

The Ensemble
Dr Terrell Hatz
GT 2201
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GT 2201 Project Proposal – The Ensemble

Team Information

Team Name - The Ensemble

Team Number - 7

Team Members - Richard Huckaby, Jonathan Gosyne, Vidya Iyer, Yi Zhou, Hannah Carlton, Bangseh Akuchu.

How Might We

How might we increase students' learning retention in the elementary school classroom, ultimately resulting in higher test scores and academic performance?

Description and Background of Project

Problem: As time progresses, a strong educational background is becoming an integral factor in leading a stable lifestyle. While educational institutions continue to strive for higher standards, academic standards in Georgia have diminished. This is reflected by the performance of Atlanta public schools; during the 2009- 10 school year, Georgia was one of the seven states to have a freshmen graduation rate under 69.9% [7]. We believe that increasing engagement in the classroom will increase students' focus, ultimately increasing memory retention and resulting in higher test scores and academic performance [5].

Significance: The gap between society's expectations and the actual curriculum in schools has led to underperforming students, thus resulting in lower test scores and graduation rates. This gap, particularly evident between the 3rd and 9th grade, can very clearly be exemplified amongst Atlanta public schools, which are continually failing to match, and far less surpass, nationwide averages. [6]. Repeated underperformance can take a harsh toll on a student's desire to learn, thus we realize their decision to drop out is made after many failed attempts to stay engaged and motivated [3]. It is vital to address this issue in the short window we are presented, because a continuous cycle of underperformance and incomplete schooling is directly related to an increase in poverty. Those who are below the poverty line risk a higher chance of being incarcerated and remaining jobless [3]. This instance in Atlanta is confirmed by independent research conducted by CollegeBoard [5]; their conclusion was that unemployment is highest amongst people who have not earned a high school diploma or equivalent.

Stakeholders: The implementation of our idea would benefit a multitude of parties. Firstly, and most directly, the students themselves. By raising interest, students will be motivated to complete public schooling and excel academically. The local and national governments benefit from the implementation of this program, as well. Increasing academic performance could potentially increase productivity and economic development in the area, while simultaneously giving American students the chance to academically compete with students across the globe [5].

Project Goal

The scope of our project is the memory retention of social studies material in the fourth grade classroom, primarily because retention is what drives higher test scores and academic performance in elementary schools. Thus, we hope to positively impact performance, raising student engagement, ultimately leading better academic performance by integrating music as a teaching tool in the classroom. [4] Susan Riley discusses the importance of the integration of arts into the STEM curriculum, saying, "This kind of integration has tremendous potential for those students who are sitting in your classroom waiting for something different -- because, suddenly, their learning is no longer located in silos. Instead, students can use their vast array of knowledge

to choose a pivot point for moving within and across content areas.” This embodies the immediate goal of our project quite well.

External Advisors

One Georgia Tech faculty member that we can look to as a mentor would be Dr Donna Whiting. She has already been an invaluable resource, giving advice and recommendations along the way. Dr Whiting has promised CEISMC’s support of this project, and has even met us on site. She was primarily responsible for connecting us with Boon Boonyapat, the educational director at Drew Charter School and Ziwen Fan, a Georgia Tech Master’s student currently doing work at Drew. We will also use Ms. Baruch, as an external advisor for developing the lessons we implement in her classroom.

Objectives

Objective 1: Work with Ms. Baruch to plan units of augmented curriculum.

We will be working with Ms. Baruch to create lesson plans using music as a teaching tool. This objective is important because we need to know which lessons to tailor our ideas to. This objective is also the foundation of our project; we will use the songs we write to teach Ms. Baruch’s students. By working closely with Ms. Baruch, we will have guidance in what we should focus on and knowledge of potential limitations. In addition to writing songs, we will also create pre-tests and post-tests to assess how well the students learn with music and without music. The pre-tests and post-tests will all be different but will all have the same difficulty.

Steps

1. Consult with Ms. Baruch to decide which units we can help her teach using music.
2. Create songs based on the material in the unit that will be used to teach the students.
3. Create the pre-test and post-tests.

Anticipated Problems

1. Time, effort, and talent that go into writing songs. We hope to counter this anticipated problem by using our collective time and creativity.

Objective 2: Conduct the experiment with measurable results.

Ms. Baruch teaches the same material to five classes. Three of her classes, the experimental group, will be taught using music while the other two will be instructed using traditional teaching methods as a control group. Both the control and experiment groups will be assessed using a pre-test and two post-tests. The pre-test will be administered to each student before the unit is started. Two post-tests will be administered to each student: one post-test immediately after the unit is covered and the other post-test a week later in order to test how well students retained the information they learned. Aside from the quantitative data we collect in the form of test scores, we will also collect qualitative data from Ms. Baruch in the form of an interview and questionnaire and from the students through short interviews. This objective is a vital part of the project because it allows us to observe how the class responds to music-integrated lessons and allows us to determine if music has an effect on retention.

