Instructor Support Outside of Class: A Mixed-Methods Study on Post-Secondary Students' Use of Technology to Communicate with the Instructor

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Abstract

A large body of educational research suggests that initiating and maintaining a rapport with instructors promotes students' academic success. While there is an abundance of literature offering alternatives to office hours, there is little research on alternative modes of communication which offer students support at that moment in time when they need it. This mixed methods study explored how expanded modes of communication were received and utilized by college freshmen who were offered alternatives to office hours, including texting, emailing, and phoning, to contact the instructor throughout the semester.

Findings suggested most students, given alternative means to communicate with instructor, did so, that many also utilized office hours, and students found easy accessibility positively impacted their ability to complete assignments. Findings illuminate need for office hour alternatives.

Keywords: college students, developmental learners, rapport, student-instructor interaction, academic success, office hours, digital technology, student support

1.0. Introduction

Universities prioritize student retention and strive to graduate the maximum number of students in the fewest years possible, two variables reflected in college rankings, rankings potential students consider when choosing colleges (Katzman & Cohen, 2017). As post-secondary educators, it is our task to assist in meeting these goals by supporting students throughout their academic journey, especially our freshmen, a disproportionate number of those who leave college (NCES, 2019).

We understand the importance of student – instructor interaction, a best practice in undergraduate education (Boyer, 1990; Kuh, Kinzie, Schuh, & Whitt, 2010). Interactions aid in establishing a relationship of respect and trust and according to Tinto (1997), positively correlate with not only perseverance and academic outcomes but student retention as well. Instructor availability outside the classroom, especially for freshmen, is linked to increased student engagement and satisfaction (Bowen, 2012; Kim & Lundberg, 2016).

Historically, post-secondary institutions have responded to these student needs by offering office hours, providing opportunities for students and instructors to meet informally outside of the classroom. Unfortunately, many instructors find office hours are often under-utilized by students (*Li, & Pitts, 2009*). One study by Weimer (2015) enlisted 600 undergraduates to better understand how many availed themselves of the opportunity to meet with faculty during office hours and how often they did so. Two-thirds of participants admitted they never used office hours and of the remaining third, only 8% did so more than once. Reasons for sparse attendance during office hours include conflicts with class times or work schedules, inconvenience of office location or anxiety/insecurity about speaking with instructors (*McDaniel, 2013*). Perhaps the root of the problem is that the purpose of office hours is misunderstood.

Students potentially perceive office hours as a last resort when an academic crisis (e.g., an anticipated failing score) arises, rather than as a resource to be used for a broader set of fruitful interactions with faculty members" (Smith et al., 2017, p.2). If academic success leads to retention and if student-instructor contact is key, yet students fail to use instructor office hours, what might be done to encourage and support contact?

While there is an abundance of literature offering alternatives to office hours like creating centers run by instructors or TAs (Alternative, 2010), mandating or giving credit for attending office hours (Abdul-Wahab et. al., 2019), offering tutoring sessions in lieu of or in addition to office hours (Joyce, 2017), even moving office hours online to eliminate the need to meet in person (Lavooy, 2008), there is little research on alternative modes of communication which offer students support at that moment in time when they need it. The gap in research is what drove this researcher. My purpose, in one respect, is simple; to invite students to contact the instructor (me) through various means, tabulate how many, how often, and for what purposes they do so. This data can inform instructors who are interested in increasing contact with students outside of class. Supporting the merits of such contact is not difficult as an abundance of research exists and will be presented. The more elusive variable is how or to what extent a student-teacher relationship correlates with increased academic performance, and this cannot be established with the findings of this study. Therefore, no attempt will be made to do so. Instead, students' perceptions of success will be offered, reflecting whether they believed additional access to the instructor assisted in their successful completion of tasks and assignments.

This mixed methods study attempted to explore how instructors' support of students through expanded modes of communication including text messages, emails, and phone calls, as well as through offering traditional office hours, were received and utilized.

Research Questions

This research focused on three questions:

1. Does offering students alternative means by which to contact instructors using digital technology, especially texts, emails and phone conversations, encourage such interaction?
2. Will the use of digital technology preclude or negate, in the students' minds, the need for face-to-face interaction with instructor?
   Do students perceive these additional options for connecting with the instructor as instrumental to their academic success?

