

SCHOLARSHIP OF EXCELLENCE IN TEACHING
PROJECT

ADAPTABILITY & COLLABORATIVE LEARNING

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OBJECTIVE

- ▶ **To improve students' understanding of complex material**
- ▶ **To encourage collaborative learning in Math--enhancing interactions by sharing ideas and thoughts**

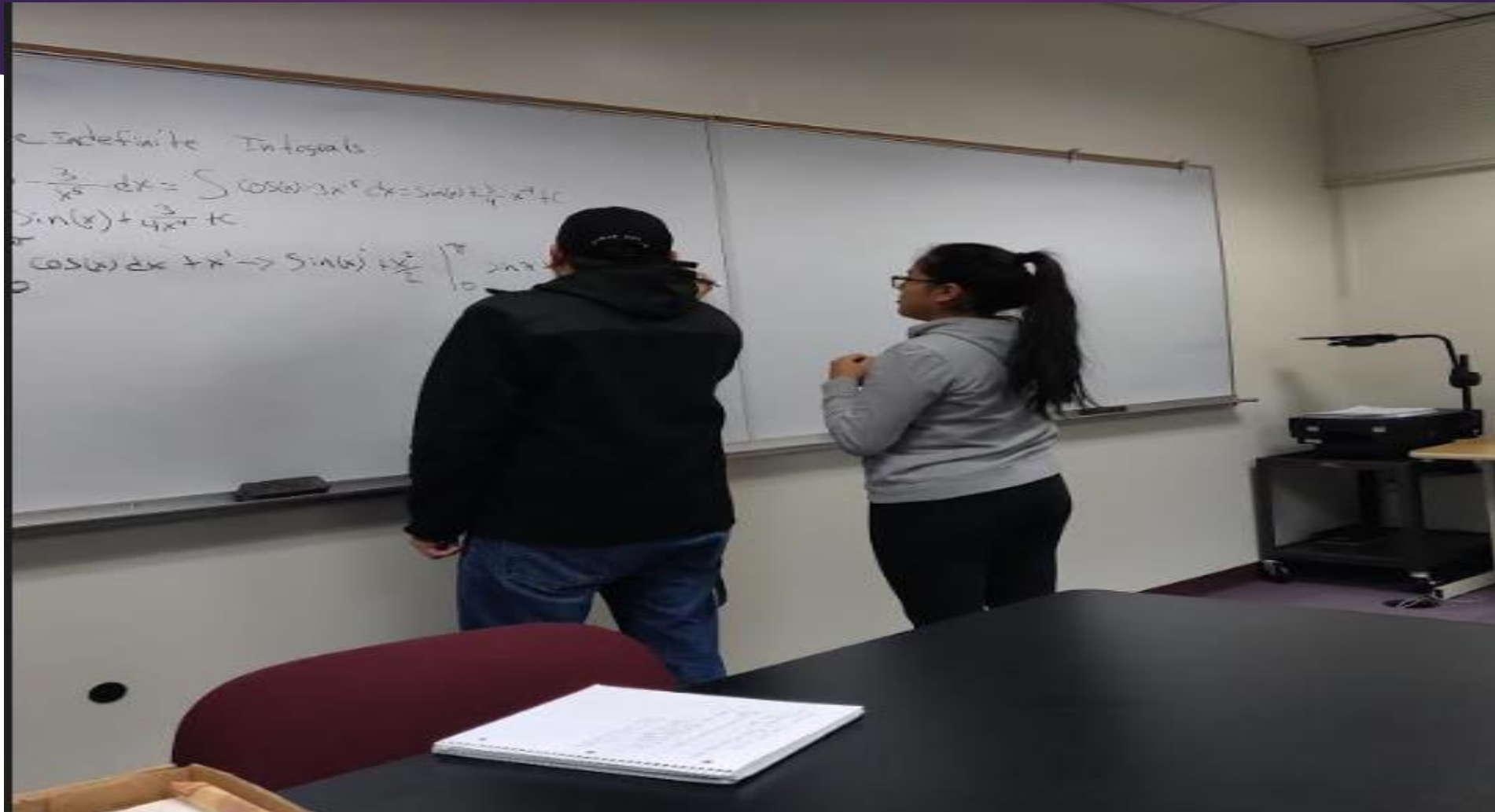
MY REASONS

- ▶ **Students are not well-prepared for the class lectures**
- ▶ **Students don't understand and retain the material well**
- ▶ **The result is they either drop the class or settle for a low grade and are not well prepared for future Math classes**
- ▶ **Students do not interact very often to share ideas or thoughts about learning material with each other**































