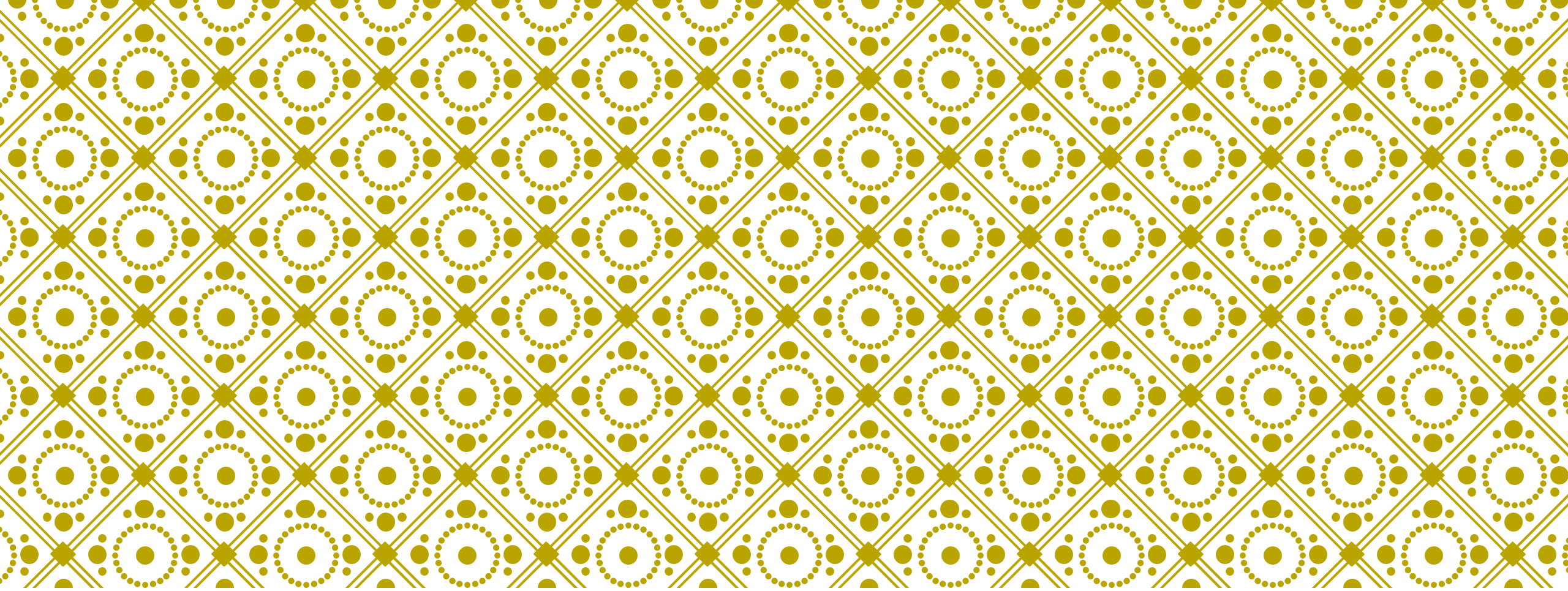




# **SCHOLARSHIP OF EXCELLENCE IN TEACHING**

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**PROBLEMS**

**OR**

**GOALS**

**PART 1** |

# PURPOSE



## **PROBLEMS:**

**Students do not feel comfortable with numbers in general.**

**Students are afraid to read dates in Spanish, to make small additions and subtractions, to read Roman numbers (in English or Spanish).**

**Students cannot, for the most part, find percentages, etc.**

## **GOALS:**

**WANT TO ENHANCE STUDENT UNDERSTANDING OF DAILY USE OF NUMBERS, AND DO BASIC MATHEMATICS OPERATIONS –LIKE A PRO-AS A WAY TO PRACTICE THE USE OF NUMBERS.**

