

# Students' Perceptions of Successful Teamwork After Immersion in Diabetes Escape Room Team-Based Gaming Activity

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## Background

North Dakota State University faculty designed and implemented a serious game, the Diabetes Escape Room, in a pharmacy skills laboratory.<sup>1</sup> Teams consisted of 5 third year pharmacy students and each had 75 minutes to complete 4 complex puzzles focused on diabetes pharmacotherapy. Serious gaming has shown to have a positive impact on learning retention and its implementation has been encouraged in pharmacy school curriculum.<sup>2</sup>

## Objective

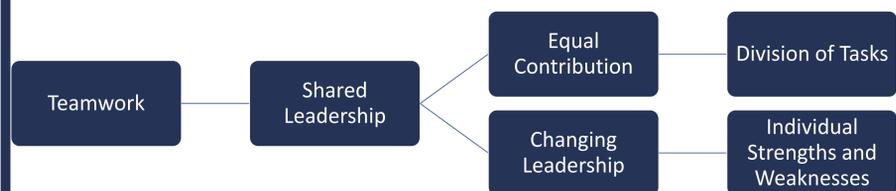
This poster discusses elements of **successful teamwork** in the setting of a serious game as reported by students during team interviews following the gaming activity.

## Methods

After completing the diabetes escape room gaming activity, 6 student teams were asked to participate in an exit interview where they described their experience through prompts provided by the interviewer. All interviews were video-recorded.

These videos were then transcribed and uploaded in NVivo<sup>(R)</sup> for qualitative analysis. Data were coded "on the fly" from the participants' input during the interviews.

After the first sorting, identified codes were analyzed by the researchers and categorized into common themes that described specific aspects of teamwork (Figure 1).



**Figure 1.** Structure of the themes and associated sub-themes identified in the qualitative analysis of student team input

The data was further organized based on the game performance of each team to assess the most prevalent qualities of successful teams. A successful team was defined as one who completed all Diabetes Escape Room activities in the allotted time.

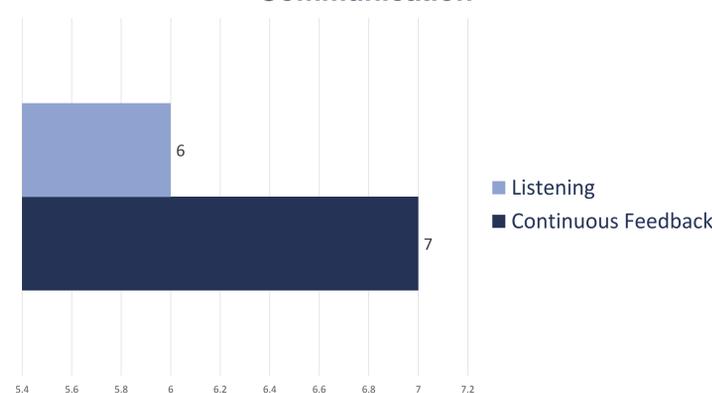
## Results

The results of this qualitative data analysis clearly showed two main characteristics of successful teams: **team communication** and **shared leadership**.

- **Team communication** was mentioned a total of 21 times and included **continuous feedback and listening** as essential skills (Figure 2).
  - ❖ "There was never a moment where I felt like we were all silent, someone was always talking."
  - ❖ "Our team was thinking out loud so that other people could hear."
  - ❖ "Everyone was respectful [and] took into account what everyone had to say which facilitated communication."
- **Shared leadership** was coded 35 times with **equal contribution, individual strengths and weaknesses, changing leadership, and division of tasks** emerging as the most referenced successful team qualities (Figure 3).
  - ❖ "[It was] an on the spot rotation of leadership [that happened for each task]."
  - ❖ "A leader emerged in each activity."
  - ❖ "There wasn't one specific leader in our group, but each of us had something to contribute."
  - ❖ "[In] the different games, some people were strong at Sudoku or the matching so whoever had the most strength in that activity [took leadership]."

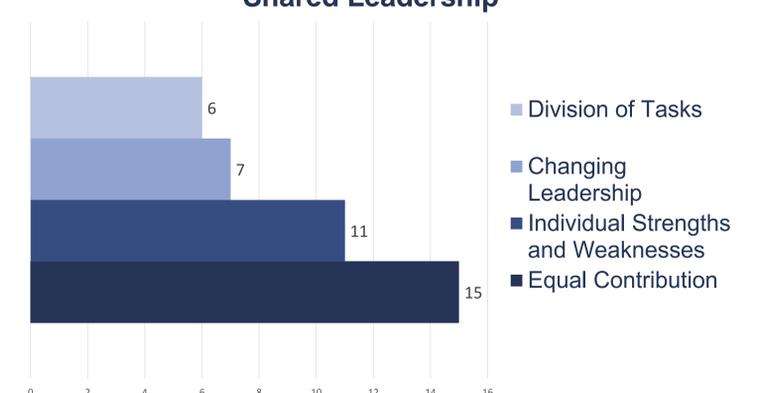
### Characteristics of Successful Teams

**Communication**



**Figure 2.** Communication sub-themes

**Shared Leadership**



**Figure 3.** Shared Leadership sub-themes

## Implications

Student team interviews and qualitative analysis using NVivo<sup>(R)</sup> software identified attributes of successful teams competing in a serious game. The results of this analysis indicate that good teamwork is demonstrated through shared leadership and strong communication skills and is essential for the successful completion of the educational team-based gaming activity.

The lack of these two characteristics in a team could lead to unsuccessful teamwork. Instructors can look for these warning signs as an indication to intervene earlier in a group that is struggling.

Serious gaming activities stimulate teamwork and team building skills beneficial for all other hands-on team activities in lab courses. Team activity during serious gaming can be assessed since it is an important soft skill required for accreditation of PharmD programs. This Escape Room game concept can be utilized for many other disease states such as self care, infectious disease, or hypertension.

## References

1. Eukel H, Frenzel J, et al. Educational Gaming for Pharmacy Students – Design and Evaluation of a Diabetes-themed Escape Room. American Journal of Pharmaceutical Education 2017; 81 (7) Article 6265
2. Cain J, Conway JM, DiVall MV, et al. Report of the 2013-2014 Academic Affairs Committee. Am J Pharm Educ. 2014;78(10):Article S23.