HOW MY STUDENTS AND I ACHIEVED THE GOALS

- ▶ **Students were required to study the topic prior to the lecture either in a group or individually**
- ▶ **During the class, a randomly-chosen student presented his/her understanding of the topic (this may be an idea or the motivation behind the topic or any theorem or an example that they found interesting) to the class while students in the audience asked questions**
- ▶ **Occasional pre-lecture quizzes were given to assess their understanding of topics prior to the corresponding lectures and to check if they actually read the material thoroughly**
- ▶ **Students were required to respond to Blackboard discussion topics to enhance interactions, such as sharing ideas and thoughts to encourage collaborative learning in Math**

STUDENTS MENTORING STUDENTS



BLACKBOARD DISCUSSIONS

Collect	Delete	THREAD	AUTHOR	STATUS	UNREAD POSTS	UNREA ME
		Mujtaba-Khusro Ahmed	 Mujtaba-Khusro Ahmed	Published		
		Discussion 1	 David Funes	Published		
		Kiersten Madoo	 Kiersten Madoo	Published		
		Zain Beg Success in Math	 Zain Beg	Published		
1		Success in Math	 Steven Rivas	Published		
		Success in Math	 Daniella Jaray	Published		
1		Thoughts on Succeeding in Math	 Julie Luong	Published		
1		Being Successful in Math	 Maria Silva	Published		
1		Success in Math	 Jasleen Broca	Published		
1		How to be successful in Math	 Alejandro Lopez	Published		

SOME ACTUAL BLACKBOARD DISCUSSIONS

Kiersten Madoo

1 month

Kiersten Madoo

To be successful in math requires focus and dedication. In order to fully understand and get good grades a student must take very thorough and organized notes as a reference to look at when practicing. A student must do all their homework and Spend extra time practicing textbook problems. The student must also take the time to ask questions or get help when they don't understand a concept. The best way to fully succeed is practice, asking for help, and taking down good notes!!

SOME ACTUAL BLACKBOARD DISCUSSIONS

Maria Silva

3 months ago

Discussion #2

Using the analytical method means that we can calculate the exact solution for a problem, and we can prove it. Although it is the most accurate approach, it might be time-consuming, especially during exams.

The numerical method allows us to find a numerical approximation of the solution with simpler steps than the analytical approach, for example, by testing (table). With the numerical approach, we might not be able to find an exact solution.

The graphic method provides an approximate solution by just interpreting a graph. This approach is faster than the others and helps to check if the numerical or analytical answer we got is correct. It is difficult, however, to get a precise answer by just visualizing the graph.

WHAT DID STUDENTS THINK OF THIS STRATEGY

- ▶ **Students found it very beneficial to pre-read/study**
 - ▶ They understood, enjoyed and retained the material better after the lecture
 - ▶ Students always looked forward to come to the class and to do their presentation
 - ▶ They tremendously enjoyed and felt proud presenting their understanding of the material to the class
 - ▶ They built confidence in their math understanding by owning the material
- ▶ **Students in the audience also learned from and enjoyed the presentation of their classmates**
 - ▶ Students in the audience were actively engaged by carefully watching the presentation and asking questions
 - ▶ If a presenter got stuck or made a mistake or had a question, other students gave them feedback
- ▶ **Students enjoyed Blackboard discussions to share ideas**
 - ▶ For example, they liked discussing with other students about study strategies for the exam or other basic concepts of Math

SOME ACTUAL COMMENTS MADE BY STUDENTS

I built the confidence of "I can do it"


