

Effects of Peer-Assisted Learning Activities on the Academic Skills of Accounting Students

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Abstract

This study investigated the effects of peer-assisted learning activities on the academic skills of accounting students with 272 accounting students at the University of Saint Louis Tuguegarao currently enrolled in the First Semester of School Year 2022-2023 as randomly selected respondents through stratified sampling. A researcher-made survey questionnaire was the primary tool in eliciting information which contains two parts: the profile variables and the extent of the effect of peer-assisted learning activities on students' academic skills. The data gathered was analyzed using frequency and percentage to describe the profile of the respondents, weighted mean to interpret the extent of the effects of peer-assisted learning activities on students' academic skills, and independent sample t-test and one-way analysis of variance to determine the significant difference on the extent of the effects of peer-assisted learning activities on students' academic skills. The results revealed that peer-assisted learning activities affect the academic skills of the respondents to a great extent, particularly time management, communication, critical thinking, and quantitative skills. Further, high involvement in the peer-assisted learning activities conducted showed a greater effect on students' academic skills.

Keywords: *Peer-assisted Learning, Academic Skills, Accounting Education, Time Management Skills, Communication Skills, Critical Thinking Skills, Quantitative Skills*

Article History:

Received: February 17, 2023

Accepted: March 18, 2023

Revised: March 14, 2023

Published online: March 22, 2023

Suggested Citation:

Aggarao, B.G., Cenal, X.U., de Austria, D.B., Reminajes, N.P., Tacas, M.U., Tindowen, D. & Catacutan, K. (2023). Effects of Peer-Assisted Learning Activities on the Academic Skills of Accounting Students. *The Research Probe*, 3 (1), 39 - 51.

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**This paper is presented at the 4th Northern Philippines Business Research Conference hosted by Northwestern University*



Introduction

The best way to learn and retain something is to teach it to another. Students improve their understanding and commitment if they teach or explain the material to someone else, even if it is to a computer (Park & Kim, 2016). This psychological phenomenon is known as the protégé effect, which underpins the concept of peer-assisted learning, where students or peers engage in a two-way, bilateral learning program. Peer-assisted learning is an instructional strategy commonly used to supplement and support classroom education where students play the roles of mentors and mentees. It is most often referred to as peer tutoring, where academic support is provided by students to struggling peers (Chan et al., 2016). Thus, this study used the terms interchangeably. In essence, peer tutoring is a learning environment where authority is not expended to instigate learning between students who learn together and from each other. This is based on the principle that by understanding the subject matter and communicating their ideas to one another they can learn from their peers (Boud et al., 2014). Consequently, Inuwa et al. (2017) adduced that peer tutoring is an effective learning-centered strategy to ameliorate and boost the learning outcomes of students, particularly, their academic achievement. In comparison to the sole application of the traditional or typical method of learning, empirical evidence show that peer tutoring allows students to have a more active involvement in the learning process by giving them the control in the classroom and the opportunity to expound and clarify their ideas in a comprehensible manner to their peers (Olulowo et al., 2020). Moreover, findings attested that the benefits of peer-assisted learning activities, such as skills enhancement and augmentation of positive character towards social responsibilities, do not exclusively affect tutees but also the peer tutors (Hodgson et al., 2014). In one way, tutees get to understand, clarify, and learn more about the lessons while the tutors get the chance to contribute to the success of their colleagues and find purpose and satisfaction from studying to remain credible and competent in imparting knowledge (Tan & Gevera, 2020). This strategy, according to Costantini (2015), is an effective intervention for improvement of content knowledge and increased understanding of content (subject matter). Apart from its impact on students' academic achievements, Seo and Kim (2019) also said that peer tutoring had a positive influence on their communicative and collaborative competencies. Although peer-assisted learning activities certainly provide benefits to a great extent, there is a gap in the literature on the way it influences other factors such as students' academic skills in other programs. Research on peer-assisted learning activities commonly focuses on its effect on the academic performance of the students but little to nothing on their

academic skills. Probing deeper into this variable would give a better glimpse of how students perform academically using their enhanced or acquired skills. Hence, it is with the paucity in literature findings that this study was conducted. It attempted to understand the effects of peer-assisted learning activities on the academic skills of accounting students.

