The Use of Vocational Guidance E-Systems in Colleges of Technology, Saudi Arabia

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The Use of Vocational Guidance E-Systems in Colleges of Technology, Saudi Arabia

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Abstract. This study aimed to explore how much interest do technical colleges students have in vocational guidance E-Systems and to detect the most important E-Systems of vocational guidance that they use. The researcher collected data, through questionnaires, from 311 students in their fourth, fifth, or sixth semesters in the colleges of technology in Saudi Arabia. The data were analysed using the chi square test, factor analysis, and descriptive analysis. This study shows the importance in the integration of the E-Systems to vocational guidance. The model includes: the use of e-vocational consulting programs, e-extracurricular programs, e-vocational activities, informational systems, and e-exams for vocational tendency, which were rarely studied before. The results indicated that the college student is highly motivated by vocational guidance using the E-system, unlike the traditional methods of vocational guidance, and young students are motivated by the E-system when it is used in vocational guidance. The study conclude that the integration of the E-system has significantly contributed to vocational guidance. The study recommends that the e-system be implemented to all areas of decision-making. Practitioners should Interact with students through the E-Systems and arrive at decisions that are good for educational growth.

Key words: E-Systems, decision making, vocational guidance, and Technology.

1. Introduction

Recently, vocational education has integrated the use of ICT to support vocational guidance. In the current economy, many of those exiting school and college spend a long time in the labor market before they can secure a long-term job. The average age of beginning apprentices in Saudi Arabia is 28 years old. TVTC practitioners and career guidance counselors should work together closely to monitor labor market conditions and requirements in order to provide optimal services to students. Since a large proportion of students exiting secondary school will not attend universities, all stakeholders need to work together to improve the image of TVTC so that parents and students can appreciate the relevance and importance of vocational training.

The EU acknowledged that the individual is the most important agent for constructing his or her qualifications by upgrading, combining, and using acquired knowledge, skills, and training to make themselves employable and adaptable in our changing world. However, in the present environment, where choosing and preparing for a career is like attempting to shoot at a moving target, proper career guidance and counseling are of critical importance to ensure seamless learning throughout life. The purpose of vocational guidance and counseling is to help students to: “understand and appreciate their talents; relate effectively to others; explore career alternatives; develop appropriate educational and
vocational training plans; implement and complete their plans; and integrate successfully in society and the labor market” [1].

Saudi Arabia has developed national career development guidelines to assist educators in implementing career development programs in elementary, secondary, and post-secondary education and training. The model includes: the use of e-vocational consulting programs, e-extracurricular programs, e-vocational activities, informational systems, and e-exams for vocational tendency. Career assessment provided over the Internet is just one example of interventions that can be problematic because they exclude the help of a counselor. In some high schools, career development activities consist solely of computer-assisted career guidance programs. Fraenkel J. and Wallen N. found that counselor-free interventions were not as effective as interventions that involved a counselor (e.g., individual counseling, workshops, group counseling) [2]. They also found that people who used a vocational computer system supplemented by guidance had better results than those just used a computer system[3].

Some analytics regard the proliferation of counselor-free interventions, both through the Internet and in other settings, as a threat to the career counseling field and a disservice to clients. Unless career counselors are more active in informing others of the efficacy of career counseling, administrators and organizational decision-makers may see counselor-free services as a less expensive alternative to career counseling [4].

In essence, computer technologies significantly modify the techniques of providing vocational services and provide an alternative route for offering vocational services. What, then, is the role of vocational guides? Are they really neglected? How can vocational guides take advantage of advanced technologies to enhance vocational guidance services?

Technology must become vocational guidance' best assistant, not their competitor. Computers will fulfill much of the ponderous and labor-intense work, such as saving files, prospecting for data, managing data, and looking for information. Discussion and deliberation regarding cases can be done using Different technology modes. I recognize that technology will enhance vocational guides' performance, but not replacing their tasks. Computer technologies cannot subrogate for the guide’s role in facilitating self-conscious, self-discovery, and the building of an individual's orientation in his vocational life.

Vocational guides, being exempted from routine work by technology, can really use what they are trained for: serving people to make meaning of their life and to develop adaptive skills to regulate well to their environment. Vocational guides do not just match people with their jobs, but also help people to enhance their self-efficiency to work and life.

