

Navigating AB705 and a Pandemic: An Investigation of Students' Experiences With Placement and Advising

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Recent state policies have pushed for more diversity in the STEM pipeline. One proposed solution is the California Assembly Bill (AB705) (California Community College, 2018), which requires students to take and pass gateway math courses within their first year at community colleges. In theory this policy seems like a solution, however pragmatically there is a lot to be learned about its implementation and consequences for students. In this paper, we address the research question: What are students experiences with placement and advising at a local two-year college. We conducted a descriptive qualitative case study (Yin, 2009) that draws upon student outcome data and focus groups. We focus on 5 STEM majors' experiences. Findings suggest most students passed their gateway math courses within a year, however students described negative placement and advising experiences: receiving deficit-oriented suggestions from counselors and limited counselor availability. We discuss implications in the paper.

Keywords: Gateway Mathematics Courses, Placement, Advising, Guided Self Placement (GSP)

Introduction

California Assembly Bill 705 (AB705) was created to increase the diversity of students pursuing STEM (California Community College, 2018). AB705 requires that students enroll and complete transfer-level mathematics courses, such as college algebra, trigonometry, or pre-calculus by the end of their first year. In order to meet state mandates, institutions were forced to adjust structures and procedures, while still navigating various levels of students' preparation. Despite AB705 being well intentioned, one potential consequence is that the increase in students taking STEM courses sooner, has not led to a decline in student failure rate in these courses. In fact, the failure rate in these courses is the same or in some cases higher. This creates a paradox of sorts, as administrators see the increase in "throughput" as a positive, while instructors see the unchanging or higher failure rates as a negative result. This paradox raises concerns about what issues are underlying the implementation of the state mandate. In this paper we describe students' experiences with placement and advising at a local two-year college. Specifically, we consider the role of counselors in placement and advising students. It is important to note that the study took place during the pandemic. We highlight the pandemic because it is an additional layer of complexity that potentially impacts student placement and advising. As a result, this paper has two purposes: understanding students' experiences with placement and advising and highlighting the challenges of ensuring that students are appropriately placed in gateway mathematics courses. The research question that guides this paper is How do students feel about their placement and advising compared to how they did in the course they were placed into?

Literature Review

Several researchers have investigated gateway mathematics courses at two-year colleges. For example, one thread of inquiry researchers have tried to understand is student placement and the subsequent role that advising plays in the placement process. By gateway mathematics courses, we mean courses that are credit-bearing and transferable to four-year institutions (e.g., College Algebra, Precalculus). With respect to student placement and advising, there are several key

findings worth highlighting. First, Kosiewicz and Ngo (2019) using self determination theory, found students who have autonomy to select their courses are successful in enrolling and passing those courses. This finding is important as it highlights the value and importance of student agency. In contrast, other research using Behavioral Decision Theory (BDT) has found that students often do not make good decisions on which course to take (Payne, Bettman, & Johnson, 1992). The tension between findings that show students successfully enrolling and passing their course, alongside studies that show students do not make good decisions raises the question: Under what circumstances is it possible for students to exercise their autonomy and agency in course selection so that they can be successful?

There is literature that points to the idea of directed self placement (DSP) meaning that students have some autonomy, but also have guidance in the placement process. Tovar (2015) highlighted how crucial it is for counselors and students to develop a good relationship with one another in order to allow counselors to have a positive impact on supporting students to take and pass courses throughout their college career. Based upon this literature it seems it is possible that students can be placed in the correct courses and pass them. By correct courses we mean courses that students are prepared to take and likely to pass. It also seems that key individuals such as counselors play a pivotal role. However, one area that needs further study is understanding how students navigate having more agency and autonomy in selecting courses as a result of state mandate. Additionally, we need more understanding of the role that counselors in particular play in this process to ensure that students are placed in the appropriate course. Our study attends to these questions by focusing on students' experiences with placement and advising during the implementation of AB705.

