Karen L. Beck, EdD, MA, MLS (ASCP)[CM]

7201 Rossville Boulevard, ECHP 005B, Baltimore, Maryland, 21237

(443)840-1053 | kbeck2@ccbcmd.edu

From the Medical Laboratory Technology and Histotechnology Programs, School of Health Professions, Community College of Baltimore County, Baltimore, Maryland.

DEVELOPMENTAL EDUCATION SUCCESS:

Exploring Student Success Strategies in Developmental Education at the Community College Level

The problem investigated in this study was the low completion rates of students in mandated developmental education courses at a local community college in the mid-Atlantic region of the United States. The purpose of this study was to examine factors that may contribute to the persistence of community college students who have completed mandated developmental education courses.

ABSTRACT

The problem investigated in this study was the low completion rates of students in mandated developmental education courses at a local community college in the mid-Atlantic region of the United States. The purpose of this study was to examine factors that may contribute to the persistence of community college students who have completed mandated developmental education courses. The qualitative study uses Tinto's student departure theory as the conceptual framework to examine the lack of persistence of students in developmental education classes. The study included interviews with 8 students who have completed at least 1 developmental education course in the past 3 years. Data analysis included an extensive review of the interview transcripts to develop codes, categories, and themes to answer the research question. The findings of this study identify personal or academic persistence strategies that may assist community colleges in increasing the success rates of students in developmental education. Completing a credential has social change implications, as it may provide significant job opportunities and the ability to earn higher wages impacting overall quality of life. Moreover, an individual that receives an associate degree may earn 17% more in their occupation than their counterparts with a high school diploma or equivalent.

Developmental Education Success:

Exploring Student Success Strategies in Developmental Education at the Community College Level

INTRODUCTION

Across the United States, community colleges have open or broad admissions policies to create a gateway to higher education for anyone desiring to attend. The only primary requirement to enroll is a high school diploma or equivalent, such as a general education degree (Quarles & Davis, 2017). While community colleges enroll approximately 45% of all college students, a significant number of these individuals are underprepared to take college-level courses (Crocker & Mazer, 2019). Between 50% to 80% of new community college attendees are mandated to attend at least 1 remedial education course before taking college-level coursework (Barhoum, 2018; Boatman & Long, 2017). Currently, only 20% to 37% of students assigned to developmental education courses successfully finish the course(s) and continue to the next semester (Xu & Dadgar, 2018).

Community college students who require developmental education in either reading, writing, English as a second language, or mathematics begin their college careers at a disadvantage. The required coursework is noncredit bearing, even though students pay the same cost to participate while also increasing the time to degree completion (Bahr et al., 2019). The additional length of study and cost required for completing developmental courses is the leading cause of attrition among these students (Barhoum, 2018).

Underprepared students also face a myriad of personal challenges that hamper their ability to persist in developmental education coursework. Many of these individuals must work and provide for their families, forcing them only to enroll part-time, adding to the time it takes to earn a degree (Shields & O'Dwyer, 2017). The fact that they must pay for these courses that will not earn credit and take longer to reach their goals often leads to frustration leading some to give up. Twenty-five percent of developmental education students who earn an associate degree take up to 10 years to graduate (Shields & O'Dwyer, 2017). While a significant amount of literature discusses why students are unsuccessful, there is little information regarding success strategies employed to complete developmental education courses.

This study examined the challenges community college students face in the completion of mandated developmental education coursework and possible strategies to increase student passing rates and retention. The purpose of this qualitative study was to examine factors that may have contributed to the persistence of community college students who completed developmental education courses. This research study took place at an urban mid-Atlantic community college that offers developmental coursework in reading, writing, English for non-native speakers, and mathematics. Interviews were conducted with 8 participants that completed at least 1 mandated developmental education course within the past 3 years. The goal of this study was to identify personal or academic strategies of persistence from interviewees. The personal and academic strategies identified in this study may prove useful in increasing completion rates in developmental education classes that students are required to complete at a community college.

METHODS

This study sought to understand why a small group of students successfully completed their mandated developmental coursework and possible strategies that may increase these success rates for others. The study was qualitative in nature and utilized Tinto's student departure theory to examine the participant's perspective on the issue (Ravitch & Carl, 2016). Tinto's student departure theory provided a lens to consider how the participant's academic and social attributes affected their performance in mandated developmental education courses (Aljohani, 2016).

Tinto's student departure theory states that an individual requires integration and engagement with both the social and academic aspects of an institution to persist (Aljohani, 2016; Distefano et al., 2004; Tinto, 1988). The academic components include learning performance and communication with faculty and staff, while the social aspects include relationships with peers and participating in extracurricular activities (Distefano et al., 2004; Oseguera & Blackmon, 2012). While this theory assumes that attributes students possess before college such as academic preparation, family support, and academic skills play a significant role in their decision to remain in college, interventions at the college level may assist them in assimilating into the school environment (Distefano et al., 2004; Oseguera & Blackmon, 2012). When a student builds a relationship with the institution's academic and social components, their ability to handle the stress and demands of higher education increase, leading to persistence in their education journey (Fletcher & Mullen, 2012).

Tinto's student departure theory informs this study by providing a lens in which to consider why approximately only 10% of students in developmental education are successful and persist in college-level work (Barhoum, 2018; Walker, 2015). This point is especially true at the community college level, where the student population is more diverse, with significant numbers of underserved students requiring developmental education coursework (Bahr et al., 2019). Underprepared students frequently come to college without adequate academic preparation and family support that may also hamper their success (Oseguera & Blackmon, 2012). The key to academic success may lie not only in the student's preparation for higher education but also in their integration into the culture of the institution.