Methodology

This study utilized a quantitative type of research employing descriptive method. This study was conducted at a university in the Philippines with respondents currently enrolled in BS Accountancy and BS Management Accounting for the First Semester of School Year 2022 -2023 because the peer-assisted learning programs of the JPIA are intended for them as a support and to supplement their learnings. A researcher-made survey questionnaire was the primary tool in eliciting information. Prior to the actual data gathering, the questionnaire was validated by experts in research and instrumentation, education, and accounting. Results of the Content Validity Index revealed a value of 1.0, which means that the tool is valid. After which, pilot testing was conducted involving 15 accounting students to determine the reliability of the tool. Results of the reliability test revealed 0.860 Cronbach Alpha value. Hence, the questionnaire is reliable. The data gathered in this study was analyzed through the use of descriptive and inferential statistics. Frequency and percentage were used to describe the profile of the respondents. Likewise, weighted mean was utilized to interpret the extent of the effect of peer-assisted learning activities on the academic skills. Concurrently, the significant difference on the extent of the effects of peer-assisted learning activities on the academic skills of the respondents when grouped according to profile variables was tested using independent sample t-test and one-way analysis of variance.

Findings

The results revealed that peer-assisted learning activities have a great effect on the time management skills of the students. This indicates that by engaging in peer-assisted learning activities, students get a thorough understanding of and proficiency with effective task prioritization based on substance and urgency. They learn to structure their time based on their tasks, allowing them to achieve their objectives and prepare ahead of time for their accounting classes. Consequently, they are able to maximize productivity in learning. Furthermore, peer-assisted learning activities greatly affect the communication skills of the students. This can be attributed to the fact that their confidence and self-motivation are enriched through engagements

in the program. Students get to express their understanding and queries without hesitation and with conviction to the class. Likewise, they significantly understood the value of accepting others' point of view and responding in a more respectful manner. Accordingly, they become more immersed in activities involving diverse individuals and groups. On critical thinking skills, peer-assisted learning activities have a positive effect. This implies that they are able to think independently while being logical at the same time; improvement in professional judgement is achieved. As a result, they are able to recognize the major concerns and premises of an argument, identify important relations, make accurate interpretations from data, infer conclusions from data or information given, determine if conclusions are justified in light of the facts provided, and assess the reliability of evidence or authority. In addition, peer-assisted learning activities affect the quantitative skills of the students to a great extent. This means that they can precisely interpret problems presented in written, graphical, and numerical formats with ease and improvement. In terms of problem solving in their accounting courses, they are able to identify the relative importance of every data presented, review and organize it into a useful information, while being cautious and attentive to its validity and reliability. In this manner, they are more adept to solve problems faster and more accurately. In general, peer-assisted learning activities highly affect the academic skills of the respondents. The findings imply that indulging students to participate in peer-assisted learning activities is an effective intervention for academic skills enhancement. Students attain higher efficiency in learning allowing them to respond to the appropriate points in a problem. Subsequently, they comprehend methods and sequences without difficulty, resulting to higher conviction when explaining the organized information to others. Finally, there is a significant difference on the effect of peer-assisted learning activities on students' academic skills when grouped according to level of involvement. This means that involvement in peer-assisted learning activities is a great factor in the enhancement of skills. Students who involve themselves more are those who benefit the greatest.

Conclusion

This study concludes that peer-assisted learning activities have an effect on the academic skills of accounting students. In addition, its effect is greater for those students who are highly involved. Based on the findings of this study, this study has found that high involvement in peer-assisted learning activities contributes greatly to the academic skills of the students. Thus, the organizational officers and accounting instructors should deeply encourage the students to participate in these kinds of activities to supplement their learnings and augment their skills. The

use of peer-assisted learning activities as a supplemental learning leads to a significant positive effect on the academic skills of the accountancy students. In view of this, the administrators of the accountancy program should intensively support the activities to better cater the needs of the students. A possible extension of this study is to look into the effect of peer-assisted learning activities on the academic skills of the respondents through the use of pretest-posttest control group. This would better assess the academic skillset of accountancy students when they participate or not in peer-assisted learning activities. Likewise, experiences of students in peer-assisted learning activities conducted could also be examined. While this study is delimited on assessing the effect of peer-assisted learning activities on students' academic skills, further investigation focusing on students' academic performance is recommended. Future researchers may also dwell on exploring and looking into other essential factors that are affected by participating in peer-assisted learning activities that would contribute to the students' success in the academic setting.

