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Strategies for effective supplemental instruction to enhance academic performance of first year Accounting students

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Abstract. Substandard academic performance of first year accounting students is a challenge experienced in certain institutions of higher learning worldwide. Literature shows that institutions have put in place interventions to mediate the underperformance and failure rate to improve academic performance. Supplemental instruction (SI) programmes, for example, were initiated to minimise deteriorating academic performance. However, challenges persist in implementing supplemental instructional intervention effectively. Therefore, this paper explores strategies for effective SI to enhance academic performance of first year accounting students. The qualitative research method was undertaken using an interpretivist approach. The participants for the study consisted of one supplemental instruction coordinator, two SI student leaders, two Accounting lecturers, and two first year accounting students. All participants were purposively sampled from the faculty of Management Sciences at a selected university for the study. Data collection by means of interviews was employed. A thematic analysis was assumed to sort, interpret, and analyse the collected data, as they include the replication of categorised objectives. The findings of the study reveal that challenges hindering effective implementation of supplemental instruction on academic performance includes inadequate content knowledge of SI leaders, timetable clashes, lack of timely feedback, and incompetency in leading others. These are the major challenges; on the other hand, strategies to solve the problem were retraining of SI student leaders and planning of their sessions and timetable.

Keywords. institution of higher learning, implementation, supplemental Instruction, academic performance, first year accounting students

Introduction and background

Supplemental Instruction (SI) is a critical intervention program in a student's academic career. Peer Assisted Learning (PAL) and Peer Assisted Study Sessions are two terms for the same thing (PASS) (Allen, Freitas, Marriott, Pereira, Williams, Cunningham & Fletcher, 2021). Since its inception in the early 1970s at the University of Missouri-Kansas City, this academic intervention technique has extended to more than 1500 tertiary institutions of higher learning in almost 30 nations throughout the world, including South Africa. (The International Centre for Supplemental Instruction, 2021; Naidoo & Paideya, 2015; Wilcox & Jacobs, 2008). Hundreds of thousands of students throughout the world use the strategy to boost their academic learning. (Dawson, van der Meer, Skalicky & Cowley, 2014), including in the country in which the current study is being conducted. The approach promotes a peer-led academic assistance

program that strives to assist students in historically high-risk and difficult courses with learning strategies and is available to all students enrolled in the supported classes. (Malm, Bryngfors & Mörner, 2014; Vorozhbit, 2012; Esterhuizen, De Beer & Baird, 2008). This program, like other academic intervention programs, aims to improve the academic performance and retention of first-year students (Kilpatrick, Savage & Wilburn, 2011). Accounting is one of the high-risk disciplines because of the high failure rate in the first year of university education.

SI sessions run parallel to the standard curriculum of the course. SI leaders who facilitate these sessions are senior students who are academically successful and have effective communication skills (Allen *et al.*, 2021). SI leaders are also expected to have a high command of the content knowledge of the subject that is identified as a trouble spot in the curriculum (Adebola, 2021; Brown, Nairn, van der Meer & Scott, 2014). SI Sessions are not remedial, but they are available to all students and are optional. who are willing to join, regardless of the pre-existing ability of a student (Malm, Bryngfors, & Mörner, 2011; Stone & Jacobs, 2008; Martin & Arendale, 1992). Three to four SI meetings are held each week, depending on the institution's SI session scheduling arrangements. (Suzen, Helde & Strømmen-Barthtiar 2021). Facilitators are not expected to re-teach, work on assessable content, or grade students' work during the sessions (Power, 2010). Rather, via the leadership of their SI leader, students are encouraged to exchange notes, discuss readings, clarify points of uncertainty, enhance reasoning abilities, and solve hard problems (Holman Success Centre, 2021; Harding, Engelbrecht & Verwey, 2011). This discussion facilitation encourages a deeper knowledge of subject matter as well as enhanced transferable study abilities. (Hoiland, Reyes, & Varelas, 2020; Dawson et al, 2014; The International Centre for supplemental Instruction, 2021).

