Vol. 60/2024
A New Decade for Social Changes
The Effect of Peer and Self-Assessment on the Presentation Skills of Grade 5 Students in an International School

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Abstract. Presentation skills encompass the abilities and qualities necessary for crafting and delivering compelling content that effectively conveys information and ideas. Mastering these skills is crucial for initiating change, promoting collaboration, and effective communication across diverse contexts, with presentations playing a vital role in fostering positive learning experiences. Anchored on self-determination theory and social learning theory, this study determined the effect of peer and self-assessment on the presentation skills of Grade 5 students. Utilizing a quasi-experimental, non-equivalent control group pretest-posttest design, the presentation skills of 45 groups of students, assigned as control and experimental groups using simple random sampling, were assessed with a validated and reliability-tested rubric. For data analysis, Kolmogorov-Smirnov was used for the normality test, independent samples t-test, Wilcoxon signed rank test, and Quade's analysis for inferential statistics. Peer and self-assessment interventions significantly improve presentation skills among students during the PYP exhibition. While initial differences existed between the experimental and control groups, both groups showed substantial improvements post-intervention, with the experimental group exhibiting notably higher performance compared to the control group. With these results, the theories are validated, highlighting the significant integration of peer and self-assessment into teaching approaches, which plays a crucial role in fostering students' presentation skills during the PYP exhibition.

Keywords. Presentation skills, peer and self-assessment, Grade 5 students, quasi-experimental design, PYP exhibition

1.0 Introduction

Presentation skills refer to the abilities and qualities needed to create and deliver compelling content, effectively conveying information and ideas. This includes what is said, how it is organized, and how the materials, like slides, videos, or images, support the message [1]. These skills are crucial for bringing about change, fostering productive collaboration, delivering information during professional gatherings, and communicating effectively in corporate or educational environments [2]. In the educational setting, students' presentations are important in fostering positive learning experiences [3]. In a global context, it is clear that prioritizing presentation skills training across all levels, from individual contributors to senior
leaders, is crucial for career advancement, underscoring the undeniable importance of effective communication skills showcased through formal presentations [4].

As an essential part of the Primary Years Programme (PYP), the PYP Exhibition provides an excellent opportunity to develop students’ presentation competencies, and assessment plays an integral role in facilitating this process [5]. Traditionally, teacher-led assessment has been the norm; however, concerns over its limitations have led to the gradual emergence of alternative methods [6]. In modern education, the significance of student-centered learning has driven the exploration of alternative assessment techniques that integrate learning and assessment through active student engagement [7]. When students actively engage in the assessment process, they become effective and self-directed learners [5]. Thus, incorporating peer and self-assessment in the classroom promotes student autonomy, fosters self-awareness, and encourages critical analysis of their work against learning goals [8]. Meanwhile, self and peer assessment fosters students’ accountability, enabling them to objectively evaluate progress, clarify objectives, gauge comprehension, address uncertainties, boost confidence, and promote a respectful, collaborative classroom atmosphere [9].

The PYP program (for ages 3-12) helps students learn broadly by asking questions, thinking globally, and connecting different subjects. It emphasizes developing language skills, working in teams, and reflecting on their learning through projects [10]. The capstone of the PYP is an exhibition where students showcase everything they have learned. This involves teamwork, research, taking action on an issue, and presenting their findings to an audience [11].

As of December 2023, nine schools are offering the International Baccalaureate Primary Years Program in Kazakhstan [12]. One of these schools is the international school, where this study was conducted. As part of the school’s assessment practice, students are actively involved in assessing and reflecting on their learning. They act on feedback from peers and teachers to progress in their learning process. Also, a key aspect of the program involves fostering students’ ability to self-assess and discuss their progress toward learning goals [5]. Moreover, the aim of the Primary Years Programme (PYP) is to develop learners who are communicators, capable of expressing themselves confidently and creatively in more than one language and through various means. This is complemented by implicitly and explicitly developing students’ presentation skills as part of the Approaches to Learning (ATL) throughout the inquiry process in the entire programme [13]. Nevertheless, even though this has been a practice in the school’s Primary Years Program, no study has been conducted to demonstrate empirical evidence regarding its impact on presentation skills.

