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Enhancing Connectedness and Intrinsic Motivation to Learn for Online Learners: Introducing the S^3 Model

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Abstract

The purpose of the current research was to discern the most effective strategies to implement into a student-centered online course. Related and implemented components that coincide within this framework were student connection and student motivation. The research was conducted using a mixed methods study that specifically studied the symbiotic relationship of both quantitative and qualitative exploration when seeking to improve the online environment. Researchers also utilized their originally developed model, "The S^3 Cycle: The Three Strategies to Increase Student-centered Learning" to differentiate the most effective methods when designing and applying a meaningful and valuable student-centered learning environment for online students. A greater sense of connectedness and intrinsic motivation to learn are felt by students after they have participated in a student-centered online course which

was designed and developed with specific student-centered learning strategies and technology tools.

Keywords: Student-centered learning, learner-centered, student motivation, online learning, connectedness, intrinsic motivation to learn, motivation

1. Introduction

There is an implicit dissonance between the academic experiences of students in a face-to-face class in comparison to those who experience the learning environment by being immersed in the realm of online digital formats. Typically, an instructor's delivery methods in both settings are generally a consistent teaching style for each learning arena. From the perspectives of the students, those teaching styles are not so easily interchangeable. Online students do not experience the same connection and academic experience as those in a face-to-face class, which could potentially leave the online students educational success lacking and deficient in comparison.

Therefore, the goal of the current research is to explore ways in which to promote and increase the level of academic success in online learning environments, knowing instructors must be adaptable in their delivery styles depending on the setting. For the current study, the primary purpose of this research was to externally experiment with various methods to specifically increase learning for online students in a student-centered learning environment through student connection and intrinsic student motivation. Secondly, researchers connected those tactics to evidence found in supporting research, which ultimately mapped them back to a coherent strategy for instructors to implement in order to maximize the overall learning of their online students. If effectively established, instructors will identify that online students' level of connection, motivation, and academic success is comparable to those in a face-to-face academic setting.

1.1 Question

Does the use of a student-centered online classroom increase the sense of connectedness and intrinsic motivation to learn for online students?

2. Literature Review

2.1 Student-Centered Learning

The primary studied component in the current research is the implementation of a student-centered learning environment. Student-centered learning is a 21st-century approach to education that focuses on the individual characteristics and needs of each student, rather than the attributes of groups of students (grade levels, learning styles, test scores, etc.) Increasingly, scholars and researchers advocate replacing teacher-centered pedagogies with student-centered ones (Bruffee, 1984; Hillocks, 1993; Rubin & Herbert 1998; Edens, 2000; Hansen & Stephens 2000; Kain, 2003; Villaume, 2000). Student-centered learning, also known as learner-centered education, is typically defined by contrasting student-centered approaches with teacher-centered approaches (Bruffee, 1984; Cuban, 1983; Hillocks, 1993; Rubin & Herbert, 1998; Edens, 2000; Hannafin et al., 1999; Hansen & Stephens 2000; Villaume, 2000), those

traditional instructional approaches characterized by greater teacher direction (Pederson & Liu, 2003).

Derived from constructivist views of education, student-centered learning encompasses instructional approaches designed to engage students in assignments in which they are invested (Kain, 2003) and is facilitated by flexibility in content and delivery strategies that accommodate individual student learning needs (Cornelius & Gordon, 2008). From a broad perspective, student-centered learning aims to shift the focus of instruction from teacher to student.

In practice, student-centered learning is active, self-directed, social and facilitated by technology. The last point is key in understanding the recent growth of interest in student-centered learning: while the concept of student-centered education is more than a century old (Dewey, 1910), the potential for implementing truly individualized approaches to teaching and learning has increased greatly in the age of online courses, smartphones, and social media (Sun, 2016; Gal & Lewis, 2018).

Penderson (2004) summarizes "the rapid growth of online education has created a gap between research and practice, with our need for an understanding of effective practices in online settings outstripping our knowledge" (p. 169).

Wolfe, Steinberg and Hoffman (2013) identified the major characteristics of a student-centered learning culture as follows:

- Strong relationships with students
- Personalization and choice in curricular and instructional tasks
- Appropriate challenge levels for each learner
- Support for students' social and emotional growth and identity development
- Anytime, anywhere, and real-world learning
- Technology that is integral to teaching and learning
- Clear, timely assessment, and support
- Practices that foster autonomy and lifelong learning

2.2 Student Connection

A foundational secondary component within the current research topic is the complementary category of connection within student-centered learning. In a discussion by Shea, Li, and Pickett (2006), they developed a myriad of research which presented multiple factors contributing to the success of facilitating the needed connection among online students. Specifically, the research indicated that developing this community on behalf of students must begin through the cultivation efforts of the instructors themselves in order to foster "teaching presence" and "community." Within their research, it was identified that if instructors engage in an active role in their students' learning, then students will develop strong connections and a

sense of community, which will establish them for academic integrity and success. Through a multi-institutional study of 1067 students within 32 colleges, and a reliable and validated instrument, their proposed hypotheses were shown to indicate significant results (Shea, Li, & Pickett, 2006). However, if there is a distance between instructors and their students, then these positive outcomes could become more idealistic than a reality, especially since online students do not experience the same connection and interactions as would students in a face-to-face classroom environment.