The SI leader attends each class session alongside students to stay current on the course and gain a better grasp of the lecturer's teaching approach (Hurley, & Gilbert, 2008). Throughout the SI session process, the SI leader should work closely with the lecturer to evaluate session planning and discuss concerns that students may encounter during formal lecturing. SI sessions help students engage more deeply with – and learn more effectively – the content covered in class (Stone & Jacobs, 2008)

Research question

How can a SI program be efficiently implemented at a University of Technology to improve the academic performance of first-year accounting students?

Objectives

To respond properly to the above-mentioned question, the following research objective was designed to guide the study:

1. To identify roadblocks to SI's effective implementation in improving first-year accounting students' academic performance.

Methodology and research design

This study was approached qualitatively, utilizing a phenomenological research design. Individual experiences, as well as the interpretations and meanings that these individuals contribute to the world around them, are the focus of phenomenology. (Ary, Jacobs, Razavieh & Sorensen, 2009). The qualitative technique allowed the researcher to acquire a thorough grasp of the obstacles to effective Supplemental Instruction session implementation.

Research participants

A total of seven people were included in the study. These were a supplemental instruction Co-ordinator, since such a person is informed regarding the training, recruitment strategies and criteria for SI Leaders for certain courses, and all other administrative activities relating to SI leaders. In addition, there were two SI student leaders, and two accounting lecturers, who have been working with the SI services for more than three years within their department. Finally, the sample included two first-year accounting students who were currently enrolled in first-year accounting. All of the participants were chosen based on their knowledge of the subject under investigation. Therefore, an expert sampling technique was employed, as the participants were considered to possess a degree of knowledge about the topic under study – it was thus purposively essential for each participant to be part of the study based on their knowledge and understanding of the topic under study. All participants managed to share their knowledge and experiences regarding the problem under study.

Method of data generation and process

For this study, qualitative research methods were chosen. The researcher developed open-ended questions for semi-structured interviews (SSI) and designed a procedure for audio-recording the interview data (Johnson & Christensen, 2008; Cohen et al., 2011; Leedy & Ormrod, 2013; Creswell, 2014). The SSI was used for all the participants, who were all people who had similar experiences with the problems of successfully adopting SI at the chosen institution of higher learning. Furthermore, by permitting conversation between the researcher and participants, the focus was on identifying solutions. This engagement technique favored open-ended questions, as well as follow-up why and how queries (Adams, 2015). Interviewees were also asked for permission to videotape the interviews so that their comments may be recorded. The interviews were recorded using a mobile phone audio recorder, and backup copies were made accessible in case they were needed. After that, the interviews were transcribed.

Data analysis

The study used an interpretive approach when it came to data analysis. This method tries to comprehend the participants as well as describe and interpret their perspectives on the research topic (Okeke & Van Wyk, 2015). In addition, the interpretive technique is beneficial in situating participants within their particular social and historical contexts to acquire a deeper understanding of their experiences. It complements social constructivism as the research's theoretical framework because both – according to Rubin, Babbie, and Lee (2008) – seek to transform social reality into social science. The researcher was able to organize data into themes based on the study objectives using this method.

Ethical considerations

The study's objective, topic, and research questions were all outlined in the application for authorization to conduct it, as well as the participants and research sites. Permission was obtained from the Directorate of Academic Planning and Quality of the selected university where the study was conducted. The university's ethical certificate outlined the restrictions that the researcher had to follow, notably during the data collection process. Conditions also suggested by De Vos et al. (2011). The ethical stance of the study was also informed by Smith and Osborn (2009), who refer to qualitative data generation as a construction site for knowledge which should be regarded as a normal inquiry. In support of the ethics, Strydom and Delpont (2011) stress the researcher's ability to predict the consequences of actions with rightness or

wrongness being on the dependence of the significances of the act. As a result, the researchers follow one of the most crucial duties of research ethics: protecting participants from potential injury. (Dube, 2016). Participants were told that their identities or names would not be exposed to anybody else, and that they would stay anonymous.. To further ensure their protection, they were represented by pen-names in the data presented: Supplemental Instructors (SI1, SI2); Coordinator (C1); Accounting Lecturers (AL1, AL2); and First year accounting students (ST1, ST2). It was also made clear to them that they had the option to leave the survey at any point if they did not feel comfortable doing so.