Studies have been carried out globally to ascertain the efficaciousness of peer assessment in conjunction with scaffolding and group work on the acquisition of vocabulary and speaking abilities in lower-intermediate and intermediate English learners [14]; the impact of peer feedback on undergraduate students’ self-and peer-assessed oral skills [15]; the influence of teacher, peer, team, and self-assessment on students’ presentation skills, with undergraduate students studying ICT as participants [16]; the effect of self-and peer-assessment on reflective and impulsive first-year EFL learners’ speaking skills [17]; and, how self-assessment of video recording raise students’ development of oral presentation skills among students who took a financial accounting class [18]. Despite extensive research on presentation skills and the benefits of peer and self-assessment in education, there is a noticeable scarcity of studies examining the impact of peer and self-assessment on presentation skills within the PYP exhibition context. This research would like to address this gap.

This quasi-experimental research sought to determine the effect of peer and self-assessment on the presentation skills of Grade 5 students during the PYP Exhibition in an
international school in Kazakhstan in the school year 2023-2024. Specifically, it investigated the significant difference in the presentation skills of the experimental and control groups. Also, it checked the significant difference in the presentation skills of the experimental group before and after the peer and self-assessment. The findings served as basis for a Peer and Self-Assessment brochure for PYP students, along with a seminar-workshop plan for students to be facilitated by teachers in an international school in Kazakhstan.

2.0 Framework of the Study

This study theorized that peer and self-assessment is an effective intervention to enhance the students’ presentation skills. This was anchored on Deci and Ryan’s [19] self-determination theory and Bandura’s [20] social learning theory. Self-determination theory (SDT) is a personality theory focused on motivation and the interplay between social environments and individual traits, exploring how they influence various forms of motivation, including autonomous and controlled motivation. These motivational factors, in turn, have predictive implications for learning, performance, well-being, and psychological health. Peer and self-assessment provide students with control over their learning process, allowing them to participate in evaluating their own work and their peers. This involvement not only satisfies the need for autonomy but also addresses the desire for competence as students evaluate and improve their presentation skills. By incorporating these assessment methods, educators can tap into the motivational aspects emphasized by SDT, fostering a more self-directed and engaged learning environment.

Further, the study was also anchored on the social learning theory emphasizing the notion that individuals gain knowledge from their interactions with others in a social setting. Separately, people learn similar behaviors by imitating the actions of others. People mimic and assimilate other people’s behavior after observing it, especially if the observed behavior is rewarded or the observational experience is positive. Peer assessment not only encourages collaborative learning but also provides students with the opportunity to observe and learn from their peers' presentations. By engaging in the evaluation process, students can witness diverse approaches, fostering a shared learning experience. This aligns with the key principles of social learning theory, as students not only assess their own work but also gain valuable insights from their peers’ presentations, contributing to the development of their presentation skills through observation and shared experiences. Meanwhile, self-assessment enables students to evaluate their own performance against established criteria or observed models, promoting reflection and personal growth. This process facilitates learning through self-observation and adjustment of behaviors or strategies based on identified strengths and areas for improvement, which corresponds with the principles of social learning theory in an individual context.

3.0 Methods

This study used a non-equivalent control group pretest-posttest design in a quasi-experimental manner. When a study is organized similarly to an experiment but has a pre-existing element and no random assignment, the conditions and experiences of the participants are not as controlled as they would be in an experiment. This is known as a quasi-experimental design. Additionally, a dependent variable was measured in one group of participants before (pretest) and after (post-test) treatment using the non-equivalent control group pretest-posttest design. The same dependent variable was also measured at the pretest and post-test in a different non-equivalent control group that was not given the treatment [21]. The study involved Grade 5 students from an international school in Kazakhstan participating in the PYP Exhibition.
during 2023-2024. Since the international school in Kazakhstan, where the study was conducted, is an IB PYP school, part of its curriculum involves the development of students’ presentation skills, which are essential approaches to learning skills. The control and the experimental groups were determined using a simple random sampling technique.

In this study, a single set of researcher-made contextualized rubrics, specifically designed based on the Primary Years Programme (PYP) Approaches to Learning (ATL) skills, was used consistently for both peer assessment and self-assessment and applied to non-equivalent control group pretest-posttest model. This rubric served as the standardized evaluation criteria to assess the presentation skills of Grade 5 students of an International School in Kazakhstan participating in the PYP Exhibition during 2023-2024. The researcher-made rubric was subjected to validation using the Good and Scates validity test and reliability testing through interclass correlation analysis. The validity testing involved three certified PYP teachers who used the rubrics during student presentations. The validity yielded a score of 4.73, indicating excellent validity. For reliability testing, 5 PYP specialists assessed the rubrics and provided feedback for improvement, contributing to the consistency and dependency of the research instrument. Reliability registered at 0.801, suggesting good reliability.