Despite the convenience of online classes in educational programs, especially for students who are pursuing higher academic levels, research has raised alarms that students may suffer from the dichotomy of isolation as they are not immersed in an active and physical learning environment. Through the awareness of this pressing issue, researchers Bolliger and Inan (2012) implemented a newly validated and reliable instrument to measure for specific components regarding online students' degree of connection to their peers and their instructor within the online academic environment. A total of 146 online students participated in the study, which added to the significance and accuracy of the results (Bolliger & Inan, 2012). The four specific scales measured were (a) community, (b) comfort, (c) facilitation, and (d) interaction and collaboration (Bolliger & Inan, 2012). This instrumental tool can be beneficial and utilized for many reasons. For example, instructors can evaluate their students' levels of motivation and satisfaction, while simultaneously discovering innovative ways in which to collaborate with students and exponentially improve their learning and retention skills, despite the physical distance between instructor and learner (Bolliger & Inan, 2012).

2.3 Student Motivation

The third studied component with the current research was the impact of student motivation in a student-centered learning environment. A strong presence of intrinsic motivation propels students to want to achieve great results within the scope and paradigms of their learning. Although research conducted by Cheng and Southcott (2016) focused their attention to piano students' motivation, many of the same principles can be applied to increase the motivation levels of students in an online classroom setting. For example, one strategy in the current research suggested instructors ought to emulate and encourage enthusiasm for their students (Cheng & Southcott, 2016, pp. 52-53). Modeling this behavior could positively influence the desired behavior and sought after intrinsic motivation for students. Likewise, constructing an individualized learning program is also an aspect to consider. Although music instructors may have a single student at a time, whereas instructors in an academic environment have far more, being aware and in tune with various learning styles so as to begin the creation of an individualized lesson plan could promote learning. An additional strategy proposed by Cheng and Southcott (2016) for motivating their student pianists was through acknowledging the importance of allowing students to speak into which repertoires intrigue them most to learn. Gaining and implementing the insight of the student can increase their interest, therefore, boosting intrinsic motivation. Lastly, providing clear outcomes and future strategies for success alongside the student, both in the realm of music and academia, can aid in the flourishing and growth of student intrinsic motivation.

As discussed, there is dire importance of students experiencing motivation and connection in their learning environment, regardless of factors such as age, educational level, and content being taught. A research analysis developed by Skinner and Belmont (1993) revealed that there are three major components that can contribute to the motivational success of students in their educational pursuit. Researchers also identified that teachers play a significant role in the motivation of their students' drive toward academic success. Specifically, researchers measured the impact of teachers' behavior related to their involvement, structure, and autonomy support systems (Skinner & Belmont, 1993). According to their findings, if these three components on the teachers' behalf are strongly implemented, then the students will be more motivated, engaged, and inclined to learn. Moreover, research indicated that these positive and sought after behaviors showed signs of lasting throughout the academic year. Nevertheless, if either student or teacher began to disengage or suddenly become disconnected, student motivation will drastically show signs of regression based on a hampered relationship between either party.

2.4 Implementing Student-centered Learning

Though its creators were focused on K-12 education, this list represents a synthesis of two decades of inquiry into a paradigm shift in education at all levels. Barr and Tagg (1995) described a shift in postsecondary education from an "Instruction Paradigm" to a "Learning Paradigm," under which students rather than faculty are the primary constructors of knowledge. Student-centered learning requires students to take both control and responsibility for their learning by being active participants in the learning process (Slunt & Giancario, 2004). Weimer (2002) submits the responsibility for learning naturally shifts to the student in a learner-centered setting. Armstrong (2012) adds that "traditional education ignores or suppresses learner responsibility."

Learner-centered teaching approaches were found to increase student satisfaction (Kemm & Dantas, 2007), increase student motivation (Chung & Chow, 2004; Triantafyllakos et al., 2008), and enrich students' understanding and facilitate retention (Kozar & Marcketti, 2008). Recently, Rovai (2002) noted "research provides evidence that strong feelings of community may not only increase persistence in courses, but may also increase the flow of information among all learners, availability of support, commitment to group goals, cooperation among members, and satisfaction with group efforts" (2002, p. 3).

A major report from the National Academies of Sciences, Medicine and Engineering (Donovan, Bransford and Pellegrino 1999) stated unequivocally that "schools and classrooms must be learner-centered" (19) and commented that, while the approaches it recommended were applicable to both children and adults, "Many approaches to teaching adults consistently violate principles for optimizing learning" (24). Recent research has echoed this dismal assessment of formal, traditional job training, showing it to be an overall failure in terms of the time it takes and the learning it delivers (Zhang & Ren 2011).

Current research has proven that student-centered learning can be effective in higher education (Wright, 2011). In 2015, the European Standards and Guidelines for Quality Assurance included the following guideline on student-centered learning: "Institutions should ensure that

programmes are delivered in a way that encourages students to take an active role in creating the learning process and [should ensure] that the assessment of students reflects this approach."

Student-centered learning approaches are a promising fit for andragogy, the teaching or training of adults (Lamb et al., 2017), which by all accounts will form a major part of the 21st-century educational enterprise, with the economy calling for lifelong learning (Pew, 2016) and "non-traditional" (independent, adult) students now form the majority of the postsecondary student body in the United States (Cruse, Eckerson, & Gault 2018). Pedagogical techniques, the classroom-based methods created for K-12 school children, typically fail to meet adults' needs for flexible schedules (Glahn, 2012; Dingler et al., 2017) and autonomous, personalized engagement with learning materials (Wen & Zhang, 2015).

A small but growing body of evidence shows that student-centered learning is effective for postsecondary and other adult learner populations. Debiec (2018) found significant improvements in lecture attendance and student performance after student-centered learning strategies were implemented in an introductory undergraduate digital systems course. A major study by the RAND Corporation (Pane, Steiner et al., 2017) found promising but inconclusive relationships between personalized learning and student achievement in a sample of over 10,000 students in 40 Next Generation Learning Challenge (NGLC) schools. Derting and May (2017) found that learner-centered approaches to the introductory biology curriculum yielded sustained improvements in undergraduate learning. Chang and Smith (2014) found that interactions of the types fostered by learner-centered design were positively correlated with course satisfaction ratings in a sample of 855 undergraduate computer science students.

