance and keep attendance records, for daily communication, and for all work submission. The interview takes place during the first week of the semester.

Level of Proficiency, Support, and Training for Professors

At first, Theresa had a hard time figuring out how to use CANVAS, but she decided to experiment with it when she taught a developmental writing course that only had nine students enrolled one summer. Since there, "...wasn't as much stuff to juggle," she felt this was a good time to try CANVAS out without causing too much chaos. Since that time, Theresa has grown to like CANVAS a lot and rely on it heavily with her teaching and grading. That said, she has some serious complaints about the support provided for faculty at the college. She has attended a few training classes for it, but she is still encountering issues and doesn't think there is "anywhere near enough" support to help instructors work through them. She claims that three people in the distance education office is not nearly enough to field all of the questions faculty come across:

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And it's still their responsibility. So, I mean, the fact of the matter is, that
that's not a large enough support group. It should - they need to roll those
two departments back together...You know, distance learning and IT, to
get us some better support because I think there should be a lab
somewhere that I can walk into and work with someone on this on a
regular basis to try and figure out what's going on.

Theresa says the support staff in the distance education office are too overwhelmed with

so few of them and so many older faculty members who "resent having to learn this." She

likes CANVAS and wants to learn how to do more with it, like make quizzes for her class

on it. However, she doesn't have the time to go to the support staff for help and wishes

there were more ways to get assistance. She feels if IT and the distance education office

were to team up, faculty could call, visit, or email at times that were convenient to them

and have a greater likelihood of getting help quickly.

Theresa feels these problems all stem from the fact that the college has "really

only partially implemented" CANVAS and that using CANVAS should be mandatory. If

it were, she reasons, there would be more incentive to increase the support staff because

there would be a clear need for it. She also expresses frustration with her colleagues who

refuse to use CANVAS to any meaningful extent, saying faculty should be "role models"

to students, and if they can't adapt, then "it's time to retire." If these faculty would open

their minds to using CANVAS, she says, the college would expand its support services in

the name of supply and demand. With more help on offer, Theresa would not hesitate to

use CANVAS even more extensively.

Students Lacking Skills and Access

Theresa acknowledges the fact that her students are limited in terms of the

computer access and skills. However, it is precisely for this reason she feels it is essential

to make CANVAS an integral part of the classroom. These students have to learn to use

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computers in order to be able to function at their transfer universities and in the workforce. Students may be uncomfortable using computers, but that excuse will not be accepted by future professors or employers, so they're going to have to get past their reservations:

> I think that if we were at a more traditionally academic 4-year institution, or that sort of thing, that I would never hear from a student, "I don't know how to do this. I don't have a computer at home." You know, those things. Here, it's ... I mean there are almost moments when it feels like I'm punishing them when I have to say, "No, you have to learn to use this. You have to go do this." You know, and there are students who are very resentful of having one more thing that they have to learn. But it's the real world again.

This reluctance to use computers is something Theresa feels is unique to this college's population, but, if she is to do justice to her students and give them an education that prepares them for the future, she has to stay strong in her conviction that CANVAS will be a significant presence in her classes.

Remaining steadfast on mandatory CANVAS usage has not always been easy to do for Theresa because she knows some students face very large hardships. Nevertheless, she thinks even these students benefit from CANVAS in the long run. She uses the example of a student she had who did not even own a cellphone because his finances were so tight. Doing his assignments online was difficult for him, but he managed to find a way, arranging his schedule and preparing himself to use the college's computer labs before and after class. Not only did he improve his computing skills, she said, he also exercised a valuable life skill - time management - in the process. The students' lacking access and skills are complications in using CANVAS, but Theresa feels the overall benefits for the students are too great to forgo.

Students' Need for Interaction

Theresa claims CANVAS has actually helped her students interact with each other more by providing them some common ground to connect. Because this is a commuter college, and the students have so many outside obligations and responsibilities, it can be very easy for them to remain isolated from each other, coming and going to class without getting to know anyone. Theresa is beginning to see her students use CANVAS as a way to connect with each other, which is creating a closer group dynamic: "...I do think it's good that there is some universal place. I have also seen, just this last semester particularly, that it is causing them to interact more outside the class." Though she has seen a lot of reluctance from her students when it comes to using CANVAS, Theresa thinks they eventually get past this and eventually see it as a tool with which they can reach out to each other for support.

New Systems Often Work Better

Theresa has a lot of praise for CANVAS and the way it has helped her manage her classroom. To begin with, she likes how it is easily accessible to students. Before the college had an LMS for those teaching on campus classes, she used a website called Engrade to keep track of her grades and attendance because she likes the transparency online platforms provide. The only problem was that Engrade was not affiliated with the college in any way, so students had to go through a registration process that involved the instructor printing out passwords and students creating an account from there. Many students either lacked the skill to create an account or forgot to do it, so it was difficult for Theresa to keep everyone as informed and connected as she would like them to be. With CANVAS, a student already has an account by virtue of being enrolled in his/her

class, so all that remains is the initial password creation, and he/she is ready to go from there. This, to her, is much easier and more preferable than keeping records in a book or on an independent website.

Transparency and accountability are two other features that draw Theresa to CANVAS. With their attendance and grade statuses available to them at any given time, students know where they stand and can make their choices accordingly:

> I like the fact that it keeps the attendance records and the grades on things visible so that I don't have to spend as much time saying to them, "You do realize that you got three absences," and, "You know, that you haven't turned in a paper yet that's passed." You know, it's right there and so - and I like that because I'm kind of paranoid and so if there is a student who goes and complains, like, there's a complete record there, you know, and that the department can just go into it and go, "Oh yeah, it looks like you can't write. You know, just ... so it isn't ... I'm trying very very hard to get across to the students that it's not about how I feel about them or any of that, you know? That this record shows something.

When questioned about why she's paranoid, Theresa says it's because she is an adjunct and has no job security. For this reason, she feels she needs records to defend herself in the event a student should complain about her. CANVAS provides an easy record of her grades, comments, and messages so she can prove she did all she could to help her students pass the course. With traditional paper submissions and roll book attendance, such records can be lost or questioned, but CANVAS's transparency and organization help alleviate Theresa's fears.

Theresa's praise for CANVAS is not untempered with some grievances, though. She is sometimes frustrated by the setup of the gradebook and assignment portals, saying they can cause confusion and panic from her students. She doesn't like how the students are listed in alphabetical order in the gradebook. She wishes she could choose to have them ranked by highest to lowest grades so she can monitor their progress more easily

and make note of who might need extra support or encouragement. Additionally, she

finds the assignment portal setups can be confusing, making professors more error prone.

She says she has had assignments show up with bizarre weightings well over 100%,

which then distorts students' grades and confuses the students when it is meant to keep

them informed. She is willing to keep working on this, though, as she thinks the benefits

of CANVAS far outweigh its faults.

<p align="center">*Brian*</p>

Brian is a full-time faculty member in his thirties who has been at the college for a

few years. He describes himself as a heavy user of CANVAS because it is "his principal

means of communication with students." It's where his students submit assignments, hold

discussions or are linked into materials for in-class discussions, contact him with

questions, and access all of their notes and files for class. The interview takes place a few

weeks into the semester.

Level of Proficiency, Support, and Training for Professors

Brian is very enthusiastic about using CANVAS and is disappointed by what he

feels is lag time on behalf of the college to get it fully integrated into the college's

operational systems. One of the problems, as he sees it, is that the college has not done

well at tying CANVAS to its existing systems. He claims faculty and students don't find

the interface to be friendly, become frustrated, and give up: "It's kind of that old biblical

adage of adding new wine to old wine flask. There's going to be a tension there." Brian

says he wishes the college would have been more thoughtful in how it incorporated

CANVAS into its proceedings instead of just shoehorning it in like an afterthought:

> I think what happened is somebody said, "We need to do Learning
> Management - CANVAS! Some people looked at it, "We can do

Blackboard. We can do CANVAS. CANVAS will work," and they just put the button there as opposed to really thought about how best to work it through. That was best illustrated when people were like, "How do I get into CANVAS? I can get into [college portal account] but how do I get into CANVAS? How do you check your mail? I can check my mail through CANVAS, or I can go through Microsoft Outlook. We have all these portals and dead ends, so we've created this technological labyrinth for course management when it's supposed to make things easier. I don't think it's always easier for students to access, nor do I think it's made things much easier for instructors to deliver content.

CANVAS has so much potential, in Brian's eyes, but that potential is constantly stymied by ill-considered execution, leaving students and faculty frustrated and reluctant to use it: "Implementation is everything. I think that's why we might have missed the boat." He thinks many faculty have, at best, relegated CANVAS to simple attendance taking and emailing functions when it can do so much more. In fact, Brian says this issue has even limited his usage to an extent. He claims he planned to and wants to use CANVAS even more extensively than he does, but the college's poor integration of it has decreased his enthusiasm somewhat, which makes him "unhappy." Better execution on behalf of the college would fix this problem for Brian.

Brian also wishes the college would be more imaginative in its use of CANVAS. He has extensive experience using Blackboard and Sakai, and he thought both were much better than CANVAS until he learned what more CANVAS could do. At a few conferences, he spoke to outside vendors and learned about really interesting products and add-ons that are compatible with CANVAS. Brian thinks the college should be more proactive in seeking these out so faculty can expand and vary their CANVAs usage. Some additional functionality would encourage more faculty to get on board with CANVAS and modernize their classes.

But, not all of Brian's comments about the college and CANVAS are negative. He actually thinks the college, "...has done an admirable job of making sure that there are always people and always workshops that one can go to get help." Ample training is essential to alleviating faculty fears and increasing their comfort. This is a step in the right direction for getting faculty to use it regularly in their classes. This is of particular importance to Brian because he thinks using LMS cannot be optional in today's classroom - particularly for the college's population:

> They have to use the system because, at this particular juncture, it's no longer a choice or preference for us. We need to empower [students] for success, and this is one means of doing it. Faculty don't have to become power users. They need to be familiar enough with it that they can show it to their students and have something up there available for students. I understand that, not that we have a campus full of luddites, but we have some people that are very uncomfortable with technology and how they integrate that into the classroom.

Brian thinks the level of training the college provides can serve as a motivation for faculty to learn how to use CANVAS. In return, their students will learn how to use CANVAS and gain the skills they need to transfer or enter the workforce effectively. As preparing students to succeed is part of the college's mission, it is imperative faculty buy in and implement CANVAS to their classes.

To this end, Brian thinks there should be a faculty showcase where faculty who are successfully using CANVAS could show others what they're using it for and how. He also says there should be a shared space where faculty members can exchange their lectures, files, and other materials so that faculty can borrow and share with each other. This would increase faculty comfort and participation levels as the task of getting started online and building a course can be daunting. If the college set up a faculty exchange

group for CANVAS, it would improve faculty usage by making CANVAS more accessible and less intimidating.

Students Lacking Skills and Access

Brian is adamant about students receiving computer-mediated instruction because this, he says, is how students will experience education, and they need to be prepared for it: "Now it's standard, and it's a requirement, so it shouldn't even be a question of, "Should we use it?" Right now, it should be a question of, "How are we using it?" I think it needs to be integral to the classroom experience." He feels this way because he knows computers will be how students retrieve and process their information, but he admits his students regularly struggle to navigate the technology at first due to lacking skills and limited prior access. Nevertheless, he thinks instructors have to push past the initial teething phase in order to give their students a modern, competitive, and legitimate education:

> I think that educational technology or computer assisted technology, whatever it is, it's necessary for the students...It needs to be part and parcel to the education they're getting in the classroom because it's already part and parcel to the way that they access and understand information. We can't use a lot of those educational buzzwords if we're not somehow trying to actuate those things in the classroom. We can't just talk about digital literacy or informational literacy anymore and not somehow try to infuse the current technologies that we have in the classroom.

Particularly because computer-mediated instruction has been firmly established in the four-year transfer institutions to which many of the students aspire to attend, Brian thinks it needs to be firmly established at this college so the students are getting education of the same quality as these schools and so they can make a seamless transition when they move on to the others.

