

## **A tale of two schools**

Phillip D. Coleman  
Western Kentucky University

Ray J. Blankenship  
Western Kentucky University

### **ABSTRACT**

The purpose of this research study was to investigate the perceptions of students entering an online bachelors program in a Midwest university that had either previously graduated from a regional Community College or has taken some classes but did not have an Associate's Degree from a Community College. This study analyzed the student's perception of how they learn best (active or passive), their self-reported satisfaction with the university program, their perceived difficulty (rigor) with the university program, how prepared they felt they were and the amount of time they spent studying at the university.

The university online program requires that students engage in active learning by sharing and participating, so satisfactory completion of the first two classes requires that students become active learners. This is made possible by discussion group participation with minimal intercession by the professor. The results of this study indicate that although students state that they learn best by passive means (watching or listening), their discussion board grades, along with their degree program satisfaction, indicate otherwise. Additionally, this study indicates that students feel that the university program contains rigor, believe that their Community College prepared them for their university studies, are satisfied with the university program, and generally spent more time studying at the university than they did at their Community College. Also, active learning can overcome the lack of face-to-face interaction in an online degree program as evidenced by the student's level of satisfaction with the online program.

Keywords: Student Perceptions, Active Learning, Passive Learning, Student Participation, Student Satisfaction

## INTRODUCTION

The current study is taken from a Midwest American university where students are pursuing a Bachelor of Science degree in Computer Information Technology (CIT). The students are categorized as either previously completing an Associate's Degree in a closely related discipline or as completing some undergraduate work but not holding an Associate's Degree in a Community College. The students completing an Associate's Degree in a closely related discipline are matriculating into the university as a 2+2 student. This indicates that because of the unique partnership between the Community College and the university, the students enter as upperclassmen with a junior standing, having completed all of their 100 and 200 level classes but a few General Education classes required by all degrees at the university.

All students in the CIT program, whether they are entering with an Associate's Degree or whether they are taking the full 60 hours have to complete an introduction to the CIT program called On-line Training Foundations Course and a Web Development Course; CIT300 and CIT302 respectively. For the Foundations course, students are exposed to the CIT program hardware and software requirements, the modality and delivery for assignments, and the CIT degree program graduation requirements. This class, non-technical in nature, is referred to the "basic training" class of the CIT program. This class does not assume that students enter with any hardware, software, programming, or networking experience. Additionally, this class focuses on teaching students how to be active learners, thus giving students the requirements to engage in discussion and learn with and from other students. The web development course serves as a foundation course for all the other web development courses, and again, does not assume that the student enters with any html coding experience. Incidentally, both CIT300 and CIT302 are bi-term classes; classes that are approximately one half of the traditional 16-17 week term.

The CIT program is an entirely online program with the majority of student interaction coming in the way of discussion boards. Not only do the students have a chance to submit "reflective" answers but there is a "Question" forum that students use to ask for help. While this question forum is monitored by the class professor, students are encouraged to respond with the correct answer (if known) to the student's question. It is this "engagement" that students have with both the professor and with each other that is the basis for this research. This engagement not only indicates "active learning" but it could act as the catalyst for program satisfaction by the student, the student's belief in program rigor and feeling prepared, and increasing their time studying for the course.

## LITERATURE REVIEW

### Active Learning and Time Spent in Study

Student satisfaction can be linked to active learning in the form of communication or engaging students. Students desire open conversations and open minds that embrace the changing student populations and that adapt to the diverse student (Mathis, 2010). This collaborates with the labor market demands for flexible and adaptive employees. In addition, Lending (2010), states that collaboration among students should be encouraged by faculty and that it is actually a requirement by the Association to Advance Collegiate School of Business (AACSB), an international accrediting body for colleges of business.

The onus of learning, Lending suggests, has been transferred from the faculty to the student. The faculty's job is to motivate, facilitate, and empower the student.

While the high school teacher and counselors provides assistance to succeed by "safety-netting" the student (Nist-Olejink & Holschuh, 2007), the student will have to be engaged in active learning in order to succeed (Manyango, 2008). In order to succeed today, many faculty members will have to undergo a transformational change that will require significant development that will engage the student in conducting research (Tanner & Bellack, 2010). This type of engagement is active learning and will require much time by the student.

