Understanding the Impact of an LSAMP Scholar Program

Dr. Yang Lydia Yang, Kansas State University

Yang Lydia Yang is an Associate Professor of Quantitative Research Methodology at College of Education, Kansas State University. She received her Ph.D. in Curriculum & Instruction from Florida International University. Her research interest include quantitative educational research design and statistical analyses, Q methodology, and recruitment and retention in STEM fields.

Dr. Brenee King, Kansas State University
Dr. Amy Rachel Betz, Kansas State University

Dr. Amy Betz is the Assistant Dean for Retention, Diversity, and Inclusion for the College of Engineering at Kansas State University. She is also an associate professor in the Department of Mechanical Engineering.

Shana Bender

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This is a work-in-progress paper. Beginning in 2014, Kansas State University, a predominately white, midwestern, land grant institution, was awarded a Louis Stokes Alliance for Minority Participation (KS-LSAMP) grant focused on identifying innovative pathways to recruit, retain, and graduate underrepresented minority students (including African American, Hispanic/Latino, Native American/American, Pacific Islander and Alaskan Natives) in science, technology, engineering and math (STEM) [1]. This National Science Foundation (NSF) funded grant has implemented several programs to focus on critical transitions for students such as high school to college, two-year to four-year institution transfers, and those final years as students head toward graduation. Ongoing activities funded by this grant include research experiences, transfer pathways, and co-curricular activities. In 2020, a Scholar Program was also created at the university to help support students as they make progress toward their baccalaureate degree. The outcomes for the Scholar program were for students to become more knowledgeable about themselves and what they need to succeed in their academic and personal success. Key to the program was flexibility and an individualized plan for each student. The Scholar program is being piloted at Kansas State University; but if successful, the program may become a model for other institutions within the alliance to implement.

Theoretical Framework

The Scholar program was informed by the Kamphoff and colleagues' motivational and empowerment model [2]. Their model was developed to help students on academic probation and included a combination of workshop/classroom interventions and a novel advising model. It also moved beyond looking at retention solely as a measure of success for a program but included the examination of changes to student attitudes, aspirations, and abilities. Their model included four pillars: personal responsibility, positive affirmations, goal setting/life planning and self-management. These pillars were developed from previous work that included Social Cognitive Theory [3], Reality Therapy [4], Appreciative Inquiry [5].

Components of Social Capital Theory [6] were also used when developing the Scholar program. This framework focuses on the importance of relationships and how they can be productive in achieving certain ends. It draws upon the concept of a resource for persons [6]: individuals or groups of people that students can interact with to assist in their adjustment to an unfamiliar environment. Research has long shown that students who are socially integrated in their college campuses are more likely to continue at their institution [7]. Peer support can also contribute to a student's social capital especially in first-generation student populations where students perceived their peers are better able to support their needs to do well [8,9].

The combination of these two frameworks were weaved into the Scholar Program such that it maintained a combination of peer group interactions and more one-on-one interactions with academic coaches to provide participants with a robust experience. The development of the Scholar program also drew on previous work on best practices for the success and retention of first-generation [10] and underrepresented minority students [8,11]. These best practices include providing non-academic advising and educating students on campus resources [10] and peer support [8,12] and positive mindset [11].

Academic coaching was placed centrally into program components. Goal setting and relationship building are key components of the academic coaching philosophy which aligns with many of the common elements seen across the literature that was used to create the Scholars Program. Academic coaching also has similarities with the practice of Reality Therapy [4] which was used as the framework for the personnel responsibility pillar in the model developed by Kamphoff and colleagues [2]. Reality Therapy is an ongoing process of creating a trusting environment and using techniques to help an individual discover and reflect on their true goals. In addition to the goal of building on social capital, there are positive academic outcomes for students who regularly interact with academic coaches.

Several studies have shown positive outcomes with an academic coaching program [13-17]. Bettinger and Baker [13] found that older, non-traditional students were more likely to persist at least 1 year after coaching sessions concluded. Previous studies looking at retention and GPA measures [14,15] showed some improvements from intervention to control group, but none that demonstrate statistically significant results. Capstick et al. [16] have demonstrated coaching as a promising intervention for students identified as “at-risk” because of their GPA falling below a threshold of 2.0. Another study showed that academic coaching improved GPA and retention for students “at risk” and in good academic standing [17]. Based on the current literature, more research is needed to understand how various student groups (such as low SES and historically underrepresented groups) may respond to academic coaching as a student success intervention.

Program Description

Adapted from Kamphoff and colleagues’ motivation and empowerment model and Social Capital theory, the components of the Scholar program focus on the following key areas - learning engagement, time management, self-confidence with campus resources, commitment to learning, and awareness of self-management. During this eight-week program, students were required to participate in an online course on academic development, interface with campus resources, participate in Scholar Chats with peers, and attend academic coaching sessions (details of each provided in the following paragraphs). The program was developed in this format to provide a customized opportunity for students centered on what they identified as important to

them. Additionally, the Scholar Program was designed to be accessible by students from across campus and with varying academic standing and academic performance.