Students' Need for Interaction

One of the greatest benefits Brian sees in CANVAS is that it allows him to differentiate his classroom and support his students outside of class, too. He sees CANVAS as a space, "...where they can work and explore at their pace - where I can guide them in different ways that I can't in class, and I can really promote more multimodal literacy." He says this space allows him to interact with his students in ways that are individualized and unique to their needs. He says there never seems to be enough class time to work on students' weaknesses - especially for the developmental ones. With CANVAS, he can continue his interactions outside of the classroom with the hope of ensuring his students' success. Brian also gets the students talking to each other in this space, using the discussion board function to help them reach out to and engage with each other even after class has ended. Brian sees no interruption CANVAS poses to students' interactions. In fact, he believes the additional space created on it increases the students' opportunities to reach out to him and each other.

New Systems Often Work Better

Educational technology is really important to Brian, and he feels the college and its instructors should be using any tools they have at their disposal to help the students. He thinks this is empowering the students by giving them options for how they want and need to be taught. He thinks this is important because the traditional classroom doesn't suit everyone, so using LMS in on-campus classrooms helps students acquire the skill and comfort they need to take a fully online course. They may never opt to go this route, but they should know enough about computers to be able to have the option in the future as time, money, or circumstances may make it that that is the only means through which a

student can take a course sometime in the future: "I feel like part of my job, especially being in developmental education, is to help prepare them to be better students in whatever avenues they choose to go in." Traditional teaching methods are great in Brian's eyes, but many courses are moving over to the computer now, so teaching itself has to move with the times, or else the students will be placed at a disadvantage, according to Brian.

Brian's last remark about CANVAS is mixed, and it pertains to the gradebook function. On the one hand, Brian thinks it's fantastic that his students can see their grades and keep tab of their progress, but he is also weary from all of the questions students have to ask once an assignment is graded. For some reason, he says, students want to know more about their grades when they receive them online than when he used to submit them on paper only. While he appreciates the students' thoughts and concerns about their grades and prefers them to be more inquisitive than to ignore their feedback from him, it can be overwhelming; if he kept his grades in a book, he's certain he would be asked fewer questions. Nevertheless, Brian still thinks it's helpful that students can get grades:

> Sometimes, it's more trouble than it's worth because the students see a grade, and then they have many more questions than if I had just passed the paper back. How does this equal to this and all this other stuff. It all becomes fuzzy math at some point, but it's good that it's up there because that holds them accountable to what they see and holds me accountable to what's up there.

The barrage of questions he gets might be a nuisance, but the accountability the students have to learn as a result of using CANVAS far outweighs the temporary annoyance. Grades that are printed on a piece of paper are often quickly forgotten, and grades that are hidden in a gradebook can seem not to exist, but grades that are posted on CANVAS are difficult to ignore, which is enough to keep Brian utilizing this function.

Vicki is a full-time faculty member who has been working at the college for a little over a year. She describes herself as a heavy CANVAS user because this is where her students upload most of their work, where she grades their work, and how she communicates with them "day and night." She says she uses CANVAS in every class and runs her classes with it, using it to post course materials and navigate her students through each class. The interview takes place the first week of the semester.

Level of Proficiency, Support, and Training for Professors

Vicki says it took her quite some time to learn how to use CANVAS at first. She admits she did not attend any of the college's training seminars and, instead, relied on a colleague with whom she is friendly to teach her. She has experience using other LMSs at other colleges at which she taught and feels CANVAS holds up well to those. She definitely got the impression while she was interviewing for her job that the college "encouraged" CANVAS usage and believes if she had not presented herself as someone who was technologically capable, she would not have been hired:

> I think when I came for a job interview, if I hadn't known how to put on a smartboard, do something with it, I don't know that they would have even hired me. I might have seemed like a dinosaur. I wouldn't have hired somebody who is against technology in the classroom.

This thought is fresh in her mind because she has just come from a meeting where she says a lot of "older faculty" were digging their heels in about using CANVAS. While Vicki believes it is important for faculty to be onboard with using technology, she thinks the institution is right not to push them since those faculty will retire in time and be replaced by younger faculty who are in favor of computer-mediated instruction.

Where Vicki does think the college is going wrong is by not getting more classrooms "wired up." Not having enough connected classrooms limits what she can do in her classes to get the students engaged and learning. From her experience teaching at other institutions where "the technology was just more advanced" as well as one of the satellite campuses of this college that serves a slightly wealthier population, she knows just how useful technology can be to instructors. Getting more computer classrooms is one way the college could do more to improve faculty morale and know-how on campus.

Students Lacking Skills and Access

Vicki believes CANVAS can be used as a tool to overcome some of the learning difficulties and life challenges her students have. Having course materials clearly laid out and organized helps eliminate some possible sources of confusion for them. Given how academically underprepared some of the students are coming in, the course content alone can be daunting for them. CANVAS at least helps minimize confusion with *how* the course is delivered so students can focus on *what* is being delivered.

Students' Need for Interaction

Vicki sees CANVAS as a means of expanding the interaction she has with her students. It opens communication up beyond class time hours and even triumphs over whether to keep learning taking place in what otherwise would be lost time: "In some ways, it's the representation of the classroom when we're not in class. On a snow day, I still had class. I had all the exact same expectations. It allows the learning to just keep happening." In particular, Vicki likes the discussion boards because it gets students asking and answering questions and, more importantly, "...engaging with ideas outside the classroom." Expanding the interaction outside of class time, she feels, enables

students to see their learning as more than an obligation fulfilled by time served; it's a

live and evolving process that keeps their minds working long after they've left campus

for the day. This, she believes, is an invaluable asset CANVAS has.

Vicki also likes how CANVAS can make computer-mediated instruction more

interactive in the students' eyes. Whereas doing assignments online can feel like one is

simply submitting work to a lifeless machine, Vicki lets her students know she is very

much alive on the other side. She makes it clear she can see what they've clicked on to,

how long they've spent on it, and how often they're logging on. This is to show them she

is still present and an active party in their work submission. The students knowing this is

important, she says, because, "...I can see a clear connection between the people who are

engaged with CANVAS and the grades that they get." CANVAS, then, enables Vicki to

extend the classroom beyond its normal confines and, thus, redefine students'

understanding of what a classroom and learning really mean.

New Systems Often Work Better

One of the biggest advantages Vicki sees that CANVAS has over traditional

methods of teaching is transparency. Vagueness and subjectivity are much harder to fall

victim to when one has to show his/her thinking and method openly:

> CANVAS forces me to be transparent in my teaching. When I have to
> write a grade, I use a lot of it, so I use the - I have the objective, the SLO
> (Student Learning Outcome). Then, I have the subcategories. It's easy to
> organize, and it just seems more fair to the students. There's no
> fudging...because it forces teachers to get out of the fuzzy realm of
> grading by some kind of hunch and instinct. When you have to write down
> those SLOs, and the subsets of the SLOs, and put a number by it,
> something about it just seems more fair. Sometimes I'll look at a piece,
> and I'm trying to be objective about their piece, and I have a gut what it is.
> Then, when I really look at the SLOs and the criteria, I think, "No, I wasn't
> actually being fair." He bothers me, that student, so I'm actually penalizing

him for something that has nothing to do with fulfilling the" - I think that's good.

Vicki likes how CANVAS creates a fairer system of assessment - one that is less inclined to be tarnished by professors' whims or preferences. This makes the experience more consistent for students, which, in the end, gives them a better sense of where they stand and what they need to improve upon.

Vicki also feel students are more engaged with CANVAS being a big part of the classroom. She notices a distinct uptick in the level of enthusiasm and the attentiveness of her students when she uses CANVAS. She guesses that this is because:

> ...this is a generation that grew up on technology 100 percent, so they're just very comfortable…This is a generation of students who don't really write with pens. They don't. They don't write cursive, really. They don't read it. This is how they come to the world. It just makes sense. We want them to be prepared when they leave. Even those who are uncomfortable, yeah, they become comfortable because they have to click on links, and yeah.

In order for students to make progress, they must be engaged and see their learning as relevant, according to Vicki. CANVAS helps make this the case for her students because it is in keeping with how they connect with and interact in the world. Teaching in a more traditional method might cause students to miss out on valuable skills or information they'll need in their transfer institutions or future careers because they might not have known it would have any bearing beyond the lecture in which it was covered.

Vicki's last piece of praise for CANVAS is purely pragmatic. Because it reduces the risk of paper so drastically, it is more environmentally-friendly and less physically taxing. She no longer has to print endless reams of paper or carry any papers home. With a smaller carbon footprint and a lighter bag on her back, Vicki knows CANVAS is making changes that benefit others and herself in the long run.

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In fact, the only downside Vicki sees to using CANVAS is an issue that resides more within the individual:

> If you have a certain kind of personality, if you don't know how to turn off your teaching, it can overwhelm your life because it's overwhelming because you're always tweaking and trying to figure out how to do something new. My students are like, "Oh my God. I emailed you at 2AM, and you're answering me." I'm like, "I know. That's embarrassing, but I was online anyway." Yeah. That's a shortcoming to me. As an instructor who's really interested, it's overwhelming.

Whereas traditionally teaching methods largely confine professors' hours to class time, office hours, and, any time spent grading, the live and interactive aspects of CANVAS mean one can be online and find herself working at any hour of the day - even long after she should have retired for the night. This can blur the lines between work and personal time, causing one's life to become secondary to her work. Therefore, the problem is not inherent within CANVAS but rather within the user.

Commonalities amongst the Heavy Users

Training and Support/Lack Thereof

The heavy users were split on the issue of how well the college supported its faculty in becoming proficient in and using CANVAS. Jocelyn felt the college's training and support were very strong and always available to faculty in need. Brian agreed with Jocelyn that there was plentiful training, but he didn't think it amounted to much if the college would not more fully integrate CANVAS to its current operating systems. Theresa, on the other hand, felt training and support were hard to get because the college's distance education office was understaffed and overwhelmed. She believed the college should consolidate its distance education office with the IT department in order to increase the size of the support staff for faculty. She also thought the college should make

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CANVAS usage mandatory as the increase in CANVAS users would certainly lead to an increase in support staff, to her mind. However, Nancy and Vicki thought the college was right to stick only to its current method of encouraging - but not enforcing - extensive CANVAS usage amongst faculty. Clearly, then, there is a lack of consensus amongst the heavy users as to whether the college is doing enough to support faculty and whether CANVAS use should remain optional or surge forward.

Increased Access for Students

The issue of access was more widely agreed upon, however. Jocelyn liked the fact that CANVAS made it easier for students, who could not be on campus due to personal circumstances beyond their control, to be able to keep up with what happened in class and which resources were handed out. She also approved of the way students who were disabled could manipulate or view course materials to suit their physical or developmental needs. Nancy and Theresa added onto this idea, saying CANVAS could expand students' options for when to submit their assignments or access their course's resources, giving them some much-needed flexibility in their lives. In short, several of the heavy users praised CANVAS for options and possibilities it offered students in accessing and submitting their work.

Expands the Classroom

Another common thread amongst the heavy users was the idea that CANVAS could expand student interaction with each other and the course. Aside from Jocelyn, who preferred to keep computers on the periphery in class, the other heavy users all praised CANVAS for how it could expand the boundaries of the classroom. Nancy, Brian, Theresa, and Vicki all talked about students interacting with each other and with

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their professors outside of class time hours on CANVAS. While Vicki and Brian both expressed concern that this could overwhelm professors' personal lives, at times, they felt the benefits outweighed the setbacks because it kept learning active and alive and created a sense of community that transcended the classroom walls.

Transparency and Accountability

Building off of the expanded classroom, the heavy users like using CANVAS to hold themselves and their students accountable. Jocelyn likes how she is able to manage absences and keep track of her students' progress. Nancy also likes this aspect of CANVAS and uses it to post her grades, give students a permanent record, and keep herself accountable for their performance and the clarity of her grading. Brian likes the fact that such regular access to their grades makes students more engaged in their courses; they may, at times, take their zeal too far and inundate their professors with anxiety-ridden questions, but as long as they care enough to ask in the first place, he is satisfied. Theresa also likes that students can see their grades; she is particularly happy to have a system that is synced up to her courses so students don't have to register with an outside program in order to see their records. For Theresa, the added bonus of this is she feels she has records to support her argument should a student complain about her job performance. Vicki, like Nancy, appreciates the gradebook option giving students information about their grades and her grading process. This, she says, keeps her honest and fair when grading since her rubrics and methods are all viewable to the students. For the heavy users, then, CANVAS is a great tool for keeping students focused and organized and also keeping their own practices honest and fair.