A generic qualitative research design was the best choice for this study as it offered an examination of the issues at the root of the problem without utilizing a specific lens (Caelli et al., 2003). The flexible nature of this approach allowed for the interviews to be as general or detailed as best fit the study (Caelli et al., 2003; Kahlke, 2018). Additionally, the generic method also worked well with this smaller sample size (Kahlke, 2018). Lastly, this approach allowed for changes as the data indicated to obtain a deeper understanding of the problem while contributing to the research in this area of higher education.

The data collection for this study was via interviews with participants that had completed at least 1 developmental education class within the past 3 years to ensure that their perceptions were still current. The developmental courses could include reading, writing, mathematics, and English for nonnative speakers. Eight students were selected for interviews. The interview questions were developed with a focus on student experiences in developmental education courses and included considerations for past experiences and choices that may have impacted their path to success in developmental education courses (Eberle, 2014). The interviews were open-ended and semi-structured in nature, with a script for the interview process to ensure the participants received critical information and understood the reason they were participating in the study (Jacob & Furgerson, 2012). A full account of the interview protocol is available by request to the author.

The questions asked during the interviews were open-ended and semi-structured. The questions related to components of the participants' social and academic interactions at the institution to ensure the integration of the conceptual framework based on Tinto's student departure theory. The interview questions were:

1. What was your primary reason for enrolling in community college?

2. Did you have a career in mind when you entered college? If so, what was it? Has it changed since entering school?

3. Does your family support your goals in attending community college? Please explain how they might help or hinder your educational goals.

4. How did you feel about being placed in developmental education? How did this placement affect your educational goals at the college?

5. How would you describe your self-efficacy when it comes to your developmental and college level classes?

6. What factors assisted you in your success in your developmental education classes? Please be specific.

7. Did you form connections with your peers, faculty, or the college community? If so, please describe how these relationships may have helped foster your success in your developmental education coursework.

8. The college offers a variety of resources including study groups, tutoring, and faculty office hours. How did the use of these supports help you to succeed in your developmental coursework?

9. Class withdrawal rates at the developmental level are high. What factors attributed to your completion of the class?

10. How did your developmental coursework prepare you for college level classes? Please explain why or why not.

Audio recordings were completed for each student interview. The audio recordings were collected with Otter and used to develop transcripts of the interviews to ensure accuracy in documenting participant responses. Additionally, the transcripts allowed for a thorough analysis that was essential to identifying themes in the data (Jacob & Furgerson, 2012). Once assured of the accuracy of the participants' interview responses, data examination looked for themes or strategies of persistence among the interviewees.

The coding process began after a detailed review of the transcripts to ensure their accuracy. Each transcript was reviewed several times, making memos where information related to the research question, framework, or items stated by other participants. Examination of the transcripts provided insight into the student experiences as similarities between participant responses emerged. For example, each participant discussed using additional resources such as faculty office hours, working with their peers, or

tutoring for assistance in their classes. Memos about this commonality were created, and each transcript was reviewed to find instances where students used these resources.

Each transcript was uploaded into NVivo software for analysis. Handwritten memos assisted in creating codes based on the initial transcript reviews using the NVivo highlighting feature. Each transcript was reviewed in the NVivo software, examples were highlighted, and a code was developed for each resource mentioned. This process allowed easy access to pull up each response, for example use of faculty office hours, and see which participants commented on this code and how they described the experience.

This process was repeated until all codable information was identified in the NVivo software. Discrepant cases were also coded as "discrepant information". The discrepant cases were reviewed several times to ensure they did not factor into the conclusions for the study. The codes for this study included: academic integration, social integration, challenges, stop-outs, COVID-19 effects, tutoring, office hours, coach class, writing center, library, additional supports, positive professors, learning strategies, peer support, family support, family challenges, career goals, work ethic (self-efficacy), college-level preparation, developmental placement, confidence, desire for a degree, and discrepant data.

Once all codes were identified, analysis moved to the development of categories. A careful review of the codes and relationships among them in NVivo led to establishing the relationships that became categories. The relationships feature allows information to be pulled from selected codes for review to see if they shared similarities. For example, participants mentioned resources that helped them in their developmental courses including tutoring, faculty office hours, coach classes, and the college writing center.

Once all codes were compared to each other, a final review was conducted of the transcript codes and categories in NVivo to ensure the analysis was complete. The categories for this study included acceptance of placement, personal or academic challenges, primary resources, additional resources, connection to others, outside help or hindrance, self-efficacy, and influential professors.

The creation of themes began by examining each category to see the correlating relationships among them. The NVivo relationships software feature assisted in creating new links between categories that fit together. For example, a relationship between the categories of influential professors and connections to others was identified. A participant's ability to connect to their faculty and classmates was crucial in their overall success in developmental education. These categories came together to become the theme connection to faculty and/or peers. This process was repeated with each of the categories to identify any possible correlations. The themes for this study included: the use of additional resources, connection to faculty and/or peers, overcoming challenges, and self-efficacy. Table 1 provides the progression of developing the codes, categories, and themes for this study

Codes	Categories	Themes
Office hours	Additional resources	Use of additional resources
Tutoring		
Coach class		
Academic integration		
Writing center		
Library		
Additional supports		
Social integration	Connection to others Influential professors Primary resources	Connection to faculty/peers
Positive professors		
Peer support		
COVID-19 effects	Personal/academic challenges Outside help/hindrance	Overcoming challenges
Stop outs		
Academic challenges		
Family support		
Family challenges		
College-level preparation	Acceptance of placement Self-efficacy	Self-efficacy
Learning strategies		
Career goals		
Work ethic		
Developmental placement		
Confidence		
Desire for degree		

Table 1.: Organization of Topics from the Interview Transcripts.