This study aims to explore how much interest do technical colleges students have in vocational guidance E-Systems and to detect the most important E-Systems of vocational guidance that they use.

2. METHODOLOGY

2.1. Research Questions

This study answered the following three research questions:

1. How much interest do students have in vocational guidance E-Systems?
2. What are the most important E-Systems of vocational guidance that students use?
3. How do demographics affect students’ interest towards vocational guidance E-Systems?

2.2. Sample

The research population consists of students in the colleges of technology in Saudi Arabia. The oldest five colleges were selected from the Northern Region in Saudi Arabia by geographic region, including the colleges of technology in Hail, Tabuk, Al-Jouf, Arar, and Quraiyat.

The participants consisted of (311) students in their fourth, fifth, and sixth semesters in the colleges of technology in Saudi Arabia. The reason for choosing the students from the fourth semester onwards is that the students of the fourth semester and onwards would have had enough exposure to vocational
guidance E-Systems. The students from within the fourth, fifth, and sixth semesters were then chosen on the basis of simple random sampling.

2.3. Instrument
A questionnaire was developed to collect responses from the students. The questionnaire consisted of two sections: one section consisted of demographic variables (age, college of technology, and study major) and the other section consisted of 7 test items.

The test item statements were the following:
- E-vocational consulting programs
- E-extracurricular programs
- E-vocational activities
- Information systems
- Computer labs
- Knowledge platforms
- E-exams for vocational tendency

The students were participated by expressing their level of agreement or otherwise on a five-point Likert Scale: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), or Strongly Disagree (SD). The experts validated the questionnaire. In order to measure the consistency of the questionnaire, a pilot study was conducted on 311 students of the oldest five colleges in the northern area of Saudi Arabia. The Cronbach’s alpha value was 0.86.

2.4. Analysis
The data were analyzed using the chi square test, factor analysis, and descriptive analysis. SPSS version 20 and AMOS were used in the study.

3. RESULTS

| Table 1. Communalities | INITIAL | EXTRACTION |
|------------------------|---------|------------|
| I use an e-vocational consulting programs | .319 | .366 |
| I use an e-extracurricular programs | .328 | .375 |
| I use e-vocational activities | .214 | .251 |
| I use an information systems | .283 | .336 |
| I use a computer labs to acquire knowledge | .340 | .445 |
| I use knowledge platforms | .298 | .346 |
| I use an e-exams for our vocational tendency | .183 | .203 |

Extraction Method: Maximum Likelihood.

Table 1 shows that the eigenvalues in the communalities are higher in the extraction than in the initial [5]; this implies that the seven factors are valid and will be able to determine the effect of E-Systems on decision-making among the universities.

| Table 2. Total Variance Explained |
|-----------------------------------|
| Factor   | Initial Eigenvalues | Extraction Sums Of Squared Loadings | |
|          | Total   | % of Variance | Cumulative % | Total   | % of Variance | Cumulative % |
| 1        | 2.975   | 42.501        | 42.501        | 2.321   | 33.155        | 33.155        |
| 2        | .870    | 12.428        | 54.929        |         |              |              |
| 3        | .821    | 11.725        | 66.654        |         |              |              |
| 4        | .727    | 10.385        | 77.039        |         |              |              |
| 5        | .613    | 8.761         | 85.799        |         |              |              |
From Table 2, under maximum likelihood, the total variance of the seven factors can be explained by one factor [6]. The results indicated that one factor explained 42.501% of the variability.

Table 3. Goodness-Of-Fit Test

| CHI-SQUARE | DF | SIG. |
|------------|----|------|
| 39.560     | 14 | .000 |

From Table 3, it can be observed that the chi square value is 39.560 with a p-value of 0.000, which is less than the 0.05 level of confidence, indicating that there is sufficient evidence that the factors can determine the effect of E-Systems on decision-making in the universities.

Table 4. Test Statistics (Chi Square Test)

| Use an e-vocational consulting programs | 106.145* | 3 | .000 |
| Use an e-extracurricular programs | 113.707* | 3 | .000 |
| Use e-vocational activities | 124.717* | 3 | .000 |
| Use an information systems | 117.643* | 3 | .000 |
| Use a computer labs to acquire knowledge | 95.109* | 3 | .000 |
| Use knowledge platforms | 105.373* | 3 | .000 |
| Use an e-exams for our vocational tendency | 116.717* | 3 | .000 |

0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 77.8.