References

- Abdolalizadeh P, Pourhassan S, Gandomkar R, Heidari F, and Sohrabpour A. A. (2017). Dual peer mentoring program for undergraduate medical students: Exploring the perceptions of mentors and mentees. *Medical Journal of the Islamic Republic of Iran*, 31(1), 2-6.
- Abdul Latif, N. E., Yusuf, F. M., Tarmezi, N. M., Rosly, S. Z., & Zainuddin, Z. N. (2018). The Application of Critical Thinking in Accounting Education: A Literature Review. *International Journal of Higher Education*, 8(3), 57. <https://doi.org/10.5430/ijhe.v8n3p57>
- Adedoyin, O., & Okere, E. (2017). The significance of inclusion concept in the educational system as perceived by junior secondary school teachers: implications for teacher training programmes in Botswana. *Global Journal of Social Sciences Studies*, 3(1), 13–28. <https://doi.org/10.20448/807.3.1.13.28>
- Ali, N., Anwer, M., & Abbas, J. (2015). Impact of peer tutoring on learning of students. *Journal for Studies in Management and Planning*, 1(2), 61–66.
- Al Kawas, S., & Hamdy, H. (2017). Peer-assisted learning associated with team-based learning in dental education. *Health Professions Education*, 3(1), 38–43. <https://doi.org/10.1016/j.hpe.2016.08.003>

- Al kharusi, D. (2016). What positive impacts does peer tutoring have upon the peer tutors at SQU. *Journal of Education and Practice*, 7(27), 115–127.
- Altunkaya, H., & Ates, A. (2018). Sources of reading anxiety among the learners of Turkish as a foreign language. *Asian Journal of Education and Training*, 4(3), 161–169. <https://doi.org/10.20448/journal.522.2018.43.161.169>
- Amamou, S., & Cheniti-Belcadhi, L. (2018). Tutoring in project-based learning. *Procedia Computer Science*, 126(2018), 176–185. <https://doi.org/10.1016/j.procs.2018.07.221>
- Araneda-Guirriman, C. A., Obregón, A. F., Pérez, P. A., & Catari-Vargas, D. A. (2020). Perception of tutored students in the peer tutors' program and its relation to academic performance: evidence from northern Chile. *Formación universitaria*, 13(3), 19–30. <https://dx.doi.org/10.4067/S0718-50062020000300019>
- Boud, D., Cohen, R., & Sampson, J. (Eds.). (2014). *Peer learning in higher education: learning from and with each other*. Routledge. <https://doi.org/10.4324/9781315042565>
- Bucaro, A. C. (2019). Enhancing auditors' critical thinking in audits of complex estimates. *Accounting, Organizations and Society*, 73, 35–49. <https://doi.org/10.1016/j.aos.2018.06.002>
- Bugaj, T.J., Blohm, M., Schmid, C. et al. (2019). Peer-assisted learning (PAL): skills lab tutors' experiences and motivation. *BMC Med Educ*, 19, 353. <https://doi.org/10.1186/s12909-019-1760-2>
- Burgess, A., McGregor, D., & Mellis, C. (2014). Medical students as peer tutors: a systematic review. *BMC Medical Education*, 14(1), 1–8. <https://doi.org/10.1186/1472-6920-14-115>
- Chai, M. S. & Lin, S. F. (2013). Perceptions of ESL student tutors on challenges faced in peer tutoring. *Education Journal*, 2(4), 127–131. <https://doi.org/10.11648/j.edu.20130204.14>
- Chan, N. N., Phan, C. W., Aniyah Salihan, N. H., & Dipolog-Ubanan, G. F. (2016). Peer assisted learning in higher education: roles, perceptions and efficacy. *Pertanika Journal of Social Sciences & Humanities*, 24(4), 1811–1822.

