The Impact and Influence of Research on Higher Education

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Abstract: Theoretically, the influence of university research over modern educational studies is direct. There is a lineal relationship between higher education and research. In order to show the impact of predefined factors that can affect this relationship, a statistical study is explored in this paper. The results explain that the influence of this factor can be varied from some groups of factors to others. Some have a strong effect and others pretty less. However, the impact is direct, non ignorable and significant.

Keywords: Higher Education, Research, Teaching process, Knowledge Sharing, Collaborative Learning.

1. Introduction
Often, the mutual relationship between higher education and research is not sufficiently taken into account. There are many unknown sides to this issue in the traditional educational system. Sometimes the complexity of finding the direct and instant profit of research on the educational techniques can be a cause for ignoring the effectiveness of the research over the teaching, learning, training and schooling processes that may refer to the “Education”.

Researching can offer a comprehensive description of why particular questions and problems are taken up and why it is believed that those issues should be studied in particular modes. It also can make clear how a given study provides an accurate vision to our understanding of teaching and learning (Broadfoot, 1981). Finding a scientifically-based solution for questions in the 21st century is an accepted method in order to reduce the errors and consequently to make a precise decision. The potential of research for resolving, scientifically, the problems makes the educators watch it as a significant factor in the teaching process. It is believed to be an effective tool for transition from a traditional educational system to a modern type.

2. Motivation
There are two main focal points in this study: research and higher education. The globalized world advocates the use of modern education, due to the information accuracy that can be applied in order to develop the human knowledge. Research has a significant role in expanding human knowledge and vision and also to determine the possible answers to existing issues and the needs of human beings. As a result, a direct relationship can be found between analytical modern education and research and should not be taken into account as separate matters, but rather as related in the process of learning and the construction of knowledge. The purpose of this investigation is to create consciousness of the impact that research could have on knowledge in modern society. Therefore we
conducted a study to assess how the effective learning process is influenced by some factors, and we are able to confirm that it is one of the most essential educational resources in higher education.

3. Related work
There are some studies related to the focal point of this paper. Saven-Baden (2000) studied the problem-based learning and suggests an integration of theory and practice in order to engage the students with an aspiration for learning, which involves constant group work and research abilities that facilitate students in seeking for knowledge. He found that the problem-based learning does not draw attention to the impact that research has on higher education. Also, Bozeman and Lee (2005), demonstrated that the research collaboration on higher education can have a positive effect on publishing productivity. Gornitzka and Langfelt (2008), focused on the strengthening of the international and local linkage. They consider that knowledge linkage is a main contribution factor in knowledge sharing and therefore in research collaboration. In addition to the collaboration that is involved in higher education and research, Kim et al (2005) try to show the particular value of researching, on industrial innovation. Even though, the investigation focuses on the pharmaceutical and semiconductor industries, it shows that there is evidence which states the companies are more likely to utilize inventors with university research experience. In other words, the industries are interested in accessing the knowledge which is produced in the universities or the results of the research. The current paper has the purpose of relating the mentioned factors to the possible interconnection between higher education and research. In brief, it focuses on the factors that can affect the efficiency of the higher educational system and explore their benefits.

In the following, these factors and their influences over superior education are surveyed along with a statistical methodology as a supplementary support.

4. Research and Higher education Relationship
In order to give a precise vision of the relationship between researching and education, some indicator factors were defined as our assumption. This section provides the precise descriptions of these key factors and their role in the research and higher education correlation. They will be outlined in depth as follows.

4.1 Problem Solving
Actually, the primary objective of instructors is, “training the trainers”, how they can improve their skills in order to make connection and understand the scientific phenomenon. They employ the relevant techniques by means of a predefined methodology such as problem solving (Velez, 2005). Students face different situations and interpretations when they are planning the solving strategies. The internalizing of both external knowledge and critical view skills that are obtained from the investigation results, is a method used to improve the problem solving strategies in the collaborative learning (Gokhale, 1995).

