

Student Engagement Based Teaching

Improving learning experience in Pharmacology Course among
Nursing Students

Scholarship of Excellence in Teaching Fellowship

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Acknowledgement

I appreciate Professor Naake for all the guidance and information during this fellowship.

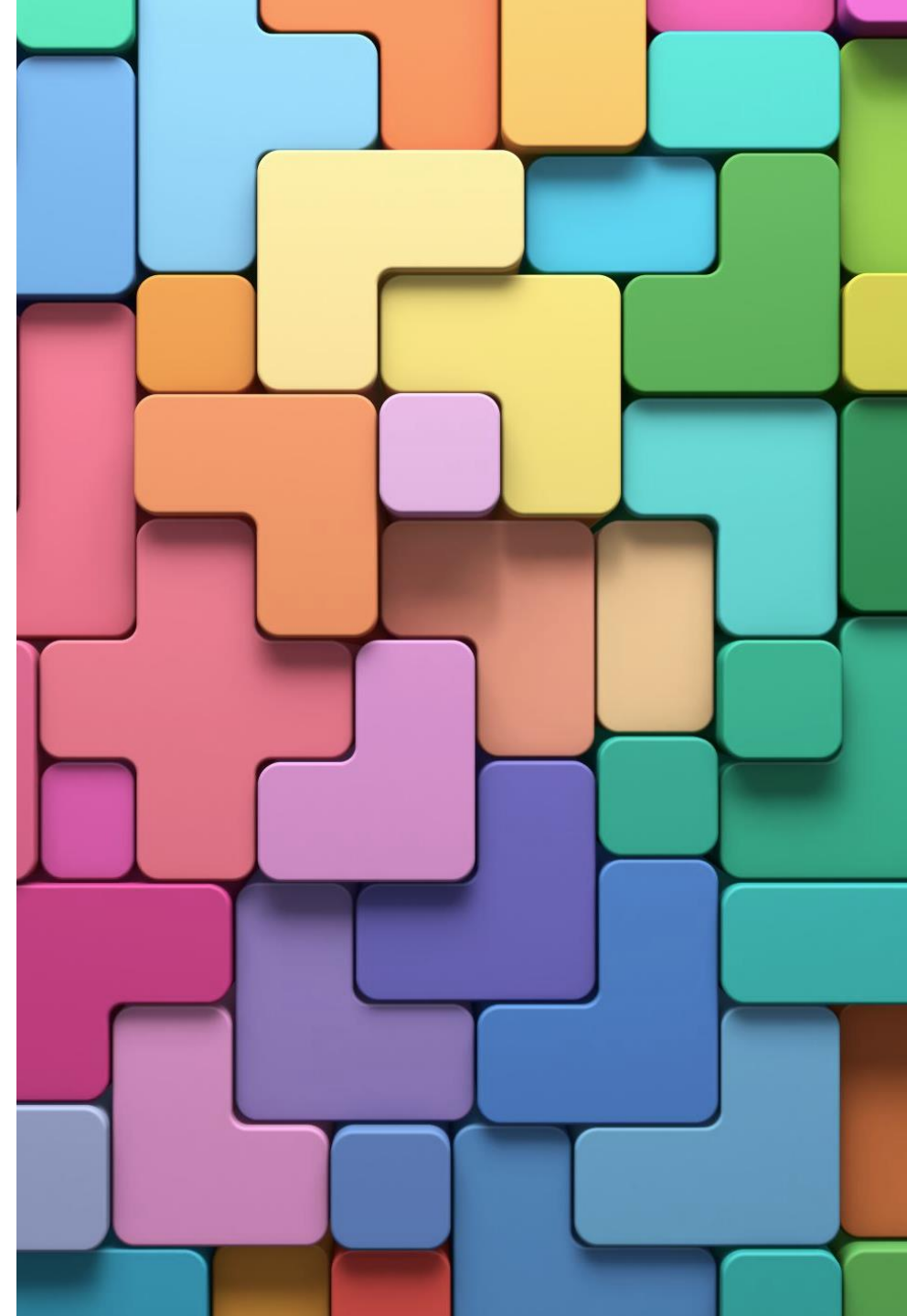
I would like to thank Dr. Davis and Professor Knopp, for providing me this opportunity.