According to Murphy (2018), it has been differentiated that for online student-centered learning to foster, instructors must integrate diverse approaches contrary to their academic teaching style that they would utilize in a face-to-face and interactive classroom setting. Additionally, unlike the face-to-face environment, it is also necessary for instructors to welcome student feedback regarding their teaching strategies. Without proper feedback, it becomes difficult to discern which mechanisms are helpful for each individual student, as opposed to which techniques benefit the whole student body in general. Another tactic that was proven to be successful within the current research was the implementation of interaction between students and instructors. Part of engaging in student-centered environments requires instructors to understand the individual learning needs of their students beyond digital communication. In doing so, the students' learning will be maximized as their needs become individually addressed. Therefore, by eliminating the "one-size-fits-all" learning approach, instructors will see an increase in the engagement and educational understanding among students (Murphy, 2018).

Likewise, Murphy (2018) has confirmed that technology is rapidly changing the way in which instructors tailor their learning environments and teaching methods for students. As we live in a technologically advanced age, students typically respond best to information that is delivered in a digital format. Therefore, for instructors to incorporate the learning preferences of students into the classroom setting would propel and increase their overall understanding of the class material. Being adaptive according to the learner and the societal trends can develop the

comprehension and knowledge of those being taught.

Despite the benefits of facilitating an online learning environment, a dire impediment to the academic success of students can potentially be the lack of a face-to-face learning environment (Hsiao, Mikolaj, & Shih, 2017). Nevertheless, researchers Hsiao, Mikolaj and Shih (2017) have experimented with the innovative approach of implementing four types of scaffolds and multimedia modules to drive and foster student-centered learning. However, the researchers also argue that it is necessary for the students to take charge of their own learning, as their own motivation to learn can be positively influenced by independent factors. Though instructors provide the means, it is the responsibility of the student to apply and absorb the material. Regardless, having a symbiosis of online communication intermingled with additional support from the instructor will lessen difficulties students may encounter as they are not in a face-to-face class environment. Within the study, Hsiao, Mikolaj, and Shih (2017) identified four types of scaffolding, such as: conceptual, procedural, strategic, and metacognitive. The first type of scaffolding, conceptual scaffolding, describes how students begin to develop a value system for learning and how the material learned applies to them. Secondly, procedural scaffolding is where the student implements the material learned through the aid of instructor facilitation. Next comes strategic scaffolding, which is when the instructor finds the best method for each individual student to maximize and increase their own comprehension of the material. Following, metacognitive scaffolding refers to the importance of students developing goals in relation to their learning outcomes. After all, through the initiation of goal-setting, the achievement of those goals becomes more probable in terms of manifesting themselves. Lastly, multimedia modules are the processes of instructors designing a well-formatted online class structure for students in order to create organization and create an environment to flourish learning. At the end of the implementation strategy, researchers administered surveys to the students who participated both in the scaffolding and multimedia student-centered learning environment. The survey sought to measure aspects such as their perceptions and viewpoints of the strategies and to collect student feedback. Overall, results indicated that conceptual and metacognitive strategies were most effective when properly implemented in a student-centered environment.

An extraordinary example of implementing student-centered learning was conducted by Rayens & Ellis (2018). From their research, how to engage in an effective online student-centered learning environment was a challenge that had not fully been explored nor fully implemented yet. Nevertheless, the researchers recognized the significant differences between how to teach a face-to-face course in comparison to an online course. It was a task thrust upon them by the academic department, so the challenge to create a successful model was imperative. Through the course of their research, they discovered that there were five components worthy of integration into an online class environment which sought to create a student-centered learning atmosphere. The first component can be understood as a “moving window.” This concept simply reflects the expected deadlines instructors have for their students. Part of a student’s reasoning for enrolling in an online course is for schedule flexibility purposes. So, by the instructor recognizing those reasons and implementing them in their own assignment deadlines does not reflect instructors compromising, but rather, is a sign

of being responsive to the needs of their students. An additional method for instructors to utilize that the researchers proposed was the suggestion of instructors delivering a "daily message" for online students. Despite the benefits of online learning, online classes can potentially create a natural barrier between instructors and the students. Therefore, this daily message can bridge that gap and create a sense of familiarity and personal connections between instructors and their students. Additionally, the researchers also recommended the idea of students answering certain assignments and some of their peers' discussion posts through the response of short videos. However, this particular suggestion does not have to be utilized for every assignment, just occasional and appropriate ones. The purpose of this is to foster interactions between the online community. Again, this goes back to bridging the digital barriers, as the interaction is drastically different between that of online students and face-to-face students. Following, having live conferences can also create opportunities for social interactions and connections. Although it would be academically-based, with social and entertainment as a positive benefit, nevertheless, it would continue to cultivate connection. Finally, researchers propose the initiation of including peer review response opportunities for assignments and other aspects of grading. Through the use of incorporating student feedback, rather than solely the instructors', this has shown to create connection and improve motivation. Moreover, it demonstrated how to increase academic learning in addition to benefiting students' social needs of connection.

3. Implementing Student-centered Learning in the Current Research

To build the student-centered learning environment, the researchers chose to purposefully define the strategies they wanted to employ, incorporate supporting literary evidence, and then find the technology tools that would facilitate the implementation of those strategies. The overall strategy was to build a sense of community and connection within the online classroom. To do this, the researchers felt that they needed to establish clear and simple communication channels that replicated more of a social media look and feel. The researchers also felt that to create this sense of community, they needed to make an overt attempt to give the learners a voice and let them speak into their learning process.