Before conducting, the researcher wrote a letter to the school head seeking permission and approval to conduct the study. Upon approval, the researcher established a detailed timeline for implementing the non-equivalent control group pretest-posttest model, to be conducted before and after the intervention. This timeline was aligned with the PYP Exhibition stages, which include engage, investigate, conclude, act, share, and reflect. The administration of the pretest and post-test, both for the control and experimental groups, was carried out by PYP teachers who were trained in PYP exhibition procedures. More importantly, these teachers were blinded to the group assignments, ensuring a fair and unbiased assessment process for both the control and experimental groups. The inter-raters observed the presentations of all groups during both the pretest and post-test, and they were also provided with video recordings of the presentations.

The pre-test was administered during the Share stage of the PYP Exhibition when students had already finished verifying primary and secondary sources, worked on their student actions, and started working on their visuals. Prior to conducting peer and self-assessments, the researcher facilitated an inquiry-based lesson on peer and self-assessment for the experimental groups. This provided an explicit learning framework, ensuring participants understood the concepts thoroughly before engaging in assessment activities. The rubrics and guidelines for peer and self-assessment were covered in the lesson and reviewed before conducting peer and self-assessment. During the peer assessment, the assessing groups anonymously provided scores and feedback by refraining from writing their names on the rubrics. After receiving the scored rubrics, the assessed groups were allotted time to reflect on both the scores assigned to each standard and the feedback provided by the assessing groups. The assessed groups then identified areas for improvement in their presentations based on the rubrics and feedback received. During the self-assessment, each group’s presentation was video recorded. Subsequently, the groups watched their presentation, self-assessed their performance using the rubrics, and provided feedback on their own performance. They were then given time to reflect on the rubrics and feedback, identifying areas of their presentation that needed improvement.

After the inquiry-based lesson and the peer and self-assessment intervention were conducted, the post-test was administered to the respondents during the day of the PYP Exhibition. After the rubric results had been compiled and gathered, the test scores were analyzed and interpreted to determine if there was a significant difference between the
presentation skills of Grade 5 students during the PYP Exhibition, both before and after engaging in peer and self-assessment. Additionally, it determined if there is a significant difference between the presentation skills of students within the experimental group, those participating in peer and self-assessment, and the control group, consisting of students who did not engage in peer and self-assessment during the PYP Exhibition.

In data analysis, the researcher employed a range of statistical methods and tools to analyze and interpret the collected data, ensuring the accuracy and truthfulness of the study's findings. Kolmogorov Smirnov was used to determine the normality of the variable. The test revealed that the variable pretest [KS=0.103, p=0.200] was normally distributed, while the post-test [KS=0.169, p=0.002] was not normally distributed. A parametric test was used for the pretest and a non-parametric test for the post-test to answer inferential questions. Independent samples t-test was used to determine the significant difference in the presentation skills of the two groups during the pretest (before the peer and self-assessment of the experimental group). Wilcoxon signed-rank test determined the difference in the presentation skills between the pretest and post-test of the two groups (before and after the peer and self-assessment of the experimental group). Quade's analysis of covariance determined the difference in the presentation skills during the post-test of the two groups (after the peer and self-assessment of the experimental group).

Lastly, the researcher addressed the general principles of respect to person, justice, and beneficence to fully guarantee the ethical soundness of the study in line with the guidelines established by the Philippine Health Research Ethics Board (PHREB).

4.0 Results and Discussion

Presentation Skills during the Pretest and Post-test of Control and Experimental Groups

Table 1 shows the presentation skills of both the experimental and control groups before and after the intervention. Prior to the intervention, the students as a whole were competent (M=12.63, SD=1.68). Specifically, the control group scored slightly lower (M=11.88, SD=1.31) than the experimental group (M=13.23, SD=1.73). Following the intervention, the overall presentation skills significantly improved, with the students achieving exemplary performance (M=16.66, SD=1.19). The control group scored lower (M=15.90, SD=1.22) than the experimental group after peer and self-assessment (M=17.27, SD=0.75).