### **Student Satisfaction and Preparation**

Student satisfaction can be difficult to measure and can express itself as retention in some universities and as grades in another. Thomas (2004), describes student satisfaction as the resultant of faculty preparedness, social integration and pre-enrollment opinions. However, she continues by stating that campus services and facilities as well as student demographics are not significant predictors. Carr, Davies, & Lavin (2010), posit that one of the leading predictors in a business college is the actual dress of a professor. Students have a higher opinion of both the faculty as well as their university experience [satisfaction] if the professor is professionally dressed.

While the professional dress can be important, Umbach & Porter (2002), state that faculty contact, or active learning, is vital to not only student satisfaction but also student progress and development. Additionally, as would be expected, the student's GPA was a significant predictor on the student's satisfaction (Umbach & Porter, 2002); however, earlier studies have demonstrated that the student's grades had no effect on student satisfaction (Bean & Bradley, 1986, Liu & Jung, 1980). One could speculate that grade inflation in the last 25 years could be a cause for this change in student satisfaction

### **Program Rigor**

Schnee (2008), conducted a study that indicated students, although many complained about rigor, actually embraced a program that contained rigor. One student in her study became despondent over an effortless program because of the money and time spent. Samuelson (2006), found that education rigor would "equip managers with the analytical and conceptual skills to think outside of the box" (p. 356). She followed this by positing that rigor is an enormous, but necessary challenge, for courageous faculty.

### **Non-traditional Students and Distance Education**

Past research has indicated that diverse students learn differently. Twenty-five years ago a non-traditional student was a little older and one that returned to school after working several years or students that worked and took night and weekend classes. Today's non-traditional student is not age-related, may or may not work, and can learn from a distance (Jinkens, 2009). The author continues to say that while traditional students may need more motivation for class attendance and grades, the nontraditional

student may center more on the subject matter. Additionally, Jenkins (2009), says that nontraditional students are typically “more serious learners” (p. 986).

Distance education has allowed the student to continue his or her education regardless of the location of the campus. However, this distance can create a void or loss for the student and could actually affect the learning (Jelfs, Richardson, & Price, 2009). The authors concur that students need tutoring or mentoring and that it has to be applied carefully and correctly. Additionally, their study provided evidence that the conception of a good tutor was drastically different between the student and the tutor. Is distance education a fad? In 1962, it is reported that about one thousand students were engaged in distance education (likely through correspondance) while in 2006, that number has increased to over 2.8 million students (Srivastava & Reddy, 2007). Sloan Consortium (2010), has accounted for nearly 5 million distance education students globally.

## **METHODOLOGY**

The following research questions guided this endeavor to investigate the viability of today’s Community College and its affect on the CIT program. While each question can stand on its own merit, the combined results of these questions indicate the total program analysis.

### **Research Questions**

1. Do the students that have Community College Degrees earn a better grade in the foundation course, CIT300 and the web development course, CIT302 than students that do not have this degree? If so, this may be an indicator that Community College students are being better prepared for taking junior level university courses.
2. Are students more satisfied with the CIT program if they have a Community College Degree? It is hypothesized that Community College graduates have been exposed to a more active learning pedagogy and thus would be more satisfied with a program that continues to use an active learning approach.
3. Do the students perceive that the CIT program is more difficult if they have a Community College Degree? A higher perceived difficulty would lead to dissatisfaction with the program. Thus, this research hypothesizes that Community College graduates will not perceive the CIT program to be difficult and will have a higher satisfaction level with the CIT program.
4. Do the students feel better prepared if they have a Community College Degree? This research question is also related to satisfaction with the CIT program. If students feel better prepared they will have a higher satisfaction. This research hypothesizes that Community College graduates who feel they are better prepared will have a higher satisfaction with the CIT program.
5. Do the students report that they spent more time studying if they have a Community College Degree? This research hypothesizes that Community College graduates will spend more time studying for an entry level CIT course than a non Community College graduate.

