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A comparative study of carbon footprint and opportunity costs of a distance education and a conventional university

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Abstract

The six-week study investigated two costs of education that are often overlooked, namely, the amount of greenhouse gases produced to support the learner's activities (carbon footprint); and what students forgo in order to pursue their studies (opportunity cost). The objective was to measure these two variables of a student in an ODL setting vis-à-vis that of a similar one doing a similar degree programme (Entrepreneurship) in a conventional university. The two basic questions were:

a. How does the carbon footprint of an ODL programme compare to that of a similar face-to-face programme?

b. How do the opportunity costs of an ODL programme compare to those of a similar face-to- face programme?

It was presumed that, *inter alia,* the investigation would contribute to the growing body of knowledge on the environmental impact and opportunity costs of conventional higher education, and of the ODL mode in the context of a developing nation. The participants comprised two purposively sampled classes of entrepreneurship students, one registered with a distance learning university, and the other registered with a conventional one. Both groups were in their final year at separate institutions in Gaborone. A questionnaire was used for data elicitation. Comparisons (ANOVA) were employed to determine whether there are statistically significant differences between the overall carbon footprints and opportunity costs of the two groups. Some of the findings were that the carbon footprint of a face-to-face programme is higher than that of the distance education one. Secondly, the distance learner missed the opportunity for government sponsorship (opportunity cost). Conclusions arising from the findings were that statistically, there was a significant difference in the manifestation of variables measured between the two groups (opportunity cost and carbon footprint). One of the recommendations made was that there was need for sustained education for providers of university education on environmental impact and opportunity cost. Regarding further research, it was recommended that future scholars should consider carrying out research with specific focus on how the quality of distance learning contrasts with that of face-to-face learning, given that opportunity cost and carbon footprint will have been objectively established.

Keywords: Carbon footprint, opportunity cost, open and distance learning, conventional setting

INTRODUCTION

Education as both an indicator of and catalyst for sustainable development is not a new idea. While the benefits of education have been studied at length, there is little research evidence about the potential costs of