Steps

1. Administer pre-tests to the control and experiment groups
2. Have Ms. Baruch teach the same lesson with and without music.
3. Have Ms. Baruch observe how students react to the music curriculum and record her thoughts with a Likert Scale and through a short interview
4. Administer the first post-test to the control group and experiment group.
5. Administer the second post-test to the control group and experiment group.
6. Briefly interview students about how much they enjoy the augmented curriculum
7. Compile and organize the data

Anticipated Problems

1. Children's reluctance to participating in music related activities. We hope to counter this anticipated problem by making our songs interesting and easy to learn and trusting Ms. Baruch's ability to keep her students interested in learning.

Objective 3: Analyse and reflect on results.

Analysing and reflecting on both the qualitative and quantitative results of our experiment is an essential step in moving forward with our project. We will take test scores as well as student and teacher feedback into account as we aim to gauge the success of our project in Ms. Baruch's classroom. By doing this, we will be able to improve aspects of our project that were ineffective as we work with other subjects and grade levels. Our project will have succeeded thus far if the students enjoy learning with music, Ms. Baruch observes that students enjoy learning with music, and students in the experimental group have higher test scores than students in the control group.

Steps

1. Analyse quantitative data of pre-test and post-test scores
2. Reflect on qualitative data from Ms. Baruch and students
3. Discuss how we can improve our method in the future

Timeline

		Timeline							
		September 2014	October 2014	November 2014	December 2014	January 2015	February 2015	March 2015	April 2015
Objectives									
1	Consult with Ms. Baruch to decide which units we can help her teach using music	■							
2	Create songs based on the material in the unit that will be used to teach the students		■	■	■	■			
3	Create pretest and two posttests		■	■					
4	Create evaluation form for Ms. Baruch to record the class performance and reaction			■					
5	Finish IRB	■	■	■	■				
6	Administer the pretest to the control and experiment groups					■			
7	Have Ms. Baruch teach the same lesson with and without music					■	■		
8	Administer the first posttest to the control group and experiment group						■		
9	Have Ms. Baruch observe how students react to the music curriculum and take evaluation form					■	■		
10	Interview students in experiment group about how do they like the course						■		
11	Carefully record data of tests scores, evaluation forms and interviews					■	■		
12	Analyze quantitative data of test scores						■		
13	Reflect on qualitative data by using graphical presentations like word clouds							■	
14	Discuss how we can improve our method in the future							■	
15	Have the second post test							■	

Budget

Semester	Expense Type	Description	Cost
Fall			
	Services	Team polos and t-shirts	\$250
	Travel	Estimated 3-4 trips to Drew Charter to meet with Ms. Baruch	\$34
		Fall Total:	\$284
Spring			
	Materials and Supplies	Copies of lessons, hand-outs, and tests; storage for material	\$200
	Travel	Estimated 20 trips to Drew Charter school for experimentation	\$170
		Spring Total:	\$370
		Total for year:	\$654

Citations

- [1] Grabmeier, J. (2011, August 11). Year-round schools don't boost learning, study finds. [Online]. Available: <http://researchnews.osu.edu/archive/yearrnd.htm/> Retrieved: September 2014
- [2] Martin, M. (Performer) (2012). Is teach for America failing? (Tell Me More NPR News). [Television series episode]. Available: <http://www.npr.org/2012/06/11/154761299/is-teach-for-america-failing> Retrieved: September 2014
- [3] LAB 5 (2014, September). *Raise Georgia's current high school graduation rate to 90%*. [Online]. Available: <http://colabsummit.com/lab-5/brief-5/> Retrieved: September 2014
- [4] Riley, Susan. (2014, April 14) *Pivot Point: At the Crossroads of STEM, STEAM and Arts Integration*. [Online]. Available: <http://www.edutopia.org/blog/pivot-point-stem-steam-arts-integration-susan-riley> Retrieved: September 2014
- [5] Baum, S., Ma, J., & Payea, K. (2013). *Education pays: The benefits of higher education for individuals and society*. [Online] Available: <https://trends.collegeboard.org/sites/default/files/education-pays-2013-full-report-140108.pdf> Retrieved: September 2014
- [6] Carzoda, M and Nolt, D (2012) *Georgia Department of Education Releases List of Reward Schools* [Online]. Available: <http://www.gadoe.org/External-Affairs-and-Policy/communications/Pages/PressReleaseDetails.aspx?PressView=default&pid=71> Retrieved: September 2014
- [7] Brenchley, Cameron (2012) *High School Graduation Rate at Highest Level in Three Decades* [Online]. Available: <http://www.ed.gov/blog/2013/01/high-school-graduation-rate-at-highest-level-in-three-decades/> Retrieved: September 2014