Student Access Limited, but Must Prepare Students for Future

Across the board, the heavy users all felt CANVAS was an essential tool to adopt because it helped prepare students for future courses, transferring to a four-year college, and/or the workplace. While they all acknowledged the fact that the students often lacked computer skills and access, they also were unanimous in their stance that today's classroom is a connected one, so to not give students experience with that connectivity was a disservice. Not only did students learn the computer skills they needed, according to the heavy users, they also learned important life skills, like time management and meeting hard deadlines. This, for all of the heavy users, was a strong reason for using CANVAS to the extent they did.

Discussion

Across the three user groups, there are some patterns that emerge amongst the participants' answers. These patterns shed some light on how the participants perceive CANVAS as a teaching tool and provide some context for how one's responses compare to others both within and outside of his/her user group. They also reveal theoretical underpinnings that can provide some additional perspective on the participants' responses.

Professors' Characteristics and Concerns

Age

The age of the participants matched expectations in some ways but not in others. As anticipated, the light users were all older members of faculty, in their 60s and 70s. This outcome is not terribly surprising, given that technology can be challenging for older individuals, who are less accustomed to using it and have established their own methods

of accomplishing tasks over the years. Thus, the correlation between restricted CANVAS usage and relatively advanced age was foreseeable.

If older faculty members eschewing CANVAS was predictable, one would assume the converse would also be true - i.e. young people would exclusively be the ones who embraced CANVAS. However, the role age played in the other two user groups - moderate and heavy - was not as clear. While there were some younger faculty members who endorsed CANVAS in both groups, there were also older faculty members who had adopted it either moderately or heavily, too. In the moderate user group, there was one her 30s, two in their 40s, one in his 50s, and one in her 60s. The heavy users counted two faculty members in their 30s, one in her 40s, one in her 50s, and one in her 60s amongst their numbers. So, while age played a noticeable factor in the light users, it really did not have much of a defining role in the moderate or heavy users; in these last two groups, one's attitude about and inclination toward using CANVAS did not seem to be connected to his/her age in any discernable way.

Level of Confidence and Nuance in Answers

An interesting finding in the participants' responses was the level of nuance in their answers respective their user groups. The light users tended to give longer, more nuanced responses than the moderate and heavy users. With the exception of David, whose answers were very succinct, the light users went into a great deal of depth regarding their CANVAS usage or lack thereof. This seemed, in many cases, to be due to the fact that they did not wish to be perceived as Luddites. Ruth, for example, was keen to prove her feelings about CANVAS were not due to her hating technology; she detailed her Facebook and email usage and included the claim she was not like a colleague who

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refused to use email at all in order to support her assertion. Samantha was also eager to point out her decision to not use CANVAS was not down to a lack of technological know-how or willingness to use it. She repeatedly mentioned her degree in Educational Technology and wanted to make it clear she was not a "Luddite curmudgeon" while she was speaking. Even in David's short responses, he was clear he'd had experience teaching online in the past but simply didn't like it and could not see what more it had to offer. Lisa and Dana admitted having some technological limitations, but even they were clear that they knew enough to make CANVAS function; they just preferred other methods of teaching, which was their driving force in not adopting CANVAS any more extensively. In short, the light users felt confident about their decisions to not use CANVAS, but they also wanted to make it clear their decisions were not mere instances of older people not liking or knowing how to use technology but rather of experienced professors preferring different methods of instruction.

The moderate users' interviews were often much shorter than the light users. For these professors, there was a limit to the extent they would use CANVAS in their classrooms, but they did not feel the need to justify that as much as the light users did. The moderate users praised the parts of CANVAS they enjoyed, like the ability to share materials with their students, but they were very comfortable with their decision to not use CANVAS in ways they felt were counterproductive to their instructional goals. For instance, Melanie and Rebecca both felt CANVAS could impede developmental students if used too heavily or exclusively because the students' lack computer and study skills. Therefore, they just elected not to use it any more heavily and did not seem worried this would make them appear backwards or behind the times, like some of the light users did.

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Even Carla, who is in the same age range as the light users, felt no need to justify at length why she prefers to receive and grade paper copies of students' work wherever possible. Overall, then, the moderate users' interviews were shorter because they seemed less concerned about how their decisions to limit their CANVAS usage would be perceived by others.

The heavy users' interviews were often significantly shorter and less nuanced than those of their light user counterparts, but the difference between theirs and the moderate users' was negligible. The heavy users were very confident about their choices to use CANVAS to the extent they did. While some had minor annoyances, such as students receiving notifications when professors made edits and changes to their courses, they were very pleased with how CANVAS shaped their classrooms and did not feel the need to justify their decisions to continue using it to the same degree. For the heavy users, CANVAS was a valuable tool for expanding the boundaries of their classrooms and keeping themselves and their students organized, so there was little cause to explain their decisions any further.

Teaching Taking Second Place

The concern that teaching would take second place to technology was one that was raised in all three user groups, but it diminished significantly as the level of usage increased. The light users were very worried that CANVAS would be used as a substitute for actual teaching in the classroom. Ruth, Dana, and Samantha were all anxious that CANVAS would be used to busy or entertain students with no regard for whether the students were actually learning anything. All three women expressed the need for explicit instructional training on campus to ensure faculty were actually using it properly. They

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felt the current training that was taking place focused on making CANVAS function, but it did not address how one could use CANVAS as a teaching tool. As a result of this, Dana said she did not think most of the faculty members were qualified to use CANVAS. Additionally, Lisa worried CANVAS was being viewed as "a panacea" to redress all of the difficulties developmental students enter the college with rather than one of many possible tools that could be used in conjunction to help students adjust and learn. For the light users, CANVAS, if not used with authority, could serve as a distraction that would be detrimental to students.

For the moderate users, the concern that CANVAS could overtake actual teaching and learning was a real one but one that could be addressed with thoughtful pedagogy. Rebecca, for instance, held herself to a rule that CANVAS would never perform a role in her classroom that she could do on her own. For the role of explaining and teaching new skills, Rebecca took full responsibility and ensured she was actively instructing her students while CANVAS served as a supplemental resource. Anne addressed her concerns about CANVAS taking over active teaching by ensuring that she and her students come together in the classroom, away from the computers, regularly. This, she felt, kept CANVAS in its place as a secondary means of conveying information to her classes. For the moderate users, then, CANVAS serving as an inferior instructional medium was an occurrence they could easily avoid.

While almost all of the heavy users seemed confident they could ensure CANVAS was a tool they used appropriately, in an educationally meaningful way, Jocelyn did express some reservations about it taking too prominent a role in her classes. For this reason, though, she, like Anne in the moderate group, sets aside time when

students are not using the computers and are, instead, coming together to engage face-to-face. Like Anne and the other moderate users, Jocelyn felt CANVAS could remain in its rightful place within the pedagogical landscape as long as instructors were mindful about its use and ensured students had ample time away from the computers to engage with their instructors and classmates. With the exception of Jocelyn's minor concerns, the heavy users seemed content that CANVAS would not disservice their students or shortchange their learning.

Preferring to Work with Paper

One concept that appeared steadily throughout many of the participants' responses was their preference for using paper to do some of the functions in their courses. In the light users, Ruth preferred doing her attendance records on paper because she felt she would be less error-prone this way, and Dana said she and her students both preferred having a textbook as opposed to online materials because they felt more secure and anchored operating this way. However, across the user groups, grading was, by far, the most common practice the participants did not want to make digital. Though the heavy users were mostly happy to use CANVAS to grade, the light and moderate ones were almost unanimous in preferring pen and paper.

There is not much detail to report about why, specifically, the faculty felt this way, though. David, from the light group, said he liked writing comments in between the lines of students' writing and found this easier with a pen, and Mark, from the moderate group, said he found grading his developmental students' papers in hard copy faster than doing it online because the papers were much shorter than college-level ones, but, by and large, the participants could not verbalize their preference for pen and paper. Many

simply said they just liked it better and could not expound much beyond that. For

instance, Lisa, in the light group, could not express why she doesn't like digital grading;

she just doesn't: "I don't see the idea of having everything on the computer, including

marking the papers. I like to grade my papers looking at them with a red pen or a blue

pen."

Rebecca, Anne, and Carla, from the moderate group, were equally unable to

articulate a reason for not using CANVAS to grade other than personal preference. Anne,

for example, could only say, "I like so much to write with a pen on papers" but wanted,

in theory, to get herself using the grading function one day because she thought her

students might like it. Carla, despite all of her enthusiasm for CANVAS, drew the line at

using it to grade and could only explain it thusly: "I like a hard copy."

Finally, Jocelyn, a heavy user, also elected not use CANVAS for grading. Like

the light and moderate users who opted out, she could not convey why other than to say

she just didn't want to move away from pen and paper. In short, then, the grading

function on CANVAS seems to be one that even those who are more open to technology

and LMS are somewhat reluctant to use. Significantly, though, this seemed to boil down

to personal preference and no particular flaw within CANVAS that anyone could name.

Perhaps, as David explained it, it's, "...just because of conditioning, I suppose."

Theoretical Underpinning for Professors' Characteristics and Concerns

Age

The finding that older faculty members were largely more reluctant to use LMS

than younger faculty members is not one that is likely to surprise anyone. After all, the

light users were exposed to this technology relatively late in their teaching careers and

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have established more traditional practices over the course of decades. If anything, the fact that there are any older faculty members in the moderate and heavy groups is quite unexpected for this same reason. This is because older faculty members, though feeling very confident about their subject knowledge and pedagogical skills, often feel unconfident in their ability to incorporate technology into that teaching practice. This is due, in part, to their limited experience with using technology when compared to their younger counterparts (Lee & Tsai, 2010). According to Ertmer and Ottenbreit-Leftwich (2010), "the magnitude of change individuals are asked to make is inversely related to their likelihood of making the change" (p. 277). For these faculty members, going from limited computer usage to heavier computer usage and having to adapt their well-established teaching practices as a result of this was asking them to alter a lot all at once. It would follow, then, that a faculty member who already feels confident with his/her current methods of teaching would be less inclined to adopt technologies that would decrease his/her confidence.

The constructivist paradigm can shed additional light on this issue. The older faculty members have a strong stockpile of prior knowledge and experience that has helped shape their experience and ideas as instructors. Working with CANVAS would require them to alter and reconstruct their expertise to incorporate new knowledge and experiences, but the light users had serious doubts the training offered by the college could focus on pedagogy as opposed to functionality. As they all felt pedagogy should be the singular focus for faculty, they elected to forgo further training and opt for their current methods, affirming Richardson's findings that: "The beliefs that practicing teachers hold about subject matter, learning, and teaching [will] influence the way they

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approach staff development, what they learn from it, and how they change" (Richardson, qtd. in Ertmer & Ottenbreit-Leftwich, 2010, p. 263). Seeing the training as incompatible with their pedagogical belief systems, they did not see any reason to pursue further instruction on CANVAS. As one's beliefs become more solidified with age, a higher concentration of older faculty members in the light group was almost inevitable.

Level of Nuance in Answers

Confidence is a significant theme in the literature about technology adoption amongst faculty. While many faculty feel confident in their knowledge of their subject matter and may even feel confident using technology, they lack confidence in using technology as an instructional means, fearing they will either look foolish or fail. As a result, they opt out of using technology altogether. However, when these faculty members have professional training that takes place in small doses over short periods of time and encourages experimentation, and when they witness the success of their fellow faculty members, they do become bolder (Ertmer & Ottenbreit-Leftwich, 2010). Thus, through a constructivist lens, a lack of confidence can cause one to eschew technology in the classroom, but confidence-building in the form of slow, steady, open professional development and observance of others using technology successfully can remedy this problem.

The participants in this study all demonstrated various levels of confidence in their usage of LMS in the classroom, and this confidence could explain the length of their responses. Many of the light users were confident practitioners who knew their subject matter well and, sometimes, were relatively proficient in their use of technology besides LMS. However, as several of them indicated, they did not feel equipped to use LMS

successfully in their teaching, and, thus, they felt the need to make the distinction between what they could and couldn't do or why they did or did not use LMS very clear, lengthening their answers. The moderate and heavy users were far more succinct in their responses because they felt confident about their decisions to use CANVAS and were satisfied with how they used CANVAS in their instruction. As a result, there was less to explain, less to justify to an outsider. To wit, the more secure one feels in what he/she is doing, the less he/she feels the need to explain it.

