Department of Information Technology
Subject: Human Computer Interaction
Class: SYBTech IT(2023-24)
(**Game based learning as a pedagogy technique**)

Memory game in Lecture Session to make students understand the concept of Short Term Memory and Long Term Memory

Objective:
The memory game activity was designed to help Second Year BTech IT students understand the concept of memory and its types within the context of Human-Computer Interaction (HCI). The activity aimed to provide a practical demonstration of memory processes and pedagogical strategies to reinforce learning.

Overview of Activity:
Students participated in a memory game where each student had to remember and recite a list of objects, adding one new object sequentially. The game began with one student stating an object, and each subsequent student had to recall the entire list of previously mentioned objects before adding their own new object.

Pedagogical Approach:
The activity was structured to illustrate key memory concepts:

- **Short-Term Memory (STM):** The need to recall the list from the beginning of the game highlighted the limited capacity of STM.
- **Long-Term Memory (LTM):** The progressive nature of the game illustrated how information can be transferred from STM to LTM through repetition and reinforcement.
- **Working Memory:** The game emphasized the role of working memory in holding and manipulating information temporarily.

Procedure:

1. **Introduction:** The students were explained the principles of memory types and their relevance to HCI, emphasizing how memory affects user interactions with computer systems.
2. **Game Setup:** Each student took turns adding a new object to the list while reciting the entire list from the beginning.
3. **Execution:** The game continued until all students had participated effectively.
4. **Discussion:** I as the faculty led a discussion on the challenges faced during the activity, linking these experiences to theoretical concepts of memory.

Observations:

- **Memory Load:** As the list grew, students found it increasingly challenging to recall and accurately repeat the entire sequence. This illustrated the constraints of short-term memory and the importance of strategies to manage cognitive load.
- **Reinforcement:** Students who practiced mnemonic devices or employed strategies to chunk information were more successful in remembering longer lists. This highlighted techniques for improving memory retention.
- **Engagement:** The interactive nature of the game kept students engaged and facilitated active learning. The competitive aspect of recalling the list added a layer of motivation and interest.

Conclusion:

The memory game activity effectively demonstrated various memory types and concepts in a practical, engaging manner. By integrating theoretical knowledge with a hands-on experience, students gained a deeper understanding of how memory functions and its significance in HCI. The activity also provided valuable insights into pedagogical approaches for teaching complex cognitive concepts through interactive and experiential learning.