**Want students to learn reading dates, and find percentages without been afraid of getting them wrong.**

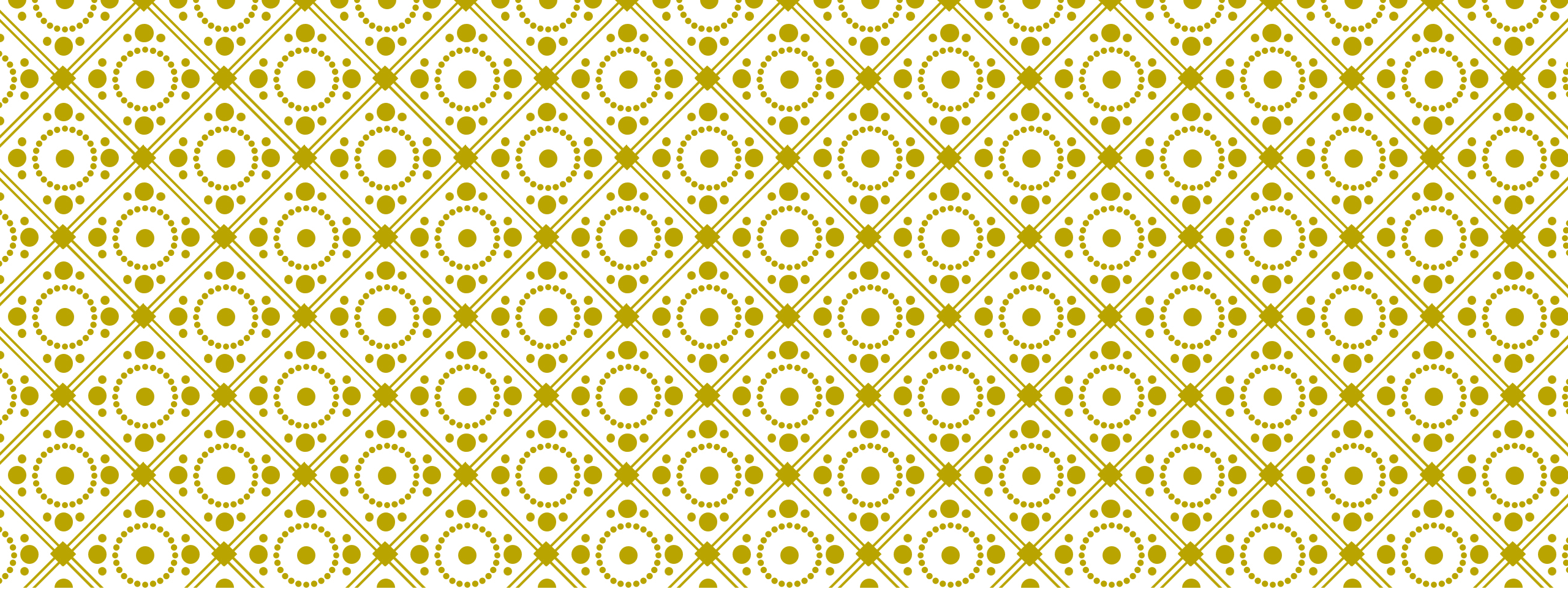
# WHY DID THIS PROBLEM/GOAL OCCUR TO ME?

## **This goal occurred to me for several reasons:**

**Students are not comfortable with numbers. For instance, while reading a paragraph in French or in Spanish, students tend to either scape the dates or any number involved or reading them in English rather than in the target language.**

**Students usually panic when they have to do small additions and subtractions in Spanish in order to practice the use of numbers.**

**Students, for the most part, cannot find percentages, and therefore cannot engage with quantitative cultural readings, and any numerical information in general.**



# PART 2 / SCHOLARSHIP

**“The outstanding teachers used assessment to help students learn, not just to rate and rank their efforts. Dudley Herschbach told us, “I want to help them learn something about themselves so they can become better learners and thinkers.”**

**(pages 150-151, Ken Brain: *What the Best College Teachers Do* (2004).**

**This quote is quite pertinent for my project because assessments are indeed needed not only for grading purposes but mostly as a tool to help students to learn from their mistakes. Is relevant for students to realize that failing is part of the learning process.**

