

April 2023

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Recommended Citation

Raja, Bhavana; Bayers, Leslie; Hill, Lott; and Rabena-Amen, Alicia (2023) "Student physical therapists' perceptions of a novel, small-group presentation method in the United States: a cohort study," *Health Professions Education*: Vol. 9: Iss. 2, Article 7.

DOI: 10.55890/2452-3011.1041

Available at: <https://hpe.researchcommons.org/journal/vol9/iss2/7>

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ORIGINAL RESEARCH REPORTS

Student Physical Therapists' Perceptions of a Novel, Small-group Presentation Method in the United States: A Cohort Study

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Abstract

Purpose: The purpose of this project is to explore perceptions of student physical therapists of a new, small-group presentation model called Presentation-Station-Rotation (PSR). Our hypothesis is that the PSR format will be a more effective, interactive, and stimulating mode of delivery than large group presentations.

Method: Thirty-six first year student physical therapists were divided into groups of three students to give a presentation about their clinical experience. Presenters rotated to two other groups to present for three repetitions; listeners heard six different presentations. Thematic analysis was conducted on the questionnaire completed by the students regarding their experiences of the PSR format.

Results: Five themes were identified across three questions. As presenters, students reported that they were able to improve their time management, presentation content, confidence, and comfort level. As listeners, students benefited from more engagement, better eye contact and improved active listening. They reported that they appreciated learning about their peers' experiences, reviewing course content, and having small group discussion.

Conclusion: PSR promotes active learning and stimulating discussions. Student survey results indicated that this presentation format builds confidence without raising anxiety levels and prepares students for future collaborations, interactions, and presentations in their clinical practice settings, professional conferences, and interprofessional team meetings.

Keywords: Active learning, Student physical therapist, Educational activity, Inservice training, United States

1. Introduction

Student presentations are an important part of graduate education. They promote learning at a higher level of Bloom's taxonomy by encouraging students to integrate knowledge from classroom or clinical experience to information that they might have gathered through research [1]. Presentations also provide an opportunity for students to share their knowledge and experiences [1]. Traditional presentation methods of a single speaker at a time are not the most inclusive or equitable pedagogical approaches; in fact, a growing body of research

demonstrates that active learning is more effective than unmediated lecturing for all students [2–4], and especially supports the success of learners from groups historically underrepresented on college campuses [2].

Conventional presentations spotlight one voice at a time and often lack meaningful discussion; they may be followed by few clarifying questions from the audience but are not interactive in nature [5]. Students lacking confidence may not perform well speaking in front of others and may not feel comfortable participating in discussions that might follow. Furthermore, despite best efforts at

Received 26 August 2022; revised 1 February 2023; accepted 1 February 2023.
Available online 21 April 2023

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<https://doi.org/10.55890/2452-3011.1041>

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engagement, audience attention and energy drop off with each presentation, which is a disservice to presenters and their listeners [6]. Finally, traditional presentations give students a single opportunity to deliver their message thus creating a more summative than formative learning experience. Given this context and similar feedback from various disciplines and student levels, Leslie Bayers and Lott Hill at the Center for Teaching and Learning (CTL) at the University of the Pacific began to envision a timed, small-group, rotating presentation format that would spark and maintain audience engagement and collaboration while allowing each speaker to progressively refine their thinking and delivery. Thus, was born “presentation-station-rotation (PSR),” which combines elements of group work, timed think-pair-share [7], dynamic peer-review, and presentation formats like Ignite Talk or Pecha Kucha [8].

Content-specific outcomes for PSR will vary according to the class in which is incorporated and will typically include goals such as analyzing, synthesizing, describing, and discussing course material. Additionally, this activity affords students the opportunity to practice collaborative, interpersonal, and oral communication skills—sometimes referred to as “people skills”—that will be critical to their clinical and professional success. Specifically, by engaging in PSR, students will: 1) build collaborative and interpersonal communication skills, including active listening and speaking; 2) develop presentation and leadership skills and confidence; 3) offer constructive feedback colleagues; and, 4) reflect on and adapt communication strategies based on audience feedback, including refining messaging for maximum learning and impact. PSR also supports the instructional goals of creating positive and interactive learning environment, structuring equitable communication, and offering varied pathways for student success.