RESULTS

The themes of this study provide insight into the academic and personal strategies used by students to complete their developmental education classes at a community college in the mid-Atlantic region of the United States. While each participant's experiences were unique, they developed similar methods to complete their courses and move on to college-level work. Their experience shows perseverance and a dedication to achieving their goals.

USE OF ADDITIONAL RESOURCES

The first theme relates to use of resources outside of class. The college offers various resources to assist students in the completion of their course assignments and test preparation. Every participant utilized additional resources to help them in their developmental classes. The most common included faculty office hours, tutoring, the writing center, and the library while other students mentioned coach class, the college website, and advising.

FACULTY OFFICE HOURS

Office hours proved very useful to several participants. Student 2 explained: "Yes, I was in his office hours, 3 days a week. I did the same thing before with [math] 082. When I passed [math] 082, I went to [math] 083, and I was confused in that area, but the office hours really helped me out because it is one on one; if no one else showed up for his office hours, then it was just me and him, and we just did multiple problems together until I understood it."

Additional participants also stated that office hours were helpful in their success in developmental education classes. Student 1 commented, "I often stayed after class and did the office hours." Student 7 also addressed this in their interview "I mainly used the professor's office hours for help." The feedback from participants highlighted that this extra help from their instructors gave them a place to take their questions or areas of confusion to seek clarity.

This option helped their understanding of the material and assisted successfully completing their developmental education courses.

TUTORING SERVICES

Tutoring services are another resource that is beneficial to college students and utilized by the study participants. Student 2 explained how they used tutoring services at multiple campuses (the campus names are removed to ensure confidentiality of the college location). "I was taking tutoring 2 days a week; actually, I was taking 3 to 4 days a week because I didn't know that you were limited on your tutoring. So, I would take tutoring at [campus A] because I had classes on [campus A] campus, and I also had classes on the [campus B] campus, so I would take tutoring 4 days a week."

Student 3 also discussed how they used tutoring services to help them understand their course content. "Besides the tutoring they offer, the tutoring services are also another kind of help they offer, which I like, I was able to get from the class, and that helps me because I actually used it a lot. I tried to schedule tutoring appointments up to a couple times a week when I have a lot of work, and then really helps to get things done."

The study institution offers both drop-in and scheduled tutoring. Student 4 took advantage of the drop-in option frequently. They describe

their experience, "Yeah, I went to the tutoring center so I do have my class in the morning so after [instructor's name] class, I go straight to the tutoring center, do all my tutoring there so they helped me in their tutoring." While scheduling appointments with faculty for help is still a solid choice, the flexibility of drop-in sessions allows students to get assistance when they need it. The students who participated in tutoring identified this as a critical factor in their success in their developmental education courses.

Perez and Hansun (2018) investigated whether mandated tutoring bolstered student success in developmental math courses. Their study examined students required to complete 2 hours of tutoring a week versus no requirement and found that the former group had a 14.5% higher passage rate. While the study location does not require students to participate in tutoring services, it is evident that it assisted the participants in passing their courses

THE WRITING CENTER

Another resource mentioned by several students, especially those taking English for non-native speakers, was the college's writing center. This service is a free resource where students can bring writing assignments and receive help with the preparation, organization, and editing of their work. Student 4 said "I use writing center. The writing center helped me a lot. The time after class, I will just go straight to the writing center do all my stuff, they're gonna help you with your English and tell you where you are failing. I know how much I will appreciate them, but they helped me a lot. That right now, I can write a paper or whatever, like they helped me a lot."

While the benefits for students using the writing center are evident, it is an underutilized resource. The issues are similar to other resources; students lack free time and do not realize how the writing center can assist them (Arbee, 2020). Colleges can assist students by offering more flexibility in the writing centers' times and getting the word out to students about the resources they offer (Arbee, 2020; Nicols & Williams, 2019).

Developmental education faculty are a great resource to help make students aware of the college's options. Student 8 mentioned this during their interview, saying "the professor from the very first day of class mentioned all the different ways that we could get help if we didn't like his teaching style, we could get the information from all these different places to help us." The college's writing center was a key factor in student success for some participants, especially those from a non-English speaking background.

THE COLLEGE LIBRARY

The college offers librarians both in-person and online to assist students in finding items they need for classes. Students can drop in during certain hours or schedule appointments to get help with their assignments or projects. Student 3 said "I use the services in the library very often, because there is constantly different assignments from different classes where I need to look things up and the librarians help." The participant's research skills were positively impacted by working with the library staff as they learned how to find adequate resources for their assignments. The ability to search for sources is an essential skill for all college students.
.

The second theme identified in this study relates to the participant's connections to their faculty and peers. The study participants highlighted their connection with their developmental education faculty and classmates during their

CONNECTION TO
FACULTY AND/OR PEERS

interviews. The students who fostered relationships with these individuals felt more comfortable reaching out for help from their faculty or classmates when they did not understand course content, which helped them succeed. These relationships also boosted their confidence in their abilities and helped them develop new learning strategies to succeed.

FACULTY RELATIONSHIPS

The interviewees discussed their professors in every interview and benefitted from those who were engaging, welcoming, and willing to work with them to understand the content. These interactions helped to bolster their confidence in asking questions and in understanding the content. Every participant mentioned how their professors played a role in helping them to succeed. Student 1 spoke about their appreciation for their faculty in detail as they stated "I think when I first took like my math for success class, it was in like the basement of the school, and I walked in, there was like 6 desks, so it was clearly just me and a handful of other kids... But the professor was like, we're here, and we're gonna do this, and we're gonna learn this together... So I think specifically what helped me was the professor's being able to learn what my specific issue was, instead of just bad at math, like I'm bad at math because I do this." Student 2 added "I felt like I probably build bonds with my professors, and I think it's because if I have questions, I'm always like, willing to go to office hours or email. And I think when they see a student that's really working hard, that makes them want to help you more."