Figure 1 shows that only one factor has an eigenvalue higher than 1, implying that one factor can account for the majority of variability in the seven factors.
From table 4, it can be observed that all the factors have p-values equal to 0.000 (very small), which is less than the 0.05 level of significance, implying that there is significant evidence that the use of an e-vocational consulting programs, use of e-extracurricular programs, use of e-vocational activities, use of informational systems, and use of e-exams for vocational tendency significantly contribute to decision-making in the universities.

4. DISCUSSION
From the results, it was observed that e-vocational consultancy was significant. The e-vocational consultancy provides significant assistance to local educators in the development and improvement of vocational education programs in different areas, such as agriculture, home economics, office trades, and technical subjects. This was achieved through conducting seminars and advising school administrators on vocational education program issues [7], [8]. Vocational consultants work with private individuals, lawyers, courts, and public agencies to provide information about job potential, income potential, employment potential, and loss of income due to physical, emotional, educational, or employment limitations [9][10].

The results indicated that e-extracurricular activities are significant to university decision-makers [11]. This is because most of the extracurricular activities help the decision makers to interact with the people who are in the university and get relevant information. This means that e-extracurricular activities attribute to decision-making in the universities. Employers and colleges like to see extracurricular activities on your resume, including leadership experience, athletics, foreign languages, writing/technical skills, and volunteer work, among others. Taking a leadership position while in school is a big plus on a student’s resume. It shows a willingness to step up to the plate and portrays to employers that you can manage and handle responsibilities [12]. Becoming involved in campus multicultural activities can help you increase your awareness and understanding of the world’s cultures and different ethnic and racial backgrounds. Such activities can include concerts, festivals, lectures, and other events that encourage multicultural awareness on campus [13]. Participating in such activities can broaden your cultural consciousness, as well as help you develop or better understand your own cultural identity.

The results found that a good knowledge platform enhances easy communication, storage of information, and analysis of easy decision making. The knowledge platforms that were found to be efficient were online platforms, as they were able to incorporate all these elements at the same time. The results show that the knowledge platform helps the decision makers to produce better results. The platform is reliable to many people because it gives all the information that is required by various participants in the effort of achieving effectiveness [14]. However, it is important to note that the results do not indicate the efficiency of the platform because there are other factors that affect performance, such as environment, knowledge management framework, and factors related to platform users [15]. The researcher observed that the participants had the same academic identities because they shared the same academic platform. The results that were posted in the study suggest that academic influences might have affected the choice and use of various knowledge platforms in doing research[16]. It is worth noting that academic influences affected the participant’s attitude towards different knowledge management systems, resulting in different patterns of system utilization and performance that negatively affected the organization. Many students chose an online knowledge platform because of its enhanced features without complication and to collect information for research [17]. The availability of a knowledge platform with a friendly user interface was preferred because it created a better environment for research and easy communication. The participants were given a small number of relevant cues in graphical presentations to show the relationship between the variables and thus make it easy to make forecasts. The graphical designs helped the participants to interpret the results, thus offering better judgment as well as decision-making [18].

The e-exams have also improved a great deal to be friendlier to the students, both those in youth age brackets and those in working fields. This improvement has allowed people to grow career wise, hence making it a very good platform for decision-making [19].
5. CONCLUSION
From the research study, we can conclude that the e-system is an instrumental tool to help students in their decision-making. Most of the information lies within the e-system in all the sectors examined. In universities, decision makers can interact with the students through the E-Systems and arrive at decisions that are good for educational growth as well as growth within the job markets. The achievable results indicated that there are diverse situations due to different environments. The study further evaluated the aim of the study and discussed the literature behind the knowledge platform. The results also indicate that knowledge platforms encourage and generate improved performance and decision-making in universities. Therefore, there is need for well-established knowledge platforms to acquire the best information for decision-making.

Through E-Systems, the decision makers can make decisions on the use of e-exams as well as the knowledge platforms. The need to expand the e-system in vocational learning was brought out.

