



Using Science Songs for Engaging Generation Y Students

Isabel Yee Pinn Tsin

Sunway College, Kuala Lumpur (Malaysia)

isabely@sunway.edu.my

Abstract

Songs have demonstrated to be effective teaching and learning tools in young children. However, their efficacy remains to be investigated upon its usage for Generation Y students. Research on the use of science songs in middle school classes suggests that revisiting lecture content in an alternative form such as using lyrics, tests students' understanding in a way that cannot be achieved by a lecture. In this research, songs based on the more difficult subtopics in Medical Biotechnology and Chemistry was composed, encompassing many formulas, equations and facts to be remembered. This technique of song composition can be used in any subject and any tune can be used. Songs can be utilized for any class size, from tutorials to lecture halls. Students found it very enjoyable and stress-reducing when learning complex scientific facts. It added variety to their learning experiences and engaged Generation Y students more effectively through a variety of modalities and modes simultaneously.

1. Introduction

Generation Y students, also known as the Millennial Gen. are those born between 1988 and 2000. They are currently 14 – 26 years of age and are consisting of approximately 45% of full-time labor force since the year 2010 [2]. Jim Westerman in his essay on Teaching Excellence suggests that one of the best ways to teach Gen Y students would be “Skill Variety” as they need engagement and entertainment [6]. Songs have been a major source of entertainment worldwide that transcends culture, race and creed. It has been known to evoke strong emotions, which can enhance some aspects of memory [4]. Therefore, this may help our Gen. Y students memorize important facts, formulas and definitions. Composing songs can be used as a skill for adding variety to classroom learning. This skill could be incorporated into any subject and for any class size. It has even been used by luminary people such as National Institutes of Health Director Francis Collins, who occasionally sang to students at the University of Michigan “to break up the monotony” [1]. Any tune could be used, as long as it was familiar to students. Most of the tunes used in my research originated from Disney cartoons as animations are favorites among the young and old alike. This methodology has been tried for students in Pre-University, Diploma, and in training sessions for Academic and non-Academic staff. Most of the songs composed were Science-based for Gen. Y students in the School of Chemical and Life Sciences (Diploma) and Chemistry classes (Pre-University). This methodology has been shown in physiological, neurological and behavioral studies to reduce stress in students [3] and decrease their levels of anxiety [5].

2. Methodology

A song was written based on vital key ideas and formulas, by referring to the Syllabus of a chosen subtopic. After teaching the concepts, a hand-out of the song was given to students and the song was sung. As students had a copy of the song, they could practice singing it repeatedly. A questionnaire, consisting of closed questions was administered during class time. Action research was conducted on 95 Monash University Foundation Year (Science) students in Sunway College. The results of the questionnaire were analyzed and categorized.

The song that was demonstrated in class was recorded and uploaded into the institution’s online learning portal. This would encourage our Gen. Y students to access the song anytime, anywhere, in their own convenience. This would also help them to recall the tune and song when doing their revision. Power point slides containing the song lyrics would also be uploaded into the same online portal so that students have both soft and hard



copies of the lyrics. Hence, they can easily download and listen to both song and lyrics even when they are travelling or during wait time.