PROBLEM

- The nursing students success rate was less than 50%
- The rate of withdrawal from nursing school due to not passing pharmacology course was 18%

GOAL

- Want to improve the success rate among pharmacology students so that increase the success rate and decrease the withdrawal rate



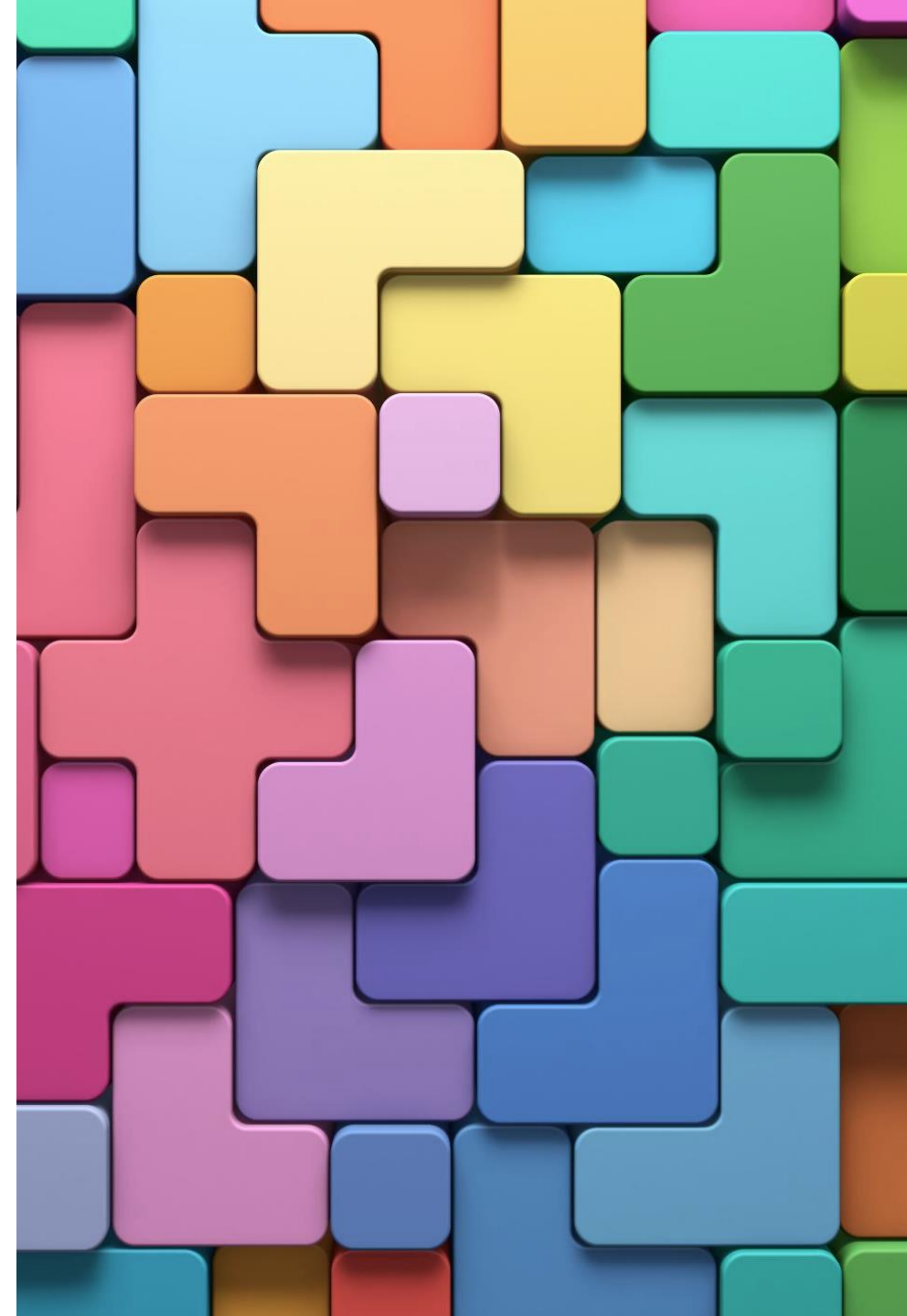
STRATEGIES

FIVE STUDENT ENGAGEMENT STRATEGIES

- Small Group Discussion
- Jeopardy Game
- Poster Presentation
- Case Scenario

Giving students autonomy to select their methods

“It was suggested that teachers can promote student engagement by using active learning techniques and by intentionally striving to increase students’ motivation”(Barkley, 2020, p. 59).



The Process of Implementation

- The class was scheduled one day per week for 14 weeks.

