

## Chapter 4

# Towards Career Development for High School Students: A Case Study of a Web-Based Expert System in Ghana

**Nana Yaw Asabere**

 <https://orcid.org/0000-0003-4908-8528>

*Accra Technical University, Ghana*

**Amevi Acakpovi**

 <https://orcid.org/0000-0003-1838-0155>

*Accra Technical University, Ghana*

**Ezer Osei Yeboah-Boateng**

 <https://orcid.org/0000-0002-1355-8586>

*Ghana Communication Technology University, Ghana*

**Wisdom Kwawu Torgby**

*Accra Technical University, Ghana*

**Eric Amoako**

*Accra Technical University, Ghana*

### ABSTRACT

*Globally, choosing the right tertiary programme for university (higher) education is quite a difficult task for students. A wide range of programmes are offered by the individual universities which differ in terms of delivery modes and entry requirements. Technology inclusion in the 21st century has paved the way for the proliferation of electronic/computing systems such as electronic counseling (e-counseling) and electronic learning (e-learning). By employing a quantitative research instrument (questionnaire) to ascertain technology acceptance of Senior High School (SHS) in Ghana, this chapter proposes a web-based*

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*(e-counseling) expert system which will match students' backgrounds with the right tertiary programme towards career development. Evaluation of our proposed approach suggests that majority of the selected students (80%) out of 100 who used the system accepted and embraced it. Such a system will therefore solve and improve career guidance, counseling, and development problems of SHS students in Ghana.*

## **INTRODUCTION**

The Oxford English Dictionary defines the term “Discipline” as “a branch of learning or scholarly instruction.” As defined by fields of study, academic discipline provides the framework for a student’s programme in a college or university, and consequently defines the academic world inhabited by scholars. Globally, tertiary education training in an academic discipline results in a system of orderliness, which is recognized as a characteristic of that particular academic discipline. Such characteristics are demonstrated in an academic scholar’s approach to understanding and investigating new knowledge, ways of working, and viewpoints on the world around them (The Gale Group Inc., 2002; Bordons, Zulueta, Romero, & Barrigón, 1996; Dogan, 1996; Klein, 1996).

An academic discipline which is chosen well will ensure that individuals in a country are equipped with the necessary skills that are relevant to their career objectives. The summation of each individual’s career driven skills is the summation of national development (Wondoh, 2012; The Gale Group Inc., 2002; Bordons et al., 1996; Dogan, 1996; Klein, 1996). During a person’s lifetime, career-related choices are among the most important decisions people make. These career choices have substantial long-term consequences for individuals’ lifestyles, emotional welfare, economic and social status, as well as their sense of personal productivity and contribution to society (Gati and Tal, 2008; Gati, Saka, & Krausz, 2001; Gata & Ram, 2000). Consequently, it is only natural that individuals at different stages of their lives are preoccupied with career choices. Therefore, career guidance into the selection of an academic discipline must be carefully and systematically performed in order to achieve national development.

Career guidance involves a guidance and counseling process for students and can be described as a process of information exchange that empowers students to realize their maximum educational potential (Seng and Zeki, 2014; Covner, 1963; Gati and Tal, 2008; Gati, Saka, & Krausz, 2001; Gata & Ram, 2000). The guidance process is student-centred and will result in the student gaining a clearer view of himself/herself, and the experience of higher education (Srivathsan, Garg, Bharambe, Varshney, & Bhaskaran, 2017; Gati & Gutentag; 2015). In career guidance, an academic advisor/counselor provides guidance, advice and help for students in recognizing their academic strengths and to select an academic discipline for higher education which will impact them throughout their lives. Taking into consideration factors such as financial status and so on, the academic (advisor) recommends an academic discipline (university programme) for the student. This system ensures high school students are able to identify their career objectives and pursue higher education towards it. In effect, the academic advisor in the guidance process should be able to identify the right career objective for the student. The advisor in question here refers to an expert with knowledge in assisting decision making (Al Ahmar, 2011; Nambair and Dutta, 2010; Pokrajac and Rasamny, 2006; Razak, Hashim, Noor, Halim, & Shamsul, 2014; Gati & Gutentag; 2015).

The identification of a student’s ability and capabilities through career guidance is the greatest key to national development (Wondoh, 2012; Gati and Tal, 2008; Gati, Saka, & Krausz, 2001; Gata & Ram,

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