Findings and discussions

Inadequate content knowledge of SI leaders

Supplemental instruction tactics have been shown to help institutions of higher learning enhance first-year student academic performance, particularly in high-risk courses (Michelle, 2012)The responses below reveal that there are some SI leaders who are not competent regarding the subject content. Participants were of the opinion that SI leaders were not conversant enough to help them with the concepts that they did not clearly grasp in class. On the other hand, responses affirm that students do understand that SI leaders are there to provide guidance and facilitate debate, rather than every time being expected to provide answers.

ST1: "I do not understand the way SI leader's functions. I asked as to how we got to a specific figure in class, because we were dealing with adjustments in class were confusing. The response was the question will be referred the question to the lecturer.

AL1: "One of the biggest challenges we have here is: our choice of SI leaders is so limited in such that anyone who got better marks is given an opportunity of being Tutor/SI leader, which is challenging because some of them are not that really good with the subject content.

SI facilitation is also viewed as a waste of time by student participants. Student participants even suggested that institution management replace SI facilitators (who are students) with subject specialists. They claimed that SI facilitators did not even check to see if they had completed the work that was assigned to them. They stated that they did not find any significant benefits from organized types of interventions. They also stated that they did not always receive answers to their questions, so it did not make sense for them to attend.

ST1: "For me those sessions are not effective because the SI leader doesn't not explain concepts that we asked him/her to help us with. She does not know the topic.

ST2: When we asked questions in state of giving us clear, if they are not sure they refer to the memorandum and give us the answer without any discussion or even involving others.

Participants reiterates that sometimes SI leaders are not very sharp in terms of clarifying content issues. Participants introduces lack of content knowledge of the subject matter. They are also showing that they are not being introduced in collaborations in this session.

Timetable clashes

The findings reveal that there were clashes of timetables of SI leaders and lectures. Therefore, it was not easy to attend all the classes that the lecturer had with the first-year students, as the programme might have been recommended this time for SI Leaders. This is a reflection on the improper planning of the timetable committee (Adebola, Tsotetsi & Omodan, 2020). An SI leader, in order to relevantly share with students during sessions, is expected to

attend all the classes, take notes, complete class tasks, and do all the homework, just like the first years are doing, in that course for which he/she is responsible (Moleko et al 2014).

SL1: Both your schedules seem to clash with each other thus you are unable to agree on any timeslot for your SI sessions.

AL: I think the entire system regarding SI sessions is not well planned because there is no allocation of sessions within the institutional timetable.

SL2: Institutional timetable does not accommodate SI sessions. Therefore, I sometimes miss sessions with the lecturer.

The above statements confirm that the institution is not allocating time slot for SI sessions even though it perceived to be a tool that could improve academic performance and reduce the high number of dropouts. Lecturer participant confirmed that timetable is a problem to accommodate SI sessions.

Lack of timely feedback

Timely feedback is a vital aspect in the quality of teaching and is crucial so that students may adjust their learning accordingly. Feedback is worthwhile mostly if it is given to the students while the topic under discussion is still in the forefront of students' minds. Feedback that is given timeously is relevant, important, gives clear direction, and enables improvement. Moleko, Hlalele and Mahlomaholo (2014) agree that, feedback that is not supplied within a certain amount of time creates a knowledge gap among the participants and does not encourage everyone involved to think critically about the situation. The authors go on to say that a lack of timely feedback is unlikely to achieve maximal advantage in the implementation of Si, as well as in the program's appropriate functioning and essence. Adebola (2020) reiterates that feedback enhances academic performance if all educational programmes, including SI leaders, give and receive feedback on time.

ST1: Asking SI leader to explain something to me, but he said he still going to consult the lecturer, that consultation took for ever. I ended up not getting the clarification that I wanted.

The above comment clearly shows that first year accounting students expect SI leaders to give them answers when they need clarity. Stone and Jacobs (2008) confirm this, noting that first year students perceive their SI leaders as experts on the course content. For this reason, they expect feedback immediately. It would be preferable if first years understood that SI sessions were not mini classrooms where they went to listen, that SI leaders were not lecturers, and that they rather considered the context to be one of a sharing of knowledge. Students are expected to participate in their education. Bengesai (2011) shows that SI leaders' role is to model effective learning strategies that students are expected to adopt in any specific course. They serve as facilitators in a learning collaboration with students who can make it difficult for SI sessions to become a student learning community, resulting in a loss of the opportunity to boost student participation. (Moleko et al., 2014). That means that everyone should bring solutions to the fore and give feedback to one another. The comments below reveal that SI leaders experience similar challenges of not receiving feedback from their authority, even though they are continuously being evaluated by students during SI sessions.