One week prior to the class beginning, an individual email was sent out by the instructor to the students. This was easily done through a feature in the learning management system (LMS), Canvas. Within the initial email prior to class starting, the different elements within the class were explained. Most students created a Slack account prior to the start date of the class, which was used for online conferences and collaboration purposes. Once class began, the instructor posted a short video on the different facets of the new student-centered online course. The facets included the use of the "Take Charge of Your Learning" (TCYL), the community center, and the areas to focus.

The instructor posted a brief overview of the assignments and expectations for the upcoming week in a Flipgrid, a video response tool. Students could then respond to the Flipgrid, ask questions, or make suggestions for the coming week's workload. Academic expectations consisted of discussions, quizzes, readings, and a final paper. Interestingly, no student asked for the removal of assignments. Several students did ask to make changes to the specific

content in a few assignments, so they could use specific current events.

The community center was the Slack channel. Within the class' channel, there were several conversations such as #assignmenttalk, where students could talk amongst themselves about the assignment. The Slack channel was much busier than the typical open discussion forum where students are encouraged to post questions. The Slack channel had daily activity.

Halfway through the course, students were assigned a midterm, which was intentionally an opportunity to provide critical student feedback on the course for the instructor. In the final week, the IDEA scores and feedback were gathered.

3.1 Tools Utilized

In addition to implementing the three strategies in the current research, the researchers also utilized three specific tools in their study alongside those strategies, which are: Slack, TCYL, and peer and self-evaluation. The incorporation of these tools was imperative to the academic success of students within the current research.

3.2 Slack: Social Learning Platform

Slack is a free collaboration tool used predominantly in the business and academic field as a resource to hold conferences and digital meetings. It is was an ideal resource for online learning and classes as the digital conference room is an extraordinary replacement for the physical classroom environment. While the resource used was Slack, the title of the course's conference was "Lunch and Learn." As a more informal meeting, this was utilized as an opportunity to form connections and establish a more social and personalized, yet still professional, relationships with students and the instructor. As seen in research, having that communion between the two parties relates back to creating an effective student-centered learning environment, which then promotes student connection and motivation (Shea, Li, & Pickett, 2006; Skinner & Belmont, 1993). Moreover, it was also a time set aside to increase learning, discuss current issues, related coursework, and all other areas of interest to the students.

3.3 TCYL

TCYL, or "Take Charge of Your Learning," was an innovative approach for the instructor to incorporate student feedback. Before the start of each new academic week, students were given a window, or an opportunity to make recommendations and/or suggest adjustments for the upcoming week. Feedback could either be made through a written discussion or by utilizing a visual media. Suggestions included, but were not limited to, reducing the amount of reading required, proposing a word count to one or both discussions, responding through visual media as opposed to a written response.

3.4 Peer and Self-evaluation

To increase the level of engagement between students, the use of peer and self-evaluation was implemented throughout the course. Peer and self-evaluation were opportunistically incorporated as students would submit periodically drafts of their final paper. Often times,

students submit these drafts, but they are only graded and viewed by the instructor. Although that approach does bridge a connection between students and their instructor, a gap was identified that existed between the students. Through the reciprocity of sharing each others' drafts, it gave leeway to form those academic connections between students. Even though having more critics toward an individual's academic work may be intimidating, students quickly began to see it as a mode of improvement toward their end goals. Moreover, it began to build trust between students, as everyone's motive and intent were to help each other increase their academic strengths and drive them toward success.

4. The S^3 Cycle

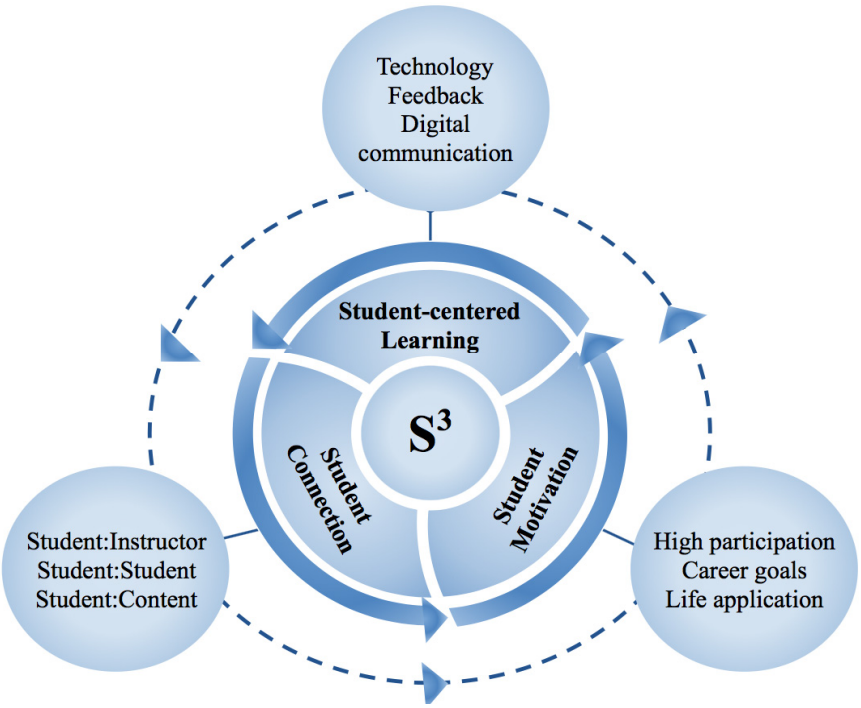

Figure 1. The S^3 Cycle: The Three Strategies to Increase Student-centered Learning

4.1 Definition: Understanding the S^3 Cycle

Based on the student feedback results presented in the midterm, researchers created their original model in Figure 1. Pronounced as S cubed, "The S^3 Cycle: The Three Strategies to Increase Student-centered Learning", was born. Although it was the goal of the researchers to measure the quality of student-centered learning, student connection, and student motivation, it was only through the midterm feedback that they discovered a significant correlation between their theory and the effects of the three studied components on students' learning through the feedback. During the examination of the feedback, there were many submergent themes that manifested themselves, all of which connected back to the three strategies the researchers sought to evaluate. To reiterate, the core themes the researchers sought to explore were: student-centered learning, student connection, and student motivation. To understand the

operations of the model, a preliminary explanation is needed, followed by understanding the application of the model.