I should change my attitude towards Math, it actually is fun

I liked reading the discussion board posts from my classmates


I enjoyed collaborating with my classmates

I looked forward to attending class since they felt more prepared

SOME ACTUAL COMMENTS MADE BY STUDENTS



I learned the importance
of coming prepared to
the class



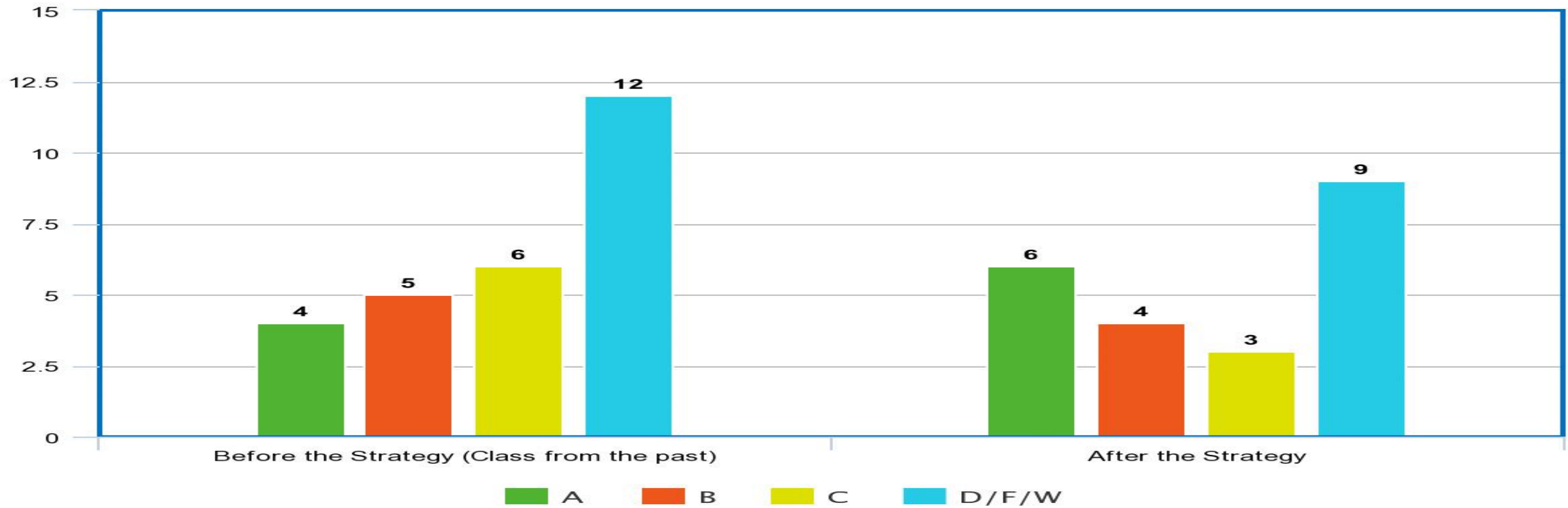
I felt more
confident
doing my
homework
and taking
exams

THE CORRELATION BETWEEN THIS STRATEGY AND STUDENTS' UNDERSTANDING OF THE MATERIAL

- ▶ Students understood, retained and enjoyed the material better when they pre-read the topic
- ▶ Students built a sense of community when they shared ideas and thoughts with their classmates via Blackboard discussions
- ▶ Students felt more confident and less nervous in completing their homework, quizzes and exams
- ▶ Students felt more prepared for their future classes
- ▶ Students had the confidence of owning material while pre-reading and presenting to the class
- ▶ In general, the grades were positively affected

THE ASSESSMENT TECHNIQUES I USED TO CHECK THE SUCCESS OF THIS STRATEGY

I compared the overall outcome of this class with a class from the past, I found out that in general students' grades were positively affected, and I believe that students are better prepared for their future Math classes



FINAL THOUGHTS OF MY SET EXPERIENCE

- ▶ A big Thank You to Prof. Joan Naake for her patience, help, support and guidance throughout this fellowship
- ▶ I enjoyed learning and sharing ideas with a wide variety of faculty from different disciplines and campuses and gained their insight on ways to optimize classroom learning
- ▶ I enjoyed reflecting on how to implement some of these techniques to improve students' learning and understanding
- ▶ I enjoyed reading books related to teaching and pedagogy techniques and learning some new instructional technologies