2.0. Theoretical Framework: Academic and Social Integration and Involvement

This work is theoretically underpinned using Tinto's Model of Institutional Departure and Astin's theory and involvement. Tinto originally theorized that student persistence requires academic and social integration through interactions with both peers and instructors. Tinto later expanded his theory to include, "…the stronger the individual's level of social and academic integration, the greater his or her subsequent commitment to the institution and to the goal of college graduation" (Pascarella et al., 1986, p. 155). This theory supports instructors' facilitation of such integration through access not only in but out of the classroom. The second theory to consider is Astin's theory of involvement which explains how and why active involvement impacts the educational experience for college students. He defined "involvement" as, "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin,1999, p. 518), and maintained that student learning is precipitated by direct involvement in their own learning (Astin, 1999; Pascarella & Terenzini, 2005; Kuh, 2001).

Actions, he believed, more than feelings, would dictate the student's educational experience, and in this respect, involvement theory embraces a behavioral component. He believed that students who meaningfully interact with instructors demonstrate greater educational development (Astin,1993). He points to four examples of a highly involved student. Among these examples is a student who, "Interacts frequently with faculty members and other students" (p. 518). Involvement theory also maintains that "the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement (Astin, 1999, p.519). If, then, a university mandates that instructors hold office hours, but few students avail themselves of this support system, how effective is the policy?

3.0. Literature Review
3.1.0. Student Engagement
3.1.1. What Student Involvement Means

There has been much research focused on evidence-based practices yielding student success (Dika, 2012; Harper & Quaye, 2009; Kuh, 1991) and the findings from 20 years of research on undergraduate education have been unequivocal:

> The more actively engaged students are — with college faculty and staff, with other students, and with the subject matter they study — the more likely they are to learn, to stick with their studies, and to attain their academic goals." (McClenney et. al., 2012, p.1).

but *student engagement* is a complex and ambiguous construct that extends across multiple domains. In essence, there are three facets of student engagement: Cognitive, emotional, and behavioral. Cognitive engagement reflects a student's self-regulation and motivation. Emotional engagement refers to a student's sense of belonging or connectedness to their institution. Behavioral engagement alludes to a student's active participation in school, both academically and socially (Fredericks et. al., 2004). While there are several factors that influence student engagement, for the purposes of this study, just one of those factors will be examined and that factor is student-instructor contact as researchers concur that student-instructor communication outside the classroom has shown to promote student-faculty relationships (Jaasma & Koper, 1999; Pogue & Ahyun, 2006; Jones, 2008), and this is foundational to student engagement (Harper & Quaye, 2009; Kuh, 2003).
Building Relationships Between Students and Instructors

The 1989 edition of the Chambers English Dictionary likens *rapport* to a connection or an emotional bond between people and while rapport alone does not result in learning, establishing a rapport between students and instructors is considered instrumental in creating a positive learning environment and increased learning. Students believe it is an essential characteristic of effective teachers (Frisby & Martin, 2010) but how is rapport established? One tactic is to make yourself accessible to students. Weimer, past Associate Director at the National Center on Postsecondary Teaching, Learning, and Assessment writes, "Faculty must be willing to speak with students, after class, during office hours, via email, on campus" (Weimer, 2010, p.2). Taking opportunities to develop a relationship with students outside of class reinforces the belief that instructors are interested in students as individuals, and this promotes rapport (Lowman, 1995). Research espouses the virtues and benefits of establishing a rapport between students and instructors and one avenue to accomplish this is by making ourselves accessible to students, not just in but outside of the classroom, but what do we do with this relationship once it's established? How does the student-instructor relationship support academic success?

3.2.0. Student-Instructor relationships Promote Student Engagement

3.2.1. Motivation Motivation is defined as a desire or disposition to engage and persist in a task (Schunk et. al., 2014). It's a state of mind that drives behavior such as task completion. Without motivation, students are uncompelled to do what is required.   Minimal studies have focused on the amount of time college students meet with faculty, either formally or informally, and their levels of motivation, but one quantitative study by Jaasma & Koper (1999) included 274 students at two Western universities. Results showed, "Motivation correlated positively with the frequency of both kinds of contact [formal and informal] and to the length of office visits" (p. 46). Chickering and Gamson (1987) attempted to summarize much of the research regarding students' intellectual and social development in their Seven Principles for Good Practice in Undergraduate Education. First among these was interaction between students and faculty:

> Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans (p. 3).