The three S's, or core themes, student-centered learning, student connection, and student motivation, are demonstrated at the center of the model in the figure. In those three themes, there is a strong symbiotic relationship among them, which is represented by the continuous arrows oscillating around the center of the model. Moreover, each segment of the center containing a core theme is directly connected to an outlying sphere, which contains the sub-themes of each core theme. For example, student-centered learning is connected to the sphere containing sub-themes: technology, feedback, and digital communication. Likewise, student connection is connected to the sphere containing sub-themes: student:instructor, student:student, student:content. Finally, student motivation is connected to the sphere containing sub-themes: high participation levels, future career goals, life application.

Lastly, one key finding that the researchers discovered was that just as there is a connection between the core themes and their own individual sub-themes, the sub-themes themselves also connect and interlock; hence, within the model, a dotted circular line paired with arrows was created to represent that connecting relationship. However, although a significant relationship, the line was specifically represented as being dashed, as opposed to a solid line, because the relationship among the sub-themes is not as significant in comparison to the relationship between the core themes and the sub-themes, or core themes to core themes.

4.2 Applying the S^3 Cycle

To begin to understand the application of the model in combination with the tools utilized, it is imperative to understand the relationship between the core themes and the sub-themes, and the relationship between the sub-themes and the corresponding sub-themes. Each core theme has three sub-themes.

4.3 Student-Centered Learning

First, within the core theme of student-centered learning, there are the sub-themes of technology, feedback, and digital communication. Student-centered learning becomes most successful if these three sub-themes are integrated within an online learning environment. Specifically, utilizing technological trends in the online classroom can increase learning among students, as seen in subsequent research. For the current study, Slack was incorporated into the online learning experience. Slack was a digital conference room for the instructor and students to engage and correspond with one another as a substitution for a face-to-face class. Secondly, feedback was also a critical component with this core theme. In the current study, TCYL was a major aspect integrating into the weekly discussions among the online class. In this setting, students had an opportunity to engage and speak into their learning for the subsequent week, providing feedback and recommending suggestions on how the workload was going to unfold. Also supported by research was the need for students to have a high level of engagement opportunities in their online environment, especially through digital communication, hence, the third sub-theme (Murphy, 2018; Wen & Zhang, 2015).

4.4 Student Connection

Subsequently, the second core theme within the research is student connection. Student connection was established in multiple ways, specifically through Slack, online discussion boards, and meaningful group assignments. However, within student connection, three sub-themes, three separate types of connection, emerged and can be categorized. The first type of needed connection is the relationship between students and their instructors. Following, students must feel as though they are connected to their fellow colleagues. This personal connection, between both students and instructors and students and students, is critical since the physical gap can be divisive in the online environment. Therefore, taking the initiative to establish this in an online environment will fulfill the purpose of seeking to achieve students' academic and relational success. Likewise, being provided with opportunities to engage in dialogue and interaction also added to the fostering of student connection. For example, TCYL was a direct point of contact between students and instructors. Moreover, if the instructor was willing to incorporate and apply the feedback given by students, then the level of connection grew exponentially between the two. Other examples where a connection was allowed to breed was through assignments that allowed for meaningful group work and activities outside of class. In reference to the final sub-theme of students' connection to the content. If the students can find that they connect and understand the content of the course, then their interest and engagement will positively increase as a result, adding to the meaningfulness of their online learning experience.

4.5 Student Motivation

In regards to the third core theme, student motivation, its sub-themes were high participation levels, future career goals, and life application. Student motivation was best achieved by the students if there was a strong level of intrinsic motivation tied to their learning in the online class environment. Although the instructor did encourage interaction and was responsible for creating an environment for engagement, ultimately, the initiative was in the shoulders of the students themselves to dive deeper into the content and the learning experience. Since the instructor's class structure allowed for frequent and consistent opportunities for participation, then the students' motivation increased drastically. A specific example of this growth of participation was achieved through the implementation of peer and self-evaluations were opportunities for students to engage with one another's academic work. Participation is more critical in an online learning environment than it is in an in-person class simply due to the problem of lacking the physical environment. Nevertheless, the more students participated, the more it added to their meaningful learning. Additionally, student motivation increased if the final two sub-themes were met, which were future career goals and life application, which are essentially their professional and personal aspirations. If a relationship was established between each students' professional and their personal goals to the class content, then students' intrinsic motivation will develop, and that innate desire to learn will be created in the online learning environment.

Overall, as seen in Figure 1, when considering the combination of the three strategies, 1) student-centered learning, 2) student connection, and 3) student motivation, many aspects

manifest themselves as a result on behalf of the students. For instance, through the three strategies, students become inspired in their learning and development. This is achieved through the interaction and connection between the instructor and students. When personal interest and investment takes from the instructor to the student, higher levels of inspiration unfold within their desire to learn. Additionally, the three strategies provide a paradigm for increasing a student's comprehension in the learning environment. Since students do not experience the same atmosphere as those in a face-to-face class environment, alternatives must be sought after and implemented in order to increase their chances for academic success. With these components set in motion, integrity is more likely to become an additive in students' academic development. After all, if individual students are propelled toward integrity, then their chances of success in an online class format are just as likely to be successful in comparison to those students in a face-to-face class environment.