The online course, administered through the institutional learning management system, had modules focused on goal setting, defining and accessing campus resources, self-management, and personal responsibility. Each module contained information that students reviewed at their own pace. Due dates were set to help keep participants on track with the program's pace. After each academic coaching session and when participants interfaced with a campus resource, they completed a short reflection. These assignments were created to serve the student by having them take time to review their experiences, but also serve to monitor student progress on the program. Completion of the course was estimated to take five hours over the eight-week program.

Campus resources were defined as offices or opportunities available to students that can help them reach their goals. Resources were categorized by academic success, professional development, and personal development. Students were not required to use the resources listed in the course. Engagement with campus resources was estimated to take thirty minutes to one hour for each session.

Scholar Chats were built into the program to help with peer-to-peer interaction and learning. An orientation session was scheduled at the beginning of the program followed by two 30-minute sessions. Topics for these sessions were derived from applicant information. One question asks, “What topic would you like to discuss with your peers and learn more about?” Scholar Chats were intentionally kept short and focused on peer-to-peer interactions. As such, facilitation was kept at a minimum to maximize student interaction. The program concludes with a session focused on reflection and next steps for students. Sessions were estimated to take three hours over the eight-week program.

Academic coaches are full-time university staff members that serve students campus-wide. For the LSAMP cohort, a dedicated coach was assigned to the group of students. During initial academic coaching sessions coaches facilitated a conversation using the GROW model. GROW, developed initially by John Whitmore [18], represents a cycle of steps needed to achieve a set goal: Goal, Reality, Options, and Will. Students are instructed to consider one short-term and one long-term goal. At the first meeting, those ideas are clarified and developed into SMART goals documented on the Academic Success Plan (ASP). Following the GROW framework, students reflect on their current strengths and obstacles (Reality) and consider what options would help them move in the direction of achieving their SMART goal (Options). Before the end of the initial appointment, students are asked to commit to one to three action items before the next meeting (Will).

The second academic coaching meeting is considered a "working" appointment to review progress and analyze how students' action items either supported or potentially detracted from their goals. Adjustments to the ASPs are made based on the student's analysis of their progress. Typically, these second meetings include more individualized conversations, allowing the students to drive the reflection, alongside the coach, who provides follow-up questions and guides student thinking in the direction of actionable steps toward the goals. At the third, and sometimes final, meeting, students are asked to return to the SMART goal and evaluate if they have met their semester goal and/or steps towards their long-term goal. Future steps are considered either to continue or maintain progress on the set goal. Time with academic coaches was estimated to take thirty minutes for each session.

Upon completion of all the required activities, participants are provided with a stipend. Participants were asked to complete a self-assessment on the abovementioned areas at the beginning of the Scholar program (pre-test) and after the completion of the program (post-test).

Research Question

This paper examines whether the Scholar Program impacts the participants in the following areas: learning engagement, time management, self-confidence with campus resources, commitment to learning, and awareness of self-management. The Scholar Program participants are asked to complete a pre-test survey instrument before participating in the program and a post-test survey using the same instrument after the completion of the program.

Recruitment and Participants

All current LSAMP recipients were invited to participate in the Scholar program. An email was sent out to eligible students to encourage participation. The invitation email noted that a stipend would be provided upon active participation in program activities. Interested students were directed to complete a short application which included open-ended questions related to their cultural background, short- and long-term educational goals and activities in which they are committed.

Between Fall 2020 and Spring 2022, 129 students responded to the invitation email to express interest. Review of application included a rubric that aligned with the application questions. Points were assigned to responses with additional consideration for student major (given that the LSAMP grant focuses on STEM students), and amount of time students listed for additional commitments. It was estimated that all program components would take around twelve hours to complete over the eight-week period. Following review of applications, 84 students were selected to participate in the program with 80 students fully completing the program (95% completion rate). 74 students (93%) completed the pre-test survey instrument at the beginning of

the Scholar Program. A post-test survey was sent to them after the completion of the program. 64 students (80%) completed the post-survey. The participants were 63% female, 74% identified as underrepresented minority students and 66% identified as first-generation students.

Measures

The pre- and post- test questionnaire was adapted from two existing instruments, Michigan State University Student Assets Survey [19] and the NACADA Academic Advising Survey [20]. Both instruments are validated and widely used. The questionnaire used in this study measures the following key areas: learning engagement, time management, self-confidence with campus resources, commitment to learning, and awareness of self-management.

Learning Engagement measure included 3 items. Participants were asked about how frequently they do each statement on a 5-point scale, where 1 = "Never" and 5 = "Always". Exemplary items include: "I speak up/out in class." "I visit faculty during office hours." A scale reliability analysis of the measure for this study resulted in Cronbach's α of .79.

Time Management measure included 5 items. Participants were asked about how frequently they do each statement on a 5-point scale, where 1 = "Never" and 5 = "Always". Exemplary items include: "I complete my assignments on time." "I attend all class sessions." A scale reliability analysis of the measure for this study resulted in Cronbach's α of .62.

