
THEORETICAL PAPER ON INFLUENCE OF PEER TO PEER LEARNING ON TRAINEE ACADEMIC PERFORMANCES

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Peer to Peer, Academic Performance, Students, Interaction, Peer teaching, STEM

ABSTRACT

The main aim of the article is to understand the importance of peer teaching in institutions of higher learning by looking at the positive effects it has both on trainers and trainees. Peer teaching has been identified as a diverse suite practices in which there are peers and are instructing one another by having a purpose driven and meaningful interactions. The study therefore focused on how peer teaching influences on academic performances. The researchers employed multi-stage sampling techniques where both primary and secondary data were collected. Data collection tools used was questionnaires and observations with participants of the study being Science, Technology Engineering and Mathematics (STEM).. The study findings indicate that students had awareness, interests and practice on peer learning method and they also believed that the method helps in improving the student's academic performance. The findings established that peer learning improves on academic performance. Academic performance scores increases when there is a frequent implementation of peer learning. It is recommended that for practical knowledge and understanding of concepts in higher learning, peer learning should be implemented because it increases on academic performances, promotes positive social interactions and allows students to have good sharing habits.

LITERATURE REVIEW

Peer learning in detail is an educational practice whereby the students are able to interact with other students for purposes of attaining their educational goals. Thus, through such elaborations, it is compared to practices that are done under the actions of cooperative learning (Dancer et al., 2015). There are other contemporary views that give relaxation towards the constraints of peer learning by highlighting that it is an action of learning that is tailored for everyone, done by everyone and is about almost everything that one can learn (Dancer et al., 2015). Hence, regardless of whether peer learning takes place in formal or in an informal learning environment, whether it happens online or in small groups, peer learning brings out the aspect of self organization that is usually less elaborated under the pedagogical methods of learning.

Peer instructions are tailored in a manner that they usually engage students when they are in class by subjecting them to activities, different and diverse that the students partake in, explain the concepts and teach other students the same concept. Despite the developed strategies in peer to peer learning, there are key challenges that emerge in the process, and the issue is that the peers are usually not domain experts, they have less expertise knowledge on the concept or the subject under discussion (AbdulRaheem et al., 2017). They are different from teachers because teachers have the knowledge and information about the concepts making them experts in the sector. The accuracy that comes from peer feedback is usually scanty, meaning in some cases, the feedback from the peers might be incorrect, partially correct or they can be misleading.

Peer feedbacks however are instrumental and when the subject expertise is present, they help in detailing about the student's differences and abilities in learning segments. One impact highly noted is on the weakest students because when they engage in peer learning, they get positive impacts and knowledge emerging from quality peers, hence helping in boosting their academic performances and goals (Broadbent, 2017). It is important to have peer learning because students need to be taught in depth about the concepts and they also need to be talked to for purposes of boosting their confidence and knowledge in the subject matter (Moore et al., 2016). Therefore, the teacher should not just be focused on writing everything on the board but rather should allow time for peer learning and talking to the students here need be (Dancer et al., 2015). These actions of engaging the students in peer learning and educating them through the strategies can be realized through different mechanisms.

Instructors can create group assignments where the learners will engage themselves, discuss the concept and share out the results. If it is an online class, participants can discuss through technological tools like Skype or even they can arrange and meet in person if they are in the nearby vicinity (Ghaith, 2002). The assignments can be theoretical discussions and practical actions to promote effective feedback that comes from the student dia-

logues. Constant meetings have to be undertaken to ensure that students have an ability of asking questions and bringing up different concepts that they feel is challenging and needs further discussions. There should be establishment of good plans, directions and strategies on how to conduct the peer learning to achieve successful outcomes.

There are numerous benefits that arise from peer teaching and the process includes improving the knowledge and high level competence towards the subject area (Broadbent, 2017). Therefore, the learners even weakest students can benefit from the outcome of these teaching methods. It also leads to development of an autonomous learning skills because there are opportunities for developing networking opportunities, building self-confidence and improving on self-esteem for the learners (Moore et al., 2016). Learners have an ability of getting leadership skills and positive attitudes towards the learning environment and their academic goals.