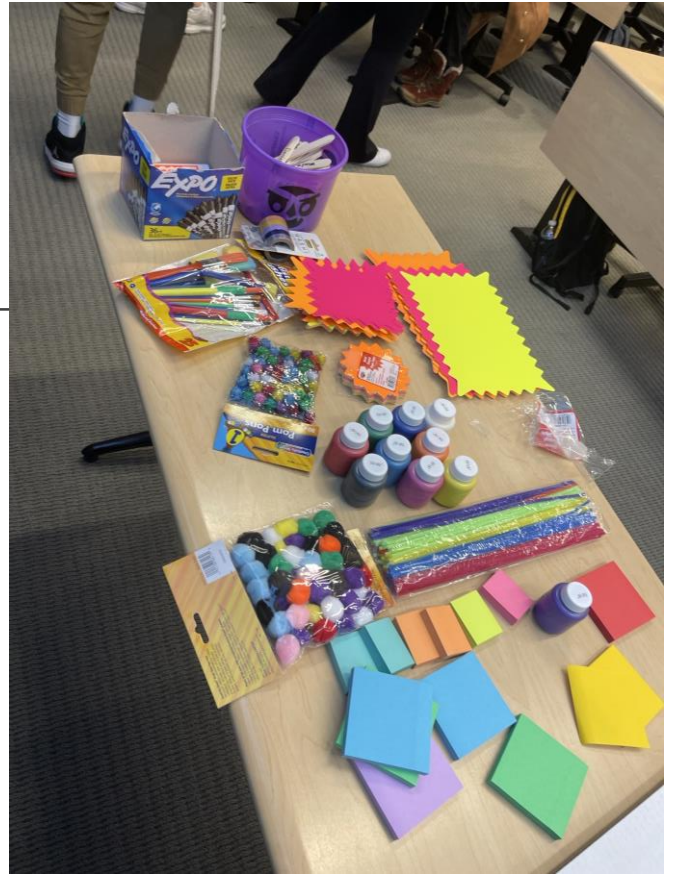
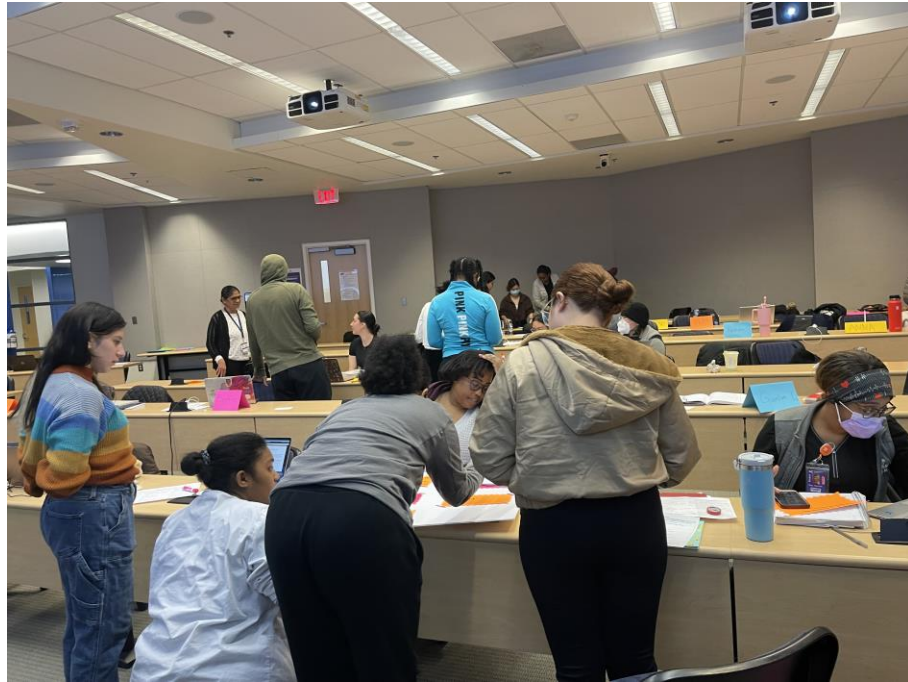
- The number of students were 25 students to begin with and decrease to 22 based on students' limitations.
- The class was scheduled for 2 hours
- A survey was designed to check the students' opinion after each class activity.