3. Results and Discussion

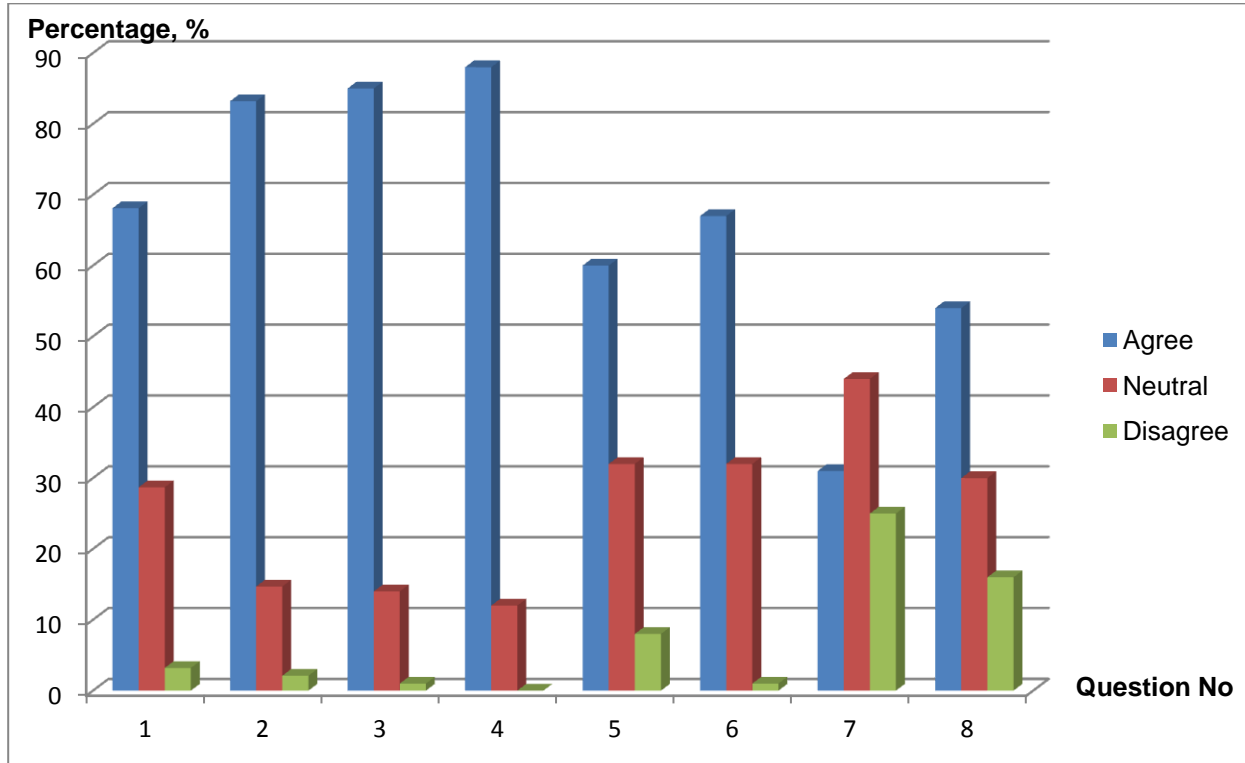


Figure 1: Analysis of questionnaire results based on action research conducted on 95 Monash University Foundation Year (Science) students. A questionnaire, consisting of 8 closed questions was administered: 1) Are songs helpful as a study tool? 2) Do you find songs stress-reducing? 3) Do songs add variety to teaching? 4) Are using songs enjoyable in the classroom? 5) Do songs help in recall of important facts? 6) Do songs assist you in your learning? 7) Will you practice singing the songs repeatedly? 8) Do Disney songs appeal to you? The results of the questionnaire were analyzed and displayed in a chart.

The study found that a majority of the students (88%) rated that songs were enjoyable in the classroom. It lowered their stress (83%) and boredom levels and they understood and retained key information better. It was observed that attendance, rapport and punctuality also increased significantly after utilizing science songs to engage this group of Gen. Y students. They gave feedback that they appreciated the efforts and time taken to compose such songs. In addition, they looked forward to each class as they wanted more songs to be composed and sung in class. This is corroborated from the results in Figure 1 that 85% of students surveyed revealed that songs added variety to teaching and learning. About an equal amount of students agreed that songs were helpful as a study tool (68%) and that it assisted their learning (67%).

Research from Wolters and Rosenthal [7] concurred that students who were unwilling to read a textbook chapter might listen to a related song repeatedly. However, 25% of the students stated that they would not practice singing the songs repeatedly. This could be attributed to the fact that most of the songs composed were based on Disney cartoon tunes and hence, only slightly more than half of total students (54%) surveyed showed that Disney tunes appealed to them while 16% of them revealed that such tunes did not particularly appeal to them. There were requests for me to do covers on Taylor Swift, Carrie Underwood and more contemporary music



artistes. This could be an area for future research, whereby the type of songs, a bigger number of participants and a more comprehensive questionnaire can be carried out.

Nonetheless, this methodology can be applied at strategic points for all subjects to supplement the curricula with music. As students could remember lyrics of songs upon listening to them repetitively, they could recall important facts, equations and formulas easier from song lyrics (60%). Crowther [3] confirms this by stating that songs are organizational mnemonic devices. Results from this study support previous research that song composition appeals to our Gen. Y students as it engages them through multiple modes (verbal vs nonverbal) and modalities namely auditory, kinesthetic and visual learning styles [3].

4. Conclusion

Overall, there was positive feedback from Gen. Y students with this technique as it appealed to them, helped them recall vital concepts, added variety to their classroom learning and lowered their stress levels. In addition, this technique increased students' enjoyment and engaged them more effectively by catering for students with different learning styles.

References

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