In a study by Jones (2008) that enlisted 584 college students, findings indicated increased motivation to learn among college students who received higher levels of out-of-class instructor support and Pascarella & Terenzini, (1991) too correlate student-instructor communication with increased academic motivation.

3.2.2.   Academic Outcomes/Student Success.   Informal communication with instructors improves students' cognitive abilities and understanding of class content (Terenzini, Pascarella, & Blimling, 1996; Jones, 2008). When compared to peers who have no informal communication with instructors, those who do succeed academically at higher rates (Milem & Berger, 1997). Although there are no studies that quantifiably correlate out-of-class contact between students and instructors with student grades, there is one closely related study that focused on the broader issue of rapport (meaning in and out-of-class relationships) and student outcomes. Using Wilson and colleagues' (2010) rapport scale, researchers enlisted 192 undergraduate Psychology students and found, "professor–student rapport accounted for 18% of actual student final grades in the course" (Wilson & Ryan, 2013, p. 132). Other studies, such as the one by Komarraju et. al. (2010) used self-reported grades, students' perceptions of expected success rather than objectively derived data, to study the correlation between academically driven meetings with faculty and learning outcomes. Specifically, researchers found a strong correlation between instructor's approachability/frequent availability and expected academic success. These findings concur with Wasley (2006), who maintained that frequent student-instructor interactions positively impact not just students' grades but degree of satisfaction.

3.3.0. What Drives Students to Seek Instructor Assistance

The most obvious reason students meet with instructors is to receive guidance on assignments. Doing so can have a substantial effect on a student's academic performance (Guerrero & Rod, 2013) but there are other concerns that drive students to seek faculty support. Consider students' emotional needs. While 28% of college students seek out instructors because of academic concerns, 45% of post-secondary students seek help for stress related to academics or personal issues (Frymier & Houser, 2000). If stress drives students to seek assistance, instructors can potentially support academic motivation and cognitive growth by assisting with problem management but only if they come. Most colleges mandate office hours for students, but many instructors lament the number who utilize them. This begs the question: Are faculty and administrators out of sync with students and their preferences for communication?

3.4.0. Alternatives to Traditional Office Hours

Smartphones are ubiquitous and have become an integral facet of teen life. Ninety percent of teens now own smartphones, up from 40% just six years ago. One 2018 study by Rideout & Robb included more than 1,000 teens to learn about their social media and technology habits. Researchers found that 70% of those polled use social media (Snapchat, Instagram, Facebook…) multiple times each day but this doesn't mean all teens prefer to communicate using social media. Neither do they necessarily prefer face-to-face conversations with their friends; that number dropped from nearly half of all respondents (49%) in 2012 to just 32% in 2018. Instead, teens favor texting. When asked if they'd rather communicate face-to-face, via social media, by video chat or text, texting ranked highest among teens at 35% (Rideout & Robb, 2018).

The widespread use of technology for student-instructor conversation has sparked some interest in research but not a great deal. Findings disagree on whether the use of texting encourages students to seek out faculty during office hours. While Cifuentes and Lent's 2011 study found digital interaction fosters face-to-face interactions, Li and Pitts (2009) found the opposite. Although the jury is still out regarding the impact of technology on student-faculty interaction, there is growing consensus by universities about the benefits of texting students, and it all began with a study out of Harvard.

Each year, 10 to 40% of high school graduates accepted to college fail to matriculate. This is especially true for low-income graduates. The phenomenon is known as *Summer Melt*. In 2013, Harvard researchers explored the impact of texting these graduates to see if admissions numbers might be increased and findings were positive. Students who received texts from colleges were 7% more likely to be matriculated than their peers who did not receive texts (Castleman & Page, 2013). A 2016 study out of UVA focused on financial aid. According to the authors, 15 to 20% of eligible Pell Grant recipients fail to refile their FAFSA forms, leading to the loss of financial aid and leaving school. Researchers sent texts to community college students with reminders and tips on refiling forms. Those who received texts were almost 14% more likely to persist through their sophomore year of college (Freshman Year Financial Aid Nudges, 2020).