-Four main strategies were used:

- Poster Presentation**
- Case Scenario Discussion**
- Jeopardy Game**
- Small Group Discussion**

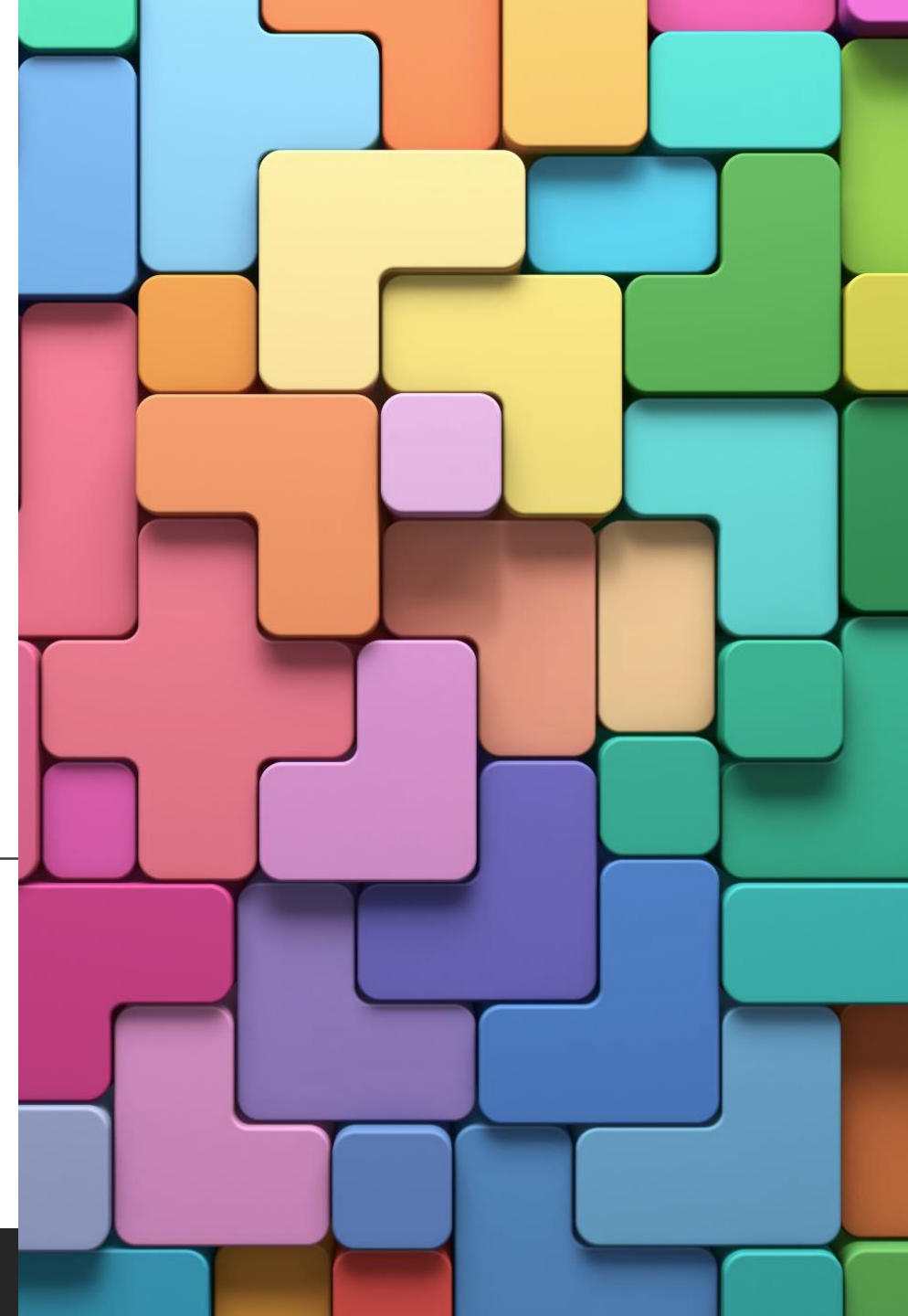
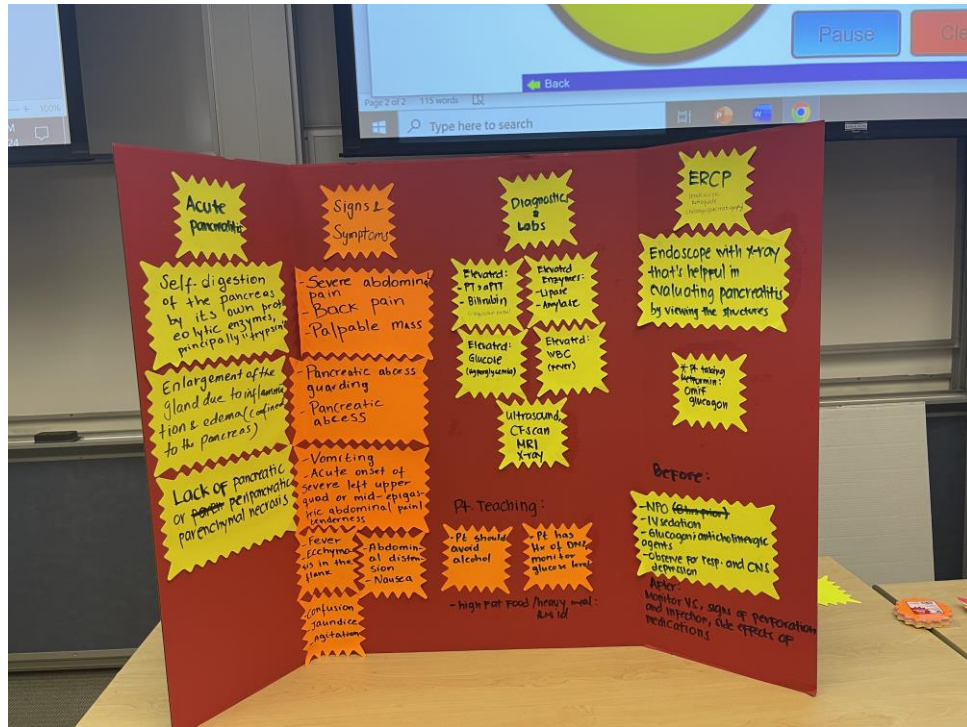