Self-confidence with Campus Resources measure includes 2 items. Participants were asked about their agreement with each statement on a 4 -point scale, where 1 = "Disagree" and 4 = "Agree". An exemplary item is "I am aware of campus resources designed to support academic success." A scale reliability analysis of the measure for this study resulted in Cronbach's α of .89.

There were five items related to Commitment to Learning. Participants were asked about how frequently they do each statement on a 5-point scale, where 1 = "Never" and 5 = "Always". Exemplary items include: "I adequately prepare for exams and presentations." "I regularly set aside specific blocks of time to study." A scale reliability analysis of the measure for this study resulted in Cronbach's α of .70.

There were three items related to Awareness of Self-management. Participants were asked about their agreement with each statement on a 7-point scale, where 1 = "Strongly Disagree" and 7 = "Strongly Agree". Exemplary items include: "I am good at learning from my mistakes." "I am good at planning ahead." A scale reliability analysis of the measure for this study resulted in Cronbach's α of .63.

Results

All analyses were conducted using SPSS v27. Data was examined and cleaned first. 64 participants completed both pre-test and post-test and their data were utilized for the following analyses. Dependent samples t-tests were conducted to examine whether participants' ratings in the pre-test and post-test differ in following key areas: learning engagement, time management, self-confidence with campus resources, commitment to learning, and awareness of self-management.

In the area of learning engagement, participants showed statistically significant increases in visiting faculty during office hours with a medium effect size after the Scholar Program ($M = 2.81$, $SD = .1.26$), comparing to before participating in the program ($M = 2.47$, $SD = .1.11$), $t = 2.44$, $p = .024$, Cohen's $d = .29$.

In the area of time management, participants showed statistically significant increases in time management with a medium effect size after the Scholar Program ($M = 4.51$, $SD = .44$), comparing to prior to participating in the program ($M = 3.39$, $SD = .52$), $t = 2.44$, $p = .018$, Cohen's $d = .31$.

In the area of self-confidence with campus resources, the results showed statistically significant increases in participants' awareness of campus resources with a large effect size after the Scholar Program ($M = 3.89$, $SD = .36$), comparing to prior to participating in the program, ($M = 3.36$, $SD = .69$), $t = 6.10$, $p < .001$, Cohen's $d = 0.75$. Participants also showed a statistically significant increases in knowing how to access campus resources with a large effect size after the Scholar Program ($M = 3.83$, $SD = .41$), comparing to prior to participating in the program ($M = 3.11$, $SD = .88$), $t = 6.20$, $p < .001$, Cohen's $d = .76$.

The results showed a small yet non-significant increase in participants' commitment on learning after the Scholar Program ($M = 3.77$, $SD = .67$), comparing to prior to participating in the program ($M = 3.68$, $SD = .66$), $t = 1.1$, $p = .29$, Cohen's $d = .13$.

Similarly, the results showed a small yet non-significant increase in participants' awareness of self-management after the Scholar Program ($M = 5.87$, $SD = .64$), comparing to prior to participating in the program ($M = 5.73$, $SD = .86$), $t = 1.49$, $p = .14$, Cohen's $d = .19$.

Discussion and Conclusion

The findings show participants improved in learning engagement, time management, and confidence with campus resources. The survey shows statistically significant increases in participants' awareness of campus resources ($t = 5.759$, $p < .001$) and in knowing how to access campus resources ($t = 5.80$, $p < .001$).

The lack of a significant increase in the commitment to learning area may be due to the process of participant selection. The students in the program all applied, voluntarily participated, and were already in good academic standing. Whereas the model was originally developed for students on academic probation and were required to attend. This may also be the reason for the lack of a statistically significant increase in students' awareness of self-management. Both ‘commitment to learning’ and ‘awareness of self-management' had high average pre-test scores (3.68 on a 5-point scale and 5.73 on a 7-point scale, respectively). However, these areas may still show improvement in a Scholar program, it may just take more time for changes to be observed.

In Kamphoff et al., the students on academic probation could likely immediately apply and get useful feedback for questions such as, “I feel I can bounce back quickly from bad experiences” [2]. It could also be that the use of academic coaching in addition to a course, changed students’ perceptions on their self-management. Even though coaching is student led, students may not fully take ownership of their self-management until they are able to complete the goal setting process on their own or they are recognizing areas of challenge, not previously surfaced. In future work, more longitudinal data may be needed, or qualitative data may also need to be collected to better elucidate when setbacks have occurred for students in relation to the program. Another possibility for the lack of change for commitment on learning and student's awareness on self-management may be due to the variance in academic level. Some of the literature used as a guide for developing the Scholar Program focuses on first year students [10,12]. Although it is interesting that even with no control on academic level there was still a significant increase in confidence with campus resources.

Overall, the program was extremely successful at meeting the desired outcome for students to become more knowledgeable about what they need to succeed in their academic and personal success. The data is mixed about whether the program helped them to be more knowledgeable about themselves. However, all elements of the program: the module on campus resources, Scholar Chats, academic coaching, and the requirement to use campus resources in the module can be linked to improvements shown in key areas measured by the survey.

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