SL2: Students used to fill forms where they are evaluating us. However, we never knew what their challenges are because nobody has given us any feedback.

SL 1: If I would be given feedback on what students are saying, I would improve. Unfortunately, I have never been being told as to where to improve.

There is a general view of SI leaders that it is difficult to improve on their weaknesses if students' evaluations are not shared with them directly. Comments indicate that lecturers are not supporting them and not providing the debriefing which would help them to adjust their work according to what was discussed. For the implementation of Supplemental Instructional programmes to be a success, coordinators and lecturers should support and monitor the effectiveness of facilitation of the SI leaders to give feedback in time (Stone & Jacobs 2008).

CI: In terms of feedback, it has never been given to the SI leaders directly but during trainings we highlight issues raised by students from the evaluation forms.

The comment above expresses the fact that input is not immediately shared with SI leaders. It goes without saying that SI leaders will not improve if not directly corrected regarding the specific skills or content which they may lack. In those cases, where feedback had been given, it was so brief that the lecturers were hardly in a position to determine what had actually been covered during the session.

Lack of Management skills of SI leaders

According to participants, there is a problem of SI leaders adequately managing the group that they are tutoring – for example, if the group talks continually, the leader must prevent this, but, if the leader is unable to do so, it is clear that there is lack of management skills.

SL: I I do not know how to manage their debate if they are discussing non-stop.

CI: Training is so limited to our SI from report that I always get is that SI Leaders are unable to control the group if it becomes out of hand.

The comments confirm that implementation is not effective if the leader is weak, that the purpose of the sessions is thus compromised, and objectives not realised. There is thus a likelihood that, due to the incompetency of the SI leader, some students may stop attending SI sessions all together.

The study confirms that SI leaders are unsure about their position as facilitators, or those who should facilitate conversation among group members. Most student participants, on the other hand, stated that they did not want to attend SI lessons since the SI facilitators did not understand the subject matter/content. Because several SI facilitators were confused about the material, the student participants saw no need in having these interventions because they believed they were not learning anything from the lessons. They stated that they did not always receive the information they expected from the SI leader and that they did not see the need in attending sessions where they did not receive adequate assistance.

Conclusions and recommendations

From the findings, the study determined that inadequacy and lack of communication of SI leaders is a prominent issue. Misunderstanding of roles and subject content knowledge was highlighted by both students and SI leaders who turned sessions into mini-lecture sessions. Based on these findings, the study recommends more thorough and continuous training of SI leaders and that selection of SI leaders be based on tutors' competence after the training and interviews, rather than being picked simply because they might have performed well academically. In addition, SI leaders need to be monitored and guided as to how to conduct the space of facilitation.

Supplemental instruction sessions would be more effective if the timetable for such sessions were integrated into first years' timetables, which would remove the need for negotiation between SI leader and students. Support and motivation for both first year students and SI leaders are critical to make sure that they are always encouraged to attend sessions and realise the benefits they would reap from the sessions. Meetings in which all stakeholders (students, SI leaders, lecturers, and coordinators) introspect regarding the programme could help to establish more solid and effective sessions.

