Increase Students’ Engagement, Learning and Achievement in a Mathematics Classroom Using Teacher Made and or Web-Based Videos - the Flipped Instructional Classroom Model.

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Increase students’ engagement, learning and achievement in a mathematics classroom using teacher-made/web-based videos - the Flipped instructional model.

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Flipped Instruction?

- Reversal of traditional instructional approach
- Teacher made /web-based videos before class
- Students in charge before during and after class
- Activities during class
- Concept mastery/Application/Collaboration during class
- Checking for understanding/Reviewing key concepts
- Accessing more resources
- Instructor facilitates/provides needed assistance to students

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Traditional Vs Flipped Instruction

Traditional

Today’s Lecture

6x – 5 = 9

Homework

10x – (2x + 3) = 4

Flipped

Activities

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Traditional Vs Flipped in Blooms Taxonomy

Traditional Model

- Students listen to lectures through out and do homework problems
- Understanding
- Applying
- Analysing
- Evaluating
- Creating

Flipped Model

- What students are engaged in during class
- What students are doing outside class

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Some Research on Flipped Instruction

Many research studies have shown positive effects on students’ achievement, engagement in different fields of study:

- Talley and Scherer (2013)-Students appreciated learning outside class
- The Flipped Learning Network (FLN) Reports
  - 71% increased grades and 80% improved student attitude
- Gerald Robert Overmyer (2014)- PHD Dissertation in Colorado State University shows higher students’ scores
- Clintondale High School in Michigan-Showed decline in failure/discipline rates across many subjects

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The Theoretical Framework of Flipped Instruction

Two Key components of flip:
- Educational Technology
- Activity Learning

Both have tremendous effects on the learning environment

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Transforming Flipped classroom to Flipped Learning

• According to the Flipped Learning Network (FLN), flipped learning is achieved under the following four pillars of Flipped instruction:
  ❖ Flexible Environment
  ❖ Learning Culture
  ❖ Intentional Content
  ❖ Professional Educator
Some Misconceptions about Flipped

- The teacher can be replaced by the videos
- Teachers must flip their entire class
- Flip is the same as an online class
- Teachers need to be in the videos they create
- It does not work
- It has to be done a certain way
- Only works with certain subject areas

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Some Benefits

- Student Engagement
- Student centered learning at the pace they want not that of teacher
- Students Collaboration
- More accessible content to students
- Increased student achievement

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Some Drawbacks

- Affordability of internet/devices by low income students
- Attendance may drop as students have content on video and see no need to attend class
- A lot of work /Preparation
- No way to check if students actually watched the videos

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My college Algebra Student’s Impressions about the use of Web-Based Videos

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- 60% Huge benefit
- 20% No big difference
- 10% No Benefit
- 10% Do Not use videos

% of students
Some Video Making Websites

- https://screencast-o-matic.com/home
- https://www.educreations.com/
- http://www.nchsoftware.com/software/recording.html
Questions/Discussion

What is your experience with using web-based/ teacher made videos in your classrooms?
Thank you for listening
Contact Me

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