Teaching Taking Second Place

In order to fully understand the findings about the participants' attitudes regarding whether pedagogy is relegated to second place when technology is introduced into the classroom, it is helpful to view them through the lens of activity theory. Activity theory is a variation on Vygotsky's constructivist theories of human nature and development. When applied to instructional technologies, like LMS, it helps take the focus of analysis off of the technology itself and places it on how humans interact with technology instead (Murphy & Rodriguez-Manzanares, 2008). To make these concepts more concrete, Engeström (2001) devised five principles of active theory to better explain how individuals interact with technology, and one of them is particularly applicable to the participants of this study. According to Engeström (2001), when a new technology is introduced into an established system of practices, like the teaching that takes place in a classroom, contradictions, or tensions between the old and new ways of doing things, can arise. These contradictions can lead to either constant clashes or change and growth, depending on how the individuals choose to act upon them:

> As the contradictions of an activity system are aggravated, some
> individual participants begin to question and deviate from its established

norms. In some cases, this escalates into collaborative envisioning and a deliberate collective change effort. An expansive transformation is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity. (p. 137)

In other words, an individual can see the disruptions caused by change as opportunities to devise new systems that incorporate the agent of change (in this case, CANVAS) into their proceedings if he/she can see the possibility of doing so. This point was well exemplified in a 2005 study by Russell and Schneiderheinz that examined how teachers, when given an online, collaborative tool to work into a pre-existing unit in their classes, viewed the tool in regard to its educational value at the end of the unit. The teachers who worked through their difficulties with the program emerged with an overall positive view of its role in their students' learning, but those who were unable to resolve their problems dismissed the technology and returned to their previous methods, seeing these as the more educationally sound. Thus, one's willingness and ability to resolve the conflicts that arise when new technology is introduced to their practice are more likely to emerge with a positive view of the technology than those who could not and gave up.

In the case of the participants in this study, the degree to which one was willing to engage with CANVAS seemed to affect his/her view of its educational value. The light users almost all worried that CANVAS would disrupt their students' learning in a number of ways, but yet they all admitted they used it only to the minimal extent, so, perhaps, their opinion of it as an inferior educational tool arose from their inability and unwillingness to work through their contradictions with it. The moderate users felt less negatively about CANVAS than the light users. This could be because the moderate users worked through the contradictions they felt in their classrooms within their comfort level;

what they could resolve easily enough, they embraced, but when their efforts felt fruitless or uncomfortable, they opted for more traditional methods. The heavy users, on the other hand, thought highly of CANVAS as a teaching tool, but then they also were the users who adopted the most functions on CANVAS and had worked out how these functions fit into their educational goals and intentions. Therefore, they saw CANVAS as an educationally expedient tool that served their students well. In keeping with constructivist activity theory, the more the participants used and navigated their ways through CANVAS, the more positively they viewed it as a teaching tool.

Preferring to Work with Paper

The lack of enthusiasm for online grading and the participants' inabilities to provide detailed explanations for their preferences are nicely explained by Rogers (2003). According to Rogers, these faculty members prefer grading with pen and paper because they don't see any appreciable advantage grading online offers. This, according to Rogers, affects their likelihood of attempting new methods of working: "The greater the perceived relative advantage of an innovation, the more rapid its rate of adoption will be" (p.15) There may well be clear advantages of grading online, but if faculty members do not perceive any, they will not abandon their established practices. The very simplicity and pragmatism of this notion is, perhaps, why faculty members could also not elaborate on their responses - what more was there to say?

<div align="center">Professors' Perceptions of LMS and Students</div>

Interaction Improved or Worsened

A common topic amongst the participants was the issue of whether using LMS in the developmental classroom would improve or worsen the level of interaction students

had with each other and with their professors. A pattern emerged amongst the user groups that showed the more heavily a faculty member used CANVAS in his/her classes, the more favorably he/she viewed its role in classroom and out-of-classroom interaction. Thus, the light users universally felt CANVAS was detrimental to classroom interaction, moderate users had mixed feelings, and heavy users almost unanimously felt it was beneficial to interaction with and amongst their students.

Without exception, the light users expressed concern about using CANVAS and other forms of technology in their classrooms. However, their concern seemed to be most concentrated on using LMS and other technology with developmental students, seeing these students as having special needs. Ruth and Lisa both attributed these needs, at least partially, to the students' educational and personal backgrounds. For instance, Ruth discussed the lack of meaningful conversations and personal interactions developmental students have in their lives as a result of their often low-income status. She said that with parents (often only one parent) struggling to make ends meet, lower-income children are often left on their own and given technology as a distraction, so they have a tendency to switch off when presented with technology in their classes. In addition, Ruth, Dana, and Lisa all felt developmental students were in particular need of their instructors' guidance. These students, they all agreed, were most likely to be confused and unable to understand their work without an instructor to lead them through, and technology was seen as an impediment in providing this assistance. As Lisa put it: "I also think that there are questions or ideas or things that come up that can only really be handled with a teacher there and immediately." If students are directed toward technology, these faculty claimed,

they could get lost in the material and try to forge ahead on their own, often going the wrong way, instead of consulting their professors.

Samantha and David seemed most concerned with students' experiences bonding with each other, their professors, and their environment. Samantha felt the interaction that takes place in a college classroom is integral to a student acclimating to the college culture, and LMS would turn students toward computers and away from each other. David, in a similar vein, believed the connections that can be built without LMS are too powerful to ignore. For him, classes that use technology deprive students of the opportunity to build relationships with their professors and other students, which robs the class of its heart and interpersonal impact. Significantly, while Ruth, Dana, Lisa, and Samantha were a little more open to the idea of using CANVAS in college-level or more advanced classes filled with more experienced students, David did not seem to think CANVAS would be any more useful in his upper-level classes either. Overall, the light users simply felt CANVAS would interfere with the academically and interpersonally valuable interactions developmental students need.

The moderate users were in two minds as to whether CANVAS was helpful or harmful to classroom interaction. Melanie and Anne were both concerned CANVAS could cause problems for their developmental students. Melanie believed "not everyone functions well from minimal guidance learning processes," meaning that developmental students needed the support and interaction of their professors and peers in order to succeed. Anne, however, worried more that CANVAS could overtake a classroom if one were not careful, driving all activities and instruction to computers and robbing students of the opportunity to collaborate the way they need to. For Mark and Jocelyn, though,

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CANVAS was seen an excellent tool for increasing interaction amongst developmental students. Mark said as long as faculty impose limits on the means and extent to which CANVAS is used, it will not overshadow other forms of interaction. In fact, he praised CANVAS for making activities like peer review more open and fruitful since students felt freer to comment on each other's work when it was done anonymously. This, he felt, created a better dialogue about the work that led to stronger revisions. Carla agreed with Mark that CANVAS could aid interaction because she felt it left the classroom open and increased enthusiasm for learning. For the moderate users, then, CANVAS could be either a benefit or a detriment, depending on how one experienced it within his/her classroom.

The heavy users were in greater agreement about the effect CANVAS had on interaction in their classroom than the moderate users but not quite as united as the light users. Jocelyn expressed some reservations about faculty members allowing CANVAS to interfere with developmental students getting the interaction she thought they so desperately need, but she felt, when used appropriately, CANVAS could still be useful in an interactive classroom. The other heavy users were far more enthusiastic about the role CANVAS played in classroom interaction, though. Nancy reported an increase in classroom interaction. In particular, she felt her students felt emboldened to communicate with her more regularly. Additionally, Theresa, Vicki, and Brian were unanimous in their belief that CANVAS extended the boundaries of the classroom and types of interaction that were possible. For them, CANVAS freed classroom interactions from the confines of the traditional location and hours, so students were "...engaging with ideas outside the classroom," in Vicki's words. Once class ended, students could still communicate with

each other and use each other for support. Vicki added that this interaction and engagement increased even more when faculty members made it clear they were vigilant, active members of this community, noting who was making the effort to log on and engage and who was switching off. By and large, then, the heavy users were far more positive about their perceptions of how CANVAS affected communication and interaction in their classrooms.

Preparation for College-Level Courses and Four-year Institutions

An issue that appeared throughout the user groups to an extent was the issue of preparing students for four-year colleges and where CANVAS fit into that goal. Some of the light users were aware that others believed CANVAS prepared students for their time in four-year institutions, but they were not necessary persuaded to use CANVAS any more than they currently were as a result of this. Some of the moderate users believed this was a reason to use CANVAS to a significant extent, but there were plenty who did not mention this as a factor in their decisions to use CANVAS to the degree they did. The heavy users, however, were all adamant about the need to use CANVAS as an additional means of preparing students for future study. Thus, the degree to which one used CANVAS seemed to have a direct correlation to his/her acceptance of the premise that it could better equip students for the future.

Most of the light users did not mention the idea of how or whether CANVAS could prepare their students for future study. Only Lisa and Samantha addressed the issue, and they only did so in passing. Lisa was aware that one of the reasons the college encouraged CANVAS use was to help give the college's students the same educational experience their four-year counterparts get and to ease their transitions if they decided to

continue on for their bachelor's degrees. Nevertheless, she was not comfortable using it and was thankful the college did not force her to do so. Samantha, on the other hand, was not uncomfortable with computer mediated instruction, and she was also aware of the college's encouragement to use CANVAS for the purposes of getting students ready for their possible transfers to four-year colleges. Her concern, though, arose from the idea that the effort to get poorer students connected in an effort to catch them up to their more affluent peers might actually backfire since the poorer students will lack the guidance and support of teacher: "privileged, rich kids, educationally privileged people, they'll have teachers, too." Therefore, in an effort to level the playing field of socio-economic discrepancies, those who champion the use of technology in the classroom could simply be further contributing to the already existing divide despite their good intentions. In the end, the light users did not see possible preparation for transfers and the job market as valid reasons to adopt CANVAS more fully.

Most of the moderate users did not factor future preparation into their responses as to why they used CANVAS to the extent they did. However, Mark and Carla were adamant that CANVAS was an important part of ensuring their developmental students were ready for their college-level courses and the work they would do in four-year colleges if they chose to transfer. Mark felt LMS usage was an expectation at four-year colleges; his students at the four-year institutions where he taught simply assumed LMS would be a part of the way their courses would function. As a result, he felt it was crucial to expose Northeastern Urban Community College's students to LMS as early as possible so that those who decided to transfer would have a smoother transition when they arrived to their new colleges. Carla agreed with Mark, saying the students at the college, "...need

to learn the technology. They need to be easy with the computer" in order to survive when they move on. To not aid students in this endeavor, she felt, was a disservice. So, while most of the moderate users did not consider preparation for future study into their decision to use CANVAS, those that did felt strongly about it.

While the light and moderate users mostly did not focus on the issue of whether CANVAS would ease students' transitions to college-level courses or four-year institutions, the heavy users all felt very strongly about it. For these faculty members, there was no question about whether one should use CANVAS with developmental students; these students needed to acclimate to the college culture, and using LMS was one of the ways to accomplish this. Nancy acknowledged it could be challenging using CANVAS due to her students' lack of experience with and access to computers (which will be discussed at length below), and she was sympathetic to this, but she still forged ahead with using CANVAS because, "...it's valuable that they know how to use the computer and use CANVAS because they'll have to be using it in other courses." Sending her students on without the technological skills they need, she felt, could cause them major problems in the long run. Brian took this thought a step farther, saying LMS had become a "requirement" and "standard" at colleges, so "...it shouldn't even be a question of, 'Should we use it' Right now, it should be a question of, 'How are we using it?'" Brian also believed that, since this essentially meant students had to be proficient with LMS, their professors should be, too. Jocelyn, Theresa, and Vicki were all united in their stance that students needed to be exposed to CANVAS and learn to function with LMS as a part of their learning in order to survive in future courses and institutions. As Theresa put it, students would be expected to carry out certain expected functions on LMS, like

submitting assignments, in their future studies, so faculty at Northeastern Urban Community College should show them how to do it now as future professors would be unlikely to accept any excuses from them. Therefore, the heavy users felt strongly that CANVAS should be an integral part of the developmental classroom at Northeastern Urban Community College as it was merely one of many skills students needed to learn in order to be successful moving forward.

Students Lacking Access/Skills

Another topic almost everyone had to touch upon was that of students' lacking skills and access. Serving the low-income population it does, the college is full of students with little to no computer experience and/or access. For most of the light users, this lack of access was too large an obstacle and ate up valuable class time when they tried to use technology in class. The moderate users also saw it as an impediment, at times, and for some students, but many felt it was manageable and surmountable. But, the heavy users mostly saw students' lack of access and skills as something that needed to be addressed through greater exposure to technology, including CANVAS.

