

the text. I don't think higher education is in jeopardy, but I do believe we are facing a wake-up call because our culture is certainly in jeopardy. We need teachers now more than ever.

We must rethink many aspects of higher education because our world is changing. However, the

relationship we build with our students, the mentorship we can provide our students as they navigate a world full of more content than we can create or provide, will take a higher precedence. ChatGPT is here. More AI will follow. How are we going to adapt?

Examining Students' Perceptions and Experiences in a Community College Mathematics Course

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Although student academic support programs have dated back to Early Colleges in America, the way we service our students' populations has had to evolve. Various student support programs have been utilized over the years, and while at that current time may have indicated benefits, are now outdated. One service that is demonstrating success is Supplemental Instruction (SI). There is a plethora of quantitative research studies that support the use of SI for raising students' grades in historically difficult courses. Few research studies explore the qualitative benefits and experiences of SI experienced by students. The purpose of this study was to explore students' perceptions and experiences in a community college mathematics course with attached SI.

This study explored the attrition and failure rates experienced by community college students, which affects graduation rates and limits the number of individuals who are workforce ready. Changes in admission policies at postsecondary institutions have made the attainment of a college degree for diverse student populations possible (Taniguchi & Kaufman, 2005). As a result of these changes, every year colleges and universities admit a sizable number of students who are unprepared or underprepared for collegiate level

courses (Bahr & Gross, 2016). Approximately twenty-nine percent of first year and second year students entering 4-year public institutions require at least one remedial course, while approximately 41 percent of first- and second- year students in 2-year higher education institutions require at least one remedial course (Skomsvold, 2014).

Furthermore, attrition is costly to stakeholders such as students, faculty, institutions, community members, state and local governments. This results in a waste of valuable time and resources (Bettinger & Long, 2005). According to the American Institute of Research (AIR) approximately 3 billion dollars are spent by state and local governments paying for costs associated with re-educating students who have dropped out of community colleges, and when federal appropriations to these students were included, the cost was estimated to be 4 billion dollars (Ascend Learning LLC, 2012).

The population utilized in this qualitative research study consisted of students enrolled in a math course with SI attached in northeast US. Surveys, questionnaires and documents such as SI logs and math course grades were used for data collection. Grounded research, specifically systematic design was employed

for data analysis and data was segmented for codes (open coding, axial coding and selective coding) and description of themes. Findings were presented in a narrative discussion, discussion of themes. The research questions explored in this study were:

1. What are the perceived benefits of SI by students enrolled in a math course with attached SI?
2. Which SI skills obtained do students perceive as being transferable to other courses?
3. What factors contribute to successful SI sessions?
4. What type of sessions hinder successful SI sessions?

The findings for research question one were that students perceived the benefits of attending SI sessions to be gaining an increased understanding of the topic(s), greater opportunities to practice and review, and the development of various skills. Participants believed that they benefited from gaining an increased understanding of the topics(s), since concepts were explained in detail in SI sessions. Additionally, the opportunity to practice the skill(s) with a knowledgeable peer-leader gave students the opportunity to check their work, and ensure they were doing it correctly as well as correct misconceptions. The skills that SI helped develop included study skills, time management and test taking skills.

In research question two, the skills obtained in SI sessions that participants perceived as being transferable to other courses were time management, test taking and problem-solving skills. This demonstrates the usefulness of SI in aiding participants to develop and utilize the skills necessary to persevere through their academic journeys and towards graduation.

The third research question was divided into three categories and was designed to determine the factors that students perceive to lead to successful learning sessions. The categories were the features of successful learning sessions, SI leader's abilities and the interaction that occur in SI sessions. The findings suggests that effective learning sessions are ones that are interactive, and students believe that having opportunities to interact with the material, as well as with other students is essential.

The second category suggests that the activities that learning experience leaders should perform in successful learning experience sessions include foster collaboration, ask questions, provide opportunities for practice and provide meaningful feedback. There is a belief that all students have something to offer, and collaboration is a good strategy for them to bounce ideas off each other, to assist each other and have everyone involved in learning. Students believe that they should be allowed to ask questions in order to gain a better understanding of the material, and that SI leaders should also ask questions to facilitate reviews of the materials.

Providing opportunities for practice are deemed as important by students since practice allows for the SI leader to check for understanding, and pinpoint and correct misconceptions. Students also believed that meaningful feedback from SI leader allows for participants to be informed of the skills they need to improve, while feedback from participants to SI leaders encourages them to improve their skills and guide their planning and delivery of the subject matter material.

The characteristics of effective SI leaders are effective communication skills, ability to foster collaborative learning and possessing leadership abilities. Students believe that poor communication renders SI useless. Effective SI leaders are flexible and creative with their explanations. It is not enough for the leader to possess subject matter expertise; if the SI leader is unable to convey the skills and concepts clearly, then they will not be effective. SI leaders need to have the ability to communicate concepts in ways that cater to students' needs. Possessing the ability to foster collaboration and being a peer-leader were also perceived as beneficial traits. SI leaders must possess the ability to encourage and foster group work, since group work has the potential to get all students (including shy students) involved and interacting with each other. As a result, students are then able to help and teach each other. Possessing effective leadership abilities were also deemed as essential traits of SI leaders, and they should be approachable and act as guides.

The type of interaction between SI leaders and students that were deemed necessary in successful SI sessions were modeling and practice, and question

and answer. In modeling and practice, the SI leader ought to provide examples, show students step-by-step how to solve the problem, and provide similar problems for students to solve. Additionally, they should assist students if they get stuck while trying to solve a problem. A mutual understanding should occur between SI leaders and students that the SI leader is there to help. Students should be able to ask questions to their SI peer-leader and have their questions answered without being made to feel inferior. Furthermore, SI leaders ought to ask students questions to check for understanding. In successful SI sessions, students believe that they should feel like they are being personally catered to, as SI leaders seek to address questions and misconceptions in an informal setting. This feature is usually nonexistent in the classroom.

The type of interaction that students perceive ought to occur amongst students, is one with copious opportunities for collaboration. These can occur in the form of study groups where students teach and learn from each other. There should be ample opportunities for discussion and interaction, and chances for students to help each other by showing each other unique ways to solve problems.

The final research question was designed to investigate the factors that students believed were hindrances to successful learning experience sessions and were found to be sessions that were lecture style, consisting of a great deal of talking. This was considered ineffective due to lack of opportunities for interaction and limited opportunities for questions.

Most studies on SI focus on the grades and test scores, however limited studies focus on the actual skills gained from attending SI. This study helps to identify how students use the skills they have gained as a result of attending SI, which can result in being better equipped to successfully manage and advance through their academic journeys, as well as how these skills serve students on their journeys. The more students view this service as being beneficial the more likely they are to use this student service in other courses.

The features of SI that students believe are beneficial, as well as those that are hindrances to successful

SI sessions can be useful to college administrators, SI program coordinators and SI leaders as it allows for the structuring of effective SI sessions and appropriate training for SI leaders. Additionally, this information is useful in informing higher education administrators and policy makers of the valuable skills gained through SI by both traditional and nontraditional students necessary to persevere through college, ultimately reducing attrition and increasing graduation rates.

A recommendation for future research is to examine the use of SI with remedial courses. Remedial courses are considered barrier courses since successful completion of these courses often stands in the way of students' matriculation into credit-bearing courses. More oft than not, students' success in these courses will ultimately influence whether students will persist through a program or drop out. Another opportunity for research is to investigate how students' perception of SI and its benefits correlate with students' grade point averages in courses with SI attached.

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