Theoretical Framework

Self Determination Theory

Self determination theory (SDT) is a framework at the macro level utilized to comprehend personal intrinsic motivation and how social circumstances can influence individual intrinsic tendencies to not only grow, but also develop (Ryan and Deci, 2005). Moreover, social determination theorists have found that when a student is in an educational environment that captures three psychological needs, autonomy, competence and relatedness, student academic achievement is enriched (Kosiewicz and Ngo, 2019). Autonomy refers to the students using their own interest to decide how to take action.

In this study, we will focus on students' autonomy in order to understand how students decide to place themselves into their courses. From a SDT perspective, we expect that students' individual autonomy will make them feel like they were placed into the correct course. On the other hand, BDT suggests that students underestimate their abilities because of factors such as personal experience, demographics, and psychological features (Kosiewicz and Ngo, 2019). As a result, students tend to make suboptimal decisions. Our study intends to explore and highlight student experiences when it comes to placement and advising using both SDT and BDT. The implementation of AB705 removes the high stakes of a placement test in order to properly place students into their respective courses. Furthermore, this removal gives students more autonomy as additional measures such as high school GPA, high school courses and high school grades are taken into consideration when placing students into courses. Since students are aware of these additional measures that are being considered, they realize their current skills and abilities and use their autonomy to ultimately decide which math course they want to take.

Social Capital Theory and “Cooling Off”

Social capital theory is a framework that considers all the resources such as social networks and interpersonal relationships created and maintained by individuals when support is being sought (Bourdieu, 1986). Additionally, Tovar (2015) found that counselor and student communication impact not only how students interact with faculty members, but also their acclimation to social and academic environments in college. This highlights the importance of fruitful interactions and relationships between students and counselors. One may deduce that a lack of developing and nourishing this relationship between students and counselors may be detrimental to a student's overall experience navigating college. Using social capital theory as a framework, we hypothesize that counselors are supportive and helpful in advising students, and predict that as a result of this support, students will have positive experiences with counselors. It is important to note that although counselors are meant to act as agents of the institution who are supposed to provide students with the help, guidance, and support they need to be successful in their academic endeavors, Bahr (2008) emphasizes that counselors are subject to “cooling off” students. Bahr (2008) defines the “cooling off” process as the progressive detachment of a student from his or her personal academic goals. Furthermore, Bahr (2008) explains that this is executed by counselors using factors from students such as level of preparation, skills and abilities in order to lead them down a lesser path of achievement rather than the path students intend to take. In our study, we intend to explore the role counselors have on students and how student experiences with advising affect placement.

Collectively we leverage SDT to understand the ways students exercise their autonomy with respective placement and advising. BDT is used to capture if students are not appropriately placed and/or do not pass their course to understand what mechanism might contribute. Lastly, we use “cooling off” as a lens to describe how counselors place and advise students.

Methods

Context

Focus groups and interviews were conducted at Southern Hispanic Serving Institution (SHSI). When collecting the data, courses taken by students and taught by instructors at this institution were college algebra and precalculus with trigonometry. This HSI has diverse students with 90% racial-ethnic minorities and the Hispanic population making up 70% of the population. Furthermore, the most common demographic for instructors at this institution was female professors, followed by male professors and female assistant professors.

Data

The data used for this study comprised student interviews and student outcomes. Student interviews were done in the format of focus groups. There was a total of 19 students interviewed across gateway math courses. Student interviews focus on students' experiences navigating placement and advising with a focus on counselors. We define counselors as fine non-department university staff who work with students on course selection. The last data used in this paper is student outcome data. Student outcome data contained the courses students took for Fall and Spring and whether the student passed a course. This data included only gateway mathematics courses. It is important to note that we define *passing* as a student who does not need to take the course again. For example, if a student earned a C in College Algebra, then they would not need to retake College Algebra.