References

1. Adebola, O.O., (2020). The Use of Supplemental Instruction in University Classrooms as a Strategy to Enhance the Academic Performance of First-year Students. *Universal Journal of Educational Research*, 8(11B), 6289-6296. DOI: 10.13189/ujer.2020.082268.
2. Adebola, O.O. (2020). The trajectory of supplemental instruction as a tool to sustain students' academic performance in universities. South Africa International Conference on Education (SAICEd) 2020, 20–21 October 2020 (Rethinking Teaching and learning in the 21st Century).
3. Adebola, O.O., Tsotetsi, C.T & Omodan, B.I. (2020). Enhancing students' academic performance in the university system: The perspective of supplemental instruction. *International Journal of Learning, Teaching and Educational Research*, 19(5), 217-230. <https://doi.org/10.26803/ijlter.19.5.13>
4. Adams, W.C. (2015). Conducting semi- structured Interviews: In Newcomer, K.E., Hatry, H. P., & Wholey, J.s. 2015. *Handbook of practical program Evaluation*. 4th ed. Jossy-Bassy. DOI: 10.1002/9781119171386.ch19
5. Allen, P.J., de Freitas, S., Marriott, R.J., Pereira, R.M., Williams, C., Cunningham, C.J., & Fletcher, D. (2021). Evaluating the effectiveness of supplemental instruction using a multivariate analytic approach. *Learning and Instruction*, (75). <https://doi.org/10.1016/j.learninstruc.2021.101481>
6. Ary, Jacobs, C. C., Razavieh, A., & Sorensen, C. (2009). *Introduction to Research*. (8th ed.,pp. 426-427). Wadsworth: Engaged Publishing
7. Bengesai, A. 2011. Engineering students' experiences of Supplemental Instruction: A case study, *Alternation*, 18(2): 59-77.
8. Brown, K., Nairn, K., van der Meer, J., & Scott, C. (2014) "We Were Told We're Not Teachers ... It Gets Difficult to Draw the Line": Negotiating Roles in Peer-Assisted Study Sessions (PASS), *Mentoring & Tutoring: Partnership in Learning*, 22:2, 146-161, DOI: 10.1080/13611267.2014.902559
9. Cohen, L., Manion, L. & Morrison, K. (2011). *Research methods in education*. New York: Routledge.
10. Creswell, J.W. 2014. *Research design: Qualitative, quantitative and mixed methods approaches*. Los Angeles: sage Publications.
11. Dawson, P., van der Merve, J., Skalicky, J., & Cowley, K. (2014). On the Effectiveness of Supplemental Instruction: A Systematic Review of Supplemental Instruction and Peer-Assisted Study Sessions Literature Between 2001 and 2010. <https://doi.org/10.3102/0034654314540007>
12. De Vos, A.S. Strydom, H. Fouche, C.B. & Delpont, C.S.L. (2011). *Research at grass roots for the social sciences and human service professions(pp.129)*. Pretoria: Van Schaik.
13. Dube, B. (2016). A socio-religious hybridity strategy to respond to the problems of religious studies in Zimbabwe.Ph.D Thesis, Faculty of Education, University of the Free State.