5. Methodology

5.1 Description

The current study was centered around one of Azusa Pacific University's Masters of Business Management (MBM) courses. It took place in the secondary Fall, 2018 term, specifically Fall 2, which was from October 22nd through December 14th. During this term, the study's quantitative and qualitative findings corresponded with the online course MGMT 521 Organizational Development and Change. For the study's target audience, the course comprised of 15 students who were all graduate students in the MBM program and enrolled in MGMT 521. As MGMT 521 was an upper division class with multiple prerequisite requirements, most students enrolled in the course were closer to graduating from the program with their masters.

5.2 Purpose and Hypothesis

The purpose of the current study is to explore the relationship between an online learners sense of connection, intrinsic motivation to learn, and the use of an online student-centered classroom. The current study employed the use of several key strategies to create an online student-centered environment in order to examine the effects of a student-centered classroom on intrinsic motivation to learn and connectedness for online learners. The manifestations of the student-centered strategies were centered around three basic constructs: 1. Utilizing a social platform, Slack, for communication, 2. Allowing Learners to "Take Charge of Your Learning (TCYL)," 3. Peer and self-evaluation on key assignments.

The hypotheses for the study are:

- H1: The use of student-centered strategies will increase students' motivation to learn.
- H0: The use of student-centered strategies will have no effect on students' motivation to learn.
- H1: The use of student-centered strategies will increase students' sense of connectedness.

- H0: The use of student-centered strategies will have no effect on students' sense of connectedness.

There are two hypotheses tested utilizing a mixed method design. The first hypothesis focused on the learners' sense of connectedness and how it will be affected during the student's time engaging in a student-centered classroom. The researchers posited that the students' sense of connectedness would be greater at the end of the class than it was at the beginning of the class. The students' sense of connectedness would grow as they engaged in a learner-centered designed course.

The second hypothesis focused on the students' intrinsic motivation to learn. The researchers posited that the students' intrinsic motivation to learn would be higher at the end of the class than it is at the beginning of the class. It was thought that the and andragogical approach

Overall, it was expected to see the students' motivation to learn and the students' sense of connectedness get stronger by the end of the course.

5.3 Instruments

The Motivated Strategies for Learning Questionnaire was used to measure the students' internal motivation to learn. Specifically, developed to measure the types of learning strategies and academic motivation used by college students, the Motivated Strategies for Learning Questionnaire (MSLQ) is available both as a full format survey (44-item instrument) and in a condensed format (18-item instrument). Both the full and short MSLQ survey instruments utilize a 7-point Likert scale. This research utilized the condensed, 18 question, instrument. MSLQ questionnaires have been used and adapted by universities across the world as a valid instrument to measure the level of motivation and the learning process. The survey consists of 18 questions to evaluate motivation and learning strategies

In addition to the MSLQ, the Online Student Connectedness Survey (OSCS) learner connectedness survey was used to measure the feeling of connectedness. Bolliger & Inan (2012) stated "With the growth of online courses and programs in higher education, considerable concerns emerge about student feelings of isolation and disconnectedness in the online learning environment" (p. 41). The student-centered strategies employed in the management course were meant to directly influence the online learners' feeling of connectedness. Community and social presence are two of the critical elements defined by Bolliger & Inan (2012) that directly affect online students' sense of connectedness. The instrument consists of 25 items and has four scales: (a) community, (b) comfort, (c) facilitation, and (d) interaction and collaboration. With the growth of online courses and programs in higher education, considerable concerns emerge about student feelings of isolation and disconnectedness in the online learning environment.

5.4 Procedures

The pre and post-test scores were compared. The first measure using the online student connectedness survey and the MSLQ - short version instruments was completed at the beginning of the first week of class to establish the baseline or level of connectedness and

intrinsic motivation to learn felt within each of the students. The same instruments were used at the end of the 8-week class to see if there was a change in the intrinsic motivation to learn and feeling of connectedness within the student.

A total of 16 surveys were filled out at the beginning of the course and 15 surveys completed at the end of the course. One student did not complete the survey at the end of the course, and the student's initial survey response was removed from the study.

6. Findings

6.1 Data Analysis

A within-subjects pre-post treatment design was utilized with a sample of 15 participants from the Fall 2 MGMT 521 course. A paired t-test was used to test for significant differences between the pre and post scores for each of the instruments utilized.

6.2 Results

Comparisons between the pre and post scores for the MSLQ survey showed a significant difference between the pre and post scores of a student's intrinsic motivation to learn. A p-value of 0.021 was found when comparing the pre and post scores for the MSLQ survey responses, which indicates a significant difference between the pre and post scores of the MSLQ survey. The researchers rejected the null hypothesis. There was a significant difference in a student's motivation to learn after attending a course which utilizes specific student-centered strategies.

Table 2 shows a p-value of 0.018 which is less than 0.05, thus, indicating a significant difference between the pre and post tests for motivation to learn

				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1 Pre-Post	-.17500	.00707	.00500	-.23853	-.11147	-35.00	1	.018

When the pre and post comparison was made on the results of the Online Student Connectedness survey, a significant difference between the pre and post-test scores were seen. There was a significant difference between the students' feeling of connectedness after attending the learning-centered course. Table 3 shows the p-value of 0.025 which is less than 0.05, indicating a significant difference between the pre and post-test scores for the students' sense of connectedness. The researchers rejected the null hypothesis and support the hypothesis that there is a difference between the students' sense of connectedness prior to and after attending a learner-centered course.

Table 3. Paired Samples Test of an Online Students feeling of Connectedness

				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1 Pre-Post	-.192308	.010879	.007692	-.290048	-.094568	-25.00	1	.025

Table 4 shows the mean scores for both connectedness and intrinsic motivation to learn are higher.

Table 4.