A warm environment in the classroom also made students excited to come to class. Student 5 said "Most of the professor was very nice with students, and they sometimes they find new ways to learn us most of students come to class, after work, like me, I work. I worked until 5, and then I go to ESOL class 5 'til 9. All of us was tired, but sometimes our professor asked us to stand up and walk around the class, and talk together, or play some games that was related to class. I think these activities, was helpful that I liked to be at class tomorrow... I didn't miss any classes. I everyday go class, and I was happy because of the atmosphere of there."

Another factor was having faculty that they felt comfortable with asking questions and sharing when they did not understand concepts. Student 6 explained the importance of this: "I've been very fortunate I've heard horror stories about other teachers. I think the professors like being willing to answer questions and, you know, working with us. I think that really helped. Yeah, I think that really made the difference, just the way you know making you comfortable and if you have a question about something, you know when going over, and I love teachers who like if there was a problem with one of the homework that's like next day in class. All right, let's go over the problem, you know, this number, number 7 because everybody seems to have trouble with it, and then breaks it down that way. I really like that. I'm a visual person, so for me, that really helped to kind of pick up the concepts a lot faster and a lot easier."

It is evident from the interviews that it is critical for students to feel comfortable with their faculty. Furthermore, faculty willing to work with students and be present help the students succeed in their classes. A few participants also discussed having faculty that did not appear invested in their success and how this affected their progress in their courses. In some cases, they even dropped the class.

Student 2 explained how one professor harmed their success: "It definitely did. I actually ended up dropping my math class because I had [math] 083 this semester that they kicked us out of school. It felt like the instructor wasn't helping us. I just didn't feel like that she wanted us to succeed like she wasn't for us. I felt like at that time; she was kind of, I guess for herself. Whenever I asked her questions, I told her I was having a difficult time in math. And I said, so how can we meet up, will you be able to teach us online, like via Zoom or anything like that? And her response was, I'm gonna do what the school tells me to do, nothing more, nothing less... I left her class that day and dropped that class."

Student 6 also discussed their experiences with faculty that were not student-centered: "Some of them [professors] you felt like they were just kind of moving through the material kind of fast and it was sometimes hard to like, all right, when I don't know if I have this and some of my classmates who really were not grasping the concept, I kind of felt like we just kept moving on. Moving on, and they were kind of left behind."

The participants in this study indicated the benefits faculty had on their success. They stated that they did better when they felt the professor was invested in their progress and were more likely to reach out for assistance. When their instructors were doing the bare minimum, it hurt the class, leaving students frustrated. At least 2 of the 8 participants dropped courses due to ineffective professors. In some cases, the students actually "stopped out," leaving school for a more extended period. Student 8 left for several years because of various reasons, including personal challenges and ineffective faculty

PEER RELATIONSHIPS

Peer relationships are another factor of student success in developmental education. While not every participant highlighted their peers as a resource, several found this connection helpful. Not only did they connect with their classmates, but they also had study groups, formed group chats, and provided support to one another in their developmental classes. Whether the students worked on assignments together or just had general conversations about their classes, it served as another resource and connection to help them complete their courses.

Student 5 discussed their relationship with their classmates in their English for non-native speaker's class: "Yes, I did, um, I did. Sometimes we [students] call together with my classmates and talk about classes, or sometimes we check our homework together." Student 6 also talked about having a group chat with their developmental math classmates where they could ask each other questions about the content: "I think as far as peers, a lot of people like usually almost every single one of my math classes, we swap numbers, and so if there was something somebody didn't understand, we text each other, and I think that really helped. Because sometimes people other people would have a different way of doing things that it was just like, oh, I see what you did there, makes sense. You know they have a different, maybe a slightly different way or they explain it in a different way than, you know, it's like okay, that makes sense to me I got that, you know, so I think definitely having a relationship with my fellow students really helped."Student 6 also explained that they had a good grasp on most of the material, and they served as a resource for a classmate, which helped them. The more they explained the concepts, the better they understood the material. While not every student chooses to connect or work with their classmates, faculty may suggest that students create social groups to help them in their classes. Working with peers as a suggestion versus requirement would allow those interested in connecting while others can work alone if that is their preference.

OVERCOMING CHALLENGES

Study participants also discussed challenges they had overcome to be successful in their developmental education courses. These difficulties range from personal challenges to family issues and academic barriers. In each scenario, the student had to modify their life or school habits to complete their courses.

Several participants described health-related challenges during their developmental course that either affected them or an immediate caregiver. Student 2 provided several examples: "Ya, since I have been at school, I've had quite a few. Recently, I had cataract surgery. Last semester, I had COVID. I've had quite a few since I've been in school." Student 4 also had several major health events during school: "When my husband was admitted in the hospital because he's a kidney transplant patient. So, I think he had complications... And then I had a baby. So it was so much and tough on me, but I went through it I didn't drop the class. So, I went through it, and I passed the class. So another time was when I had my third baby. So, I think I missed 3 classes, then, but I didn't drop, but I finally I passed the class."