Both control and experimental groups performed well in their presentations during the pretest. This indicates that both groups possessed foundational skills in presentation. Factors influencing their scores could include their prior experience with the mini PYP Exhibition during fourth grade, which likely contributed to their readiness and familiarity with presentation expectations in the PYP Exhibition. Furthermore, the posttest reveals that the presentation skills of the control and experimental groups improved from competent to exemplary. However, the experimental group outperformed the control group, suggesting that the peer and self-assessment intervention contributed positively to their enhanced performance.

The foregoing findings corroborate with existing literature, where peer and self-assessment interventions have been shown to significantly enhance the academic performance [22]. Additionally, the integration of self-assessment, as seen in Ritchie's [23] study, further enhances presentation skills by providing students with opportunities for reflection and improvement. Similarly, Tailab and Marsh's [18] research underscores the benefits of self-assessment through video recordings, which increase students' awareness and confidence in their presentation abilities.
Difference in the Presentation Skills during the Pretest

Table 2 presents the difference in presentation skills during the pretest. There was a significant difference \[t(43)=2.876, p=0.006\] in the scores of the two groups, indicating that prior to the peer and self-assessment interventions, the experimental group exhibited higher presentation skills compared to the control group.

Table 2 highlights that before the peer and self-assessment intervention, the experimental group had notably higher presentation skills than the control group. Factors that could have influenced this difference include prior experience and peer interaction. This also suggests that initial disparities in presentation abilities between the groups may have influenced their subsequent performance and the effectiveness of the interventions in enhancing these skills.

Since the PYP Exhibition is the culminating experience where students apply fundamental PYP components throughout their learning journey, their presentation skills have already been developed, especially by fifth grade [11]. Therefore, both the control and experimental groups were competent during the pretest, with the experimental group showing significantly higher performance. Additionally, the PYP Exhibition is a collaborative effort carried out by students, showcasing their ability to take responsibility for their learning through active participation in planning, presentation, and assessment, as well as demonstrating their capacity for action [5]. This suggests that collaboration and teamwork can also impact the presentation skills of students working together.

Table 2. Difference in the Presentation Skills During the Pretest

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
<th>df</th>
<th>P</th>
</tr>
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<tbody>
<tr>
<td>Pretest</td>
<td>2.876*</td>
<td>43</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Note: *difference is significant when p<0.05

Difference in the Presentation Skills Between the Pretest and Post-test

Table 3 illustrates the difference in presentation skills between the pretest and post-test for both control and experimental groups. A significantly higher difference was observed in the experimental group than in the control group. The presentation skills showed a significant improvement for both the control (z=-3.924, p=0.000) and experimental (z=-4.376, p=0.000) groups, with the experimental group exhibiting a greater improvement.

The control group showed a significant improvement during the post-test. Factors contributing to this improvement may include the external support provided by mentors assigned to all groups during the Exhibition, as well as the motivation levels of students throughout the Exhibition stages. The significantly higher improvement of the experimental group after intervention suggests that the peer and self-assessment intervention played a crucial role in enhancing their presentation skills.
role in enhancing their presentation skills. This underscores the effectiveness of these strategies in fostering skill development and improvement in academic performance.

The results of this study found significant improvements in both experimental and control groups post-intervention, with a higher improvement observed in the experimental group, which contradicts the findings by Aslanoğlu [24], where only the experimental group utilizing peer and self-assessment showed notable improvements compared to the control group. However, it aligns with the findings of Yan et al. [22], which showed that self-assessment, peer assessment, and combined self-assessment and peer assessment interventions significantly improved academic performance.

### Table 3. Difference in the Presentation Skills Between the Pretest and Post-test

<table>
<thead>
<tr>
<th>Variable</th>
<th>z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>-3.924*</td>
<td>0.000</td>
</tr>
<tr>
<td>Experimental</td>
<td>-4.376*</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Note: *difference is significant when p<0.05

**Difference in the Presentation Skills during the Post-test of the Experimental and Control Groups**

There was a significant difference between the presentation skills of the two groups during the post-test [F(1, 43)=8.038, p=0.007], as shown in Table 4. The performance of the experimental group is significantly higher than the control group. The research findings indicate a significant difference in the post-test presentation skills between the experimental and control groups, with the experimental group exhibiting notably higher performance. This implies that peer and self-assessment intervention significantly improved the presentation skills of the experimental group in terms of articulation, engagement, teamwork, coherence, sources, and versatility, as assessed in the rubrics.