The purpose of this project is to explore perceptions of student physical therapists of a new, small-group presentation model called Presentation-Station-Rotation (PSR). Our hypothesis is that the PSR format will be a more effective, interactive, and stimulating mode of delivery than large group presentations.

2. Methods

2.1. Ethics statement

The University of the Pacific's Institutional Review Board approved this study (approval number 20-107). Informed consent not applicable due to the retrospective study design.

2.2. Study design

This study was completed as a survey after participation by a cohort of students.

2.3. Subjects

The participants included thirty-six first-year Doctor of Physical Therapy students in an entry-level program at the University of the Pacific in Stockton, California in the United States in 2019.

2.4. Technical information

All thirty-six students taking the Introduction to PT Practice course were included in this study, which took place in an assigned classroom commonly used for this course. They were randomly divided into 12 groups of 3 students in each group. Four teams of 3 groups were created, so that there were nine students (three groups of three students) per team. Within each team, each of the groups were assigned to station A, B, or C, and each member of the group was assigned a position within the group as 1, 2, or 3 (Fig. 1). Each student designed a 5-min slide presentation of a patient vignette from their recent clinical experience in their assigned clinic.

One 60-min class session was scheduled for the entire presentation process, which included three 15-min rounds (one round per each position 1, 2, or 3 in each of the twelve groups). In the first round, those in position 2 and 3 of each group remained at their assigned A, B, or C group stations as audience members. All students assigned position 1 in their group were first to present at the first station. After the first presentation ended in 5 min, the presenters moved to the next station on their team to present again. When the second 5-min period ended, the presenter moved to the third and final station on their team to present one last time (Fig. 1). A 1-min break was given between presentations with the course instructor keeping and announcing time. After three presentations, the presenters returned to their original station. Subsequently, all students assigned position number 2 in their groups then proceeded with the same PSR rotating format within their teams. The same format applied for the students assigned position number 3 in their groups.

During the presentations, the course instructor supervised the rotation process and was able to attend all the presentations at some point during the process. At the end of the class session, students were given a questionnaire to complete regarding their perceptions of the PSR format that asked: 1)