Student Autonomy to Select their Methods



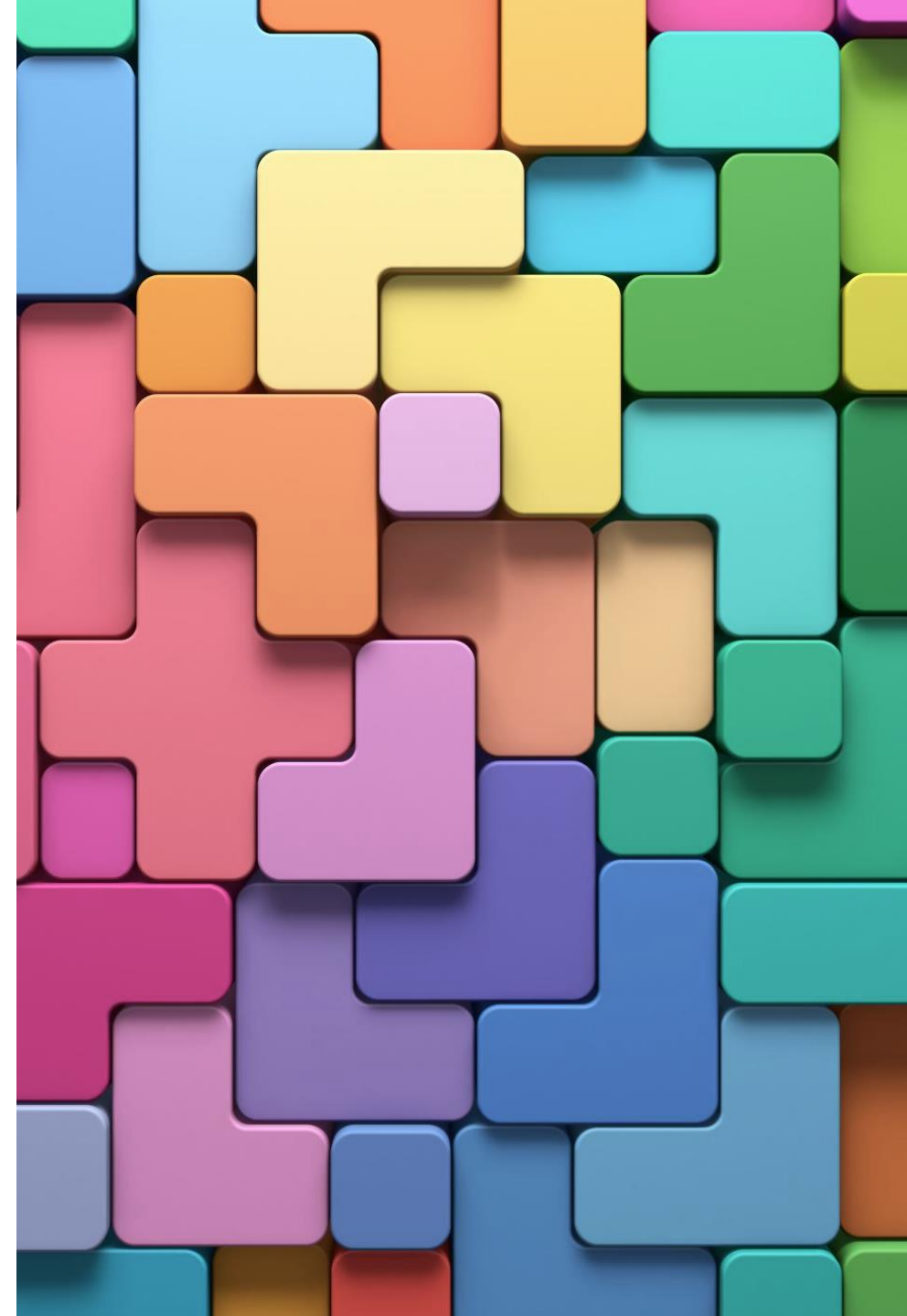
Examples of specific Directions

-Sample of posters



Rationale

- Reinforces the application of evidence-based practice with constant medical advances
 - Increases researcher and learner engagement by learning from others
 - The students in pharmacology have problem to learn the materials since they believe they must memorize the information, but I encourage the students to use different strategies in active learning techniques to improve students learning level.
-



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Diagnosis

- X-ray of abdomen & chest
- MRI, Contrast CT
- Ultrasound
- ERCP

What is acute pancreatitis?

Life-threatening emergency associated with complications and Mortality

Two types: Interstitial edematous + Necrotizing

Interstital: Lack of pancreatic necrosis

Necrotizing: Tissue necrosis in pancreatic Parenchyma

Nursing Care Plan

- Admin opioid analgesics for pain
- maintain NPO status & bedrest
- NGT suction & enteral feedings
- oral hygiene & gargling w/o swish
- High carb, low fat + protein
- get daily weights
- turn & reposition q2h
- keep calcium gluconate avail

Sign + Symptoms

- Severe abdominal pain
- Left upper or mid epigastric pain
- Cullen sign (purplish discoloration)
- Gray turn sign (bluish discoloration)
- palpable mass
- vomiting
- fever
- hypovolemia
- jaundiced
- CNO changes
- tachycardia
- cyanosis, cold clammy skin
- resp distress
- shock
- rigid-like abdomen
- ecchymosis (flank pain)