- Clarke, A.J., Burgess, Menezes, A., & Mellis, C. (2015). Senior students' experience as tutors of their junior peers in the hospital setting. *BMC research Notes*, 8(743). <https://doi.org/10.1186.s13104-015-1729-0>
- Cofer, R. (2020). The peer tutor experience: tutor perceptions of academic performance and skillset gains. *The Learning Assistance Review*, 25(1), 41–66.
- Comfort, P. & McMahon, J. (2014). The effect of peer tutoring on academic achievement. *Journal of Applied Research in Higher Education*, 6(1), 168–175. <https://doi.org/10.1108/JARHE-06-2012-0017>
- Costantini, S.T. (2015). *The impact of peer tutoring strategies on student learning in social studies*. [Master's Thesis, State University of New York at Fredonia]. SUNY Open Access Repository (SOAR). <https://soar.suny.edu/handle/20.500.12648/170>
- Cottrell, S. (2013). *The study skills handbook*. (4th ed.). Palgrave Macmillan.
- Crowley-Cyr, Lynda and Hevers, James (2021). Using Peer Assisted Learning to improve academic engagement and progression of first year online law students. *Journal of University Teaching & Learning Practice*, 18(1).
- Davies, M. (2015). A model of critical thinking in higher education. In M. Paulsen, (Ed.) *In higher education: handbook of theory and research*, (pp. 41–92). Springer, Cham.
- Dawson, P., van der Meer, J., Skalicky, J., & Cowley, K. (2014). On the Effectiveness of Supplemental Instruction. *Review of Educational Research*, 84(4), 609–639. <https://doi.org/10.3102/0034654314540007>
- De Backer, L., Van Keer, H., Moerkerke, B., & Valcke, M. (2016). Examining evolutions in the adoption of metacognitive regulation in reciprocal peer tutoring groups. *Metacognition and Learning*, 11(2), 187–213. <https://doi.org/10.1007/s11409-015-9141-7>
- de Sam Lazaro, S. L., & Riley, B. R. (2019). Developing critical thinking in OT education: effectiveness of a fishbowl approach. *Journal of Occupational Therapy Education*, 3(2), 1–12. <https://doi.org/10.26681/jote.2019.030201>

- Dellaportas, S. (2019). RMIT accounting educators' conference: 2016 "accounting education what it is, and what it is not." *Accounting Education*, 28(2), 119–126. <https://doi.org/10.1080/09639284.2019.1584964>
- Farr, L. (2019, November 25). Time management strategies for CPAs. *Journal of Accountancy*. <https://www.journalofaccountancy.com/newsletters/2019/nov/time-management-strategies.html>
- Fazal, S., Hussain, S., Majoka, M. I., & Masood, S. (2012). The role of study skills in academic achievement of students: a closer focus on gender. *Pakistan Journal of Psychological Research*, 27(1), 37+.
- Fink, S. (2020, February 11). *Benefits of peer teaching*. SummerTech. <https://www.summertech.net/benefits-of-peer-teaching/>
- Fouché, J. P. (2013). A renewed call for change in accounting education practices. *International journal of educational sciences*, 5(2), 137–150.
- Fuad, N. M., Zubaidah, S., Mahanal, S., and Suarsini, E. (2017). Improving junior high schools' critical thinking skills based on test three different models of learning. *International Journal of Instruction*. 10(1), 101–116. <https://doi.org/10.12973/iji.2017.1017a>
- Gok, T. & Gok, O. (2017). Peer instruction: an evaluation of its theory, application, and contribution. *Asia-Pacific Forum on Science Learning and Teaching*, 18(2), 1–38.
- Goldingay, S., Macfarlane, S., Hitch, D., Hosken, N., Lamaro, G., Farrugia, D., Nihill, C. & Ryan, J. (2012). *A multidimensional framework for embedded academic skill development: study report*. Deakin University, Faculty of Health.
- Gottfried, M., Garcia, E., & Kim, H. Y. (2019). Peer tutoring instructional practice and kindergartners' achievement and socioemotional development. *Educational Studies*, 45(5), 593–612. <https://doi.org/10.1080/03055698.2018.150977>
- Hanson, J. M., Trolan, T. L., Paulsen, M. B., & Pascarella, E. T. (2016). Evaluating the influence of peer learning on psychological well-being. *Teaching in Higher Education*, 21(2), 191–206. <https://doi.org/10.1080/13562517.2015.1136274>