Methodology

In this study, a systematic literature review method was employed to gather and analyze relevant data and findings from various authors in relation to a specific research question or questions. This approach ensures a comprehensive and rigorous examination of the existing literature on the topic. To select the articles for review, the researchers employed a purposive sampling method (Razak and See, 2010). This means that the articles were deliberately chosen based on specific criteria that align with the research objectives. In this case, the selection was likely based on factors such as relevance to the research question, publication date, and availability of key sections such as research methodology and recommendations.

In terms of the inclusion criteria, only articles published from 2015 onwards were considered. This time frame was likely chosen to ensure that the review encompasses the most recent research and reflects the current state of knowledge in the field. Articles without a research methodology and recommendation sections were excluded from the study (Razak and See, 2010). This exclusion criterion ensures that the selected articles provide sufficient information about the methods used in the original studies and any recommendations made based on the findings.

To ensure the credibility and reliability of the literature included in the review, the researchers focused on articles from credible databases that contain peer-reviewed articles. Peer review is a crucial process in scholarly publishing, where experts in the field critically evaluate the research before it is accepted for publication (Lim et al., 2020). By including articles from databases that employ this rigorous review process, the researchers aimed to enhance the quality and validity of the literature used in their study.

Overall, the systematic literature review method employed in this study allowed for a comprehensive analysis of relevant articles from credible sources (Leung, 2015). By using purposive sampling, focusing on recent publications, and ensuring the availability of key sections, the researchers aimed to gather a representative and reliable set of literature to address their research questions.

Findings

When students are given the opportunity to elaborate on the information they have learned through discussions with their peers, teaching others, and exchanging views on how the information applies to problem-solving, it has been observed that their understanding, processing, and recall of the information improve (Williams and Reddy, 2016). This interactive and collaborative learning approach, as opposed to traditional didactic teaching methods, seems to empower students and instill in them a sense of responsibility for their own learning.

Engaging in group learning activities not only allows students to benefit from the collective knowledge and perspectives of their peers but also fosters a sense of ownership and active participation in the learning process. By providing and receiving help from each other, students develop a supportive peer network that can enhance their engagement in the task at hand and encourage them to persevere through challenges (Wentzel et al., 2021). Furthermore, peer support and the exchange of ideas within a group setting can lead to the establishment of positive peer norms, which in turn motivate individual effort and commitment to learning (Wentzel et al., 2021). As students engage in discussions about the content, cognitive conflicts may arise, exposing inadequate reasoning and prompting the emergence of higher-quality understanding. Through this process, students learn from one another, challenging and refining their own thinking while also benefiting from the insights and perspectives of their peers.

An emphasis on collaborative learning and peer interaction not only enhances students' understanding and retention of information but also cultivates important skills such as communication, critical thinking, and problem-solving. By actively engaging in discussions and exchanging ideas, students become active participants in their own learning journey, fostering a deeper level of comprehension and promoting a sense of shared responsibility within the learning community.

Conclusions

In this review, the focus is on examining how peers learning impacts students' academic performance. The majority of students hold the belief that this method has the potential to enhance their academic achievements (AbdulRaheem et al., 2017). The findings of the review indicate that students are required to engage in weekly peer learning sessions, facilitated by group leaders and instructors who actively encourage their participation.

It was observed that the implementation of peer learning positively influences students' scores and academic performance. By actively engaging in discussions and collaborative activities with their peers, students are able to deepen their understanding of the subject matter and improve their performance in assessments and examinations (Williams and Reddy, 2016). The interactive nature of peer learning allows students to benefit from the collective knowledge, experiences, and perspectives of their peers, thereby broadening their own perspectives and enhancing their learning outcomes.

Moreover, the review suggests that peer learning not only contributes to academic performance but also fosters positive social interaction among students. Through regular meetings and collaborative tasks, students have the

opportunity to develop interpersonal skills, build relationships, and engage in meaningful interactions with their peers (AbdulRaheem et al., 2017). This social aspect of peer learning creates a supportive and inclusive learning environment that encourages active participation and mutual support. Furthermore, peer learning promotes the habit of sharing experiences among students. By discussing and exchanging ideas, students gain valuable insights from their peers' unique perspectives and experiences. This exchange of knowledge and experiences enhances the overall learning process, as students can draw from a diverse range of viewpoints and approaches to problem-solving.