These findings are supported by Castleman & Page (2016). According to their research: 86% of students reported that text messages promoted them to complete a task they hadn't yet done. 85% of students reported that the text messages informed them about something they hadn't realized they needed to do. 84% of respondents said they found text reminders useful in helping them get everything done for college. This research is cogent to my study because it establishes that both administrators and students find texting supports task completion. Therefore, it seems reasonable to question whether faculty might find the same is true for their own students.

4.0.0. Method

A mixed methods approach was used for this research with a triangulation design (Creswell, Plano Clark, et al., 2003). The rationale was two-fold: First, "to obtain different but complementary data on the same topic" (Morse, 1991, p. 122). Second, to validate qualitatively the quantitative findings. Over the years, a growing number of instructors have complained that while students are in need, they rarely come to office hours. I have not found this to be true even though, besides average students, I teach developmental learners. I offer students my cell number and email address and encourage them to use it when necessary. I also offer students 6+ hours of office hours each week. Although I have never tallied the number of students who contact me, I have found them to be amenable to reaching out. Now I seek to tabulate, quantitatively, the number and percentage who do contact me and by which mode(s). Because contact, in of itself, offers no insight on the way students feel accessibility impacts their success, I have supplemented quantitative findings with students' self-reported input.

4.1.0. Research Site & Participants

Research was conducted on the campus of a small, Catholic, liberal arts university in Western New York and participants included 51 of my students enrolled in four sections of a required freshman-level academic writing class during the Fall semester. Two sections and 22 of these students were registered in Developmental Writing. All students were first semester freshmen. The Department of Education's National Education Longitudinal Study reports that developmental students in four-year institutions suffer from substantially lower graduation rates than their non-developmental peers; 52 percent versus 78 percent (Brock, 2010). This research attempts to differentiate and compare these students to their non-developmental peers regarding the number and percentage who contacted the instructor, and by which means as well as providing numbers and percentages in a more wholistic fashion, considering student-instructor contact by all Writing student – participants.

4.2.0. Recruitment

In the final week of classes, information sheets were distributed with an invitation to participate in this research study to all 51 of the students in four sections of freshman writing. After reading this together and answering questions, they were asked to sign permission slips if they were amenable to participating and to leave them in an envelope posted on this instructor's office door. It was made clear that signing the document had no bearing on students' grades and that signatories would not be revealed until after the semester ended. Permission slips were collected by a colleague and kept in her office until after final exams had been administered and final grades had been posted online.

4.3.0. Data Collection

For this study, data was gathered from multiple sources. My own cell phone proved invaluable for research as I was able to tabulate which, how many, for how long, and how often students contacted me and by what means, i.e., texts, email or phone call. At the end of the semester, I retrieved the information from my cell. For office visits, I kept a running tally throughout the semester each time a student visited, allowing me to quantify the numbers easily at the end of the semester.

After final exams were administered, I asked students if they would be willing to complete a short, anonymous survey. This survey was then offered to all students in each of the four sections. Students were asked to drop the completed surveys in a manila envelope tacked onto my office door at their convenience. While all 51 students signed permission slips, I received 46 completed surveys back before they left on holiday. The survey asked students by what means they contacted me, for what reason, i.e., academic assistance, personal and so forth, whether they believed easy access to the professor aided in their ability to complete tasks successfully. The survey offered space for additional comments.

4.4.0. Data Analysis

I sought to both quantify and qualify data to understand student needs and outcomes. I typing up a list of my students during the Fall semester, divided by class sections, first the two regular sections, then the two developmental sections. Beginning with the date classes began, August 27, I read the texts received from students and recorded which of those students texted during that period and on which dates. Instead of counting individual texts, I recorded the number of conversations. Although we texted back and forth in quick succession, that series of exchanges would be considered one conversation. I also recorded the purpose of conversations, for example, academic assistance, reason for absence, a question on due dates… After recording this data, I tabulated the number and percentage of students from each section who had texted me and the total number of text conversations exchanged during the semester. Having completed this process, I added up the total number and percentage of all students who had texted over that period. I repeated this process for the emails I received throughout the semester, considering both the number and percentage of students who emailed from each section, then looking at the number of email conversations with all students and the purpose for each of those emails.

I retrieved the number of phone calls received from students over the course of the semester but was not able to discern reasons for the conversations. Instead I noted the length of each conversation to offer the mean time spent with each student during phone calls. Although this fails to inform readers on what drove students to call, it will offer some insight on the depth of conversation I and my students engaged in.