Students were surveyed to find out how they learn best. The students were asked to check the appropriate block between listening to lectures, viewing information provided, watching demonstrations, sharing, participating in discussions, and other. The frequencies were totaled for active/passive learning and then a regression analysis was attempted.

Several T-Tests with a .95 Confidence Interval were conducted on the following datasets that determine whether there is a significant difference between a Community College Associate Degreed student with a student that does not have a Community College Associate Degree. The first dataset was to determine if there was significance between the two groups of students with the earned grade from the foundations course, CIT300. The second dataset was the same comparison but with the earned grade from the web development course, CIT302. The third dataset was to determine if there was a significant difference from the student's self-reported satisfaction index. The fourth dataset determined if there was significance between the student's self-reported difficulty index. The fifth dataset was to determine if there was a significant difference between the student's self-reported preparation index. The sixth and final dataset that was used for the multiple T-Tests was to ascertain if there was a significant difference between the two groups of students on their self-reported "time spent studying" index.

## RESULTS

The frequency table for the active/passive learning results is included in Table 1 (Appendix). A regression analysis was not conducted because it appears that some students selected more than one block. Students reported that they learn best by a margin of passive learning-113 and active learning-28. While students self-selected more than one category, it was still over a 5:1 ratio for passive-active learning.

As indicated in Table 2 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=4.17$ ,  $SD=.96$ ) and students without an associate's degree ( $M=3.38$ ,  $SD=0.25$ ) conditions;  $t(23) = 21.195$ ,  $p = 0.05$ . This suggests that students with a Community College degree earned a better grade in CIT300 than students that did not have one.

As indicated in Table 3 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=3.57$ ,  $SD=.79$ ) and students without an associate's degree ( $M=3.23$ ,  $SD=1.26$ ) conditions;  $t(27) = 23.917$ ,  $p = 0.05$ . This suggests that students with a Community College degree earned a better grade in CIT302 than students that did not have one.

As indicated in Table 4 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=4.06$ ,  $SD=.81$ ) and students without an associate's degree ( $M=3.7$ ,  $SD=1.18$ ) conditions;  $t(33) = 29.064$ ,  $p = 0.05$ . This suggests that students with a Community College degree were more satisfied with the University's CIT program than students that did not have one.

As indicated in Table 5 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=3.33$ ,  $SD=.89$ ) and students without an associate's degree ( $M=2.88$ ,  $SD=1.13$ ) conditions;  $t(32) = 21.521$ ,  $p = 0.05$ . This suggests that students with a Community College degree thought that the CIT program was more difficult than students that did not have one.

As indicated in Table 6 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=3.38$ ,  $SD=1.02$ ) and students without an associate's degree ( $M=2.56$ ,  $SD=1.04$ ) conditions;  $t(33)=19.422$ ,  $p = 0.05$ . This suggests that students with a Community College degree felt that they were more prepared than students that did not have one.

As indicated in Table 7 (Appendix), there was a significant difference in the scores for Community College students with an associate's degree ( $M=4.09$ ,  $SD=1.03$ ) and students without an associate's degree ( $M=3.28$ ,  $SD=1.4$ ) conditions;  $t(33) = 23.235$ ,  $p = 0.05$ . This suggests that students with a Community College degree self-reported that they spent more time studying than students that did not have one.

## DISCUSSION AND IMPLICATIONS

Students reported at more than a five to one ratio that they learn best by passive means, or listening and watching, instead of becoming engaged in their own learning. This could be caused by their previous education at the Community College or other institutions. However, while they state that they learn best by passive means, the CIT program is based on active learning, or learning that is based on course and student engagement. The highest frequency reported for Table 1 was 51-watching demonstrations. Students are not exposed to any demonstrations during their time spent in CIT300 and CIT302.

Television has poked fun at Community Colleges and associated them closer to high school than university studies. While the press in the early years lauded these *junior* colleges as both necessary and desirable, today's media has a field day as well as television skits that make fun of them (DeGenaro, 2006). However, today's Community Colleges are necessary and this research will demonstrate that Community College students are not only ready for university life but they actually more satisfied with the university program because of the education they received at the Community College.

