JSPM's

Rajarshi Shahu College of Engineering, Pune

Department of Electronics & Telecommunication Engineering

INNOVATIONS IN TEACHING AND LEARNING

Subject: Advanced Data Structures & Algorithms

Class: S.Y. BTech E&TC

Topic: C++ Fundamentals

NAME OF THE ACTIVITY: Crossword on C++ Fundamentals

I. Concept: The activity is based on **game-based learning**, where students reinforce theoretical and syntactical concepts of C++ through an interactive crossword puzzle. It combines logical thinking with recall of key programming constructs such as data types, operators, control statements, functions, and object-oriented features.

II. Objective(Goal):

a. To strengthen understanding of basic C++ programming concepts in an engaging manner.
b. To promote active participation and collaborative problem-solving.
c. To assess students' conceptual clarity beyond traditional written assessments.
d. To develop quick recall and analytical reasoning in identifying correct terms or keywords.

III. Appropriateness (Relevance of Selected Method):

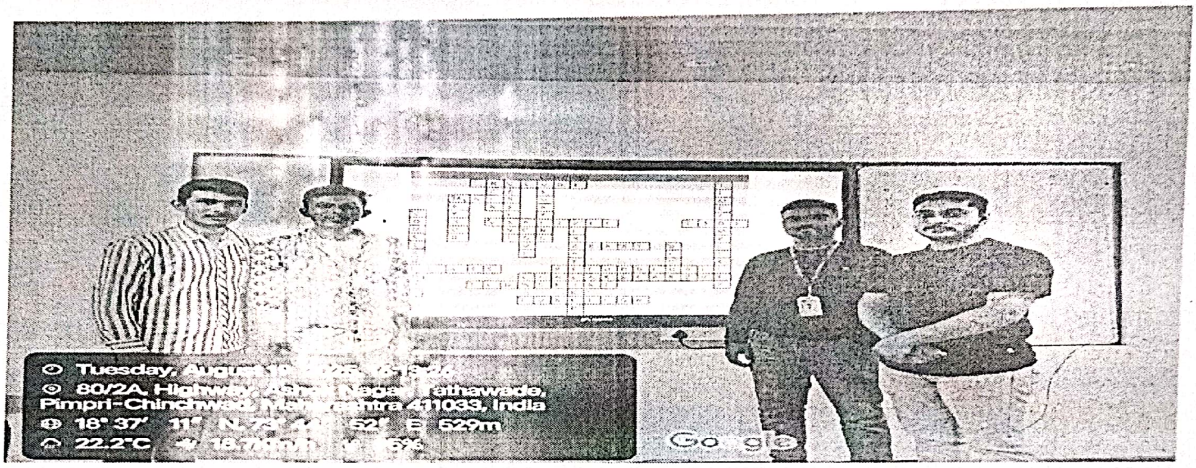
Using a crossword puzzle as a learning strategy provides an innovative alternative to routine quizzes. It is particularly suitable for programming courses, as it encourages students to connect terminology with meaning, improving vocabulary retention and concept association. The method aligns with active learning pedagogy and enhances student motivation and focus.

IV. Effective Presentation (Implementation Details):

a. The crossword was designed covering key topics from C++ fundamentals, including syntax, keywords, functions, classes, and data structures.
b. Students participated individually or in small teams, solving the crossword within a fixed time limit.
c. The activity was conducted in the classroom after completion of core C++ modules.

d. Hints were provided in the form of definitions or short descriptions related to each concept.

e. Faculty facilitated and evaluated based on completion accuracy and time.



V. **Results (Impact):**

A. Improved recall and retention of C++ terminology and syntax.

B. Increased enthusiasm and engagement during revision sessions.

C. Strengthened peer interaction and teamwork among participants.

D. Enhanced comprehension of programming concepts through fun-based learning, supporting course outcomes related to problem-solving and analytical skills.

VI. Reproducibility and Reusability by Other Scholars for Further Development

Sr.No	Innovation Used by	Details of User	Purpose of Reproducibility and Reusability
1	D.Y. Chhatrikar	Assistant Prof JSPM RSCOE.	- To this activity or change it to other topic.

VII. PEER REVIEW AND CRITIQUE

Category: Internal/External/Interdepartmental
Score: (1:Least 2: Moderate 3:Highly)
Question 1. Is this Innovative Teaching and Learning Methodology useful during content delivery?

Question 2. Did this innovation increase student motivation or participation?

Question 3. Will it show improvement in student learning?

Question 4. Suggestions for improvement in future iterations.

Category	Name of Peer	Organization	Q.1	Q.2	Q.3	Q. 4 Suggestion/Critique
Internal	Mrs. D. Y. Chhatrikar	RSCOE	3	3	2	Along with def^n, add clues
External	Mrs. Aishwarya pathak	BVCOE Lavale	3	3	2	Create multiple crosswords focusing on specific modules like function, classes & objects etc. for progressive learning

Dipa

A-path

Course Co-ordinator
Mrs.S.S.Godage

Module Co-ordinator
Mrs.S.P.Vibhute

HOD E&TC
Dr.S.C.Wagaj

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