- Helliari, C. (2013). The global challenge for accounting education. *Accounting Education*, 22(6), 510–521.
- Hensley, L. C., Wolters, C. A., Won, S., & Brady, A. C. (2018). Academic probation, time management, and time use in a college success course. *Journal of College Reading and Learning*, 48(2), 105–123. <https://doi.org/10.1080/10790195.2017.1411214>
- Higgins, S., Katsipataki, M., Coleman, R., Henderson, P., Major, L. E., & Coe, R. (2014). *The Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit*. Education Endowment Foundation.
- Hitch, D., Goldingay, S., Hosken, N., Lamaro, G., Macfarlane, S., Nihill, C., & Farrugia, D. (2012). Academic skills and beyond: a resource-based approach to support student success in higher education. *Journal of Academic Language and Learning*, 6(2), A29–A41.
- Hodgson, Y., Benson, R., & Brack, C. (2014). Student conceptions of peer-assisted learning. *Journal of Further and Higher Education*, 39(4), 579–597. <https://doi.org/10.1080/0309877x.2014.938262>
- Howcroft, D. (2017). Graduates' vocational skills for the management accountancy profession: exploring the accounting education expectation-performance gap. *Accounting Education*, 26(5-6), 459–481. <https://doi.org/10.1080/09639284.2017.1361846>
- Hunt, T., Jones, T. A., & Carney, P. A. (2020). Peer-assisted learning in dental students' patient case evaluations: An assessment of reciprocal learning. *Journal of Dental Education*, 84(3), 343–349. <https://doi.org/10.21815/JDE.019.182>
- Hwang, W. Y., Nguyen, T. H., & Pham, X. L. (2019) Peer tutoring to facilitate cognitive diffusion of English as a foreign language learning: using speech translation and shadowing in familiar authentic contexts. *Journal of Educational Computing Research*, 57(4). 901–929. <https://doi.org/10.1177/0735633118776209>

- Inuwa, U., Abdullah, Z. & Hassan, H. (2017). Assessing the Effect of Cooperative Learning on Financial Accounting Achievement among Secondary School Students. *International Journal of Instruction*, 10(2), 31-46. <https://doi.org/10.12973/iji.2017.1033a>
- Khan, S. (2021, May 7). *Pros and cons of peer tutoring*. EdTechReview. <https://edtechreview.in/trends-insights/trends/4686-pros-and-cons-of-peer-tutoring>
- Khalid, H., Shahid, S., Punjabi, N., & Sahdev, N. (2018). An integrated 2-year clinical skills peer tutoring scheme in a UK-based medical school: perceptions of tutees and peer tutors. *Advances in Medical Education and Practice*, 9, 423–432. <https://doi.org/10.2147/amep.s159502>
- Kurniawati, Z. L., Zubaidah, S., & Mahanal, S. (2015). Critical thinking skills of Batu State High School students in biology subjects. *Proceedings of National Conference and National Workshop on Biology and Secondary Learning of Biology Department FMIPA UM*. 1677–1684.
- Lach, E. (2012, June 29). *Texas GOP's 2012 Platform Opposes Teaching of Critical Thinking Skills*. Talking Points Memo. <https://talkingpointsmemo.com/muckraker/texas-gop-s-2012-platform-opposes-teaching-of-critical-thinking-skills>
- Marsely, M. (2020). Peer tutoring as one best practice for accounting learning in vocational education. *Journal of Accounting and Business Education*, 5(1), 25–37. <https://doi.org/10.26675/jabe.v5i1.12634>
- Mohamed, J. (2021). The Impacts of Peer-Assisted Learning on Students' Academic Performance: Moroccan EFL University Students as a Case Study [Doctoral dissertation, Moulay Ismail University Meknes]. <https://doi.org/10.13140/RG.2.2.17405.08164>
- Olulowo, T. G., Ige, O. A., & Ugwoke, E. O. (2020). Using peer tutoring to improve students' academic achievement in financial accounting concepts. *Education Research International*, 2020. <https://doi.org/10.1155/2020/8871235>
- Özpeynirci, R., Yücenurşen, M., Apak, İ., & Polat, Y. (2015). A comparative analysis of accounting education's effectiveness with the balanced scorecard method: A case study of