Data Analysis

Analysis of the qualitative data was done using MAXQDA software. Interview transcripts were coded using open coding with a focus on advising and placement. In the first round of coding, the first author coded the student transcripts. After coding the first and second author met to discuss first level codes. That is, segments of the data that focused on placement and advising. In the second round of coding the first author developed subcodes to further unpack the first level codes. The first author then met with the second author to confirm the subcodes. Lastly, the first author looked across the coded transcripts for similarities and differences between and among students' transcripts.

Findings

In this section we provide data on students' course trajectory to get a sense of the courses students took and the letter grade they received, which indicates whether they passed. Next, we address the research question: *How do students feel about their placement and advising compared to how they did in the course they were placed into?*

After the passing of AB705, the SHSI created an assessment called Guided Self Placement (GSP) that considers additional measures such as high school transcripts, last math course taken, etc., in order to help students be successful in their respective placed courses. In some cases, if a students' assessment determines that they are going to require additional help to be successful in their math course, the student needs to enroll into a support course for the math course they were placed into. Regarding placement, most of the nineteen students interviewed in focus groups believed they were placed into the correct math course. Additionally, students who felt they were not due to either the difficult transition to online classrooms during a pandemic and/or lack of proper foundation to be successful in their placed course. Despite students feeling that they were placed into the correct course, multiple students described having negative experiences while trying to get placed into the proper course. There were two categories of negative experiences students had with placement, interactions with counselors and counselors not having adequate time. Below I provide student examples to illustrate students' negative experiences with placement.

Counselor Suggestions Through Deficit Orientation

Kali is a student who enrolled into Precalculus with Trigonometry after taking the SHSI's Guided Self Placement (GSP). When consulting a counselor about her math placement, the counselor questioned Kali's ability to be successful in the course by saying "oh a lot of people take Applied Calculus I first because they think it's easier, are you sure you want to take Precalculus with Trigonometry?" This comment shows how counselors partake in the "cooling off" process described by Bahr (2008). Kali stated that the counselor's comment, "...kind of rubbed me the wrong way." Kali's reaction to the comment highlights how although it may seem like counselors have the students' best interest at heart, they may not properly convey that. As a result, a weak relationship is developed between Kali and this counselor, which limits the social capital Kali has access to. Having limited access to social capital can be detrimental to student experience, but regardless of what she was told, Kali felt like she was placed into the correct course. This shows that through her own agency and autonomy, Kali decided Precalculus with Trigonometry was the correct fit for her level of preparation. Lastly, she was able to prove the counselor wrong by receiving a passing grade.

After taking Intermediate Algebra I and II, Saul is a student who decided to reach out to his math instructor to receive guidance on which class to take next. He ended up enrolling in

Precalculus with Trigonometry. When Saul decided to consult with a counselor to get advice, the counselors completely disregarded what Saul said and did not give him advice to help him take the proper steps toward achieving his academic goals. Instead, the counselor advised Saul to change his major, which leaves Saul in a tough position since he knows what major he wants to pursue and decided to attend this SHSI in order to save money. This interaction highlights how counselors accomplish “cooling off” by not listening to students and suggesting them to stray away from their academic goals. Furthermore, it highlights the importance of listening to a students’ wants and needs, and having the counselors receive the proper professional development to ensure those needs are met. Even having a negative experience with advising, Saul used his own agency and autonomy to ultimately enroll in and pass the Precalculus with Trigonometry.

While only two experiences are highlighted in this section, these experiences are powerful because they highlight the counselors' deficit perspective on student trajectories in STEM (e.g., Change of Major). Since only two students were able to personally interact with counselors, this shows the limited availability of counselors. We will say more about limited counselor availability in the next section and how it affects student placement and advising.

Limited Counselor Availability

Nicole is a student who was placed into Analytic Geometry and Calculus II. The path to getting the correct placement was not easy. Nicole had to talk to her high school teacher for guidance because her discrete math class did not transfer credit to the SHSI, but the material covered in the discrete math course should place her in a higher level of math. After speaking to a counselor about her misplacement, Nicole was placed into Analytic Geometry and Calculus II. This particular experience highlights the lack of coordination between high schools and local community colleges. Furthermore, it shows that students rely on former math instructors for guidance on which math course to take when they transition into college, which shows Nicole utilized her autonomy to ultimately decide what course she wanted to be in. Nicole states in her interview that getting counseling is a bit hard. As a result, she relies on the SHSI’s student plan that was made with a counselor in order to help her choose the classes she needs to achieve her academic goals. Although it was difficult to receive advising, through her own agency and autonomy, Nicole enrolled into and received a passing grade in her placed course.