Measured Construct	**pre**	**post**	**n**
Connectedness	3.8	4.3	15
Intrinsic motivation to learn	3.6	3.9	15

The effect size was measured. The effect size of the students' sense of connectedness has a medium effect size of 0.45 and the effect size for the intrinsic motivation to learn fits between small and moderate with an effect size of 0.25. A sense of connectedness and an intrinsic motivation to learn are both mental constructs. To have a positive medium and small effect size on a learners' sense of connectedness and intrinsic motivation to learn in a single 8-week course is significant. If all classes were designed and delivered from a learner-centered perspective, it is thought that the effect size would be amplified exponentially by the number of courses designed and delivered using this format.

6.3 Discussion

The researchers' original model, "The S^3 Cycle: The Three Strategies to Increase Student-centered Learning" was the foundation of the current research. Its creation was constructed by supportive scholarly evidence of student-centered learning, student connection, and student motivation in literature review articles while being complimentary developed through emergent themes based on the MGMT 521 midterm feedback results. Table 5 demonstrates those core themes and sub-themes as depicted in the model. Likewise, the application and corresponding student midterm response also shed light on how best to implement a solid, strategic and successful student-learning environment for online students.

Table 5. Emergent Themes

Emergent Themes	Application
#1 - The primary goal of student-centered learning was to change the traditional online class structure to make the online learning environment better for students. Core theme: Student-centered learning Sub-themes: Technology, feedback, digital communication	Application: Through the implementation of the technology, feedback (like TCYL), and constant digital communication between the instructor and students, student learning and engagement increased overall as a result. Midterm response: "As a student, to be able to speak into our lesson plan for the week through TCYL and Slack is groundbreaking. Secondly, I was pleasantly shocked and surprised by the format of a midterm. Student feedback is so critical and valuable, and since the midterm is halfway through our course, this provides an opportunity to make changes at the midpoint."
#2 - Student connection was critical to achieve in an online learning environment because the physical distance can negatively affect the lack of interpersonal relationships between the instructor, the students, and the content. Core theme: Student connection Sub-themes: Student:instructor, student:student, student:content	Application: By developing opportunities for connection, student connection increased as they related to the instructor and other students on a personal level. Moreover, students also connected with the class content, which ultimately, fostered their learning. Midterm response: "The professor created a talkative environment for us using Slack in addition to communicating with other students on Canvas. He is concerned about each student's learning and also gave us supportive lecture videos for our understanding."
#3 - The acceleration of intrinsic student motivation was the final contributing factor that added to the surplus in knowledge and engagement for online students. Core theme: Student motivation Sub-themes: High participation levels, future career goals, life application	Application: Student motivation was instilled through high participation levels among students. Likewise, if their engagement increased, then they were more likely to connect how the class related to their future career goals and apply it to their professional and personal lives. Midterm response: "I liked taking on the role of an organizational development practitioner. I also enjoyed the concepts we learned, like appreciative inquiry, because I am interested in being a consultant as my next career."

6.4 Findings

The researchers have shown that statistically and qualitatively there is a significant difference in terms of a student's feeling of connectedness and intrinsic motivation to learn after they have participated in a student-centered online course designed and developed with specific student-centered learning strategies and technology tools to facilitate the strategies. This means that the students' learning experience has a large effect on their internal motivation to learn and

a sense of connectedness. The design and delivery of courses directly affect these constructs. This is a critical aspect because the purpose of the research was to identify and implement strategies, such as Slack, TCYL, and peer and self-evaluation, to increase academic success for online learners.

When the researchers coupled the quantitative and qualitative results, they saw the full picture of the effectiveness of instructors designing and delivering student-centered courses to increase a student's intrinsic motivation to learn and their sense of connectedness. This is a significant finding because the higher attrition rate of online students compared to face-to-face students is largely attributed to a lack of connectedness or sense of connectedness by the online student. Bolliger and Inan (2012) state "Many sources attribute high student attrition in online courses to the lack of interaction between participants in courses taught in the distance education environment (Carr, 2000). They believe that isolation and disconnectedness of students in the online environment are two main factors in student dropout (Angelino, Williams, & Natvig, 2007; Kanuka & Jugdev, 2006)." (p.42). The lack of connectedness is directly attributable to the design of online courses. Therefore, it is the responsibility of the instructor to design online courses with student-centered strategies to significantly increase an online student's sense of connectedness. Additionally, the key to success is to define the strategy first and then find the tool that best fits the use of the strategy.

A familiar look and feel for a channel of communication between students and students to professors are important. This relates to student connection's sub-themes of the student to student connections, and student to instructor connections. The use of Slack as a means for communication was important because it gave the students an opportune way to communicate with each other and the professor in a way that felt comfortable and familiar. Likewise, the technology tools employed in this class, such as Slack, helped to shape the students' learning experience and give them a sense or voice on their learning. Because the application had a familiar social media feel and remove a layer of complexity in accessing communications, it made students feel more comfortable and, in turn, created a more free flow of ideas and conversation. Because the Slack application could be accessed easily on a mobile device without logging into class, students utilized the communication channel to ask questions to the professor. The students felt that their questions were getting answered more quickly because they were notified by the application and did not have to access the classroom to read the responses given by the professor or other students.

The researchers also posit that the use of the TCYL, peer, and self-evaluations gave the students a voice in their learning and thus effectively allowed the learners to gain a sense of ownership over their learning and connect to the content. This had a direct effect on their sense of connectedness and intrinsic motivation to learn. It is thought by the researchers that the effect raised the self-efficacy of the students even though self-efficacy was not directly measured. When using a strategy where learners speak into the assignments and their learning, it is important in the design process to clearly define areas that can be adjusted to better meet the learning needs of the students. If these areas are not clearly defined prior to implementing the strategy, then the rigor of the course can come into question. Even though in this case the changes did not affect the rigor of the assignments, it is thought that the possibility of this

becoming an issue can happen if clear parameters are not set.