- KMU. *Procedia-Social and Behavioral Sciences*, 174, 1849–1858.
<https://doi.org/10.1016/j.sbspro.2015.01.847>
- Page, M. (2016, December 13). *Why develop quantitative and qualitative data analysis skills?* Southern New Hampshire University - On Campus & Online Degrees.
<https://www.snhu.edu/about-us/newsroom/business/data-analysis-skills>
- Park, S. W., & Kim, C. M. (2016). The effects of a virtual tutee system on academic reading engagement in a college classroom. *Educational Technology Research and Development*, 64(2), 195–218. <https://doi.org/10.1007/s11423-015-9416-3>
- Priniski, J. H., & Horne, Z. (2019). Crowdsourcing effective educational interventions. In A. K. Goel, C. Seifert, & C. Freska (Eds.), *Proceedings of the 41st annual conference of the cognitive science society*. Austin: Cognitive Science Society.
<https://doi.org/10.31234/osf.io/edk3m>
- Rahmasari, B. S. (2017). Peer Tutoring: An effective technique to teach reading comprehension. *KnE Social Sciences*, 1(3), 245–258. <https://doi.org/10.18502/kss.v1i3.745>
- Rellin, R., Pataueg, R. J., Pineda R., Sabalo, J. & Siazon, M. A., Tindowen, D. J. & Catacutan, K. J. (2020). A study on the accounting education culture of the University of Saint Louis, Philippines. *Universal Journal of Educational Research*, 8(7), 2809–2815.
<https://doi.org/10.13189/ujer.2020.080707>
- Sainz, M. A., Ferrero, A., and Ugidos, A. (2019). Time management: skills to learn and put into practice. *Education+ Training*, 61(5), 635–648. <https://doi.org/10.1108/ET-01-2018-0027>
- Seo, E. H., & Kim, M. J. (2019). The effect of peer tutoring for college students: Who benefits more from peer tutoring, tutors or tutees? *New Educational Review*, 58, 97–106.
<https://doi.org/10.15804/ner.19.58.4.07>
- Schmidt, H. G., & Moust, J. H. C. (1995). What makes a tutor effective? A structural-equations modeling approach to learning in problem-based curricula. *Academic Medicine*, 70(8), 708–714. <https://doi.org/10.1097/00001888-199508000-00015>

- Scicluna H. A, O'Sullivan A. J, Boyle P, Jones P. D, and McNeil H. P. (2015). Peer learning in the UNSW Medicine program Assessment and evaluation of admissions, knowledge, skills and attitudes. *BMC medical education*,15(1), 167.
- Shanahan, D., (2013). High Oral Communication Apprehensives: How Can Students be Helped to Reduce Their Fear of Public Speaking?. *Irish Journal of Academic Practice*, 2 (1), 1-27.
- Sinclair, A. C., Gesel, S. A., & Lemons, C. J. (2019). The effects of peer-assisted learning on disruptive behavior and academic engagement. *Journal of Positive Behavior Interventions*, 21(4), 238–248. <https://doi.org/10.1177/1098300719851227>
- Singh S, Singh N, and Dhaliwal U (2014). Near-peer mentoring to complement faculty mentoring of first-year medical students in India. *Journal of Educational Evaluation for Health Professions*, 11(12).
- Singh, V., & Chakravarty, S. (2018). Are quantitative skills critical for business education program or an entry-barrier for diversity? *Psychological Studies*, 63(3), 325-334. <https://doi.org/10.1007/s12646-018-0450-1>
- Tan, J. B., & Gevera, E. B. (2020). Peer Tutorial: Championing students at risk. *International Journal of Learning. Teaching and Educational Research*, 19(5), 352-378. <https://doi.org/10.26803/ijlter.19.5.22>
- Tomkinson, J. (2021). Work together: The pros and cons of peer tutoring. *Education World*. <https://www.educationworld.com/teachers/work-together-pros-and-cons-peer-tutoring>
- Walkup-Amos, T. (2020). Creating inclusive music classrooms through peer-assisted learning strategies. *Teaching Exceptional Children*, 52(3), 138–146. <https://doi.org/10.1177/0040059919891185>
- West, H. Jenkins, R. & Hill, J. (2017). Becoming an effective Peer Assisted Learning (PAL) Leader. *Journal of Geography in Higher Education*, 41(3), 459–465. <https://doi.org/10.1080/03098265.2017.1315384>

- Villamar, A., Gayagoy, M., Matalang, F., & Catacutan, K. (2020). Usefulness of mathematics subjects in the accounting courses in baccalaureate education. *Mathematics and Statistics*, 8(1), 27–31. <https://doi.org/10.13189/ms.2020.080103>
- Yaman, B. B. (2019). A multiple case study: What happens in peer tutoring of calculus studies? *International Journal of Education in Mathematics, Science and Technology*, 7(1), 53–72. <https://doi.org/10.18404/ijemst.328336>
- Zeneli, M., Thurston, A., & Roseth, C. (2016). The influence of experimental design on the magnitude of the effect size -peer tutoring for elementary, middle, and high school settings: A meta-analysis. *International Journal of Educational Research*, 76, 211–223. <https://doi.org/10.1016/j.ijer.2015.11.010>