Records indicated which students came to office hours and how often. I calculated the number and percentage of developmental students, then those in regular sections, then I added and calculated the average of the overall percentages to arrive at the total number and percentage of students who came to office hours throughout the semester.

I then turned to the surveys completed by 46 of my students. The short fill-in-the-blank survey asked students three things: By which means they contacted me during the semester, for what purpose(s), and if they felt contact with the instructor impacted in their task completion/success. There was also space provided for comments. Because I was able to quantify, objectively, the number of texts, emails, phone calls and office visits, I compared how students' perceptions of contacts aligned with my numbers and reasons for reaching out.

I moved on to whether students believed that being able to easily contact the instructor helped them academically succeed in class assignments. These numbers were easy to compute. Where insights surfaced was in the extra space provided for comments. Approximately two-thirds of the students who submitted surveys offered remarks. This data was difficult to synthesize as statements ranged widely. Therefore, I attempted to code comments by categories that reflect the focus of remarks. These categories included ease/time, stress/anxiety, and academic success/satisfaction.

4.5.0. Limitations

Only 51 students were recruited for this study. Findings, however, should not be discounted solely on this basis. I focus on student – instructor interaction to identify practices outside the classroom that might support student learning and academic success. Rather than a predictive model, I offer the outcomes of my experience offering students additional opportunities for instructor contact using different modes of communication. It is my hope that findings from this limited study might prove insightful for other educators, and might inform my own strategies and practices, especially outside the classroom.

5.0.0 Discussion

5.1.0. Tables and Figures

Referring to Appendix A, Table 1 endeavors to graphically clarify two things: Differentiating between developmental and non-developmental students, it offers the number of students who texted, emailed, called, and/or came to office hours throughout the semester. Also included is the percentage of students in each of these groups who contacted the instructor by any of these modes. Additionally, Table 1 offers comprehensive numbers and percentages within each of these modes for the total number of students and noted beneath, the average time spent in phone conversations with all student-participants who called the instructor.

Referring to Table 1, an overwhelming number of students proactively reached out during the semester. The vast majority of students preferred written over oral communication and not only did more students send texts and emails, they did so at roughly twice the rate of phone calls. This data mirrors the findings of Rideout & Robb (2018), supporting students' strong preference for text and email. Further, these communications failed to negate or preclude office visits as over half the students did make at least one trip to my office over the course of the semester. Stoll, an Associate Professor of Chemistry at the University of Washington, believes "the personal experience that a student has with an instructor is key to learning." Therefore, he expanded office hours to include online accessibility and found students often came to office hours as well as, and often after, utilizing online support (Johnson, 2018). This seemed to hold true for these student-participants too.

In comparing developmental students to their non-developmental peers, Table 1 shows a larger percentage of developmental learners sought out instructor support by all modes except for phone calls. Perhaps more cogent is the simple fact that, when offered access and options for contact, most students did so. This is potentially significant when one considers that each year, millions of freshmen are required to take remedial courses, especially in English and Math, but this does little to assure academic success; with the exception of those at ivy league schools, only 35% of developmental students, those requiring at least one developmental class, at four-year colleges and universities graduate within a six-year period and the numbers at two-year college are even more disconcerting. There, only 10% will complete their degrees within three years (Nietzel, 2018) but support outside of the classroom potentially promotes and nurtures a relationship between instructor and students that, according to Sheppard et. al. (2012) helps students achieve academic success. This can be said about all students but perhaps especially those students considered most at-risk. While quantifiable class completion numbers were not a focus of this study, two developmental students and two non-developmental students failed (7%), and although we hope all students will see success, these rates appear more promising than the 67% passing rate for developmental writing students cited in research from the Center for the Analysis of postsecondary Readiness (Developmental, 2017). More salient, the four students who failed to successfully pass never contacted the instructor for assistance outside of class.

Table 2 offers readers insight about the number of times students who reached out chose to do so using the four modes: Texts, emails, phone calls and office visits. Again, data for developmental students and non-developmental students is offered separately and there are cumulative totals for all student-participants provided. Table 2 allows readers to grasp how often students reached out to discuss their work or obstacles to success. The numbers are impressive as, when considering the four modes utilized, they total 425 separate communications within roughly a three-month period. Of the 600 students in Weimer's 2015 study, only one-third met with faculty during office hours and only 8% did so more than once. In contrast, this study found over 80% of students contacted the instructor and only two of the 51 students (4%) did so just once. Although instant messaging was not used in my study, results appear to bear out findings of Cifuentes and Lents (2011), who found that instant messaging (IM) can create off-campus opportunities for students to interact with their instructors one-on-one, increasing both in-person and online office hour visits.