Meaningful group work may be a possible way to expand upon the feeling of connectedness and student motivation. Group work is often maligned by online students. The researchers found that when the group work is part of a student-centered course, it is seen as more meaningful by the students because they have the opportunity to speak into the assignment and create the meaning for the assignment from an internal perspective. We posit that the use of group work finds a renewed sense of meaning when designed into a learner-centered class and can have a positive effect on an online learners sense of connectedness and intrinsic motivation to learn. Moreover, if the students can apply the class content to their future career goals, this is also a means of increasing their intrinsic motivational levels. This was evidenced by the quote giving in Table 5, "I liked taking on the role of an organizational development practitioner. I also enjoyed the concepts we learned, like appreciative inquiry, because I am interested in being a consultant as my next career." Students showed a sense of ownership of the content and engaged more with high participation levels within the discussions. This is primarily thought to be because of the TCYL component, easy access to the professor and peers through the Slack channel.

Self-evaluation was also an important component as self-reflection mixed with peer evaluation gave the students opportunities to see their strengths and search for ways in which to expound upon in the areas in need for more growth. Moreover, the developmentation of their skills was being fostered from three directions, specifically, from the outpouring knowledge of the instructor, the constructive feedback from other students, and their own personal introspection. With these major components in place, this greatly contributed to the overall success of the students within the course.

6.5 Limitations

Despite the tactic and thoughtful implementation process when incorporating these strategies into on online learning environment, there is still one dichotomy that stands in the way of success, and that is the difference between a receptive and a resistant student. Unfortunately, no matter how successful an instructor's online class structure appears to be, the mode of motivation for all students may not be the same.

This study is based on the experiences of graduate students in a faith-based university. There are many kinds of colleges and universities including those which are not faith-based institutions that are not represented by this study. The variances in results can potentially be drastically different between those students who are enrolled in a faith-based university or in a non-faith based university.

Moreover, this research is limited by its scope. Specifically, the methods utilized were only implemented in one class, specifically, with only 15 students enrolled. Again, the number of classes included in this research was only one, as opposed to a cluster of classes. Additionally, the research was not implemented in classes across multiple universities.

7. Recommendations and Conclusion

7.1 Recommendations

Utilize technology tools that emphasize communication and personal connection with the content, peers, and professor. Simple and free tools to use for this are Flipgrid, Slack, Loom, or Screencastify (video feedback). It is also thought that the use of collaborative tools, such as Google docs and video chat hosted within the LMS promotes team cohesion and a greater sense of connectedness when working within groups.

When selecting the tools for your classroom ensure that they have a familiar look and feel for the students. It is thought that Slack was successfully utilized in our class because of the familiar social media look and feel. Slack is utilized in many businesses already, and this knowledge could have added to the success.

Utilize peer and self-evaluative assignments at a point within the class. When peer and self-evaluation were used in our student-centered classroom, the students had an opportunity to reflect on what they accomplished within the assignment and compare it to the rubric. This time of self-reflection on their work was valuable and added to the student learning experience.

It would be beneficial to study and compare the effects a student-centered online course, and a face-to-face course has on student effectiveness and intrinsic motivation to learn. We posit that a well designed student-centered online learning experience will create a greater change in a students feeling of connectedness and intrinsic motivation to learn than a traditional face to face course.

By setting a type of bracket or measurable goal for the students motivated them to continue in their academic drive even when the workload appeared to be more strenuous. Some benefits to incorporating student feedback in addition to seeing their increase in motivation was a decrease in students' intimidation to make such suggestions to their instructors. Sometimes, with the hierarchy in place, students appeared to be more cautious initially of utilizing the TCYL tool. However, once they recognized that the suggestions were being implemented, they were more inclined to participate in the betterment of their own learning. TCYL was unique as it collected this feedback on a weekly basis, compare that to standard student evaluations which comprise at the end of the course. Moreover, TCYL benefited the current students' learning, whereas standard evaluations take responses from the current students and apply them to future students. Generally, the current students are not personally benefited from these evaluations, unlike the instructor who has access to feedback that can be generationally applied to future classes.

One suggestion that can be proposed for future research or application would be in relation to Lunch and Learn. Despite the benefits of this set meeting time, there was a lack of attendance due to student availability. If this concept is to be implemented for future online courses, it is through the recommendation of the researchers that instructors incorporate a set and mandatory meeting time. According to observation and student feedback, if the meeting is mandatory, similar to an in-person class, students will schedule their time around that class schedule. However, the flexibility of a digital academic environment is part of the reason why students prefer online classes. This is not to say that they are avoiding the demands of school and prefer

avenues that allow times for leisure, but simply because online classes are more congruent with their current schedules.

7.2 Conclusion

It is possible to facilitate a greater sense of connectedness and intrinsic motivation to learn when a course is designed and delivered utilizing student-centered strategies with supporting technologies. The technologies must be coupled with student-centered strategies and purposefully utilized for the purpose of connecting people and giving them a voice. The greater sense of connectedness and intrinsic motivation to learn were shown to increase quantitatively when the pre and post-test scores were compared. Qualitatively the student-centered design and delivery positively affected the students feeling of connectedness and intrinsic motivation to learn.

Overall, it is the responsibility of the instructor to create and foster a successful student-centered learning environment. If they properly implement the correct strategies in order to increase the potential and learning of the students, then all will experience significant output results. By the design of the instructor, if online students are given a learning environment filled with creative technological tools, opportunities to connect and communicate, visions for their academic success and future, then their sense of connection and motivation to learn will increase exponentially for their own betterment.

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