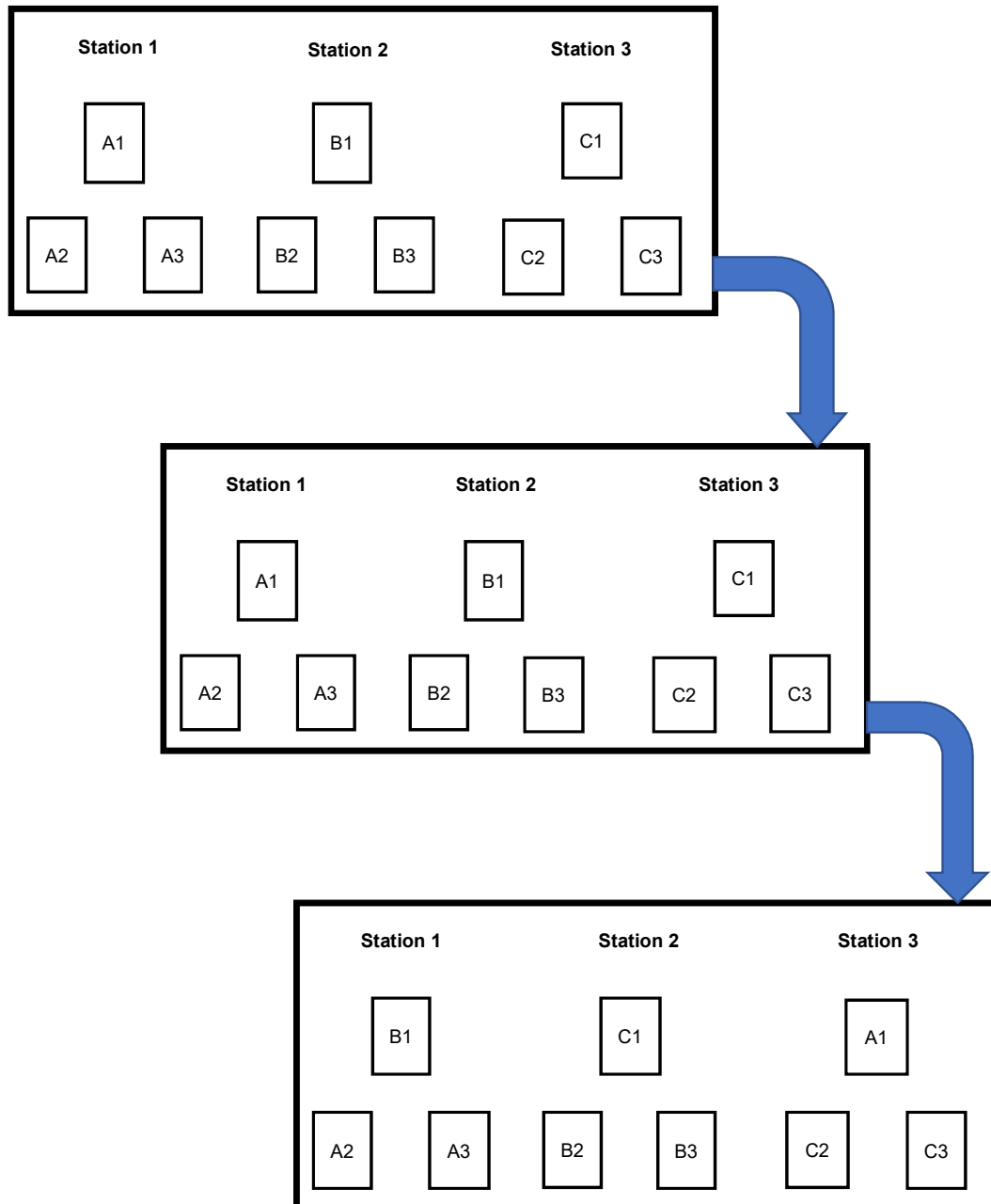


Fig. 1. Station configuration of one team of 9 students with each lettered/numbered box representing one student in their group of A, B, or C. For instance, Station 1 is one group (A1 is student 1, A2 is student 2, and A3 is student 3 in the “A” group). In the above example, students assigned position 1 rotated to the next station as indicated by the arrows, while students assigned positions 2 and 3 remained at their stations.

What did the students learn from this presentation method both as presenter and listener? 2) What was different for the presenter from the first to the last presentation? and 3) What did the students perceive they gained from this presentation assignment?

2.5. Qualitative analysis

Thematic analysis was performed by reviewing each response and identifying common themes.

Two researchers with different backgrounds independently analyzed text answers to the open-ended questions for theme identification. The researchers independently identified themes pertinent to each survey question. Researchers then discussed their findings and any differences. A theme was named only when it was identified by both researchers independently of each other. Themes identified for each question, referred to here on as sub-themes, were then categorized into larger, overarching

themes. Lastly, researchers identified quotes that were most relevant to the identified themes.

3. Results

Three sub-themes were recorded for each part of the three questions (Table 1). Related sub-themes were then placed in one of five overarching themes: time and efficiency; confidence and composure; engaging; value of peer sharing; and content review. In question one, the themes of “engaging” and “confidence and composure” were identified by students both as presenters and listeners. As presenters, the theme of “time and efficiency” emerged as listeners’ “value of peer sharing” was identified. “Time and efficiency” were recognized twice as a theme for question two, and “confidence and composure” appeared once. For question three, “value of peer sharing” emerged as a theme twice as a benefit of PSR as an assignment, whereas “content review” also appeared. “Time and efficiency” were recognized as a theme twice as a benefit of PSR, and the theme of “engaging” was also identified (Fig. 2).

3.1. Five overarching themes

3.1.1. “Time and efficiency”

A majority of the students reported their presentation content and flow improved with each repetition. Additionally, students reported the PSR format required them to be concise, streamline their presentation, and improve time management. For example, one of the students stated, “*Learned I needed to get right to the point and no time for extraneous info [information]; I had to edit and cut things out*”. Likewise, presenters’ comments included that the

time limit required them to focus on pertinent information and save time for discussion at the end of their presentation; “*learned time mgmt. [management] is most important skill; had to divide time effectively for diff [different] parts of the presentation*”.