Table 3 attempts to communicate, on average, of those students who contacted the instructor, how many times each group of students did so. Data for developmental students and non-developmental students is offered separately. Table 3 further breaks down the numbers by calculating the average number of times each group who communicated using any of the four modes did so. The 26 students who came to office hours did so an average of three times each. In fairness, those 26 students represent just half of the students, but many instructors would be encouraged if 50% of their students came to office hours, especially if they came multiple times throughout the semester.

Figure 1 differentiates between those who only contacted the instructor during office hours and those who contacted the instructor using multiple modes, office hours being just one of them. Data for developmental and non-developmental students are offered as well as the total number of students. Results show that only two of the 26 students who contacted the instructor interacted only during office hours, one developmental and one non-developmental student. Tables 1-3 and Figure 1 establish the number of students who initiated contact with the instructor, but it does nothing to inform the reader on the purposes for contact. Figure 2 attempts to do this by presenting the reasons as offered in the short poll provided to students at the end of the semester. Reasons were corroborated by my own records of events.

Students were asked to complete a short survey after the semester officially ended. The survey asked students what modes of communication they used to contact the instructor throughout the semester, and for which of the five reasons listed: To discuss assignment details/due dates/assistance, to let the instructor know they'd be late or absent, to find out what they missed while absent, to discuss personal/family issues, or other. Figure 2 offers details for each of the two groups of students, developmental and non-developmental. It also offers comprehensive totals for all students. Although 51 surveys were distributed, only 46 were returned – 20 from developmental students and 26 from non-developmental students. The findings proved enlightening, especially in the area of academic support. All but 2 of the 46 students who completed the survey contacted the instructor for assistance with assignments. When considering the data in Table 1, a total of 26 students visited office hours. This leads to the conclusion that at least 18 students received academic assistance using modes such as text, email, or phone. It is impossible to judge whether, lacking alternatives, students would have resorted to office hours but if we believe the research, then students' ability to contact the instructor by any means should have helped to establish a rapport and motivate students to complete schoolwork. Further, instructor support should have aided in strengthening students' cognitive development and understanding.

Figure 3 addresses the impact of accessibility on students' ability to complete tasks and assignments. The survey asked students if easy access to the instructor impacted their ability to complete tasks and assignments. Two choices were offered, YES or NO. All 46 students checked "Yes" which speaks volumes. According to student responses, 100% felt better able to move forward because they were able to connect when they needed instructor support. This data is not intended to suggest or imply that all students met with success or even relative success, but it does point to students' beliefs about the worth of communication when they are at an impasse. IDEA is a non-profit organization, established at Kansas State University in 1969. Their mission is to improve the quality of instruction and student learning. To that end, they have compiled a Teaching Essentials Inventory, "…an instrument that provides formative feedback about teaching methods highly correlated with instructor and course excellence." (IDEA, n.d.). Easy access to instructor support, the ability to ask questions, seek clarification, or receive assistance, addresses several of the concerns listed on ISEA's Inventory, including, "Displaying interest in students, helping students to answer their own questions, introducing stimulating ideas, inspiring students to set and reach challenging goals, learning how to find and use resources, and acquiring an interest in learning more" (IDEA, n.d.), in other words, methods that support goals reflect effective teaching and learning and they can potentially be supported through conferencing, whether in office hours or online. If these goals are met, students will plausibly be more able and willing to complete tasks and assignments.

5.2.0. Student Comments

After completing the short survey, students were given space in which they could offer additional feedback. 50% or 11 of the 22 developmental students and 77% or 20 of the 26 non-developmental students who completed the survey used this opportunity to add their thoughts. Three distinct themes arose among respondents.

