

## **PRE-SERVICE SCIENCE TEACHERS' COMPETENCE, SELF-EFFICACY BELIEFS AND READINESS LEVELS IN ICT INTEGRATION IN TEACHING SCIENCE**

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### **ABSTRACT**

The purpose of this study was to examine the levels of pre-service teachers' self-efficacy beliefs, competence and readiness toward ICT integration in science teaching. Data was collected in two phases. The first phase consisted of a structured questionnaire, which was given to 172 pre-service science teachers at Wesley and Akrokerri Colleges of Education in Ashanti Region of Ghana to gather their opinions. The second phase involved structured face-to-face interview with purposive sample of 24 pre-service science teachers, who had already responded to the questionnaire to validate major issues, which emerged from the questionnaire data. The quantitative results of the study showed that the pre-service basic science teachers had high levels of competence ( $M = 3.71$ ,  $SD = 1.07$ ), self-efficacy beliefs (with a subscale  $M = 3.72$ ,  $SD = 1.08$ ) and readiness (with subscale  $M = 3.73$ ,  $SD = 1.34$ ) in ICT integration in science teaching. However, the qualitative data obtained from the study did not wholly reflect the outcome of the quantitative aspect of the study. In spite of the disparity between the quantitative and the qualitative findings, the results in general raised significant issues related to the quality of ICT integration regarding pre-service basic science teachers' competence, self-efficacy beliefs and readiness, which need to be given a serious consideration.

**Keywords:** ICT integration, self-efficacy beliefs, readiness, competence, pre-service science teachers.