3.1.2. “Confidence and composure”

Students reported feeling confident due to the opportunity to present multiple times, and they documented that the PSR environment gave them a chance to practice, make mistakes and correct mistakes without really feeling the pressure of being in front of the entire class. For example, “*presenting gets easier (words flow) each time you do it; able to adjust things with each new rep [repetition]; learned I’m more open to feedback/const [constructive] criticism in sm gp [small group] vs. whole class*”. Students felt more supported by their peers in smaller groups, as opposed to presenting in front of the entire cohort. They reported a sense of camaraderie instead of competition and felt it was easier and less intimidating to present in small groups: “*it really showed that in these smaller groups people felt more comfortable and their presentations were more of a sharing of information rather than a stressful situation.*”

3.1.3. “Engaging”

Student comments indicate that the PSR format made for a more interactive presentation where the audience was engaged and attentive: “*Format allowed me to listen to others in more depth*” and “*Enjoyed having my peers’ full attention.*” Almost all students stated that as listeners, they were more attentive and actively engaged during this format of presentation and were able to learn from their peers’ experiences: “*This type of pres [presentation]*

Table 1. Survey questions with sub-themes and overarching themes.

	Subtheme	Overarching Theme
Question 1: Lessons learned from participating in this presentation:		
As a presenter	Streamline presentation	Time and Efficiency
	Engaging	Engaging
	Composed/Relaxed	Confidence and Composure
As a listener	Shared experiences	Value of Peer Sharing
	Speaker's confidence	Confidence and Composure
	Stimulating	Engaging
Question 2: Difference for presenter from the first to the last presentation:		
Presenter	Confidence	Confidence and Composure
	Time management	Time and efficiency
	Concise	Time and efficiency
Question 3: Benefits from this presentation:		
as an assignment	Content Review	Content Review
	Learn from peers' experiences	Value of Peer Sharing
	Opportunity to share	Value of Peer Sharing
as the PSR format	Engaging	Engaging
	Easier to present	Time and Efficiency
	Planning	Time and Efficiency

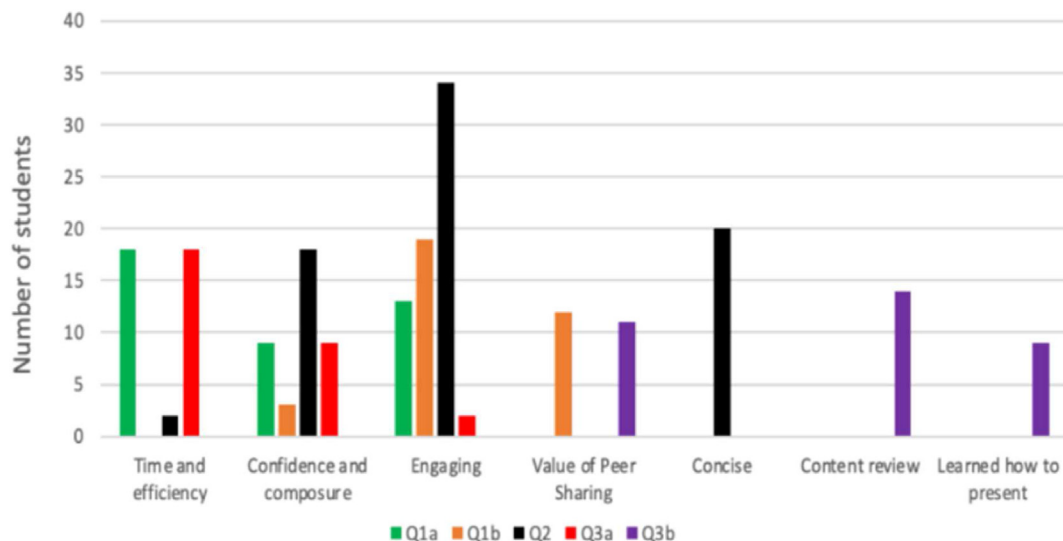


Fig. 2. Represents individual themes identified for each question; x-axis represents various themes; y-axis represents number of students. Q1a: What did you learn from participating in this type of presentation, as the presenter? Q1b: What did you learn from participating in this type of presentation, as the listener? Q2: What was different for you as a presenter from your first to the last presentation? Q3a: What did you get out of this presentation as the presentation itself? Q3b: What did you get out of this presentation as an assignment?.