- large amount of protein rich fluid less into tissue + peritoneal area

Patient Education

- Spicy food
- Heavy meals
- alcohol
- fatty foods
- semi Fowler position
- Site of infection
- Risk of infection
- Risk of metabolic Role!!
- fever hypoxia hypothermia

treatment

- IV opioids / PCA
- H₂ antagonist (Cimetidine) OR Proton Pump Inhibitor (pantoprazole) if H₂ antagonist is not tolerated or ineffective
- Antibiotics (if infection)
- Insulin (goal max 140-200)
- NSAIDs (Caution w/ Risk for Bleeding)

What is chronic Pancreatitis?

Progressive destruction of Pancreas. Fibrous / hardened tissue forms & pressure increases. Pancreatic & bile ducts get clogged & inflammation (swelling) occurs & secreting cells of Pancreas are destroyed.

Sign & Symptoms

- recurrent attacks of upper abdominal and back pain, pain not relieved by opioids
- vomiting
- Either continuous or in episodes
- Weight loss
- Frequent, Fatty, foul-smelling stool (steatorrhea)

Diagnosis

- Abdominal and chest x-ray
- ultrasound
- contrast CT
- MRI
- * Gold standard = ERCP

How to Treat

- NPO
- NG Tube
- Pain management
- H-2 antagonist (cimetidine)

Chronic Pancreatitis

Patient Edu

Main Goals:

- Alcohol consumption
- malnutrition
- Smoking

Alcohol Cessation

- Support groups
- Smoking cessation
- Remain NPO prior to endoscopy
- Decrease weight Diet/ exercise

Case Scenario

- Nutrition management for hyperlipidemia

Nurse Management

Pain Management

- Non-opioids 1st
- Adjuvant therapies
- Proper positioning
- Facilitating Smoking + Alcohol cessation