Student 6 described the general challenges of balancing school while working and having a family: "I had to leave behind my kids and my guy. He, you know, having to say goodbye like

go into work and then coming home and then like, all right, I gotta go to class now. That was definitely hard for them, trying to make sure they're situated before I would go to class was always, you know, a big stressor, you know, making sure that dinner is made everybody was set, if the kids had work, their own homework, making sure they were set with that before I left."

The participants also considered their academic challenges related to their developmental placement. While most accepted their need for additional help, they faced numerous challenges on their path. Student 1 talked in detail about their challenges with math and discovering their learning disability while in developmental math classes: "I came to found find out that I actually have like a math learning disability, it's called dyscalculia. I believe I'm pronouncing that correctly. And I had never been able to learn how to do like basic math on paper because of it I didn't know that, and it wasn't until I was in that class that somebody, you know, a friend of mine, I was like I'm in this class and they were like, you know, why don't you, you know maybe look a little further into that."

Three of the study participants were international students and discussed their challenges with the English language while they were in their developmental classes. Student 3 explained "I'm from Ethiopia, so my first language is different, so sometimes I have trouble my classes." Student 5 also had challenges with English "I read, and I don't have a problem with words, but speaking, it's new for me because I just came to the US 2 years ago, and before that, I didn't speak English." These examples reiterate the challenges international students may face as they learn English while participating in English-based courses.

Another challenge participants had to overcome was financial or personal family barriers. Ali-Coleman (2019) found that many community college students are from low socioeconomic backgrounds, requiring them to work while taking classes. Moreover, community college students are more likely to have dependents or be the primary caregiver for family members, putting a strain on their educational goals (Bahr et al., 2019; Quarles & Davis 2017). Study participants spoke to these challenges. Some of them had to stop out of school to address their external challenges and return when they were in a better position to focus on school.

Student 7 discussed their challenges with going to school while working and how family support made it possible: "Definitely. So I think college in general is tough, but working full time, and I took 3 classes when I took the developmental class, so that was my heaviest semester. I backed it off after that, but it was definitely a lot of a learning curve that semester, trying to get back into the flow of being a college student working full time. So being able to lean on my fiancé and my parents, just to kind of keep me focused on what the goal is, definitely very helpful for getting me to keep going through the classes and know that it may be a little stressful, but it's doable, and I can keep pushing through it, and at the end of it all, it's the goal that I want. So, it's definitely nice having their support."

Student 8 also briefly explained how they returned to school for the second time due to personal challenges: "...in terms of, you know, home stability. It wasn't the greatest when I originally had to enroll in developmental class when I ended up actually taking it again for the second time and passing it. There were no major obstacles like the first time around." These responses support the research indicating that financial and personal barriers can prevent students from success in their educational goals

SELF-EFFICACY

Self-efficacy relates to a person's belief in their ability to succeed at any given task (Peaselee, 2018). The participants provided numerous examples indicating they had the self-efficacy needed to succeed in their courses. Student 1 had previously stopped out of school. When they returned this time, they had a different plan to help them achieve their goals: "I wanted to actually be successful and do something that I set out to do. I just kind of got like, I just, I was over it. I was like, this is what it is, what I'm going to have to work harder, I have to accept that. And, you know, try to get this done the best I can... I think that because I had tried this previously and had not been successful, I just got to this point is like I'm just gonna have to work harder. I'm just gonna have to try harder. I learned that I needed to have a strategy in the first place. I've learned that you know, procrastination isn't the thing to do, I kind of just got this attitude I hate to say it, it is so cliché, but like the Nike like, just do it like it just have to turn the laptop on or open the book or whatever it is and literally just start. Whatever it is, no matter how difficult it was, I felt like once I finally opened it up and actually started looking at it, I would start."

Student 2 also described their need to do the work even when it was challenging: "The goals simply...I couldn't get a degree without passing math, I couldn't take biology without passing math, so you have to look at the bigger picture." Student 4 made a similar statement as they described their time in developmental courses while facing outside challenges: "I keep going. I refused to quit. It did not stop at all, and I passed the class." These participants accepted that they would have to work hard to achieve their goals.

Student 7 mentioned how confidence in their abilities helped them in their developmental class: "I'm pretty confident in my ability to succeed, don't want to sound like I'm so smart, but like I'm confident in my ability to learn something and test well with it and understand it, so I was nervous, but I felt like I would be okay." Student 8 had similar confidence in their abilities: "I was very confident in it because a lot of it was review material, so I was very familiar... I was very confident that I was going to be able to get through the information and pass the course."

Self-efficacy is also increased when individuals focus on their overall goals to earn a degree, better career opportunities, or benefit their families. Student 1 described their career goals: "I wanted to have like a career where I could be home with my kids. I just wanted to just be able to do it and get through all the courses and try to take my career on a different path." Student 5 simply expressed their desire for a better life: "The first thing is I like to have a better job; I like to have a better life... I always liked to be in the medical field...like people who help others to find other people to find a vaccine for COVID-19." Student 8 also stopped out of school for years before returning with a career goal to help them push forward with their developmental coursework: "I'm interested in accounting... it's completely different from information technology, and it's something that I'm 100% set on achieving, you know, in terms of what I was before. I do have a set career in mind now."

DISCUSSION+ CONCLUSION

The findings of this study correlate with the research examined for this study regarding the challenges students face in developmental education. As previously stated, community college students are more frequently underprepared for the academic rigor of college (Crocker & Mazer, 2019; Finn & Avni, 2016; Flink, 2017). Furthermore, they are more likely to be from underrepresented groups (Boland et al., 2018; Logue et al., 2017). The number of underprepared and underrepresent students in community colleges across the nation indicate that they will need additional education and resources to succeed in their developmental and college-level coursework (Hagedorn & Kuznetsova, 2016). The students in this study were no exception; however, they found ways to persevere in their classes.