5.1 Limitations and implication
The study was limited to universities, which are just a small section of the economy in terms of producing entrepreneurial skills. This therefore hinders the use of this research finding toward other sectors of the economy. The study is also limited to students in the universities and colleges; therefore, this research work must be extended to other learning institutions.

5.2 Recommendations
The study recommends that the e-system be implemented to all areas of decision-making other that the universities. This also recommends that this research work can be important if it can evaluate the integration of E-Systems in decision making in various sectors, such as: sports, e-learning, communications, policy making, and business through e-business. As well the study recommends to study the impact of e-system of vocational guidance on future functional students' attitudes.

5.3 Future research
The study recommends to conduct further positivist research in the impact of e-system of vocational guidance on future functional students' attitudes. As well the study recommends to conduct research in the e-system in areas of security, as information tends to move faster.

6. References
[1] N. Entwistle and N. Entwistle, "Changing conceptions of learning and teaching," ENTWISTLE, N.(ed.), 1990.
[2] J. R. Fraenkel and N. E. Wallen, How to design and evaluate research in education: McGraw-Hill Higher Education, 2003.
[3] D. Gleeson, Training and its Alternatives: Open University Press Milton Keynes, 1990.
[4] H. Colley, D. James, K. Diment, and M. Tedder, "Learning as becoming in vocational education and training: class, gender and the role of vocational habitus," Journal of vocational education and training, vol. 55, pp. 471-498, 2003.
[5] C. L. Coryn and K. A. Hobson, "Using nonequivalent dependent variables to reduce internal validity threats in quasi-experiments: Rationale, history, and examples from practice," New Directions for Evaluation, vol. 2011, pp. 31-39, 2011.
[6] A. G. Bluman, Elementary statistics: A step by step approach, A brief version: New York: McGraw Hill, 2008.
[7] P. Osano and P. B. Corcoran, "Young people, education, and sustainable development: Exploring principles, perspectives, and praxis," ed: Wageningen Academic Publishers, 2009.
[8] C. Cheong, "From group-based learning to cooperative learning: A metacognitive approach to project-based group supervision," Informing Science: The International Journal of an Emerging Transdiscipline, vol. 13, pp. 73-86, 2010.
[9] C. Dahlman and D. Z. Zeng, "ENHANCING THROUGH LIFELONG LEARNING," 2007.
[10] M. M. Robles, "Executive perceptions of the top 10 soft skills needed in today’s workplace," Business Communication Quarterly, vol. 75, pp. 453-465, 2012.

[11] C. J. Kirchhoff, M. Carmen Lemos, and S. Dessai, "Actionable knowledge for environmental decision making: broadening the usability of climate science," Annual Review of Environment and Resources, vol. 38, pp. 393-414, 2013.

[12] T. Wilson, "Youth unemployment: review of training for young people with low qualifications," 2013.

[13] A. L. Brown, "The advancement of learning," Educational researcher, vol. 23, pp. 4-12, 1994.

[14] D. R. Anderson, D. J. Sweeney, T. A. Williams, J. D. Camm, and J. J. Cochran, An introduction to management science: quantitative approaches to decision making: Cengage learning, 2015.

[15] M. D. Gall, W. R. Borg, and J. P. Gall, Educational research: An introduction: Longman Publishing, 1996.

[16] M.-P. Jime´ nez-Aleixandre, "Knowledge producers or knowledge consumers? Argumentation and decision making about environmental management," International Journal of Science Education, vol. 24, pp. 1171-1190, 2002.

[17] M. N. Riaz and M. T. Khalili, "Transformational, transactional leadership and rational decision making in services providing organizations: Moderating role of knowledge management processes," Pakistan journal of commerce and social sciences, vol. 8, pp. 355-364, 2014.

[18] J. F. Courtney, "Decision making and knowledge management in inquiring organizations: toward a new decision-making paradigm for DSS," Decision Support Systems, vol. 31, pp. 17-38, 2001.

[19] J. Eison, "Using active learning instructional strategies to create excitement and enhance learning," Jurnal Pendidikanentang Strategi Pembelajaran Aktif (Active Learning) Books, vol. 2, pp. 1-10, 2010.