**“Metacognition, a term coined by John H. Flavell (1976), is *thinking about your own thinking*.[...]**

**When students employ metacognition, they become consciously aware of themselves as problem solvers, which enables them to actively seek solutions to any problems they may encounter, rather than relying on others to tell them what to do or to answer their questions.” (page 16), Sandra Yancy McGuire, *Teach Students How to Learn* (2015).**

**I believe that metacognition is really helpful in any class, moreover, when challenging topics or concepts come across in a course.**

**“In many ways, the brains of human beings are designed to detect and to learn from failure. There are clear evolutionary advantages to gaining insights from failure, of course, but we are also, in a lot of respects, error-making and error-correcting machines.” (page, 174), *How Humans Learn*, Joshua R. Eyler (2018).**

**On my particular project, students had to perform several numerical exercises where there are not gray areas: the answer is right or wrong. Therefore, learning from failure is not only natural but welcome. Students are scared on math and numbers and the more they fail, and reflect on their failures, the more they learn.**



**What did my make students do?**

**What did i do?**

**PART 3**

# DESCRIBE/EXPLAIN WHAT YOU HAD STUDENTS DO

**My students practice the use of numbers by doing many more exercises than on previous semesters.**

**They worked in groups to solve authentic and realistic problems involving numbers in everyday context.**

**They read percentages, and were able to practice how to make percentages.**

**HOW MANY LITTLE CATS DO YOU SEE?**



# HOW MANY ANIMALS DO YOU SEE?

Nombre: \_\_\_\_\_

¿Cuántos hay?



¿Cuántos animales hay? Escribe el número al lado y colorea los dibujos.



# EXAMPLES OF MY SPECIFIC DIRECTIONS

Students have to do short additions and subtractions in small groups in order to practice the use of numbers. Exercises will be strategically scaffolded. For example:

**Provide –in Spanish–these basketball scores of some DMV universities:**

GMU 81 vs UMD 79:

AU 96 vs GWU 77:

GTU 99 vs JHU 108:

HU 83 vs UVA 74:

NOVA 75 vs MC 77:

# SIMPLE MATH PROBLEMS TO PRACTICE NUMBERS

**Practicing Numbers: Write six math problems. Use “más” for plus, “menos” for minus, and son for equals.**

**Modelo:  $2 + 17 = 19$**

**Dos más diecisiete son diecinueve.**

1.

2.




3.

4.



5.

6.

# WRITE THE POPULATION OF EACH COUNTRY:

1 	<u>México</u>	132 820 000
2 	<u>Colombia</u>	50,882,884
3 	<u>España</u>	47 400 000

# WRITE THE POPULATION OF THE FOLLOWING COUNTRIES:

15		<u>El Salvador</u>	6 643 000
19		<u>Uruguay</u>	3,400,000
20		<u>Puerto Rico (EE.UU.)</u> <sup>1</sup>	5.000.000
21		<u>Guinea Ecuatorial</u>	1,402,985



# EXERCISES WITH PERCENTAGES %

## Work out the missing percentages in these problems:

1.- In a Spanish class, 58% of the students are female. What percentage are male students?

2.- In USA 33% of people have a 4 year college degree. What percentage of people do not have a 4 year college degree?

3.- MC defeated PGCC 43% of their soccer games, and lost 36% of them, what percentage have they tied?

# EXAMPLES OF MORE COMPLEXED EXERCISES

## Percentages in Education:

1.-) US population is 331'000,000, considering that 33% of people in the US have obtained a four year college degree, find out how many millions have a four year college degree in US?

2.-) 6.7% of people in the world have a college degree. Considering that the world population is: 7.8 billion, how many people in the world got a college degree?

3.-) Costa Rica's population is: 5'047,561, and 18% of its population has a college degree, find out how many people in Costa Rica have a college degree?