For the light users, time spent teaching students to use CANVAS was time that was not spent teaching students the reading and writing skills they needed. Ruth saw the time she had to spend training her students to use CANVAS as a waste and felt the college should do a better job of doing this training before classes even began to eliminate such loss. Dana agreed with Ruth, saying the students' struggles with using CANVAS cost her valuable instructional time and sometimes led to students missing materials she sent out to them because they refused to log on and use it. She did, however, admit that CANVAS could be helpful to those who struggle to physically make

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it to CANVAS either due to a disability or personal difficulties. But, Lisa was very concerned about the obstacles it created for some students, who told her they did not like CANVAS and could not access their course materials when professors posted them there. Interestingly, though, despite being, in many ways, the light user most opposed to using CANVAS, David did not see students' lack of skills and/or access as an impassable problem. As far as he was concerned, the college provided ample computers around campus for students to use, and, with good time management, this would be all they'd need to continue on with their coursework. In fact, the issue of access was one of the few about which David felt positively. He also praised CANVAS for making education more accessible to those who were disabled because it made the inability to sometimes get to campus less of a problem for them. Aside from this small bit of praise from David and a positive moment from Dana, however, the light users were in agreement that students' lacking computer skills and access were major reasons to not use CANVAS.

While the light users were deterred from using CANVAS by students' lacking access and skills, the moderate users felt a little more positively. Rebecca believed CANVAS could certainly be helpful for "some students," but, for others, using CANVAS never quite clicked. For this reason, she liked using CANVAS as a way to introduce students to computers but never made it a mandatory component so as not to exclude her technologically-challenged students. Melanie, like Rebecca, saw the difficulty CANVAS could cause students, and, like Ruth in the light user group, she felt the college could do a better job of orienting students to CANVAS in advance of their beginning classes so professors could spend less time on the initial teething problems when getting students to use it. No matter how students learned to use CANVAS, though, Melanie thought it could

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benefit many of them greatly. In particular, she felt those who struggled to get to campus for a host of reasons could still remain engaged with their courses by accessing materials remotely.

Anne, like the light users before her and her fellow moderate users, felt a lot of time had to be spent teaching students basic functions, like logging on, which frustrated her greatly, but she, nevertheless, pushed on for the benefits she felt CANVAS had to offer. Mark also reported dealing with the frustrations of acclimating students to CANVAS. Most of the time, he claimed, the students could adjust to CANVAS and overcome their difficulties, but there were some students who could never adjust, and he had to make special accommodations for them. Of all the light and moderate users, though, Carla felt the most positively about using CANVAS with students lacking skills. For her, the initial frustrations were worth overcoming because the more she used CANVAS, the more her students got comfortable with it and became more proficient. For the moderate users, then, CANVAS could introduce a host of challenges into their classes that could be both frustrating and time-consuming. Nevertheless, they all seemed to feel this initial hurdle was one to overcome and not avoid as utilizing CANVAS was beneficial to at least some if not all students.

The heavy users, for the most part, believed the students' lacking skills and access were obstacles that could be overcome and that, indeed, enforcing CANVAS usage in their courses could help rectify some of their students' issues. Nancy, Brian, Theresa, and Vicki all acknowledged the difficulties many of their students had when adjusting to CANVAS, and they were all sympathetic to these problems. However, they felt the preparation CANVAS offered for future college courses and transferring to four-year

institutions were too beneficial to back away from. Moreover, they believed, using CANVAS could help students with time management and personal organization skills as deadlines were absolute, and materials were easily accessible anytime and anywhere. Vicki also posited that CANVAS's layout was useful in helping students overcome their deficiencies because it was clear, which assisted students in processing and organizing the information they were given more efficiently. Brian, essentially, summed up most of the moderate users' intentions when he said, "We can't just talk about digital literacy or informational literacy anymore and not somehow try to infuse the current technologies that we have in the classroom." In other words, Brian and his colleagues largely felt that that using CANVAS was essential to remediating students' deficiencies and preparing them for the college education they were seeking.

Of the heavy users, Jocelyn is the only one who expressed any reservations about using CANVAS in the face of students' lacking skills. Unlike the others, Jocelyn would limit her usage to an extent in order to accommodate her students that were struggling or did not have computers at home: "Yeah, one reason why I don't do everything online - the online thing is secondary to the classroom. The classroom is still primary." While others chose to leave the onus on the students to find computer access as a lesson in resourcefulness and time management, Jocelyn felt this attitude was a bit too extreme and delivered some material through more traditional means. That said, Jocelyn still felt it was beneficial to everyone - particularly those with disabilities or personal problems keeping them from making it to CANVAS, keeping her firmly in the heavy user category. Overall, then, the heavy users felt students' lack of access/skill with computers was a real issue, but it was one that had to be overcome in the interest of students' growth and

advancement. Even with Jocelyn's reservations, she saw the overall benefits of making CANVAS an integral - if secondary - part of her classroom.

Transparency

Transparency was a somewhat minor but consistent theme across the user groups. Across the groups, there was increasing approval of the transparency in how students could receive their grades on CANVAS. The light users who raised the issue of transparency saw it as a detriment. The moderate users viewed it more favorably, but one had reservations, and the heavy users saw it as nothing but beneficial. Significantly, the heavy users all raised the issue of transparency as opposed to the light and moderate groups where less than half of the participants brought it up, indicating this was a more significant factor in the heavy users' decisions to use CANVAS than it was for the other two groups.

Among the light users, Ruth and Samantha were the only two who brought transparency up, and they were not in favor of this element of CANVAS. For Ruth, the problem with students being able to see their grades and attendance in developmental courses was that developmental students, "...tend to be obsessed with minutiae, rather than the big picture, which is part of their problem." When developmental students can see every grade they are given, Ruth says they become fixated on their grades and every percentage point as opposed to the skills they are supposed to be learning. This mindset, she says, is not conducive to such transparency, so she chooses not to post her grades on CANVAS for this reason. Samantha also sees CANVAS's transparency as problematic and opts out of posting her grades on CANVAS, too. This is because Samantha wants her students to develop "metacognitive skills," such as keeping track of their grades and

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figuring out where they stand on their own rather than just waiting for a computer to tell them the answer. Both Ruth and Samantha want their students to develop their thought processes; Ruth would like them to focus on the big picture, and Samantha would like them to become more analytical. CANVAS, they feel, would allow neither to happen.

In the moderate group, only Anne and Mark spoke about transparency. Anne thinks there are good and bad elements of students being able to see their grades at any given time. On the good side, there is the fact that students are always aware of their progress on the course, and they can make informed decisions about their study habits accordingly. However, Anne echoes Ruth's sentiments when she says, "...I think [it] can be also a negative, too, because their students become a little bit more grade-focused than learning-focused." It is particularly problematic when students focus on grades over learning in Developmental English courses because students' performances improve slowly and gradually as they acquire and polish their skills over sustained periods of time. Becoming fixated on every grade fluctuation shifts the focus from the process to the end result and can cause students to become discouraged when they may, in fact, be making adequate progress. Mark, however, sees transparency as a wholly positive thing. He believes it's important students learn to keep track of their performance and adjust their habits and approaches based upon the information they receive since a large part of college and professional success is personal responsibility and accountability. It also removes any questions about fairness or accuracy for students, he says, because they have all of the information in front of them. For Anne and Mark, then, transparency was an overall benefit of CANVAS, but Anne definitely saw its shortcomings, too.

The heavy users all mentioned transparency in their interviews. Without exception, everyone thought this was a major selling point of using CANVAS as students have the right to know where they stand and need the information to formulate their game plans going forward. Jocelyn liked CANVAS's transparency because she saw it was a way to keep students engaged in their courses; they could see their progress on the course without having to rely upon her to fill them in, making them more proactive and motivated. Nancy, Brian, and Vicki all liked how, "...cut and dry," as Nancy put it, CANVAS made their courses. Nancy particularly liked this in her grading as she felt too many developmental instructors leave their students in the dark about their grades, making the process seem mysterious and even arbitrary. She prefers her students to know exactly how they're doing at any time so there are no surprises at the end of the semester. Vicki liked this, too, and she also felt it made her planning more transparent as she found CANVAS helped her organize and process her goals for the semester and ensure they were in line with the Student Learning Outcomes for her courses.

Theresa agreed with her fellow heavy users that transparency was a benefit of CANVAS. However, her reasons for thinking this were quite different. As an adjunct, whose position was contingent and who did not have the benefit of tenure to protect her, Theresa felt insecure about her employment status, so she liked that CANVAS gave her a record of every grade she'd given a student and every email she'd sent. This was important, she felt, because if a student complained about her, she had a trail of evidence that could back her up if her teaching were called into question. Whatever their reasons for approving of CANVAS's transparency, the heavy users, undoubtedly, saw it was a major incentive for adopting CANVAS into their practice.

Theoretical Underpinning for Professors' Perceptions of LMS and Students

Interaction Improved or Worsened

The issue of interaction is one that has been studied in the constructivist activity theory. In Russell and Schneiderheinze's (2005) aforementioned study, four teachers using an interactive online forum as part of their unit were interviewed at the end of the study to assess their feelings on the matter. Two of the teachers reported feeling isolated while using the program at first, but, over time and with continued usage of the forums, they eventually resolved this issue and felt positively about the program. A 2004 study by Peruski and Mishra details how three faculty members adjusted to online teaching. Though they struggled with several elements of how to engage with their students and organize their courses, they used these difficulties to constantly rethink and reshape their teaching practice. In the end, all three faculty members found they were able to adjust to teaching online and building meaningful classroom experiences in the virtual context. Significantly, all three faculty members said their experiences interacting with students online made them rethink their face-to-face interactions with students in their traditional classes. One participant claimed his virtual interactions with students gave him greater insights into their thought processes, and another claimed her online interactions opened her eyes because, "I heard everybody's voice and I don't in face-to-face" (p. 45). Thus, despite their initial misgivings and the contradictions that came with adjusting to virtual interaction with students, through negotiating these issues and using them to alter their practice, the faculty members saw value in their newly-acquired methods.

The significance of these findings to the findings of this study is great. Though these studies examined teachers' experiences interacting in fully online formats, the fact

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that they were able to engage their students meaningfully and to a depth that they wanted to replicate the experience in their face-to-face courses indicates that increased practice with and exposure to computer-mediated interaction could yield powerful educational and interpersonal benefits for students. The faculty in this study do not have to commit as fully to engaging with their students online as the ones in Russell and Schneiderheinze's (2005) and Peruski and Mishra's (2004) studies as they are operating within a face-to-face classroom that only offers LMS as an additional instructional tool. Nevertheless, the misgivings expressed by the light and moderate users could well be alleviated by the scholarship in and principles of the constructivist activity theory. Increased experience with CANVAS would initially create difficulties and frustrations for these faculty, but it would also teach them how to negotiate these issues and rethink their teaching practices. The heavy users found satisfaction in using CANVAS to interact with their students and reported increased and extended engagement amongst their students because they had continued to use and refine their methods of interaction online. Activity theory acknowledges there will be teething issues, but those very issues may yield positive results in the long run if they are thoughtfully addressed.

Preparation for College-Level Courses and Four-year Institutions

The responses to the issue of preparation for future study and four-year colleges revealed a lot about the pedagogical beliefs of the faculty members in question. Those who endorsed more traditional teaching methods felt college preparation did not rely upon technology whereas those who embraced CANVAS saw CANVAS as indispensable to future success: "In general, teachers with more traditional beliefs will implement more traditional or 'low-level' technology uses, whereas teachers with more constructivist

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beliefs will implement more student-centered or 'high-level' technology uses" (Ottenbreit & Leftwich, 2010, p. 262). The light users believed their pedagogical duty was to ensure students were getting the skills they needed in the current moment; without fundamental skills, like grammar and composition skills, students would not have the essential capabilities necessary to succeed in their future studies. The heavier one's use of CANVAS got, though, the more he/she considered CANVAS a fundamental skill that was almost as essential to future success as grammar and composition. Therefore, one's pedagogical beliefs about which skills deserved the most prominence in his/her teaching affected the extent to which he/she felt CANVAS prepared students for their future studies.

