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Developing Communication Skills in Higher Education—The Use of the Pecha Kucha †

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Abstract: In an Integrated Master of Science in Dentistry, it is relevant to develop communication skills. Through the Information and Communication Methodologies curricular unit, students learn to synthesize information, create engaging presentations, and use formats such as Pecha Kucha. The presentation model, with 20 slides of 20 s each, allows them to convey information clearly and concisely while efficiently managing time. Students were challenged to summarize scientific articles in this format, promoting communication skills. The activity was evaluated by the teachers, who gave feedback to the students.

Keywords: communication skills; short presentations; pecha kucha; dentistry

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1. Introduction

Public speaking and the public presentation of scientific content are important skills for academics and practitioners. However, failures, inconsistencies, and problems related to time management are frequent during public oral presentations. Not seldom do students find it difficult to synthesize, select, and organize information [1].

Given the need to contribute to the development of students' communication skills, a curricular unit (CU) of Information and Communication Methodologies was introduced in the first year of the study cycle. Among its contents, short communication formats for public speaking are explored, such as Pecha Kucha (PK). The presentation model was developed in 2003 by architects Mark Dytham and Astrid Klein. Its structure consists of a sequence of 20 slides, with automatic transitions every 20 s, for a total duration of 6 min and 40 s [2]. With very little text, it relies mainly on images, which should be understood as authentic visual metaphors. It was created with the purpose of making presentations more dynamic and engaging, and these benefits have already been demonstrated [3].

The goals of this activity were to lead students to develop public speaking and communication skills, such as the ability to synthesize and organize information, the structuring and creation of captivating presentations with an eminently visual narrative line, and the use of presentation production software. The assessment was carried out through direct observation, giving further feedback on the students' performance.

2. Materials and Methods

This was a descriptive, observational, and cross-sectional study. In the academic year 2022–2023, all the first-year students were organized in groups and challenged to prepare a presentation in the PK model summarizing a scientific article randomly assigned to

each group. They then answered a survey in English (they are all speakers of Portuguese as their first language), made available online, with a set of questions/statements from the study "Do Students Learn Better with Pecha Kucha, an Alternative Presentation Format?" [4]. The survey includes 12 statements about the reasons for not including certain elements/information in the presentation (group 1), 17 statements about the reasons for doing so (group 2), and 7 statements aimed at assessing the level of confidence about the presentation in general (group 3). The statements in groups 1 and 2 are distributed over the following five areas: audience engagement, relevance of content, evidence-based evaluation, logistics, and credibility. For each statement, students were asked to indicate their level of agreement on a Likert-type scale, ranging from 1 to 5, where 1 corresponds to "played no role in my decision" and 5 corresponds to "definitely played a role".

3. Results

The data were analyzed using descriptive statistical methodologies. Of the 213 students enrolled, 83 (38.9%) participated by answering the survey. The average age is 19.9; 26.3% are male and 73.7% are female.

In group 1 of the survey, questions 4 (I decided not to present certain information because "it was too advanced and it might go over some students' heads"—area: audience engagement—Table 1) and 6 (I decided not to present certain information because "it was so advanced that even I was confused"—area: evidence-based evaluation—Table 1) revealed that students did not exclude elements or information in the presentation because of its complexity for the class or for the presenters. The main reasons for excluding information were related to the limited time available for the presentation. This situation was demonstrated in question 9 (I decided not to present certain information because "it wouldn't fit in the allotted time"—area: evidence-based evaluation—Table 1).

Table 1. Descriptive analysis (N, %) of questions from group 1—reasons for not including certain elements/information in the presentation (N = 83).

Score	Question 4		Question 6		Question 9	
	n	%	*n*	%	*n*	%
1—played no role in my decision	24	28.9	24	28.9	3	3.6
2	20	24.1	18	21.7	2	2.4
3	15	18.1	23	27.7	23	27.7
4	17	20.5	11	13.3	30	36.1
5—definitely played a role	7	8.4	7	8.4	25	30.1

Notes. Question 4—I decided not to present certain information because "it was too advanced and it might go over some students' heads"; Question 6—I decided not to present certain information because "it was too advanced and it might go over some students' heads"; Question 9—I decided not to present certain information because "it wouldn't fit in the allotted time".

Regarding group 2, on the reasons for including information in the presentation, question 13 (I decided to present certain information because "it was essential background information on the topic"—area: content relevancy—Table 2) reveals that the option for including information considered the need for contextualization. The same expression was found in the answers to question 17 (I decided to present certain information because "it was something that, when put together, would flow as a comprehensive story"—area: credibility—Table 2), which reveal that the option to include information also obeyed the establishment of a narrative line, an important dimension in the communicational process, emphasized throughout the CU lessons, particularly for the development of communicational competencies.

Table 2. Descriptive Analysis (N, %) of Questions from Group 2—reasons for including certain elements/information in the presentation (N = 83).

Score	Question 13		Question 17	
	n	**%**	***n***	**%**
1—played no role in my decision	2	2.4	2	2.4
2	4	4.8	6	7.2
3	16	19.3	14	16.9
4	17	20.5	26	31.3
5—definitely played a role	44	53.0	35	42.2

Notes. Question 13—I decided to present certain information because "it was essential background information on the topic"; Question 17—I decided to present certain information because "it was something that, when put together, would flow as a comprehensive story".

As for question 21 (I decided to present certain information because "it was something that all students in the class would be interested in knowing"), only 9.6% of the students (score 1 + 2) did not consider the inclusion of information relevant because it was interesting for the other students. As for question 25, I decided to present certain information because "it is the future direction where the science is heading" and only 10.8% of the students (score 1 + 2) did not take into account the evolutionary trend of science.

A cross-analysis of the questions in group 3 shows that after the presentation, the students feel confident to answer questions from a varied audience (high school students, dentists, family members, non-teaching staff, teachers, and even the president of the higher education institution).

In the last open-ended question, students were asked if they had any additional comments on this learning experience. Some of their answers include: "It was fun"; "it was impactful in my interaction skills"; "I think it improved my communication and synthesis skills"; "It's pretty hard to fit everything you need to say"; "it's perfect".

4. Discussion

The use of short presentation formats, such as PK, in meaningful and properly planned learning situations reveals benefits in terms of student motivation, involvement, information synthesis, public speaking and communication skills, innovation, and creativity [4].

In our study, the data suggest that students have self-awareness of the parameters that influenced the inclusion and exclusion of elements in their presentations. Nevertheless, in the future, to address possible limitations of the study, increasing the number of respondents may prove useful.

As suggested by authors such as Warmuth, PK presentations allow for better understanding of content and longer-lasting retention than simple traditional digital presentations such as PowerPoint or Keynote [5].

It has also been shown that the fast pace of the presentation facilitates the concentration of the speakers and the audience [2].

In the development of communicational skills, this type of methodology can be favorably applied in different scientific fields and other training contexts in higher education, and its usefulness has already been demonstrated in scientific areas such as Dentistry [6], Psychology [2], and Nursing [7], among others.

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