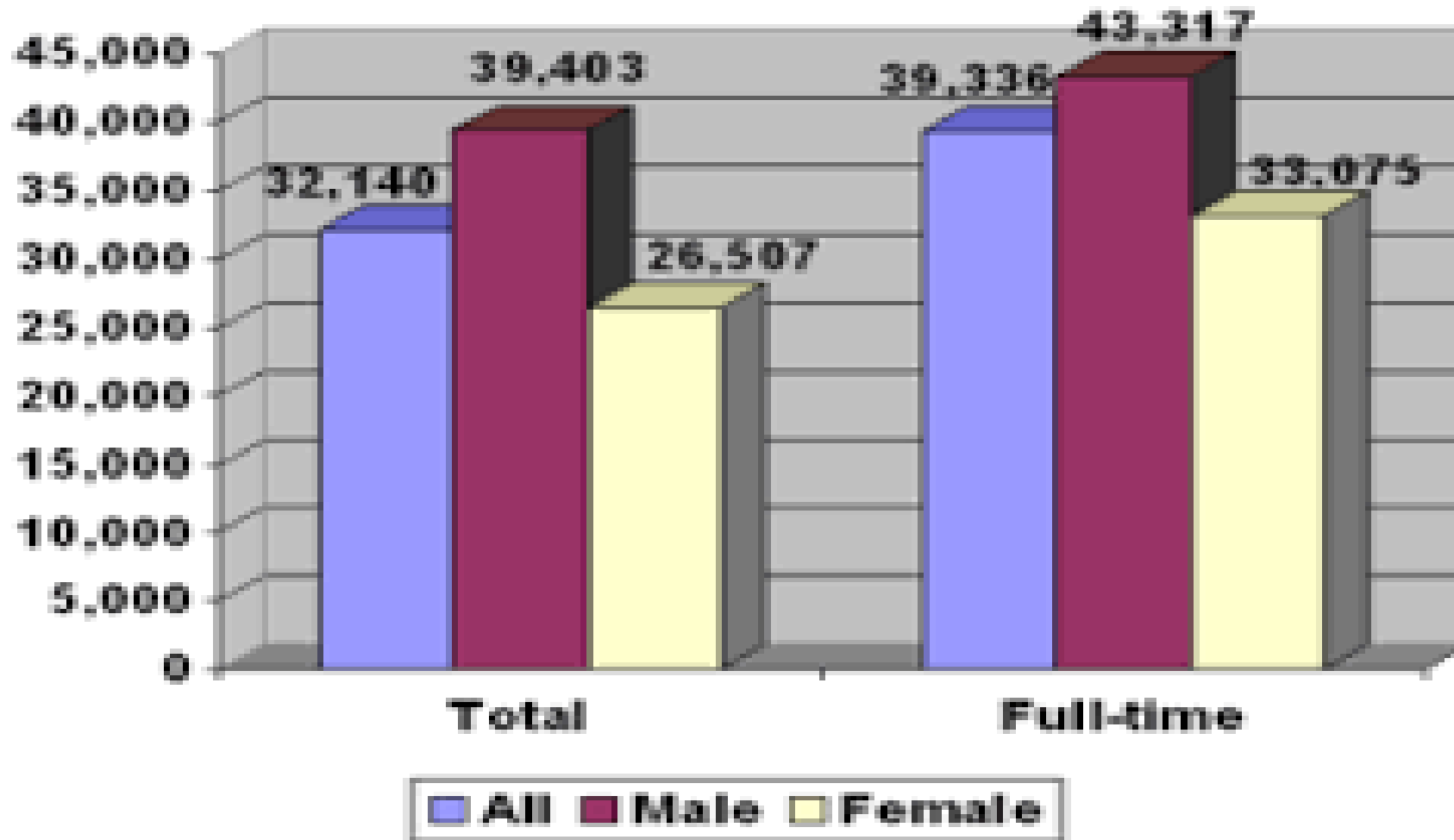
## MORE PERCENTAGES IN EDUCATION.....