Students Lacking Access/Skills

Students' lacking skills and access are often problematic in institutions serving students from lower socio-economic backgrounds. If technology is made available in these institutions, the students rarely get to move beyond drills and practice exercises that do little to improve their technological or subject-based skills. However, in programs where students have regular access and training in how to use computers, there is marked improvement not only in technological skills but subject-based ones, too. This is because students are given more challenging exercises that ask them to engage on a deeper level. From a constructivist standpoint, this offers students the essentials they need to create their own sense of authority by offering them access to technology, legitimizing their place in the modern community of learners, building competency in their skills, and valuing the products they create (Warschauer & Matuchniak, 2010). From this perspective, exposing low-income students to technology helps construct their identities

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as competent and capable scholars. This is the framework within which the moderate and heavy users mostly operated; CANVAS could be frustrating to use in the face of the students' lacking access and skills, but the overall educational and personal benefits it offered were too great to pass up, so they pushed on.

This is not to condemn the light users' decisions to not use CANVAS more extensively. Indeed, these faculty members have strong convictions about what is best for their students that informed their decisions. As Ottenbreit and Leftwich (2010) and Rogers (2003) both assert, instructors will not adopt technology that is not in keeping with their beliefs and values. These faculty believe their instructional time is best spent teaching their students the fundamental, subject-based skills they need to do well in their college-level courses. Thus, they are not opting out of CANVAS because they find it too laborious to use. Rather, they believe CANVAS will interfere with the more important task at hand.

Transparency

The issue of transparency in the interviews is deeply rooted in one's proficiency in using LMS as an instructional tool. It is one thing to know how to make CANVAS function; it is an entirely different matter to know how to effectively use CANVAS to achieve one's pedagogical goals:

> Teaching with technology requires teachers to expand their knowledge of pedagogical practices across multiple aspects of the planning, implementation, and evaluation processes. For example, when using technology as an instructional tool teachers must know how to: develop plans for teaching software to students, select appropriate computer applications to meet the instructional needs of the curriculum and the learning needs of their students, and manage computer hardware and software. (Ertmer & Ottenbreit-Leftwich, 2010, p. 260)

As many of the light users self-reported, they did not know how to use CANVAS as an instructional tool. Therefore, knowing how to make CANVAS's transparency functional and appropriate for the needs of their students was not within their ken. As the users became more comfortable using CANVAS, however, they saw CANVAS's transparency as a benefit that served their students' needs; students' level of engagement and accountability increased for these instructors, allowing them to address some of the personal organization and study skills their students lacked coming in. In short, in keeping with the constructivist view that one's experience colors his/her perception of a tool, the positivity or negativity of CANVAS's transparency was proportional to how extensively and effectively one used CANVAS as a teaching tool; those who opted to limit their usage saw the transparency as a detriment while those who used CANVAS heavily as an instructional tool saw clear benefits.

<center>*Administrative/Technical Concerns*</center>

Training Not Pitched Properly/Campus Resources Lacking

Responses to the question of whether the college's training and support were appropriate were mixed across all groups. Amongst the light users, there was some dissatisfaction about the current methods of training faculty to use CANVAS. Ruth felt the training sessions moved too quickly, racing through subject after subject and function after function so quickly that those attempting to learn CANVAS for the first time were soon left behind and discouraged. Samantha, who considered herself pretty adept at using computers, felt the current training program ignored faculty input and should hear instructors out more. She would prefer a faculty focus group that could help the administration target their future plans for CANVAS. Dana, David, and Lisa all felt there

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was a good amount of training available, but they were not very interested in attending any sessions because they wanted to stick to their current methods. For these users, the college's training was not quite hitting the mark.

The moderate users' feelings about the efficacy of CANVAS training and support at the college were far more mixed. Rebecca expressed frustration that the current training sessions lacked focus, leaving faculty to sometimes just play with CANVAS while the session went off in a number of different directions. She also was dissatisfied with the lack of a specific contact person. When trying to resolve an issue, she felt either no one was there to help her, or, if they were there, they did not know enough about the student body to be able to help them effectively. Carla and Melanie, however, felt the trainings offered by the college were absolutely fine as they were. In fact, Carla credits those trainings for making her enthusiastic about CANVAS and getting her to adopt it in her classroom. Anne did not object to the current method of training, but she did feel faculty should be more involved. Like Samantha in the light user group, she would like to see a focus group take place so faculty could work with the administrators and CANVAS to ensure CANVAS would be as responsive as possible to faculty's and students' needs. Moreover, she felt that, if the college were really serious about getting widespread adoption of CANVAS, it should consider setting all computer classrooms up so that there was a space in the middle where classes could move away from the computers and engage in person when faculty members wanted them to. In short, the moderate users were not unanimous in their feelings about CANVAS training and support at the college; some were happy with the current system, but others would like to see more dedicated support staff and faculty input.

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The heavy users were also mixed in their responses. Theresa echoed Rebecca's frustration that there were not enough dedicated staff to help her and her students troubleshoot through their problems. Jocelyn, on the other hand, felt the level of training and support was great, but the college could expand the way it used CANVAS to include assessment training and practice; she saw far more potential in CANVAS than was currently being tapped. Brian also felt the current use of CANVAS in the college was limited. He believed the college was doing an excellent job of offering many training opportunities, but those sessions were unimaginative as was the college's vision for what CANVAS could be. He believed the college's adoption of CANVAS was just going through the motions of having an LMS, utilizing only a fraction of what CANVAS had to offer, and making it less enticing for those in doubt to adopt. Vicki actually opted out of the official trainings and sought the help of a friend she had at the college, so she could not comment on the quality of the sessions, but she held a similar stance to Anne from the moderate group in that she felt the college could make its desire to have CANVAS be more widely adopted clearer by providing more technological resources for faculty. Unlike Anne, she did not specify which classroom setup she desired, but she did feel more classrooms needed to be connected so a greater number of faculty could reliably access CANVAS as a resource when they needed to. For the heavy users, then, the question of whether the college was offering enough support to faculty had no clear answer, but there did seem to be a consensus it could be doing more in several regards.

Level of Enforcement from the College

Surprisingly, this was one category in which all user groups were unanimous. Every individual interviewed agreed that every faculty member should be using

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CANVAS to, at least, the departmentally required extent. The reasons for this endorsement changed somewhat between participants but not necessarily between user groups. For instance, Ruth and David, who are light users, agree with Mark, a moderate user, and Theresa, a heavy user, that some consistency across the faculty in terms of CANVAS adoption is important and beneficial to students. Rebecca, on the other hand, wants to see CANVAS universally adopted to at least the minimal extent in order to prevent administrative assistants being tasked with extra work faculty could easily manage on their own. That said, the participants were almost unanimous that the college was right to not force its faculty members to use CANVAS for reasons other than emailing and posting syllabuses. This, they felt, maintained academic freedom and avoided animosity from faculty members who were not comfortable with taking their usage any further. The only two participants who felt differently were Mark, a moderate user, and Theresa, a heavy user; they believed CANVAS usage should be widespread and mandatory in the name of getting students ready for their futures. Theresa also saw this as a way to increase the need for support and, thus, the number of dedicated support staff. Overall, though, this was the issue on which there was the greatest amount of agreement; faculty members believed everyone should be using CANVAS to at least a basic extent.

Functional Frustrations

Across all of the user groups, there were some complaints about functional problems within CANVAS. For many, these were minor annoyances, but, for others, they were serious causes of frustration. Interestingly, there was an equal representation of complaints across the user groups; that is to say, an equal number of light, moderate, and

heavy users took issue with some element of CANVAS, making this one category that did not increase or abate in accordance with one's level of usage.

For the light users, email and the separation of CANVAS from the college's banner system were the main sources of trouble. Ruth, David, and Lisa all complained about how cumbersome emailing entire groups was. The college's former platform, which was linked into banner, allowed a professor to email his/her students directly from a class list in banner, which these users found much easier. In CANVAS, an instructor can limit the number of courses he/she has to choose from to only the current semester when attempting to send an email, but if one does not know how to do this, he/she must choose from a list of every course he/she taught from the past several years. Moreover, the courses are not listed in chronological order, so choosing from the list can be confusing - especially for those who are not proficient with computers or CANVAS. Moreover, one must know how to hover his/her mouse over his/her selection the right way in order to not lose the drop down menu by not keeping the mouse on it - a specific complaint of David's. As CANVAS is the only means faculty members have of emailing their students, it is a great source of consternation for the light users that this process has become seemingly more difficult. Additionally, the light users resented the fact that CANVAS was not linked to banner the way the old system was, so if they wanted to look up information about a student before sending an email, they now had to go to a different application on their computers, something they found annoying and time-consuming. Overall, the light users disliked what they felt was a clumsy and complicated email system and a frustrating separation from banner that caused them extra work.

The moderate users, on the other hand, had complaints about CANVAS's initial login process for students, mostly. They felt this procedure was confusing for students because the new user link takes them to a page with a field that asks for students' email addresses inside but above asks for their usernames from the college's portal. This leads many students to input the wrong information and then become confused and frustrated when they can't get in. Moreover, even if the student does input the correct information, an email is sent to them that provides a link to click for initiating the signup process. However, once students click this link, it is, again, unclear, whether they are supposed to enter their entire college email address or just their portal username. While the college does have detailed, step-by-step directions written out for the students, many developmental students are in the courses they are because of their inability to read well and follow directions, so the initial login process can be frustrating and time-consuming for students and instructors alike, something Rebecca, Melanie, Anne, and Mark all attested to. It must be noted, however, that Rebecca's complaint that students do not get to choose their passwords was inaccurate; they do. Getting them to the point where they get to choose, though, can be a daunting task, which may explain Rebecca's confusion.

Aside from the initial login process, the moderate users had a few additional complaints. Rebecca could not figure out why, when she sent emails with attachments to her students, the attachments disappeared. This remained a mystery for the duration of the study as Rebecca never did get an answer, and the problem was never rectified. Anne's other complaint about CANVAS was that it sent too many notifications to students when she didn't want it to. For example, when she was making changes to her courses and due dates, her students received notifications about each one even though she

didn't them to. This caused confusion and panic amongst her students and frustration for Anne as she endeavored to clear it all up for them. For the moderate users, then, Instructure could think through how it provides information to students as some of its current methods are very problematic - especially for developmental students, who are new to college and have weaker reading skills.

The heavy users did not have shared complaints, like the light and moderate users; each complaint was separate and unique to the individual. Like Anne, Jocelyn did not like how her students received notifications of every change she made within her course. This caused as many headaches for her and her students as it did for Anne since she had to assuage her students' resulting worries and confusions. Nancy's issues arose with Croc-a-Doc, the grading system one can use to put comments directly onto a student's paper. For reasons Nancy can't explain, her students often can see their comments on the screen, but when they attempt to print them out so they can get help from a tutor in the college's writing center, the comments won't print. The college's writing center has only four computers and no printer, so students can't rely upon those to pull their work up for a tutor, making it difficult for them to get help with Nancy's feedback if they can't print it out beforehand - a very problematic situation for their development. Theresa, on the other hand, finds the assignment creation portals confusing as one must enter the date the assignment opens, the date it closes, and the date it's due. If one forgets to input one of these dates or does so incorrectly, students may see what appear to be conflicting due dates and grow confused. So, even for the heavy users, who champion CANVAS quite heartily, there are some functional frustrations that cause them difficulties and, at times, make using CANVAS less than optimal.

Theoretical Underpinning for Administrative/Technical Concerns

Training Not Pitched Properly/Campus Resources Lacking

Unsurprisingly, the literature on the issue of technical support and its relationship to faculty adopting technology shows that a lack of support often leads faculty to forgo using technology. If equipment is unreliable and support is inadequate, leading to long wait times for problems to be resolved, faculty often give up on using technology, feeling the effort is not worth it and fearing future issues. Thus, when Ruth and Samantha feel faculty needs and input are being overlooked in training sessions, or when Rebecca and Theresa can't get the help they need quickly and easily, it is likely to limit their desire to use technology any further. Similarly, a large number of training sessions is admirable and often appreciated, but if faculty leave these sessions feeling their questions and needs aren't being answered, they will be inclined to think about said trainings less favorably (Buabeng-Andoh, 2012). Moreover, Samantha and Jocelyn's call for more faculty input speaks to Rogers's (2003) pragmatic concept that consensus development is essential in persuading individuals that an innovation is both safe and effective. If there were assurance their concerns and expertise were being factored into the decision-making process, faculty would be more inclined to see CANVAS as a tool suitable for their practice. It is, therefore, crucial for an institution to provide adequate technological support and training if faculty are to remain encouraged and motivated to adopt new technologies.