5.2.1. Ease of Contact

The most consistent and prevalent theme throughout student comments related to ease of contact. Words like *easy, quick, convenient, timely, immediate, whenever, instantly*, and *fast* were expressed over 20 times. Students communicated how much they appreciated the ability to reach out and receive almost immediate feedback to questions or concerns, and several students expanded on that. Comments like, "I could not attend office hours because I had practice" and, "I didn't have enough time to go to office hours" pointed out their preference for alternatives to traditional office hours, but, interestingly, students also expressed a preference for texts over email; "Texting helped me communicate instantly instead of waiting for an email response". Another student offered, "Being able to text was a very good idea and definitely benefitted me, even though you answered email as if it was a text – FAST".

Comments like, "Texting/calling is 100% better than email. We check our texts all day, most check email a few times a day" support students' need for speed. Students made clear they weren't used to having options for communicating and this took time to adjust to; "Being able to text my teacher was a very strange concept at first, but it was very helpful to be able to text Professor H. whenever I needed help". Options were appreciated, "The use of phone made my life 100% easier and I wish other teachers would do the same as it would help dramatically."

5.2.2. Stress/Anxiety

One comment, "Having Professor Halm's number eliminated much anxiety throughout the semester" points to the stress some students suffer from but an obstacle that was reduced because of easy access to the instructor. While some have issues with physical interaction, "I prefer texting/calling because I hate meeting with somebody face-to-face. It gets me nervous", others suffer from academically-related stress, "The easy access to Dr. Halm made my assignment planning go smoothly and eased my stress.", and then there are those who expressed general anxiety, "I have really bad anxiety so even calling/texting can be an issue sometimes, but texting/calling is a good idea." While alternative options for reaching out won't solve all the problems, especially for students with severe issues, perhaps it can lessen the emotional toll it takes on some.

5.2.3. Success/Satisfaction

Over 25% of students expounded on how access impacted task completion in their comments. Some noted the type of assistance they sought, "I used texts to communicate about certain articles for all of my essays", while others offered insights on how easy contact led to success, "Having Dr. H.'s phone number allowed me to contact her and immediately get the answers I was looking for. Others wrote, "Can't imagine learning any other way. I learned so much!", expressing general satisfaction with the learning environment.

6.0.0. Conclusion

The data provided in Tables 1-3 clearly supports students' willingness to reach out when access is quick and easy. This, however, did not preclude students from utilizing office hours supplementally. Figure 1 highlights the large number of students who sought academic assistance, specifically, throughout the semester and Figure 2 makes clear that, from the students' perspective, the ability to receive timely input from the instructor positively impacted their ability to move forward. Judging student comments, easy access not only increased student satisfaction but reduced levels of stress. It is my hope this study expands on the limited research on methods that flexibly support student-instructor communication, and that instructors consider making themselves available at times other than during office hours.

7.0.0. Implications and Future Research

The present study adds to the literature on student-instructor communication and students' academic satisfaction. However, the limited representation of only freshmen, as well as the small sample size, limits the generalizability of the findings. Regardless, the results are enlightening and expand avenues of research around the relationship between student use of alternative modes for communication with instructor and the impact on students' motivation and learning. Similar studies examining varying degrees of instructor accessibility with different student populations are warranted. With growing diversity of college students, exploring the ways in which subgroups of students (e.g., under-represented groups, English language learners, online students…) utilize instructor contact differently is needed. Implications may help researchers and instructors understand the importance and impact of rapport between students and instructors.

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Appendix A

Table 1
Number/Percentage of Students Who Contacted Instructor

	#/% TEXTED	#/% EMAILED	#/% PHONED	# VISITED
DEVELOPMENTAL 22	17 = 77%	19 = 86%	8 = 36%	14 = 64%
NON-DEVELOPMENTAL 29	20 = 69%	24 = 83%	12 = 41%	12 = 41%
ALL STUDENTS 51	37 = 72%	43 = 84%	20 = 39%	26 = 51%

Note: Average phone call time among all students = 16 minutes

Table 2
Number of Times Students Contacted Instructor

	# TEXT CONVERSATIONS	# EMAILS	# CALLS	# OFFICE VISITS
DEVELOPMENTAL 22	78	71	19	39
NON-DEVELOPMENTAL 29	98	66	19	35
ALL STUDENTS 51	176	137	38	74

Table 3
Average Number of Times Students Communicated with Instructor

	TEXTS	EMAILS	CALLS	OFFICE VISITS
Developmental	4.6 TIMES	3.7 TIMES	2.4 TIMES	2.8 TIMES
Non-Developmental	4.9 TIMES	2.8 TIMES	1.6 TIMES	2.9 TIMES
All Students	4.75 TIMES	3.25 TIMES	2.0 TIMES	2.85 TIMES