allows better connection and eye contact. I felt more engaged vs. a passive listener”. The listeners also reported that increased engagement helped them make connections with their own experiences and classroom learning: “I was able to understand my presenters’ presentations. I was happy that I understood what they were explaining, bc [because] it showed me I have learned a lot in this past semester”.

Students as presenters reported that multiple iterations provided an opportunity to gauge the listeners’ engagement and adjust their presentation: “Learned you need to be prepared and concise b/c [because] you want to keep your audience engaged”.

3.1.4. “Value of peer sharing”

Students frequently reported that the relaxed and less intimidating PSR format provided for peer feedback and discussions, “in front of class, more nervous and spend time processing, and want to finish quickly; sitting down and talking to peers helped me focus on material and talk to them one on one.” Students stated that this format was more of an opportunity to share and discuss their experience and learn with their peers rather than a conventional presentation. Peer presentations also stimulated appreciation for each other’s knowledge and experience; “Learned a lot about how Fall Friday (FF) went for classmates; learned about my classmates during conclusion for what went well and what was diff [different]”. They also developed appreciation for their peers and the profession; “Assignment made me

realize how lucky I am to be surrounded by such creative, supportive and amazing people; Got to learn about classmates”.

3.1.5. “Content review”

Students commented that repetition and actively listening to their peers’ helped with review of course content that is necessary to bring forward in the curriculum and clinical practice, such as documentation, the International Classification for Functioning, Disability, and Health model, and tests and measures; “Assignment helped me practice documentation/ICF, SOAP and GAS goals”, “Assignment help me gather info and structure importance of pt [patient] as a whole”. “became more familiar and comfortable w/SOAP (with Subjective, Objective, Assessment and Plan) notes by hearing it multiple times in various ways”.

4. Discussion

4.1. Key results

The purpose of this study was to apply an innovative presentation format that addresses the known limitations of the large group presentations while assessing student perceptions of the new format in a PT program. Student feedback from participating in the PSR format was overwhelmingly positive, with no negative themes emerging from the data analysis. The survey results support our initial

hypothesis that the PSR format is more effective, interactive, and stimulating of active learning while breaking the monotony and arduous nature of large group presentations. The thematic analysis identified key themes for each question with themes overlapping all three questions, thus solidifying the usefulness of this presentation format for both the presenters and the listeners.

4.2. Interpretation

Repetition has been regarded as an important precursor to learning new material, fostering memory encoding and successful retrieval [9]. Students perceived the redundancy of the PSR format as the biggest asset. The opportunity to present three times in a row gave the presenter immediate feedback regarding what worked and what needed to improve, offering students a chance to streamline their presentation and make it more concise. This ensured that they emphasized key points and overall managed their time better, which are important skills for developing effective professional presentations, patient education, and additional professional interactions [10]. This repetition along with the small group setting reduces anxiety, fosters confidence, and promotes learning on several levels. First, the students indicated that they were better able to focus on the smaller-group presentations, which suggests deeper learning of the content alongside the development of their ability to collaborate offer feedback to peers. Indeed, results from this study indicate that students found value in peer sharing in the small PSR format and that the PSR format was an effective method for course content review.

Instilling presentation skills early in students' careers can create a solid foundation for presentations during their professional careers. Critical objectives of presentations are to improve communication skills and to train students to talk to a group of people [11]. The student feedback suggests that the PSR format accomplishes those goals better than traditional presentations, with the added benefit of building interpersonal communication skills and confidence. Another benefit for students and instructors alike is that the PSR format efficiently gives all students the opportunity to present, hear, and learn from the same number of presentations in 60 min that would typically require 4 hours in a large-group presentation format. Finally, student feedback on this format suggested that it added to a sense of community in the class and helped students develop relationships that may extend beyond their graduate school experience.