DISCUSSION AND CONCLUSION

The use of additional resources by participants in this study benefitted their success. The participants highlighted how using these services bolstered their confidence in the content and their ability to be successful in their courses. Hagedorn & Kuznetsova (2016); Hesser & Gregory (2016); and Swanson et al. (2017) have found that developmental education student students often come to school without critical thinking, time management, and note-taking skills, and they also do not seek help when they do not understand the material. By seeking assistance outside of class to work on assignments and seek clarity for areas of confusion, these students can build the necessary skills to succeed. Additionally, students that participate in tutoring, work with their faculty outside of class, or utilize other resources to help them succeed are more likely to pass their courses and move forward in their education (Cook, 2016; Crank et al., 2019; Walker, 2015).

The students in this study showcased the benefits of utilizing faculty office hours. Several students, in particular students 1 and 3, attribute much of their success to participating in faculty office hours. Seeking help from faculty via office hours is a strategy that can help students complete their developmental education courses, and research conducted by Abdul-Wahab et al. (2019) supports this study's findings. They found that student attendance at faculty office hours strengthens communication, comfort level, and ability to provide early interventions, allowing students to succeed in the course.

Tutoring services are another beneficial resource to college students and utilized by the study participants as it provides a more relaxed environment where students are more likely to ask questions and work with other students to understand the content (Joyce, 2017). All participants except students 2 and 6 used tutoring services at the study college and found it helpful. They liked the opportunity to focus on their areas of confusion and work on class assignments with the tutor's assistance. Additionally, they appreciated the variety of services available at the study institution including scheduled sessions, drop-in times, and the ability to receive virtual help at varied hours.

Participants also used the study institution's writing center to assist them in their developmental courses. Writing centers assist with all aspects of writing, which is beneficial to developmental education students. Like other forms of tutoring, Arbee (2020); and Nichols & Williams (2019) indicate that using a college's writing center can help students' overall writing abilities, organization of information for papers, and current and future academic coursework. This study did not have any participants completing developmental reading and writing courses; however, the writing center was a resource for all participants taking English for non-native speakers courses. It helped them in writing correctly in English and the nuances of grammar and formatting. This time spent completing assignments with writing center faculty one-on-one fostered a better understanding of English as a written language. In particular

"

DISCUSSION AND CONCLUSION CONT.

student 5 discussed how they struggled with writing in English and have become more proficient with the help of the writing center at the study institution.

Another key finding from this study was the importance of students connecting with their faculty and/or peers. The participants discussed how it helped them feel comfortable with their faculty and seek help or ask questions in and outside of class. Positive student-faculty relationships are shown to increase student involvement in the classroom and college community, lead to better academic performance, and decrease the likelihood of dropping out (Ingraham et al., 2018; Snijders et al., 2020).

While all of the participants mentioned their faculty during their interview, students 1 and 2 spent a great deal of time talking about how their instructors impacted their classroom experience. Their instructors welcomed their questions and offered help whenever requested, creating an environment that helped both students bring their questions and grasp the course content. Both participants attribute much of their success to their relationship with the faculty.

Every participant mentioned their relationship with the faculty teaching their developmental course and how it impacted their overall success. When the faculty member was helpful, engaging, and welcoming, the students benefitted greatly as they willingly asked questions and sought help. Developmental education faculty must work to create a learning environment that makes students feel welcome.

The results of this study suggest the need for additional training for those working with developmental education students. While each participant talked about their positive experiences with faculty and how it benefitted their work in the course, a few also discussed previous instructors that did not possess these attributes. Students 2 and 8 dropped developmental courses because they had instructors that offered the bare minimum, leaving them lost in the class. Student 2, in particular, discussed examples of both poor and excellent faculty. This student dropped out of a developmental math class because the faculty member offered little to no help. When they returned the following semester to retake the same course, they had a different instructor that demonstrated a desire to help them succeed. Not only did they pass this course, but they also went on to complete a college-level math class with the confidence and skills they obtained from the invested faculty member. The findings suggest that developmental education faculty need to provide a space for students to feel comfortable seeking assistance, which may require training opportunities to help them understand their crucial role in fostering student development.

Study participants also found that working with their peers was helpful. While not every student mentioned their peers, some found it essential to study and complete assignments with peers outside of class. Additionally, they would ask each other for help when they were confused about an assignment. Student 6 preferred to reach out to their classmates for help before contacting their teacher and found they frequently got the answers they needed.

"

Community college students face challenges relating to their preparedness for college-level work, socioeconomic challenges, and personal demands.

(Finn & Avni, 2016; Flink, 2017).

"

Some cases, including this study's participants, may require their education to take a back seat (Quarles & Davis, 2017). Several participants had to leave school to organize their lives before returning. Students who are successful in their developmental education courses work to find ways to overcome these challenges, even if they had to leave school and come back later. They returned once they had dealt with these issues and made contingency plans for any additional challenges. While the participants faced obstacles, they found ways to overcome them and remain on track with their education goals. It is critical that developmental education students identify ways to overcome personal challenges to be successful in their developmental education courses.