The preceding findings align with the positive impact of self-assessment highlighted by Abdelmajdid and Radzuan [25], emphasizing its role in enhancing students' willingness and confidence in delivering oral presentations. This is consistent with the study of Tkáčová et al. [26], which revealed that peer and self-assessment are beneficial for different aspects of oral performance. However, contrasting views from Zulliger et al. [27] suggest the minimal overall impact of peer and self-assessment on student performance, although proficient self-assessment notably benefits lower-performing students. Additionally, Ndoye [28] emphasizes the role of peer and self-assessment in promoting collaboration and responsibility and addressing learning gaps, contingent upon students' willingness to engage in group work. Furthermore, Candrlíc [16] recommends incorporating multiple assessment methods, including self-assessment, despite potential discrepancies with teacher evaluation, as it fosters self-reflection. Prosenjak and Lučev [29] further support the significance of peer assessment in improving students' presentation skills, as evidenced by both quantitative and qualitative data indicating its effectiveness in promoting self-reflection and enhancing overall performance.

### Table 4. Difference in the Presentation Skills during the Post-test of the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td>Treatment</td>
<td>8.038</td>
<td>1, 43</td>
<td>0.007</td>
</tr>
</tbody>
</table>

*Note: *difference is significant when p<0.05; Covariates in the model are evaluated at the following values: Pretest=12.63
This study theorized that peer and self-assessment is an effective intervention to enhance the presentation skills of the students. By engaging in peer and self-assessment processes, the students can not only develop a deeper understanding of their presentation skills but also refine and improve their abilities to communicate, organize information, and engage with their audience effectively. The results of the study validated the self-determination theory (SDT) by Deci and Ryan [19], which focuses on how motivation, shaped by the interaction between social contexts and individual traits, impacts learning, performance, well-being, and psychological health. Moreover, it affirmed Bandura's [20] social learning theory, which emphasizes the notion that individuals gain knowledge from their interactions with others in a social setting.

5.0. Conclusion
Engaging students in critically evaluating their own work and that of their peers against set criteria can significantly improve presentation skills in terms of articulation, engagement, teamwork, coherence, sources, and versatility, as revealed by the findings of this study. Thus, it is essential for policymakers to establish supportive frameworks and guidelines, enabling educators to effectively integrate these practices into the teaching and learning process. However, it is also necessary to recognize other factors that can affect presentation skills other than peer and self-assessment as intervention.

6.0. Limitations of the Findings
This study acknowledges that the size of the sample and its specific location may limit the applicability of the findings. Additionally, the focus on presentation skills during the PYP Exhibition may restrict generalization to other aspects of the PYP Exhibition like cross-curricular integration, learner action component, global and local perspectives and depth of inquiry or other academic areas. Furthermore, while the experimental group showed higher performance post-intervention, potential confounding variables or unmeasured factors like prior experience, motivation levels, peer interaction, external support, and personal traits could influence the observed outcomes.

7.0. Practical Value of the Paper
The findings of this study may serve as the basis for a Peer and Self-Assessment Brochure for PYP students. This brochure provides necessary information that guides students on how to effectively engage in peer and self-assessment. The brochure is accompanied by a seminar-workshop plan for students, to be facilitated by teachers in an international school in Kazakhstan. The workshop is designed to provide practical tips on how to conduct peer and self-assessments. Furthermore, the results of this study could serve as a baseline for curriculum enhancement, guiding the development of a regulated and institutionalized program. In policy-making, the effectiveness of the program will determine its sustainability for continuous development. Additionally, these findings could provide valuable evidence for evaluation purposes.

8.0. Directions for Future Research
Further research in other aspects of the PYP Exhibition, like cross-curricular integration, learner action component, global and local perspectives, and depth of inquiry or other academic areas with larger and more representative samples from different schools could provide a more comprehensive understanding of the effects of peer and self-assessment on
presentation skills across different educational contexts. Furthermore, the influence of factors like prior experience, motivation levels, peer interaction, external support, and personal traits on the observed impact of peer and self-assessment on presentation skills should also be examined.

9.0. Declaration of Conflict of Interest
No potential conflicts of interest relating to the research, writing, or publishing of this work were disclosed by the authors, according to their report.

10.0 Acknowledgement
The main author expresses gratitude to his family, friends, and colleagues for their unwavering support during the research journey. He also thanks his adviser and the panel for their guidance, which was instrumental to the study's success. Most importantly, he is grateful to God for blessing him with strength, wisdom, and perseverance in completing this study.

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[1] Coursera. (2024, January 31). What are effective presentation skills (and how to improve them)? https://www.coursera.org/articles/presentation-skills