The results of the survey indicate that the students earn better grades in the two foundation CIT courses (CIT300 and CIT302) than students that earned their first two years of college elsewhere. While this may seem normal, it is unusual because the Community Colleges are known for their hands on approach sometimes referred to demonstrate and then try. The CIT program is totally a student self-discovery program where the student must either rely on their learned knowledge or they must research and discover on their own. Part of their research requires that they actively participate with other students in online discussion forums where they can discuss the problems they encounter. Additionally, while Community College faculty may demonstrate exactly how to accomplish a problem, the CIT professor will coach them to the next step so they can self-discover the answer(s) to their dilemma.

The Community College students indicate that they are more satisfied with their CIT education than the students that do not have a Community College degree. This may be the resultant of having to struggle to find the answer and increasing one's self-worth. Also, today's students are multi-taskers and need to stay busy and satisfied. The bi-term nature of both CIT300 and CIT302 keeps the student busy during the week. Students are told to expect to spend between 12-15 hours per week per course.

(Hadden, 2000), posits that Community Colleges conduct mandatory placement into remedial courses that prepares a student for the higher levels of education. Students that feel prepared typically earn a better grade while feeling more satisfied. Fike & Fike (2008), find that placement into developmental education and internet based program are strong predictors on retention. Does this phenomenon carry over to the university life from Community Colleges?

The Community College students indicate that they spend more time studying than the non-Community College students. There is little clear cut evidence that more time spent studying increases the student's level of satisfaction, their grade, or their course performance. A recent study by (Nonis & Hudson, 2010) suggests that study time is important when quantity is evident and accompanied by study habits like the ability to concentrate. One area that this study indicated was that students who waited until the last minute to complete an assignment, often did poorly on it.

### **ADDITIONAL RESEARCH AND CONCLUSION**

Additional research is needed to look deeper into the foundation program, CIT300, to determine if the assignments completed in this class are good predictors of the student's grade received. A model should be developed that encompasses portions or all of the labs and discussion questions (active learning components) that determines which, if any, of the specific components can predict what overall grade the student will receive.

Community colleges are a vital part of the CIT program. Students that complete a degree at a Community College report that they are more satisfied, find the material and instruction rigorous, and feel prepared for the program that they are studying while spending more time studying than they did at their previous learning institutions. Not only does this indicate merit for today's Community College but it demonstrates that 2 + 2 programs are a viable option for today's university student.

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**APPENDIX**

Table 1 - Student's self-reported selection of how they learn best

How do you learn best	Selected	Passive	Active
Listening to lectures	30		
Viewing information provided	32		
Watching demonstrations	51	113	
Sharing	12		
Participating in discussions	16		28
Oher	0		

Table 2 - Comparison of CC Associates Degree with CIT300 GPA

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	24	4.17	0.96	21.195	23	3.76	4.57
No	21	3.38	0.25	13.346	20	2.85	3.91

Table 3- Comparison of CC Associates Degree with CIT302

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	28	3.57	0.79	23.917	27	3.27	3.88
No	21	3.23	1.26	11.766	20	2.66	3.81

Table 4 - Comparison of CC Associates Degree with Satisfaction Index

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	34	4.06	0.81	29.064	33	3.77	4.34
No	33	3.7	1.18	17.915	32	3.28	4.12

Table 5 - Comparison of CC Associates Degree with Difficulty Index

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	33	3.33	0.89	21.521	32	3.02	3.65
No	25	2.88	1.13	12.745	24	2.41	3.35

Table 6 - Comparison of CC Associates Degree with Preparation Index

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	34	3.38	1.02	19.422	33	3.03	3.74
No	25	2.56	1.04	12.26	24	2.13	2.99

Table 7 - Comparison of CC Associates Degree with Time Spent Studying Index

Associates Degree	N	Mean	Std Dev	t	df	95% CI	
						Lower	Upper
Yes	34	4.09	1.03	23.235	33	3.73	4.45
No	32	3.28	1.4	13.29	31	2.78	3.78

