Original Research Paper

Microbiology

"MICROSAURUS" AN INNOVATIVE GAME-BASED TEACHING STRATEGY ON KNOWLEDGE RELATED TO "MUST KNOW MICROBES" IN NURSING STUDENTS.

Ms. Pooja Nair	Associate Professor, P D Hinduja Hospital & MRC, College of Nursing
Ms. Monalisha James Sinha	Lecturer, P D Hinduja Hospital & MRC, College of Nursing

ABSTRACT

Background: The intricate world of microbes forms the foundation of infectious disease management and prevention, making it essential for nursing professionals to possess a thorough understanding of essential microbes. **Objectives:** To compare level of Knowledge related to "Must know Microbes" before and after implementation of Microsaurus among undergraduate Nursing students. **Design:** Pre-experimental Single group Pretest Posttest **Design Setting:** Selected Nursing Colleges in a metropolitan city **Methods:** Selection of (Must Know Microbes) followed by development & validation of Microsaurus Game. Microsaurus game consists of 10 essential Microbes, the player has to roll a dice and select the microbes based on the number displayed on the dice. Through puzzles, word search the players have to unlock the clue and successfully deactivate the microbes. Total duration of game is 25mins. Pre-test (20 Application Based Questions) was administered before implementation followed by Implementation of Microsaurus and Posttest followed by feedback. Results: The findings of the study revealed mean pretest score11.53 and posttest mean score 19.10. Calculated t value i.e. 18.9054 is more than table 't' value inferring that there is significant difference between pre and post intervention mean scores. Through an immersive and interactive experience, "Microsaurus" seeks to bridge the gap between theoretical knowledge and practical application, equipping nursing students with the expertise needed to navigate the complexities of essential microbes in their future healthcare roles. **Conclusion:** The above finding suggests that Microsaurus can be used as an effective teaching strategy to enhance Knowledge related to Must Know Microbes. It is a scalable and inclusive method for improving the application of knowledge in real-life situations

KEYWORDS : Game Based Learning, Microbiology, Microbes, Learning, Competency, Nursing Students

INTRODUCTION:

In the dynamic landscape of nursing education, fostering a deep and comprehensive understanding of microbiology is paramount for undergraduate nursing students. The intricate world of microbes forms the foundation of infectious disease management and prevention, making it essential for nursing professionals to possess a thorough understanding of essential microbes. Recognizing the evolving needs the investigator felt the need to introduce an innovative and engaging game-based immersive teaching method **"Microsaurus",** designed to enhance the knowledge related to **"Must Know Microbes"** in undergraduate nursing students

Problem Statement:

A Pre-experimental study on effect of **"Microsaurus"** An innovative Game-Based teaching strategy on Knowledge related to "Must Know Microbes" among under graduate Nursing students of selected Nursing colleges.

Objectives:
Objectives:

To compare level of Knowledge related to "Must know Microbes" before and after implementation of Microsaurus among undergraduate Nursing students.

MATERIALS AND METHODS

Research Approach: Quantitative research approach

Research Design: Pre-experimental Single group pretest posttest design

Setting: Selected Nursing Colleges in a metropolitan city.

Sample: 60 3rd semester B.Sc. Nursing Students

Sampling Technique: Convenient Sampling

Tool: Microsaurus Spin Game App

Research Process:
Step I: Selection of (Must Know Microbes)

Step 2:

Development and validation of Microsaurus Game Microsaurus game consists of 10 essential Microbes, the player has to roll a dice and select the microbes based on the number displayed on the dice. Through puzzles, word search the players have to unlock the clue and successfully deactivate the microbes. Total duration of game is 25mins.

Step 3:

Pre-test (20 Application Based Questions) was administered before implementation followed by Implementation of Microsaurus and Posttest.
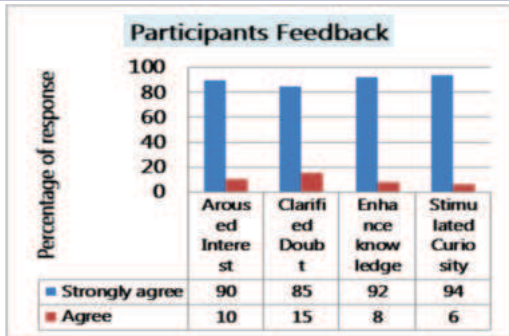
Step 4:

Feedback was obtained about Microsaurus game
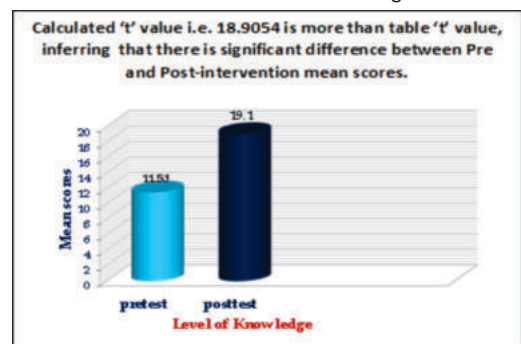
Calculated 't' value i.e. 18.9054 is more than table 't' value, inferring that there is significant difference between Pre and Post-intervention mean scores.

RESULTS:

The findings of the study revealed mean pretest score11.53 and posttest mean score 19.10.Calculated t value i.e. 18.9054 is more than table 't' value inferring that there is significant difference between pre and post intervention mean scores.

Through an immersive and interactive experience, "Microsaurus" seeks to bridge the gap between theoretical knowledge and practical application, equipping nursing students with the expertise needed to navigate the complexities of essential microbes in their future healthcare roles.

Participants Feedback

	Aroused Interest	Clarified Doubt	Enhance knowledge	Stimulated Curiosity
Strongly agree	90	85	92	94
Agree	10	15	8	6

DISCUSSION:
Game-based learning has emerged as an innovative learning technique that can increase student motivation, emotional involvement and enjoyment. This study examines the effectiveness of gamebased learning in planning education. Specifically, we explore the impact of gamification on planning students' perception of learning, engagement and teamwork. Two lectures in an undergraduate planning course were delivered using two different methods of teaching (one traditional lecture-style, one game-based). Feedback was gathered through an online questionnaire and semistructured interviews. Results show that students favored and were more engaged in the game-based lecture. Finally, it contend that gamification is particularly well suited for planning education.

CONCLUSION:
The above finding suggests that Microsaurus can be used as an effective teaching strategy to enhance Knowledge related to Must Know Microbes.

It is a scalable and inclusive method for improving the application of knowledge in real-life situations.

Creating a classroom environment where students are actively learning,
can create boundless rewards and benefits :
• reinforcement of course content
• enhanced student self-esteem
• promotion of conceptual learning
• break the academic monotony
• stimulate critical thinking.

REFERENCES:
1. Adipat, S., Laksana, K., Busayanon, K., Asawasowan, A., & Adipat, B. (2021). Engaging students in the learning process with game-based learning: The fundamental concepts. International Journal of Technology in Education (IJTE), 4(3), 542-552. https://doi.org/10.46328/ijte.169
2. Maxwell Hartt A, Hadi Hosseinib and Mehrnaz Mostafapour. Game On: Exploring the Effectiveness of Game-based Learning. Planning Practice & Research.https://doi.org/10.1080/02697459.2020.1778859