

PEER-LED TEAM LEARNING LEADER TRAINING

Incorporating Innovative Learning Techniques in a Free-style Peer-Led Team Learning Environment: Games as Collaborative/ Cooperative Learning

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Introduction

At the University of Texas at El Paso (UTEP), the general chemistry classes are composed of two hours of lecture and a mandatory two hours of workshop. In the first hour, students work in a lab and engage in explorations in order to experience “wet” chemistry. In the second hour students work in groups in order to understand the chemical concepts; this is where activities, such as games, come in. Games are a great way for students to collaborate and cooperate with each other and as a result learn a seemingly difficult subject.



By using familiar games (for example, ChemJeopardy, ChemTaboo, and ChemTwister, and other games described in this issue), students engage in active learning while staying within their comfort zone. Some students tend to lose interest in quantitative and conceptually challenging science classes. Difficult subjects become more approachable by presenting the topics in a competitive manner via games. Students are intellectually stimulated without realizing that they are learning. Games facilitate the building of fundamental correlations better than memorizing specific facts from a text. These games motivate students to think critically in a comfortable environment where students are more apt to acquire knowledge. Further, students work in teams, thus allowing them to help each other. Correlating chemical content to the rules and format of the games requires (develops) creativity on the part of the Peer Leader.

Why “Freestyle”?

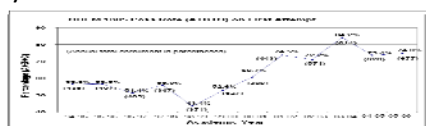
Freestyle is an artistic, creative, innovative, unregimented form of grabbing the attention of students while integrating peer led team learning.

Peer Led Team Learning (PLTL) lessens student anxiety during the transition from a high school environment to a challenging college future. By breaking a large auditorium class into smaller groups, students are given valuable small group and one-on-one time with a peer leader (PL). The UTEP created Plus Two PLTL Program is more ‘free style’, giving peer leaders leeway to develop unique, interactive teaching strategies different from those found in lecture. For example, PLs here have created new pedagogical methods for students to learn the density formula by arranging the variables in a visually symbolic way, or to become familiar with solubility rules by singing a song set to a common tune. The free style nature of the Plus Two Program in general chemistry at UTEP has contributed to the increase in C-or-better passing rate improvement from 53% to 74% over the past eight years.

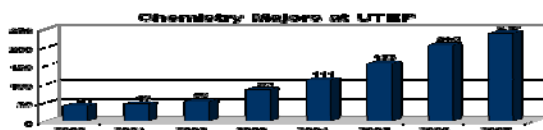


Data and Results

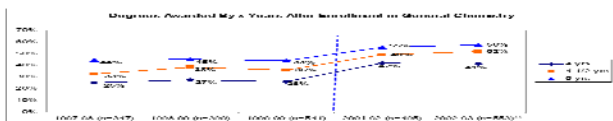
Since the implementation of the freestyle ‘Plus Two’ PLTL program at UTEP, the average passing rate of first semester general chemistry has increased approximately twenty percent. The number of STEM degrees has increased markedly, as has the retention of students in the semesters following General Chemistry. Subjective reports indicate that students find workshop extremely valuable, especially in problem solving and team-building skills. The number of students majoring in chemistry has dramatically increased.



**Improved
Passing Rate!**



**Increased
Number of
majors!**



**Increased
Graduation
Rate!**

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