

THE PERCEPTION OF PRE-SERVICE BIOLOGY TEACHERS ABOUT THE EFFECT OF THE USE OF IMPROVISED MATERIALS IN THE TEACHING AND LEARNING OF BIOLOGY

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ABSTRACT

This study explored the perceptions of pre-service biology teachers about the impact of using improvised materials in the teaching and learning of biology. The study employed a sequential explanatory mixed method research design. Purposive sampling technique was used to select 81 level 200 students in the Department of Biology Education of the University of Education, Winneba, Ghana. Data was collected through close-ended questionnaires, assessment of the samples of improvised materials and use of the improvised materials in micro-teaching biology lessons. Descriptive statistics of the SPSS version 22 was to organize the responses to the questionnaire items into frequencies and percentages and presented in tables. The qualitative data from assessment of improvised materials and their use in micro-teaching was thematically analysed. The findings highlighted the perceived benefits of improvised materials, such as making learning more tangible, appreciating local resources, reducing costs, and enhancing creativity and skills. While some respondents affirmed the positive impact of improvised materials on students' engagement and participation during instruction, others expressed reservations about the ability of the teacher to improvise materials to cover all aspects of biology comprehensively. In conclusion, improvisation of instructional materials is critical in the teaching and learning of biology in a developing country like Ghana. Pre-service teachers, therefore, should be well equipped with skills to improvise instructional materials that are not readily available. It was suggested that improvisation, while valuable in addressing resource shortages, should complement rather than replace standardized materials. The findings offer insights into the perceptions and challenges of pre-service biology teachers, providing a basis for improving teacher training programmes in Biology education.

Keywords: Biology, improvisation, improvised materials, pre-service teachers, perception.