14. Esterhuizen, H.L., De Beer, K.L. and Baird, N. 2008. The development of supplemental instruction at the Central University of Technology, Free State. *Interim: Interdisciplinary Journal*, 7(2):27-43.
15. Harding, A., Engelbrecht, J., & Verwey, A. (2011) Implementing supplemental instruction for a large group in mathematics, *International Journal of Mathematical Education in Science and Technology*, 42:7, 847-856, DOI: 10.1080/0020739X.2011.608862
16. Hurley, M., & Gilbert, M. (2008). Basic supplemental instruction model. In M. E. Stone & G. Jacobs (Eds.), *Supplemental instruction: Improving first-year student success in high-risk courses* (Monograph No. 7, 3rd ed., pp. 1-9) Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience and Students in Transition.
17. Hoiland, S. L. Reyes, S. & Varelas, A. (2020) The Impact of a Supplemental Instruction Program on Diverse Peer Leaders at a Two-Year Institution, *Journal of Peer Learning*, 13, 5-20. Available at:<https://ro.uow.edu.au/ajpl/vol13/iss1/2>
18. Holman Success Center- Eastern Michigan University, (2021). Supplemental Instruction (SI) in virtual environments. Categorized as teaching and learning. Retrieved for <http://hscblog.com/?p>.
19. Johnson, B and Christensen, L. 2008. *Educational research: Quantitative, qualitative and mixed approaches*. California: Sage Publications Inc.
20. Kilpatrick, B. G., Savage, K. S. and N. L. Wilburn. 2011. *Supplemental instruction in the first intermediate accounting course: Investigation of an intervention strategy to improve student performance*. Working Paper series 11-13. The Northern Arizona University Franke College of Business School. <http://franke.nau.edu/images/uploads/fcb/11-13.pdf>. (Retrieved: 22 November 2015).
21. Leedy, P.D. and Ormrod, J.E. 2013. *Practical research: planning and design*. New Jersey: Pearson Education Inc.
22. Malm, J., Bryngfors, L., & Fredriksson, J. (2018). Impact of supplemental instruction on dropout and graduation rates: An example from 5-year engineering programs. *Journal of Peer Learning*, 11(1), 76-88
23. Malm, J., Bryngfors, L. & Mörner, L. (2014). The potential of Supplemental Instruction in engineering education-helping new students to adjust to and succeed in University studies. *European Journal of Engineering Education*, <http://dx.doi.org/10.1080/03043797.2014.967179>
24. Malm, J., Bryngfors, L. & Mörner, L. (2011). Supplemental Instruction: Whom Does it Serve? *International Journal of Teaching and Learning in Higher Education*, Volume 23, Number 3, 282-291 <http://www.isetl.org/ijtlhe/>
25. Martin, D. C., & Arendale, D. R. (1992). Supplemental Instruction: Improving first year student success in high-risk courses: Monograph Series 7. Columbia, SC: National Resource Center for the Freshman Year Experience. <https://eric.ed.gov/?id=ED354839>.
26. Michelle, O. (2012). Supplemental Instruction Improves Grades but not Persistence. *College Student Journal*, 46(2), 344-349.
27. Moleko, M. M., Hlalele, D., & Mahlomaholo, M. (2014). Challenges Experienced with the Implementation of Supplemental Instruction at Institutions of Higher Education. *Mediterranean Journal of Social Sciences*, 5(27), 740-751.
28. Naidoo, J. and Paideya, V. 2015. Exploring the possibility of introducing supplemental instruction at secondary school level. *South Africa Journal of Education*, 35(2):1-10.
29. Okeke, C. & Van Wyk, M. (2015). *Educational research: An African approach*. Cape Town. Offord University Press.

30. Power, C., (2010). Peer Assisted Study Sessions (PASS): through a complexity lens, *Journal of Peer Learning*, 3, 1-11. <http://ro.uow.edu.au/ajpl/vol3/iss1/2>
31. Rubin, A., Babbie, E. & Lee, P.A. (2008). *Research methods for social work: Custom edition prepared exclusively for San Jose State University*. Belmont, CA: Wadsworth/Thomson Learning.
32. SILMG (Republic of South Africa. Nelson Mandela Metropolitan University). 2013 *Supplemental Instruction Leader Manual Guideline*. Port Elizabeth: NMM
33. Strydom, H., & Delport, C.S.L., (2011) Sampling and pilot study in qualitative research. In: De Vos, A.S., Strydom, H., Fouché, C.B. & Delport, C.S.L. (eds.) *Research at grass roots, for the social science and human service professions*. 4th ed. Pretoria: Van Schaik.
34. Stone, M. E., & Jacobs, G. (Eds.). (2008). *Supplemental instruction: Improving first-year student success in high-risk courses* (Monograph No. 7, 3rd ed.). Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience and Students in Transition.
35. Strømmen-Bakhtiar, A., Helde, R. & Suzen, E. (Eds.) (2021). *Supplemental Instruction. Volume 1: Digital Technologies*. Waxmann Verlag. doi: 10.31244/9783830993247
36. Suzen, E. Helde, R and Strømmen-Barthtiar, A. (2021). *Supplemental instruction as a programme for developing leaders and facilitators for learning*. Waxmann, NewYork. <https://doi.org/10.31244/9783830993254>
37. The International Center for Supplemental Instruction, 2021; Accreditation review. Retrieved from <http://info.umkc.edu/si/certification/>
38. Vorozhbit, M.P. 2012. *Effect of supplemental instruction on student success*. (Unpublished Masters Dissertation), Iowa State University.
39. Wilcox, F.K., & Jacobs, G. (2008). Thirty-Five Years of Supplemental Instruction: Reflection on study groups and student Learning. In M. E. Stone & G. Jacobs (Eds.), *Supplemental instruction: Improving first-year student success in high-risk courses* (Monograph No. 7, 3rd ed., pp. 1-9) Columbia, SC: University of South Carolina, National Resource Center for The First-Year Experience and Students in Transition.