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| Book Name: | [**An Overview of Literature, Language and Education Research**](https://www.bookpi.org/bookstore/product/an-overview-of-literature-language-and-education-research-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4312** |
| Title of the Manuscript:  | **Taking an Innovative Education Approach in a Computing Course** |
| Type of the Article | **Book Chapter** |

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| PART 1: Comments |
|  | Reviewer’s comment | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript makes a valuable contribution to the field of innovative education in computer science by providing empirical evidence of the effectiveness of an alternative pedagogical approach. The rigorous methodology, including the use of both traditional and innovative assessment methods and statistical analysis, enhances the reliability and generalizability of the findings. The results, which demonstrate a statistically significant increase in student performance and success rates with the innovative approach, offer practical guidance for educators seeking to improve student learning outcomes in STEM fields. The detailed description of the innovative teaching strategies, including the use of generative AI, escape rooms, and team-based activities, provides a replicable model for other instructors to adapt and implement in their own classrooms. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | The title, "Taking an Innovative Education Approach in a Computing Course," is adequate but could be more specific and impactful. The current title is somewhat generic. Here are a few alternative titles:* Comparative Effectiveness of Traditional and Innovative Pedagogical Approaches in Introductory Computer Science (More formal and descriptive)
* Enhancing Student Outcomes in Computer Science: A Comparative Study of Traditional and Generative AI-Enhanced Learning (Highlights key aspects)
* The Impact of Generative AI and Active Learning on Student Performance in an Introductory Computing Course (Focuses on key interventions)
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| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract is reasonably comprehensive, summarizing the study's purpose, methods, and key findings. However, it could benefit from more explicit mention of the specific innovative techniques employed (escape rooms, generative AI, team-based activities) and the magnitude of the improvement observed (e.g., percentage increase in average grades, success rate). Adding a concise statement about the study's limitations would also strengthen the abstract. A revised abstract might include:"This study compared the effectiveness of a traditional versus an innovative teaching approach in an introductory computer science course. The innovative approach incorporated generative AI activities, escape room elements, and team-based projects alongside a traditional final exam. Results showed statistically significant improvements in both average grades (X%) and success rates (Y%) using the innovative approach. However, further research is needed to investigate the generalizability of these findings to diverse student populations and other computing courses." |  |
| **Is the manuscript scientifically, correct? Please write here.**  | The manuscript appears largely scientifically correct. The methodology is clearly described, the statistical analyses are appropriately used, and the results are presented in a clear and concise manner. However, I suggest the following for enhancement:* Power Analysis: The study should mention whether a power analysis was conducted to determine the sample size needed to detect statistically significant differences. This is crucial for the validity of the findings.
* Control Group Considerations: While the comparison between the traditional and innovative approaches is clear, a more in-depth discussion on how confounding variables (prior programming experience, student demographics, etc.) were addressed or controlled for would strengthen the analysis.
* Threats to Validity: The discussion section should explicitly address potential threats to internal and external validity. For example, the generalizability of the findings to other institutions or contexts.
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| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | The references appear mostly sufficient, although a few additions might strengthen the literature review and contextualization. The inclusion of more recent publications (within the last 5-7 years) on active learning strategies and the pedagogical use of artificial intelligence in higher education would be beneficial. A literature search on keywords such as "active learning computer science," "AI-assisted learning," "gamification education," and "escape rooms education" could identify relevant additions. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The language quality is generally good and suitable for scholarly communications. However, minor edits could further improve clarity and flow in several sections. A professional copyediting service should review the manuscript for minor grammatical and stylistic errors prior to publication. |  |
| Optional/General comments | Overall, this manuscript presents a valuable and timely investigation into innovative pedagogical approaches in computer science education. While the research is methodologically sound and the findings compelling, addressing the points raised in this review will significantly enhance the manuscript's rigor, clarity, and overall impact. With minor revisions, this paper would be suitable for publication. |  |

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| **PART 2:**  |
|  | **Reviewer’s comment** | **Author’s comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** |
| Name: | **Kittisak Wongmahesak** |
| Department, University & Country | **North Bangkok University, Thailand** |