Evie is a student who enrolled into College Algebra with support after filling out the SHSI’s GSP. When the GSP assesses that a student is going to need support to be successful in the course they place into, the student is required to enroll into the support course. Evie took initiative and decided to reach out to counselors to get advice on which courses to take. She states, “Well, I went to the counselor and um, I just, I did-they didn't have time to do a counseling meeting um at the time. So, it was just some lady in the front. She just could see me for five minutes.” Evie not being able to access helpful resources such as counselors shows that Evie’s social capital is limited. Additionally, it shows a need for properly trained counselors for students to be able to receive the proper resources to be successful. Overall, despite not being able to access counselors, Evie utilized her autonomy to ultimately enroll into College Algebra with support and received a passing grade.

Domi is a student who enrolled into Precalculus after using the SHSI’s GSP. When attempting to reach out to counselors about which math course to enroll into, Domi did not receive a response. As a result, Domi attempted to enroll into Calculus, but due to not meeting the prerequisites was unable to. After this experience, Domi reached out to a friend who told him to fill out the GSP. The path Domi had to take in order to be properly placed into his math course

is common for students. Additionally, not being able to access counselors during a time of need shows that there are more students needing help than counselors can attend to. Although Domi was unable to seek support from institutional agents (e.g., counselors, faculty/staff), he utilized his autonomy to reach out to others in order to ultimately make a well-informed decision on which course he should enroll in. Additionally, Domi's experience highlights the power of GSP as it helps students place themselves in their math courses. Overall, although Domi had to reach out to resources other than counselors, he still felt like he was placed into the correct course and received a passing grade.

Discussion

The purpose of this study was to investigate students' experiences with placement and advising at a two-year college in the aftermath of passing AB705. In our study, we noticed that fifteen out of the nineteen students passed the gateway mathematics courses they were placed into within a one year time frame. Furthermore, we found that most students felt like they were placed into the correct mathematics course. Although this was the case, students described having negative experiences when interacting with counselors. These experiences were grouped into two categories, Counselor Suggestions Through Deficit Orientation and Limited Counselor Availability. These findings highlight points made in the literature about counselors "cooling off" students, and not developing positive relationships with students, which can limit the access to resources within a students' social capital. An important resource students mentioned being helpful was being a part of the First Year Experience (FYE), which gives students direct access to counselors who can dedicate themselves fully to them. On the other hand, students who did not have a resource such as FYE had a more difficult time accessing counselors. As a result, although not focused on this paper, there seems to be a lack of counselors needed to ensure that students are able to obtain and access the resources they need, which brings attention to limitation of resources available in a students' social capital. Other work might also attend to the ways in which counselors are trained, as several interactions between counselors and students highlighted the deficit lens. It is important to note that this study was conducted during the pandemic, which may have contributed to the experiences students described. However, the concerns raised are very significant while learning to navigate a pandemic.

Limitations

While our study focused on student experiences with placement and advising, our study did not allow us to interview many students. In addition, student focus groups were conducted over Zoom, which may have contributed to why students may have resisted being interviewed as they were just beginning to use the platform. Collecting data over Zoom may not give diverse perspectives. Moreover, we also recognize that when this data was collected students were learning how to navigate the world in a pandemic, which could heavily influence their responses and experiences at the SHSI. As a result, we must acknowledge that the self-reported data we gathered may be subject to bias. These limitations highlight the importance of further research of student experiences with placement and advising during a pandemic.

Acknowledgments

This work is supported by the National Science Foundation under Grant No. 1953713 and 1953753. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

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