PPI Pantoprazole

- maintain Glucose ≥ 140

Sample of Jeopardy Game

General Concept	Aspirin	Acetaminophen	NSAIDS	Opioids
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

Team 1	Team 2	Team 3	Team 4	Team 5
0	0	0	0	0
+ -	+ -	+ -	+ -	+ -

Scholarship that Supports my Strategies

Promoting active Learning:

- ” Learning is a dynamic process that consists of making sense and meaning out of new information and connecting it to what is already known.” (Barkley, 2020, p.86)
- “Be clear on learning goals, if you do not know where are you going how will you know when you get there”(Barkley, 2020, p. 87).
- ” How will I help students learn to learn. To examine and assess their own learning and thinking and to read more effectively, analytically and actively.”(Bain, 2004, p.59).

Nine Books We Have Read in 2024

February 2024—*The Miniature Guide to Critical Thinking* by Richard Paul and Linda Elder.

March 2024—*Teaching Change: How To Develop Independent Thinkers Using Relationships, Resilience, and Reflection* by Jose Antonio Bowen

April 2024—*Powerful Teaching: Unleash the Science of Learning* by Pooja Agarwal and Patrice Bain

May 2024—*Student Engagement Techniques 2nd ed.* by Elizabeth Barkley and Claire Howell Major

August 2024—*Teach Students How To Learn: Strategies You Can Incorporate into Any Course to Improve Student Metacognition, Study Skills, and Motivation* by Sandra Yancy McGuire

September 2024—*What the Best College Teachers Do* by Stephen Bain

October 2024—*Thinking Critically in College: The Essential Handbook for Student Success* by Louis Newman.

November 2024—*Creating Wicked Students* by Paul Hanstedt

December 2024—*Teaching with AI: A Practical Guide to a New Era of Human Learning (2024)* by Jose Antonio Bowen and C. Edward Watson

The Assessment Techniques

- Exam Grade- Passing rate

-Course withdraw report

-Survey, post class- One minute paper

Sample One-minute paper

1. What did you find useful about today's session?
2. What would you still like to know more about?
3. Other comments:

Students' Feedback

- "Today's lecture was really informative, I learned how to communicate with my classmates."
- "Class activities made some unclear points, clear."
- "I love Jeopardy game!"
- "Jeopardy review was really helpful."
- "I love class activities, and it helps me to understand the materials."

One minute Paper

4. What did you find useful about today's session?

I felt as though the ppt slides were better than going over the actual book.

5. What would you still like to know more about?

not sure yet...

6. Other Comments:

loved the game at the end!
:)

One minute Paper

1. What did you find useful about today's session?

I love the game we play at the end.

2. What would you still like to know more about?

I would like if we can practice some NCLEX questions to prepare the exam.

3. Other Comments:

N/A

One minute Paper

1. What did you find useful about today's session?

-The slideshow

2. What would you still like to know more about?

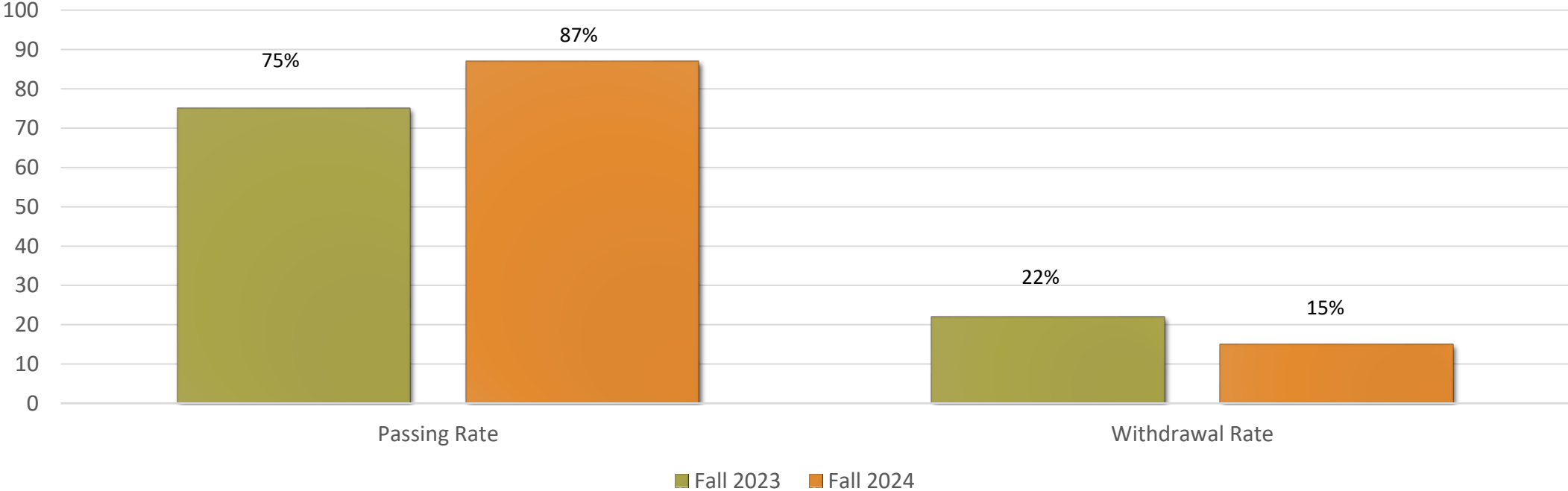
-I would like to know more about OTC medications for hypertension

