

Quality Control of eLearning Research Design: A Proposed Model

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ABSTRACT

The present article aimed at developing a research methodology to ensure quality control of eLearning field research design and production. The idea of the present research was to investigate effective and ineffective practices in eLearning field. The analysis of a sample of researches and studies ($n = 200$), conducted in the field of eLearning and Blended Learning in the Arab states revealed that the vast majority of eLearning researches and studies (70%) were stereotypical. Therefore, the researcher developed a list of indicators that ensure quality control of eLearning researches design. A new methodology to design and produce eLearning research is proposed. The proposed methodology contains four stages: Identify Investigate, Prototype, and Produce. Implementation of these stages required the adoption of a tetrad dialogue during the course of answering the six patterns of question: what, who, when, where, how, and why. In addition, the adoption of this new method may support producing adaptive and innovative eLearning research with high level of quality.

KEYWORDS

Action Research, eLearning, Innovative Research, Operational Research, Quality Control, Research Design

INTRODUCTION

Huge digital and electronic transitions which take place in universities, scientific research centers and institutions around the world, represent contemporary challenges for higher education and scientific research institutions in the Arab world. Elite university, public university, specialized university (Niche), lifelong learning platforms and personal learning call for a necessary shift from accredited academic graduate certificates to field and operational research that achieves a qualitative advancement in educational technology and eLearning (Abdelaziz, 2015a).

Since the beginning of the twentieth century, sustainable development and knowledge economy depend on the advancement of information and communication technology (ICT). Theoretically, information and communication technology stand behind education quality. Research and scientific applications in information and communication technology, education, business and society, provide different patterns, images and contents of intellectual and technological outputs.

The stunning flow of rapidly- changed information is sometimes so difficult to follow that research institutions and centers need urgently to prepare generations of researchers who demonstrate great thinking flexibility, creativity, innovation, and excellence. Similarly, Arab research culture needs to discard one dimensional- stereotyped template and vertical (up-down) path in the preparation or production of scientific research; so that a new distinguished team of researchers can achieve research excellence and diversity (Aly, 2000).

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The next conflict among the world's strongest will be about the distribution and possession of knowledge. Information will not only become a source of political, economic or technological strength, but also an essential factor in building a democratic society. Information and knowledge sources control of power will become tomorrow's problem. Those who control the production of information or high-tech and innovation in scientific research will be in control of other areas (El Mokhtar & Adawi, 2011).

Twinning between globalization and technology switched the global economy from productivity-centered economy of real earnings to knowledge possessing-centered economy. This, in turn, will affect educational systems, schools, universities or higher education institutions. These institutions will be profoundly influenced by the overall innovation patterns in the new global economy, issuing a change in university power (Barber, Donili, & Radwy, 2014). Renounced University -now and in the future- will have unique and innovative research, studies and inventions, not a number of certificates awarded to students each year.

Specialized Arab scientific research does not contribute future creative solutions, "Arab footprint", in the production, publishing and distribution of knowledge, and innovation of new insights and interpretations. This, consequently, leads to increased research imitation, followers' researchers, and diminished cognitive innovation.

Creative educational research tackles on the researcher's reflection, thinking and connecting facts with intellectual practices giving more importance to qualitative rather than quantitative analysis. It tackles the researcher's creativity in answering the six patterns of question of what, why, where, when, how and who. Communities seeking to economic and social progress focus on building human capital with a system based on concepts and applications of knowledge economy. Paying attention to human being is an effective way for forming a cognitive system that steers modernization and innovation in scientific research. Not only does research need instrument and equipment, but also humans who use these instruments and equipments in carrying out research and studies of economic value to bring about sustainable human development (Aharachao, 2007).

Scientific research is a rich field for progress, economic development and welfare of nations and societies. Universities and research centers policy of knowledge production has a vital role in developing society. Thus, scientific research that is based on innovation for achieving sustainable development should be a priority provided with budgets in Arab countries (Aharachao, 2007). Innovation in scientific research is directly associated with education financing. Despite the fact that some Arab countries are ranked globally as the fourth in financing education, their rank on inventions comes too late globally if compared to countries with less educational budgets. This raises questions about products, assets, scientific disciplines, scientific research and innovation systems (Alzayat, 2013). A question is raised about both outputs and assets of cognitive and scientific disciplines, research and development, innovation systems in Arab countries (Alzayat, 2013)

Financing education and scientific research is the basis for strategic thinking and planning related to knowledge economy society that achieves sustainable development. This requires some kind of integration between systems, policies, educational and non-educational institutions specialized in preparing scientific researcher and publishing knowledge. Education and scientific research work together in the formation of cognitive indicators for sustainable developments. These indicators are based on the following assumptions (Alzayat, 2013, 16): a) Education and its outputs represented in knowledge assets is an accumulative renewed growing precious value; b) Societies which own more qualitative knowledge assets occupy a higher rank on indicators of sustainable development and knowledge economy society; c) Knowledge assets resulting from financing education (inputs, processes, outputs) represent the important sources of efficacy and competition between communities in terms of their impact on: economic growth and quality of life; and d) Education and scientific research outcomes as embodied in cognitive development of human brain have the highest returns and investments. Development of human brain gives accumulative return for long-term sustainable development.

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