Figure 1

Students Who Used Multiple Modes vs. Students Who Only Came to Office Hours
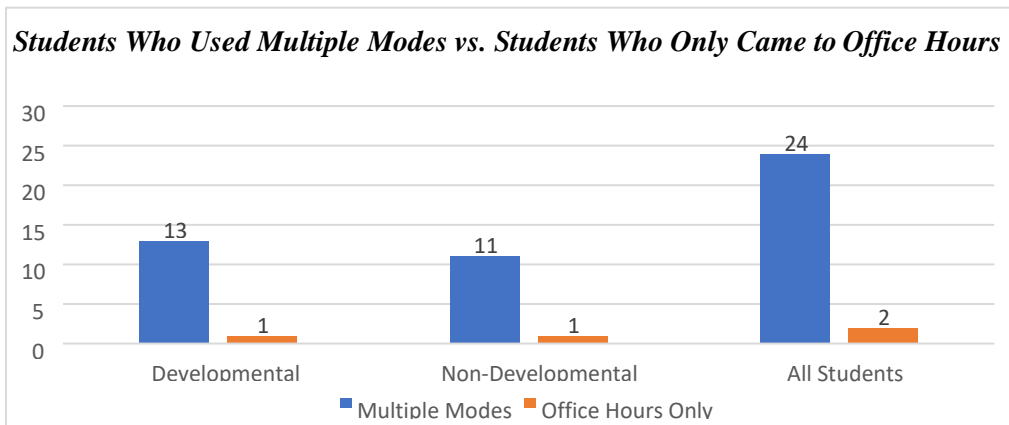
Figure 2

Reasons for Contacting Instructor

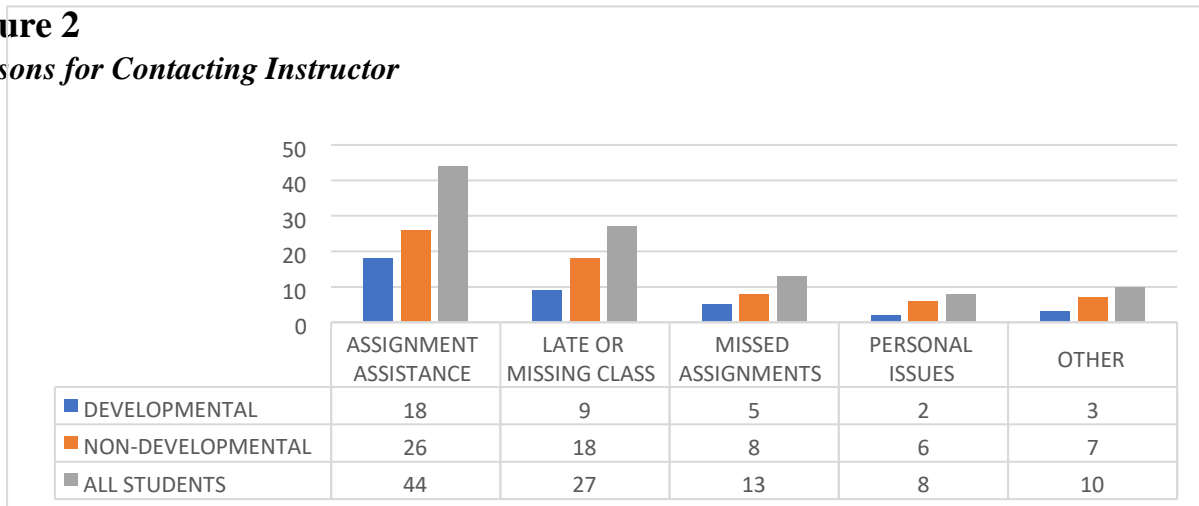|	ASSIGNMENT ASSISTANCE	LATE OR MISSING CLASS	MISSED ASSIGNMENTS	PERSONAL ISSUES	OTHER
■ DEVELOPMENTAL	18	9	5	2	3
■ NON-DEVELOPMENTAL	26	18	8	6	7
■ ALL STUDENTS	44	27	13	8	10

Figure 3

Access Impacted Ability to Complete Assignments

0, 0%

□ 46, 100%

■ YES ■ NO