Self-efficacy is a critical factor in the success of community college students in developmental education as it predicts success and higher academic performance (Evans et al., 2020; Peaselee, 2018; Thompson & Verdino, 2019). The findings of this study also demonstrate self-efficacy as a critical factor for student success, and every participant demonstrated self-efficacy in their interviews. They had confidence in their ability to succeed or worked hard to develop learning strategies and skills necessary to pass their courses. This study indicates that students need confidence, goals, and a solid work ethic to succeed in their developmental education courses. While some participants started their journey with high levels of self-efficacy, others

developed it during their courses. All 8 participants discussed how they came to trust in their abilities to learn the material, identified different learning strategies that worked for them, and became determined to succeed. Every participant also worked to establish confidence in themselves to push past their fear of failure. In some cases, it was working with their professor, using additional resources, or finding new ways to learn. It was also shown that having career or degree goals can assist students in building their self-efficacy and help with their forward movement through their coursework. The link between success and high levels of self-efficacy is evident in this study.

The themes for this study showcase the importance of students using both personal and academic strategies to complete their developmental education courses. The use of additional resources and connections to faculty and/or peers serve as academic strategies for the participants. They provide ways for students to obtain additional help and create relationships to help them with their studies. Overcoming challenges and self-efficacy are personal strategies for success in this study. The participants had to identify ways to overcome challenges in their personal lives that could harm their completion of these courses. The students also had to have self-efficacy or develop it while in developmental education to have confidence in their success. Overall, the study findings highlight the importance of both personal and academic strategies for successful completion of developmental coursework.

STUDY LIMITATIONS

The 8 participants represent 1 community college in the mid-Atlantic region of the US, so the findings of this study may relate to other institutions or be unique to this setting. Additionally, the study institution offers accelerated developmental education, co-requisite enrollments, and learning communities. Some of the participants completed their developmental courses in one of these formats. If another institution does not offer these options, the results of this study may not apply to their developmental education program

The study faced unforeseen challenges related to the global pandemic. When participant recruitment began, all students were off-campus, learning remotely. This hampered recruitment efforts as it was challenging to obtain interest from students at home. While participants were obtained over a few months, it is essential to note that the global pandemic may limit the study's findings as all participants were from developmental mathematics and English for non-native speakers courses. No students from developmental reading or writing participated in this study.

Additionally, some participants completed their developmental course before the pandemic, while others completed them during the pandemic. Moreover, some participants that completed multiple developmental classes had courses both before and during the pandemic. This point is an important limitation because those taking courses during the pandemic had to complete the developmental classes online regardless of their learning style. Students that learn best in person may have experienced challenges with the online environment. The study did not address this as it was not the focus of the research

Developmental Education Success:

Exploring Student Success Strategies in Developmental Education at the
Community College Level

RECOMENDATIONS +
ACKNOWLEDGMENTS

While the findings of this study provide insight into academic and personal success strategies for students in developmental education, additional research is recommended. It would be beneficial to repeat this study with students from all areas of developmental education to see if the findings are validated. Additionally, future research may break down the different developmental subjects into separate studies to see if the success strategies vary between developmental reading, writing, mathematics, and English for non-native speakers. Specific studies in each area may provide findings tailored to these areas that could benefit future students. Some of the research used in the literature review for this study focused on challenges in specific disciplines; therefore, research on success strategies could build on those studies.

Lastly, it would be prudent to repeat this study when a global pandemic does not affect the delivery of developmental courses. The faculty and students were pulled from their in-person classrooms in March of 2020. They were forced to take in-person courses online without preparation time which may have affected the quality of instruction and content. Most of these courses remained online for the following fall, spring, and summer semesters. It might be beneficial to repeat this study in the future when students are taking classes in the manner they chose, not because it is the only available option

ACKNOWLEDGMENTS

" REFERENCES "

Developmental Education Success:

Exploring Student Success Strategies in Developmental Education at the
Community College Level

1. Abdul-Wahab, S. A., Salem, N. M., Yetilmezsoy, K., & Fadlallah, S. O. (2019). Students' reluctance to attend office hours: Reasons and suggested solutions. *Journal of Educational & Psychological Studies / Magallat Al-Dirasat Al-Tarbawiyyat Wa-Al-Bafsiyyat, 13*(4), 715–732. http://dx.org.ezp.waldenuli-brary.org/10.24200/jeps.vol13iss4pp715-732

2. Ali-Coleman, K. Z. (2019). Essential Pathways: An examination of how community college compromise their unique contribution to American higher education. *Higher Education Politics & Economics, 5*(1), 54–69.

3. Aljohani, O. (2016). A comprehensive review of the major studies and theoretical models of student retention in higher education. *Higher Education Studies, 6*(2), 1–18.

4. Arbee, A. (2020). Factors underpinning students' use or non-use of a writing centre. *Per Linguam, 36*(1), 32–46. http://dx.doi.org/10.5785/36-1-881

5. Bahr, P. R., Fagioli, L. P., Hetts, J., Hayward, C., Willet, T., Lamoree, D., Newell, M. A., Sorey, K., & Baker, R. B. (2019). Improving placement accuracy in California's community colleges using multiple measures of high school achievement. *Community College Review, 47*(2), 178–211. http://dx.doi.org/10.1177/0091552119840705

6. Barhoum, S. (2018). Increasing student success: Structural recommendations for community colleges. *Journal of Developmental Education, 41*(3), 18–25.