Level of Enforcement from the College

The college's decision to not force faculty to use CANVAS beyond a minimal extent is very much in keeping with the theory surrounding faculty adoption of

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educational technology. In both the constructivist and pragmatic lenses, faculty are more

inclined to perceive technology favorably when it is seen to be in keeping with the values

of the institution (Ertmer & Ottenbreit-Leftwich, 2010; Rogers, 2003). As academic

freedom is upheld as a hallmark of Northeastern Urban Community College's identity,

strong-arming faculty into using CANVAS any more extensively would more likely sour

the views of even those who were the most enthusiastic adopters (Ertmer & Ottenbreit-

Leftwich, 2010). In fact, favorable opinions of innovations from one's colleagues are far

more likely to convince that individual that he/she should consider giving the innovation

a chance:

> ...technology innovation was less likely to be adopted if it deviated too
> greatly from the existing values, beliefs, and practices of the teachers and
> administrators in the school. Conversely, changes in beliefs about
> technology use occurred more readily among teachers who were
> socialized by their peers to think differently about computer use. (Ertmer
> & Ottenbreit-Leftwich, 2010, p. 264)

If the light users saw their colleagues speaking positively about and having good

experiences with CANVAS, they would be more inclined to be open minded toward it,

but a mandate from the college could sour everyone's perception. This could explain why

even the light users agreed that everyone should use CANVAS to some extent despite

their other reservations toward it and why almost everyone concurred that the college

should leave further use of CANVAS to the individual's discretion.

Functional Frustrations

What the faculty members in this study are experiencing with CANVAS is a

perfect example of what Rogers (2003) attributes to the characteristic of complexity. In

his pragmatic explanation of why individuals adopt or eschew innovations, Rogers says

the degree to which a new technique is perceived to be difficult affects an individual's

chances of using it. For the light users, who are already grappling with adopting new technologies late into their teaching careers, CANVAS does not make itself any more inviting by having an email system that is not as user-friendly. As these participants are attempting to use CANVAS at the most basic level possible, they are not enticed to extend their efforts any further when they simple act of sending an email causes them frustration and feels laborious. The former system these faculty used required little in the way of clicking and searching, and they did not have to narrow the field of courses from which they could choose to the current semester either; this was already done for them. If the most limited functions of CANVAS appear complicated to them, there is little incentive to invest in using CANVAS any further.

For the moderate and heavy users, the frustrations they encountered with CANVAS were either less frequent in occurrence or possibly not attributable to CANVAS. Several moderate users complained about the confusing and arduous login process for students at the beginning of the semester, but they are most likely willing to overlook this because after the initial frustration subsides, the issue has been resolved, and the faculty member can move forward with using CANVAS. The same is true of Anne and Jocelyn's complaints about students receiving notifications each time they make changes to the course or to deadlines. This is a hassle in the moment, but it is also a rare occurrence since most faculty have their courses set up in advance to match their departmentally mandated, detailed syllabuses - complete with deadlines - that are due by the beginning of the semester. In the case of Rebecca's difficulties with disappearing email attachments and Nancy's Croc-a-Doc comments not being printable, both women admit they do not know whether this is a problem with CANVAS or the physical

equipment at the college, so they are willing to reserve their judgement. Within Rogers's characteristic of complexity, then, the moderate and heavy users seem more inclined to push forward with using CANVAS because the complications they encounter occur infrequently, but the difficulties the light users face happen regularly, making it unlikely the already cautious light users would proceed any further with adopting CANVAS.

Overall Theoretical Framework

The scholarship in the field of educational technology has been largely focused on pragmatism to date: "Mostly, research has focused on matters of practical implementation and design, largely driven by 'common-sense' assumptions about what technology can achieve, or – for many decades – by hype and excitement rather than evidence or theory" (Bennett & Oliver, 2011, p. 179). To an extent, this is an appropriate way to approach this area within the field. After all, many of the reasons the participants supplied for why they did or did not use CANVAS revolved around what CANVAS could offer to the instructor and/or his students in a particular instance. Indeed, Rogers's (2003) characteristic of relative advantage speaks directly to the needs of the user and whether the innovation offers a better way of performing a task than previous technologies did. In this sense, pragmatism was within the essence of this study; instructors' responses spoke of the possibilities, limitations, and commonsensical factors that influenced their decisions to use or eschew CANVAS.

Nevertheless, there was an additional component to the participants' answers that cannot be ignored. While they were concerned with how useful and practical CANVAS was to them and their students, they were also focused on how knowledge and the students' identities as learners and scholars were constructed. Thus, a constructivist lens

can be applied to this study. Within this framework, the participants' responses could be seen as attempts to find the best method for knowledge building, or "...the use of authentic problems, self-organization, monitoring and correction, collective responsibility, discourse and the creation of artefacts to advance the collective knowledge, viewing individual learning as a by-product of the process" (Girvan & Savage, 2010, p. 343). Each participant saw his/her decision to use/not use CANVAS as a means of enacting this knowledge building. Those who did not feel confidence using CANVAS as an instructional tool saw it as an impediment to the goal of knowledge building. Those who were confident, however, saw it as a tool that, "...enables students to construct deep and connected knowledge, which can be applied to real situations" (Ottenbreit & Leftwich, 2010). To wit, CANVAS, for these instructors, helped students build new knowledge that could serve them in a variety of situations in the future.

Additionally, faculty learned from their interactions with CANVAS. In the spirit of Vygotsky's brand of constructivism, the instructors' experiences with technology allowed them to build and reshape their knowledge as they had to navigate contradictions between their current methods of teaching and those introduced by CANVAS (Engeström, 2001; Murphy & Rodriguez-Manzanares, 2008). Those faculty who pushed through the initial discomfort of using CANVAS found their teaching practice altered and were pleased with the end result. Those who did not choose to push through the tensions that arose between their current methods and those posed by CANVAS opted to maintain their current methods. These candidates were also satisfied with their decisions, perhaps because of the previous knowledge building that crafted their current teaching practices and values.

What emerged most clearly from the data was a series of steps the college and Instructure could take to make the prospect of adopting CANVAS more attractive to the participants who were reluctant to use it while also making CANVAS more pleasurable for those who had already embraced it. These suggestions will be detailed at length in the conclusion of this study.

CHAPTER 5

DISCUSSION AND CONCLUSION

Answering the Research Questions

This study began with three research questions to guide its data collection and analysis:

1. How did Developmental English professors in the sample set at an urban community college report their usage of LMS in the classroom? Within the sample, were there any identifiable demographical or ideological patterns in who chose to use/reject LMS in their courses?

2. What reasons did these professors have for using or not using LMS in their courses? Were their decisions based on perceptions of their students, their pedagogical beliefs, or other factors?

3. How did the professors who use LMS in their courses demonstrate their use of this technology in their courses? To what extent and in what ways did they utilize LMS? Was their usage consistent with their self-reporting?

The answer to each question is detailed below.

Professors' Self-Reporting

At its inception, this study sought to answer how Developmental English Professors in its sample set at an urban community college reported their usage of LMS in the classroom. The answer is quite varied depending on the subsection and even the individual at times. Largely, the light users found CANVAS to be inferior to traditional teaching methods in many ways, most notably in how they could interact with their

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students and how their students could interact with each other. However, they were not entirely opposed to CANVAS being used in the classroom, and some were even open to the idea of using it if they had better pedagogical training and stronger technological support.

The moderate users were somewhat more positive toward their view of CANVAS, which was reflected in their increased usage. This was, perhaps, the most varied group in terms of their response in that some, while using CANVAS more extensively than their light counterparts, were still reticent about adopting it more fully while others were very enthusiastic but still learning to use it well or navigating functional issues. The concerns about CANVAS interfering with faculty-student interaction and effective teaching still remained for some, which is why they did not fully embrace CANVAS in their teaching, but others felt it could supplement their class discussions nicely.

Finally, the heavy users were very enthusiastic about using CANVAS in their classrooms, and several wanted to increase their usage even more. These users felt inhibited by limited resources at the college or their lacking mastery of CANVAS's possibilities as a pedagogical tool, but there was little question of whether they would continue to use CANVAS in their classes as they found it to be beneficial to themselves and their students.

Demographical Patterns

The only discernable demographical grouping came within the light users, who were all within their 60s and 70s. The races and sexes of these participants, however, were representative of the departmental makeup as a whole. While this, perhaps, showed

that the oldest faculty members within the department would not adopt LMS, the diversity in age amongst the moderate and heavy users showed this was not necessarily the case. Though, largely, the moderate and heavy users skewed on the younger portion of the department, falling mostly within the 30-45 year-old age bracket, one heavy user and one moderate user were in their 60s, putting them in the same age bracket as the light users, and one heavy user and one moderate user were in their 50s, placing them in between the younger and older faculty. Thus, advanced age was a consistent factor amongst the light users, but it was not necessarily a barrier to adopting CANVAS as shown by the moderate and heavy users.

Ideological Patterns

Despite their varied views on the usefulness and the appropriateness of CANVAS, the faculty all shared some common ideological values. All participants felt that teaching and the students' needs should be at the forefront of what happens in their classrooms. While the light users believed this was best achieved by not using CANVAS very much, the moderate and heavy users felt CANVAS could definitely be congruent with good teaching and students' well-being as long as these remained the foci over technological wizardry. Moreover, the faculty all agreed that the college should maintain its stance of encouraging but not enforcing CANVAS usage in order to uphold its value of academic freedom.

Reasons for Using/Not Using CANVAS

Faculty views on whether to use CANVAS varied somewhat between user groups. The light users opted to not use CANVAS because they often felt ill-equipped to do. In some cases, this came down to a lack of functional knowledge, but more often than

not, the concern was more pedagogical in nature; these professors felt they simply didn't know how to teach with it or that the way they taught without it was just as effective if not more so. They also felt their students needed more interpersonal interaction and fundamental skills training that would be disrupted by adopting CANVAS any further.

The moderate users largely adopted CANVAS because they saw value in how it could help them manage and share course material and for the training it could give students in their computing skills as technology becomes a more dominant fixture in the workplace and higher education. However, some of them did not further their use because they also felt the need for interpersonal interaction with and amongst their students was too important for any more time to be given over to CANVAS. Others did not want to adopt CANVAS any further because they felt they did not have enough technological support or resources to make this a viable option. The moderate users saw promise in CANVAS and, thus, adopted it at least partially into their classes, but they could not completely opt in due to some pedagogical and technical concerns.

The heavy users were unanimous in their belief that CANVAS brought great value to their classroom. They used it to make their classes more accessible and transparent for their students, and they often felt it could be a useful tool in engaging students in their work and with each other. There was some reservation in a few of the participants about whether CANVAS could sometimes serve as merely a gadget or distraction, and there was also some frustration about technical limitations within the college stymying what they could do with CANVAS, but overall, the heavy users were enthusiastic about using CANVAS and were eager to expand and refine their usage even further.

The moderate and heavy users utilized many of CANVAS's functions, and there was not a clear distinction between the two user groups in regards to who used which tools. Certain functions, such as file sharing and communication, were universal across the two groups. After that, the functions faculty adopted were not so much reliant upon their usage group as they were upon the individual. Amongst the most popular tools were assignment submissions and discussion boards, but not every moderate or heavy user employed them. Those who used the assignment submissions felt they made the classroom more accessible for students who struggled to get to campus and also set standards that taught the students responsibility. In addition, they enjoyed the transparency this provided to their grading processes. Others, however, still preferred to accept and grade assignments on paper for either functional reasons or personal preference for the more traditional method. In terms of the discussion boards, many faculty across both groups liked using this function to start or continue classroom discussions beyond the confines of class time. But, there were still users in both groups that preferred face-to-face discussions over digital ones, feeling in-person discussions were too important to the classroom dynamic to turn any of it over to CANVAS. Without exception, though, all users in the moderate and heavy groups accurately self-reported their CANVAS usage; faculty used CANVAS exactly as much as and in the same ways they reported using it in their interviews.

Implications

After reviewing all of the findings, this study has three areas of implication for practice for both Northeastern Urban Community College's administration and faculty

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and Instructure: faculty, training, and institutional initiatives. These are intended to minimize the reservations and difficulties faculty have when using CANVAS and encourage even greater usage.