4.3. Limitations

This study was based on a survey from one cohort of students at the beginning of their PT program, however we believe the positive survey responses suggest that this format was well received by the students.

4.4. Generalizability

The results of this study can be favorable to health care educators globally, as this presentation format can benefit students from many healthcare disciplines. Suggestions for future studies should focus on incorporating this format in physical therapy courses at different times in the curriculum, in a group presentation format, in an online/hybrid format and in other healthcare programs.

4.5. Suggestions

Suggest applying this presentation across multiple disciplines, in group settings, and virtually.

5. Conclusion

In areas of engagement, time management, student confidence, presentation and leadership skill-building, collaborative peer sharing, and learning course content, the PSR format was a more effective, interactive, and stimulating mode of delivery than large-group presentations.

Ethical approval

Ethical approval has been granted from the University of the Pacific, Institutional Review Board for retrospective analysis of student survey responses (approval number 20-107).

Funding

None.

Other disclosure

Dr. Leslie Bayer and Lott Hill originally came up with the idea, also listed in the manuscript.

Conflict of interest

None.

References

- [1] Thor D, Xiao N, Zheng, Ma R M, Yu XX. An interactive online approach to small-group student presentations and

- discussions. *Adv Physiol Educ* 2017 Oct;41:498–504. <https://doi.org/10.1152/advan.00019.2017>.
- [2] Freeman S, Eddy SL, McDonough M, Smith MK, Okoroafor N, Jordt H, et al. Active learning increases student performance in science, engineering, and mathematics. *Proc Natl Acad Sci USA* 2014 May;111:8410–5. <https://doi.org/10.1073/pnas.1319030111>.
- [3] Wolff M, Wagner MJ, Poznanski S, Schiller J, Santen S. Not another boring lecture: engaging learners with active learning techniques. *JEM (J Emerg Med)* 2015 Jan;48:85–93. <https://doi.org/10.1016/j.jemermed.2014.09.010>.
- [4] Schmidt HG, Wagener SL, Smeets GA, Keemink LM, van der Molen HT. On the use and misuse of lectures in higher education. *Health Profess Educ* 2015 Dec;1:12–8. <https://doi.org/10.1016/j.hpe.2015.11.010>.
- [5] Xingeng D, Jianxiang L. Advantages and disadvantages of PowerPoint in lectures to science students. *Int J Educ Manag Eng* 2012 Sept;9:61–5. <https://doi.org/10.5815/ijeme.2012.09.10>.
- [6] Farley J, Risko E, Kingstone A. Everyday attention and lecture retention: the effects of time, fidgeting, and mind wandering. *Front Psychol* 2013 Sept;4:619. <https://doi.org/10.3389/fpsyg.2013.00619>.
- [7] Kaddoura M. Think pair share: a teaching learning strategy to enhance students' critical thinking. *Educ Res Q* 2013 Jun; 36:3–24.
- [8] Ramos-Rincón JM, Sempere-Selva TS, Romero-Nieto M, Peris-García J, Martínez-de la Torre G, Harris M, et al. Pecha Kucha presentations by medical students in Spain. *Int J Med Educ* 2018 Sep 19;9:244–5. <https://doi.org/10.5116/ijme.5b92.52e3>.
- [9] English MC, Visser TA. Exploring the repetition paradox: the effects of learning context and massed repetition on memory. *Psychonomic Bull Rev* 2013 Dec;21:1026–32. <https://doi.org/10.3758/s13423-013-0566-1>.
- [10] Federal Emergency Management Agency. Effective communication instructor guide: Preparing for oral presentations [Internet]. 2014 Feb [cited 2021 July 27]. Available from: https://training.fema.gov/emiweb/is/is242b/instructor%20guide/ig_04.pdf.
- [11] Vogel WH, Viale PH. Presenting with confidence. *J Adv Pract Oncol* 2018 Jul;9:545. <https://doi.org/10.6004/jadpro.2018.9.5.9>.