7. Boatman, A., & Long, B. T. (2017). Does remediation work for all students? How the effects of postsecondary remedial and developmental courses vary by level of academic preparation. *Education Evaluation and Policy Analysis, 40*(1), 29–58. http://dx.doi.org/10.3102/0162373717715708

8. Boland, W., Gasman, M., Nguyen, T., & Castro-Samayoa, A. (2018). The master plan and the future of California higher education: Assessing the impact of state policy on minority-serving institutions. *American Educational Research Journal, 55*(6), 1369–1399. http://dx.doi.org/10.3102/0002831218787463

9. Caelli, K., Rey, L., & Mill, J. (2003). Clear as mud: Toward greater clarity in generic qualitative research. *International Journal of Qualitative Methods. 2*(2). http://dx.doi.org/10.1177/160940690300200201

10. Crocker, S. G., & Mazer, J. P. (2019). Associations among community college students' technology apprehension and achievement emotions in developmental education courses. *Technology, Pedagogy and Education, 28*(1), 37–52. http://dx.doi.org/10.1080/1475939X.2018.1562624

11. Distefano, A., Rudestam, K., & Silverman, R., A. (2004). Retention. *Encyclopedia of Distributed Learning* (pp. 391–392). SAGE Publications. http://dx.doi.org/10.4135/9781412950596

12. Eberle, T. (2014). Phenomenology as a research method. In Flink, U. *The SAGE Handbook of Qualitative Data Analysis* (pp. 184–202). SAGE Publications.

13. Finn, H., & Avni, S. (2016). Academic literacy as language policy in community college developmental writing. *Current Issues in Language Planning, 17*(3), 369–384. https://dx.doi.org/10.1080/14664208.2016.1201188

14. Mullen, C. A., & Fletcher, S. J. (2012). *SAGE handbook of mentoring and coaching in education: Responding to challenging circumstances.* SAGE Publications.

15. Flink, P. J. (2017). Adapting self-selected reading practices for college-level developmental reading courses. *Reading Improvement, 54*(3), 87–92.

16. Hagedorn, L. S., & Kuznetsova, I. (2016). Developmental, remedial, and basic skills: Diverse programs and approaches at community colleges. *New Directions for Institutional Research, 2015*(168), 49–64. http://dx.doi.org/10.1002/ir.20160

17. Hesser, T. L., & Gregory, J. L. (2016). Instructional support sessions in chemistry: Alternative to remediation. *Journal of Developmental Education, 39*(3), 22–28.

18. Ingraham, K. C., Davidson, S. J., & Yonge, O. (2018). Student-faculty relation-ships and its impact on academic outcomes. *Nurse Education Today, 71*, 17–21. https://doi-org./10.1016/j.nedt.2018.08.021

19. Jacob, S. A., & Furgerson, S. P. (2012). Writing interview protocols and con-ducting interviews: tips for students new to the field of qualitative research. *Qualitative Report, 17.*

20. Joyce, A. (2017). Framing office hours as tutoring. *College Teaching, 65*(2), 92–93. https://doi-org./10.1080/87567555.2016.1189393

21. Kahlke, R. (2018). Reflection/commentary on past article: Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods, 13,* 37–52. https://dx.doi.org/10.1177/160940691401300119

22. Logue, A., Douglas, D., & Watanabe-Rose, M. (2017). Reforming remediation: College students mainstreamed into statistics are more likely to succeed. *Education Next, 17*(2), 78–84.

23. Nichols, A. M., & Williams, B. T. (2019). Centering partnerships: A case for writing centers as sites of community engagement. *Community Literacy Journal, 13*(2), 88–106. http://doi.org/10.1353/clj.2019.0009

24. Oseguera, L., & Blackmon, E. (2012). Retention and diversity in higher educa-tion. In J. A. Banks (Ed.), *Encyclopedia of diversity in education, 1* (1862–1865). SAGE Publications. https://dx.doi.org/10.4135/9781452218533.n593

25. Peaslee, D. (2018). The relationship between faculty confirmation and community college student self-efficacy. *Community College Journal of Research and Practice, 42*(10), 635–649. http://dx.doi.org/10.1080/10668926.2017.1333931

26. Perez, E. B., & Hansun, T. (2018). Math course for liberal arts majors: A pilot with embedded remediation. Numeracy: *Advancing Education in Quantitative Literacy, 11*(1), 1–11. https://dx.doi.org/10.5038/1936-4660.11.1.6

27. Quarles, C., & Davis, M. (2017). Is learning in developmental math associated with community college outcomes? *Community College Review, 45*(1), 33–51. https://dx.doi.org/10.1177/0091552116673711

28. Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological.* Sage Publications.

29. Shields, K. A., & O'Dwyer, L. M. (2017). Remedial education and completing college: Exploring differences by credential and institutional level. *Journal of Higher Education, 88*(1), 85–109. http://dx.doi.org/10.1080/00221546.2016.1243943

30. Snijders, I., Wijnia, L., Rikers, R. M. J. P., & Loyens, S. M. M. (2020). Building bridges in higher education: Student-faculty relationship quality, student engagement, and student loyalty. *International Journal of Educational Research*, 100. https://doi.org/10.1016/j.ijer.2020.101538

31. Swanson, N., Vaughn, A., & Wilkinson, B. (2017). First-year seminars: Supporting male college students' long-term academic success. Journal of College Student Retention: *Research, Theory & Practice, 18*(4), 386–400. http://dx.doi.org/10.1177/1521025115604811

32. Thompson, K. V., & Verdino, J. (2019). An exploratory study of self-efficacy in community college students. *Community College Journal of Research and Practice, 43*(6), 476–479. http://dx.doi.org/10.1080/10668926.2018.1504701

33. Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of student leaving. *The Journal of Higher Education, 59*(4), 438–455. http://dx.doi.org/10.1080/00221546.1988.11780199

34. Walker, M. (2015). Exploring faculty perceptions of the impact of accelerated developmental education courses on their pedagogy: *A multidisciplinary study. Research & Teaching in Developmental Education, 32*(1), 16–38.

35. Xu, D., & Dadgar, M. (2018). How effective are community college remedial math courses for students with the lowest math skills? *Community College Review, 46*(1), 62–81. http://dx.doi.org/10.1177/0091552217743789