Faculty Initiatives

Faculty Need to Initiate Focus/Discussion Groups

A few faculty members expressed a desire to have open forums about CANVAS and its pedagogical uses. While dedicated pedagogical training from the college would be helpful in generating discussions about implementing CANVAS as a teaching tool, faculty must also take the initiative to further this effort. Some faculty members have already taken it upon themselves to present specialized workshops during professional development sessions, and this is certainly one way to achieve greater and more widespread pedagogical proficiency with CANVAS, but within departments, faculty should create focus groups and regular workshops to provide even more focused training and engagement. In doing so, faculty could create a "community of practice" in which they collectively learn about CANVAS within their "shared domain." These communities give faculty the chance to share and develop ideas, which often results in increased confidence and collaboratively-built resources (Wenger-Trayner, Fenton-O'Creevy, Hutchinson, Kubiak, & Wenger-Trayner, 2015, pp. 15-22). By creating these opportunities, faculty could share and explore subject-specific methods of using CANVAS and air any grievances or concerns they may have in order to offer and obtain support and guidance from their most immediate colleagues. These communities would empower the faculty in their quest to learn CANVAS whilst also increasing collegiality within their respective departments.

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More Specialized Training Sessions

A few of the participants stated that, while there was plenty of training available, they didn't always find it useful because of the pace at which it was run. Some felt the training moved too quickly, advancing to more complex skills before they had had a chance to grasp the fundamentals. As a result, they felt lost, confused, and turned off of CANVAS even more, seeing it as an insurmountable foe. Others felt they were left adrift at training sessions while the online learning staff stopped to assist novice users, who were struggling with a previous concept; at a certain point, these faculty felt they were left to fiddle with CANVAS on their own with no guidance. Both complaints seem to arise from the training sessions trying to accomplish too wide a range of tasks all at once; beginner faculty felt overwhelmed when training moved past the basics, and more proficient faculty got bored when trainers stopped to explain concepts to the novices.

One suggestion for rectifying this issue would be to have CANVAS training sessions broken down into units that address specific, advertised skills. For instance, the college could advertise a session that only covered the absolute fundamentals, such as logging in, managing one's email, etc., and go no further. The next session might cover slightly more advanced topics, like creating an assignment, posting a file, or weighting one's gradebook entries. This could continue on until later sessions explored very advanced skills CANVAS enthusiasts might not even know about. Such an approach would address a number of concerns from all user groups. Beginner users could attend the early sessions and take the time to really get to understand how CANVAS works without feeling scrutinized by more advanced users or forgotten about when the session

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surges ahead. As confidence emerged as such a large factor in why faculty embrace or eschew new methods of working, sessions that felt more private and relaxed might help those who are unsure of CANVAS become more comfortable with the tool and, perhaps, make them inclined to learn more about how to use it. Additionally, more advanced faculty would not grow bored/frustrated as they waited for their less experienced counterparts to catch up. Indeed, their sessions might be able to progress at a faster rate without the novices, making it possible for them to learn newer and more innovative ways to use CANVAS in their classrooms. Thus, a more directed approach could make everyone more enthusiastic about the possibilities CANVAS can offer.

Additionally, the college needs to make its online training tutorials more widely publicized and directed. While there are currently some training videos for CANVAS on offer through the college and Instructure itself, many faculty are unaware they exist. More advertisement in the form of emails and announcements at faculty meetings could help spread the word. Moreover, the video tutorials could be more broken down into skill components (e.g. how to copy a course or how to upload a video). This way, faculty don't get overwhelmed learning too much in one video or lose interest in a video that covers skills they already know/aren't interested in. These directed, online tutorials would make CANVAS training more efficient and accessible for faculty who either cannot attend the current sessions or simply want to learn a skill when it occurs to them as something they need for a particular class session. Greater focus and more avenues toward training would make the process of learning CANVAS less daunting and more convenient, which might, in turn, increase the level of adoption happening at the college.

Explicit Instruction in Computer-Mediated Pedagogy

A significant concern for many of the light users and, to a degree, some of the moderate users was a lack of knowledge in computer-mediated instruction. These participants felt they should not use CANVAS in their classes because they didn't actually know how to *teach* with it. The training sessions that had been offered, they said, covered how to perform functions in CANVAS, but they didn't actually instruct faculty on how they could incorporate it meaningfully into their pedagogy and prevent it from being a distraction or tool with which to busy their students. Without explicit training in computer-mediated pedagogy, these faculty felt ill-equipped to make CANVAS part of their teaching.

Offering training sessions that solely focused on how one could use CANVAS for actual, meaningful teaching and learning would go a long way toward making faculty more comfortable with adopting it. Those users who felt they were not prepared to teach with CANVAS shied away from it because they didn't want to risk compromising their students' education. If these faculty were shown ways CANVAS could actually enhance their teaching - either by the online learning staff, fellow faculty who had had positive experiences in their classrooms, or even Instructure itself, they would have a better sense of CANVAS's capabilities. They may still opt out of using CANVAS after said training, but at least they would arrive at their decisions after weighing all of their options. If faculty were more aware of computer-mediated pedagogical techniques, they would be more inclined to incorporate those into their teaching and increase CANVAS adoption rates.

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Provide Student Training/Create Awareness as Part of Orientation

A few faculty expressed frustration with students' lacking access to and skills with computers. While the college can't realistically provide home computers or laptops to its students, it could do more to help students become proficient with the basic computing skills they'll need in higher education. The college does offer some courses in how to use word processing programs that are very helpful, but some of those courses are not open to developmental students, and even the ones that are don't cover basic functionality, like how to log into the college's portal, how to check email, or how to log on to CANVAS. If the college could offer some basic training in these skills before students started classes - perhaps as part of orientation - it would help students make the transition to the technological demands of higher education far more easily.

Additionally, students should be made more explicitly aware of CANVAS, what it is, and the fact that it is likely students will be enrolling in classes where faculty members will insist they use it. Currently, information about CANVAS is available to incoming students, but it comes with a pile of other information at a time when students are overwhelmed, which, to those who are not computer savvy or who do not like using computers, can make CANVAS seem like something they can opt out of. If students knew CANVAS was like to be something they would have to use in classes, they might be more proactive about learning to use it.

Adopting these approaches would help make the beginning of college less overwhelming for the students, and faculty members could avoid the stress and loss of class time that come with having to train students in these functions before faculty can progress with their content-based instruction. If students came to their classes expecting

they might well have to use CANVAS and knowing at least the very basics of computer usage, faculty would be less wary of incorporating CANVAS into their classes because the task would seem less Herculean.

<center>*Institutional Initiatives*</center>

More/More Appropriate Resources on Campus

Another frustration faculty expressed was the limitations posed by a lack of connected classrooms on campus and computer classroom designs not conducive to teaching. While this would be a more involved issue to rectify, it is one the college should consider if it wants more faculty to adopt CANVAS. Faculty did not necessarily demand that every classroom be a computer classroom, but a number of them felt they could be greatly aided if they had at least a smart podium with which to work for functions as simple as taking attendance without having to write on paper and then transfer the record over later on. While more computer classrooms would be appreciated, even having access for only the instructor would make faculty more likely to integrate CANVAS into their pedagogy.

As far as the computer classrooms are concerned, a few faculty mentioned how much they wished they could always be in classrooms set up with computers on the periphery with a large table in the middle. This, they felt, helped them use CANVAS when it was appropriate but also leave it out when face-to-face, group interaction was the better option. This design was preferred even by the heavy users, and if more computer classrooms were set up this way, faculty would be less intimidated by them since they could easily use or ignore the computers depending on their plans. Therefore, more

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connectivity and classroom designs more suitable for varying methods of instruction could make faculty more able/less reticent to engage with CANVAS in their classes.

Continue to Encourage, but Keep Optional

An additional suggestion for the college is actually one that encourages it to *not* change something. Almost across the board, the participants praised the college for not making CANVAS mandatory beyond emailing and posting syllabuses. The vast majority of the participants valued academic freedom too greatly and felt their fellow faculty should be able to choose their preferred teaching methods and tools. This freedom also prevented reluctant users from developing an adversarial relationship with CANVAS; indeed, some had quite positive remarks to make about CANVAS despite their decision to opt out of using it. This lack of condemnation might leave the door open for the current light users to, perhaps, adopt it more if any of the above suggestions were found to be successful. The college could capitalize upon this opening by offering the aforementioned training videos, so faculty have as many avenues toward training as possible. Thus, the college should continue with its policy of encouragement and support without enforcement when it comes to faculty opting into CANVAS.

Improve Email/Login Functions

The final suggestion this study has to offer is directed at Instructure. A large number of faculty complained about the login process for students and the inefficiency of the email system. Faculty reported losing a large amount of class time and watching a lot of students become frustrated by the initial login process for CANVAS. While it is true the college's students do tend to lack computer skills when they first arrive, they also know how to set up online shopping accounts, demonstrating how a streamlined, user-

friendly login system is well within their preexisting ability levels. Where the CANVAS login goes wrong is by asking students to use a different username for creating their password than it does for their regular logins to CANVAS. Moreover, the actual labels on the login fields are misleading, asking for students' full emails and their usernames in the same field at the same time. If this process were to be streamlined, faculty could avoid the confusion, frustration, and loss of time that come with logging onto CANVAS for the first time. This would encourage more faculty to use it as they won't have to go through the frenzied hassle of explaining to each student where he/she is going wrong.

CANVAS's email system could also be more user-friendly. Currently, one must manually command CANVAS to make only certain classes his/her regular options when attempting to send a message. Additionally, keeping one's sent and saved messages organized into folders is impossible, making it difficult for professors to hold onto potentially important correspondences. Moreover, if a professor wants to email a student from a former class, he/she must search through dozens of classes he/she has taught over the years to find that student. This would be arduous enough on its own, but, to make matters worse, courses aren't organized by semester, and the semester information isn't always visible from the dropdown selection box, making it difficult and time consuming to reach out to past students - something dedicated professors often do to check in on their students' progress. This is already cumbersome for proficient CANVAS users, but for those who lack skill using CANVAS, it's a nightmare - one that is likely to deter him/her from using CANVAS any more extensively. If Instructure could make the email system more user-friendly, it could help hesitant faculty members feel less daunted by CANVAS and, perhaps, open their minds to experimenting with it more.

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Limitations

It should be mentioned again that this study focused only on one community college in one city in one region of the country. It also only examined faculty's experiences with one LMS, CANVAS. Thus, its findings may not be entirely applicable to other locations for geographical, demographical, cultural, or technological reasons. This study was not intended to provide a universal statement on faculty usage of LMS in every developmental class at every community college in the country or even every community college in the region where it was conducted. Rather, it was intended to begin a conversation about how faculty perceive the use of LMS in their Developmental English classrooms in the hope that others will examine this issue in other regions and institutions as well. The more data that is gathered in a greater number of locations, the closer the research community can get to discerning which factors affect faculty's decisions to use or not use LMS with their developmental students on a broader scale.

Suggestions for Future Research

In the interest of increasing the body of work written on this issue, this study recommends future studies be conducted in a greater number of urban community colleges. Perhaps, in future studies, researchers could compare faculty attitudes across different levels of Developmental English courses (assuming the institutions in question have more than one tier) or interview college-level professors in the same community college in order to provide a basis for comparison. Others might even wish to conduct interviews with Developmental English professors at an urban community college and a suburban community college within close proximity to each other to see if there are any valuable comparisons to be made between communities. Regardless of the variations one

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might opt for in future research, the most important result is that the body of data on this issue grows to provide the research community and community colleges with more information about how faculty in urban community colleges perceive LMS usage in their Developmental English classrooms as their decisions to adopt or eschew CANVAS can have serious implications on their students' futures.

Closing Thoughts

Overall, the college is doing a lot right when it comes to getting faculty to accept and use CANVAS. The faculty agreed the college offers regular training for those who want it, and they appreciated the college's laissez-faire attitude when it came to enforcing CANVAS usage in the classroom. Those who used CANVAS extensively saw tremendous benefits for themselves and their students when using it, and those who used it to a moderate degree felt pretty similarly. However, there is more the college could be doing to support, reassure, and motivate faculty to use it more, and by taking the advice listed above, which was created from faculty's own reporting, the college could make light users less wary, moderate users more confident, and heavy users even more enthusiastic and masterful when using CANVAS. In the end, this would help validate the hard work the college has already put into implementing the LMS into the college, and it would further the college's efforts to get more faculty members to adopt it. The college would accomplish its goal, faculty would improve their perceptions (even if that did not ultimately lead to further adoption), and students would benefit from the greater proficiency and potentially increased/improved usage of CANVAS by their instructors.

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