In summary, based on the findings of this review, the implementation of peer learning positively influences students' academic performance. The interactive and collaborative nature of peer learning enables students to deepen their understanding, improve their scores, and foster positive social interactions. Additionally, the habit of experience sharing among peers enhances the overall learning experience and contributes to students' academic growth.

Recommendations

Implementing peer learning in TVET (Technical and Vocational Education and Training) institutions can be highly beneficial in enhancing the competency of trainees. By allocating adequate resources and facilitating peer learning, these institutions can create an environment that promotes successful academic performance and skill development.

Peer learning offers trainees the opportunity to engage in collaborative activities and discussions with their fellow students. This collaborative approach allows trainees to learn from each other's experiences, perspectives, and skill sets. By working together, they can deepen their understanding of the subject matter and gain practical insights into real-world applications. This active participation in the learning process helps trainees develop their competencies in a more holistic and comprehensive manner.

Additionally, peer learning in TVET institutions creates a platform for trainees to exchange knowledge and skills within their respective fields. This sharing of expertise can foster a sense of camaraderie and collaboration, encouraging trainees to support and motivate each other. By leveraging the strengths and expertise of their peers, trainees can address their individual learning gaps, refine their skills, and collectively raise the overall competency level of the group.

To successfully implement peer learning in TVET institutions, it is crucial to allocate adequate resources. This includes providing appropriate learning spaces and facilities that facilitate group discussions, collaborative projects, and hands-on training. The institution should also invest in training and supporting faculty members and instructors in effectively implementing and guiding peer learning activities. Adequate time and scheduling should be allocated to ensure regular and structured peer learning sessions.

Moreover, resources should be dedicated to promoting an inclusive and supportive learning environment. This can involve creating mentorship programs where more experienced trainees can guide and mentor their peers. It

can also involve implementing assessment and feedback mechanisms that encourage constructive peer evaluation and continuous improvement.

By prioritizing and allocating resources towards facilitating peer learning, TVET institutions can harness the benefits of collaborative learning, ultimately leading to improved competency among trainees. The exchange of knowledge, skills, and experiences among peers fosters a deeper understanding, practical application, and overall growth in proficiency. This, in turn, equips trainees with the necessary competencies to excel in their chosen fields and meet the demands of the workforce.

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References

- 1) AbdulRaheem, Y., Yusuf, H.T. and Odutayo, A.O., 2017. Effect of peer tutoring on students' academic performance in economics in Ilorin South, Nigeria. *Journal of Peer Learning*, 10(1), pp.95-102.
- 2) Broadbent, J., 2017. Comparing online and blended learner's self-regulated learning strategies and academic performance. *The Internet and Higher Education*, 33, pp.24-32.
- 3) Dancer, D., Morrison, K. and Tarr, G., 2015. Measuring the effects of peer learning on students' academic achievement in first-year business statistics. *Studies in Higher Education*, 40(10), pp.1808-1828.
- 4) Ghaith, G.M., 2002. The relationship between cooperative learning, perception of social support, and academic achievement. *System*, 30(3), pp.263-273.
- 5) Moore, C., Westwater-Wood, S. and Kerry, R., 2016. Academic performance and perception of learning following a peer coaching teaching and assessment strategy. *Advances in Health Sciences Education*, 21, pp.121-130.
- 6) Lim, C., Ab Jalil, H., Ma'rof, A. and Saad, W., 2020. Peer learning, self-regulated learning and academic achievement in blended learning courses: A structural equation modeling approach. *International Journal of Emerging Technologies in Learning (IJET)*, 15(3), pp.110-125.
- 7) Leung, K.C., 2015. Preliminary empirical model of crucial determinants of best practice for peer tutoring on academic achievement. *Journal of Educational Psychology*, 107(2), p.558.
- 8) Razak, R.A. and See, Y.C., 2010. Improving academic achievement and motivation through online peer learning. *Procedia-Social and Behavioral Sciences*, 9, pp.358-362.
- 9) Wentzel, K.R., Jablansky, S. and Scalise, N.R., 2021. Peer social acceptance and academic achievement: A meta-analytic study. *Journal of Educational Psychology*, 113(1), p.157.
- 10) Williams, B. and Reddy, P., 2016. Does peer-assisted learning improve academic performance? A scoping review. *Nurse education today*, 42, pp.23-29.