3. Other Comments:



RESULTS

Comparing the Results among Pharmacology Students

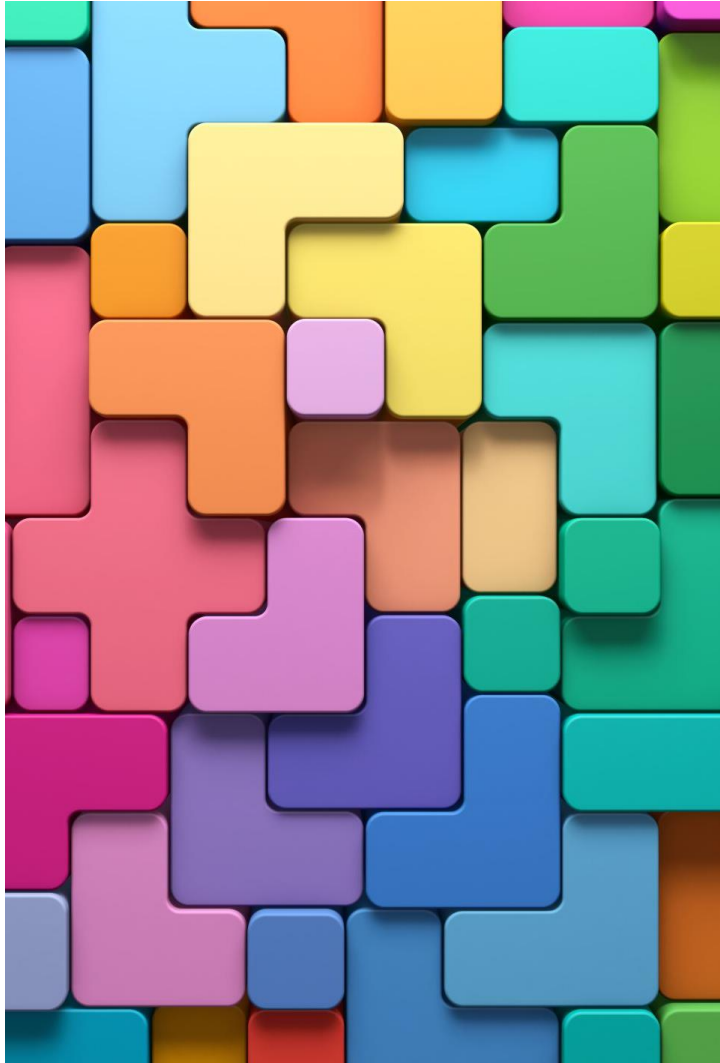


Suggestions for Future

- For future study, I would like to use pre- and post-test for every session to compare the students' understanding and compare the results of using different techniques
- I suggest to increase the class time to 3 hours to give more time for interactions
- I will keep the same strategies

My Thoughts on SET Experience

- I highly recommend this fellowship program to all faculty members.
- This fellowship course inspired me to explore new books and rethink some aspects of my thought process.
- It provided me with fresh perspectives and innovative strategies that I am excited to implement in my classroom.



REFERENCES

Barkley, E. F.: (2020). Student engagement techniques: A handbook for college faculty.

Bain, K. (2004). *What the best college teachers do*. Harvard University Press. San Francisco, CA: Jossey-Bass.

McGuire, S. Y., & McGuire, S. (2023). Teach students how to learn: strategies you can incorporate into any course to improve student metacognition, study skills and motivation. Rutledge.