4.-) In Mexico there are 126'200,000 people, and 20% of them have a college degree. **How many people have obtained a college degree?**

5.-) In Colombia there are 50'000,000 people, and 27% of them have a college degree. **Find out how many of them have obtained a college degree?**

6.-) In Russia there are 144.5'000,000 people, and 58% of them have obtained a college degree. **Find out how many millions in**

# SALARY ACCORDING TO PROFESSIONS.....



# SALARIES ACCORDING TO PROFESSIONS.....

According to the US Census Bureau the annual median personal income in 2019 was: **\$35,977 dollars.**

The mean annual salary of **surgeons is: \$252,040 dollars.**

The mean annual salary of **pharmacists is: \$126,431 dollars.**

The mean annual salary of **petroleum engineers is: \$156,780 dollars.**

The mean annual salary of **chemists is: \$84,150 dollars.**

The mean annual salary of **lawyers is: \$145,300 dollars.**

The mean annual salary of secondary school teachers is: **\$65,930 dollars.**

The mean annual salary of sociologist is: **\$90,590 dollars.**

**Compare the salary of surgeons with the salary of 3 other professions listed above. Express your comparison using percentages. For instance: X profession makes 15% less than surgeons**



# **ASSESSMENT OF YOUR STRATEGY**

## **PART 4**



# WHAT ASSESSMENT TECHNIQUES DID YOU USE?

**I used grade comparisons: One of my Spanish 101 courses had many more numerical exercises than the other, and that extra practice had a positive impact of the final grades.**

**Specifically:**

**1.- On my control course or target section I had 19 students, 10 of them obtained : “A” as a final grade, 3 got: “F”, 3 got “Incomplete”.**

**2.- On my other section -where we did less numerical exercises-, I got 20 students, 4 of them got “F”, 7 of them got “A”, and 2 of them got “D”.**

# IS THERE ANY CORRELATION BETWEEN THIS STRATEGY AND STUDENTS' GRADES?

**Comparison to past classes or control groups:**

**Yes, there was a correlation between my strategy and the impact of final grades.**

**Yes, on my control group, I had more students achieving “A” as a final grade, and less students getting “F”, and no student got “D”. I think the numerical extra exercises my control group did helped a lot to improve their final grades and moreover, empowered my students to feel much more comfortable with numbers.**





**WHAT WOULD YOU DO  
DIFFERENTLY?**

**What would you keep the same?**

**PART 5** |

# WHAT WOULD YOU DO DIFFERENTLY NEXT TIME?

MAKE TAKE 2 OR 3 SLIDES.

Give specific examples of what you would do next time.

**I think I would do even more numerical exercises next time around, and from the beginning of the course, and not just at midpoint as I had.**

How would you enhance this strategy? **I would make more exercises.**

**Also, I would give them surveys to find out how they feel about their progress in numerical exercises.**



**What did you Learn about your Teaching?**

**What did you learn about your students?**

**PART 6** |  
**REFLECTION**

## **WHAT DID YOU LEARN ABOUT YOUR TEACHING AND STUDENTS UNDERSTANDING FROM IMPLEMENTING THIS STRATEGY?**

**I learned about my teaching that if I had the chance to be born again, I would still dedicate my life to education.**

**I learned about my students that, indeed, with more practice and targeted exercises they can show relevant improvement, and therefore, feel empowered as they should be because numbers are usually challenging for them.**

# AS A RESULT OF SET AND THE IMPLEMENTATION OF YOUR STRATEGY,

**Do you think that you have**

**Enhanced student understanding? Yes, I think the implementation of my strategy enhanced more students understanding of numbers.**

**Enhanced your teaching? Yes, I believe that my teaching became more strategical, and I am happy with the results 😊**

# YOUR FINAL THOUGHTS ON YOUR SET EXPERIENCE.

I enjoyed a great deal my experience on SET because it was quite interesting and unique.

I learned a lot from the amazing readings, and the discussions with my faculty fellows. I especially like the fact that we were instructed to focus on meaningful comments targeting complements and not negative critics. I realized how easy is to focus on the negative and give destructive criticism and how much more difficult is to learn to target the positive. I am sure that our world would be a better one if we all practice to see the positive.

I appreciate very much the optimistic and supporting participation of Joan; she was a source of knowledge, calm, peace, enthusiasm, overwhelming understanding, and even kindness 😊

**Thanks a lot Joan, Sharon, & fellow colleagues!**