4.2 Knowledge Updating
The lecturer needs to keep “up to date” with their teaching fields. This can be obtained in different manners. They have to involve some forms of advanced academic activity. One of these activities is based on the many investigations “researching”. Based on Neumann (1994), the experiments have shown the affirmative student perception of staff research. In these studies, student views of staff involvement in research that was included into their instruction, made students perceive their courses as up to date and also gave them “the opportunity to see their teachers as real people and to be able to glimpse at what they do, how and why” (Newmann, 1994). It is assumed that updating, scientifically, can influence the teaching and learning scenarios.
4.3 Enhancing the knowledge and Effectiveness of the lectures
Teachers seek to improve their skill of teaching and the methods in which enhance the process of the learning by Students. In other words, they are looking for an adequate methodology in order to improve their effectiveness by changing their instructional practices (Grouws and Cebulla, 2000). The experiences have shown that there is a direct influence between the educational behaviour of teachers and student learning. The teaching effectiveness of lecturers is influenced by the methodology that they employ along with the knowledge and perception that they posses. Research is an effective method that can amplify the insight of lecturers by increasing their knowledge (Grouws and Cebulla, 2000).

4.4 Improvement of the collaboration and knowledge sharing
Construction of knowledge within a new learning environment is based on collaboration and expertise sharing.

When teaching and research are effectively jointed with collaboration; consequently, the sharing of knowledge happens. Research staff (teacher involved in the research) share the last discovered knowledge and make a connection with the student and the students have an opportunity to learn about latest realities of the phenomenon. The collaborative learning can offer the students the opportunity to collect, compile, analyze, and evaluate information cooperatively. Joint discussion and interaction can help them to learn skills and experiences from each other (Gokhale, 1995).

4.5 Learning process
Many of the modern researches have demonstrated that the link between teaching and research is strongly significant and helpful to student learning, particularly for those learners with a strong academic orientation.

Research has demonstrated that students learn more, if they are actively involved with the didactical material which they are studying. They are able to carry out at higher academic level when asked to work together in collaborative research projects related to the didactical materials than when they are asked to work independently. Group diversity in terms of knowledge and experience contributes positively to the learning process (Jenkins, 2000).

4.6 Teaching process
One advantage of engaging educational research with teaching is creating a linear nexus between didactic practice materials and research. The studies provide a wide-ranging proof that research, through direct and indirect engagements, has an influence on individual educators and on their teaching process in such a way that the importance of such direct linkages between educators and research cannot be ignored (Jenkins, 2000). Effective and collaborative communication, knowledge sharing and interaction between practitioner-researchers and lecturer can be considered as the significant products of this direct relationship. Also, research can be used as a strong instrument to improve the process of transferring the new findings and knowledge which are the key elements in the teaching process. The modern educational systems and e-learning are some examples of the recent findings that support the recent methodologies of the instruction that are results of huge number of studies in order to improve the educational process like teaching (Mora and Ortega, 2011).

4.7 Other factors
Other factors that can be considered as the essential indicators in this study such as: stimulating discussion, challenging assumptions, elevating critical thinking, developing new questions and improving the institutional decision making (Miller, 2005) that are not our focal points, but they are considered in the statistical questionnaire as a support for this study.
5. Statistical methodology
In order to verify the validity of the findings, it is required to use an appropriate statistical methodology in order to analyze the data collected from the questionnaire. It can be considered as a support to prove and confirm the proposed hypothesis in the previous section.

Sampling
A ten item questionnaire was developed to collect related data from the participants. A total of 10 predefined factors were surveyed in this study. A mixed method approach (verbal and written) was employed. Assuming that the population is 1000 then, the appropriate sample size of the study was determined according to the pilot study by Cochran formula will be 257 (Chadwick). Figure 1, provides a graphical representation of the questionnaire results. Results of the questionnaire revealed that a higher percentage of participants (most of them: 95%) agree with the idea that research has a direct and effective impact over Teaching, Learning and knowledge Sharing. Based on the results, a low rate of the participants (52% of total) considers the investigation, as an effective method for the process of problem solving.

As Figure 1, demonstrates the high rate of interviewees (88%) consider that Researching increases the new questions and scientific challenge (critical thinking) and significantly contribute in enhancing the lecturer knowledge. The results showed that the 80% of instructors who were interviewed agree that including research in their didactical materials helps them to keep up to date. The same percentage considered that the didactic investigation can improve the collaboration in the learning process. Finally, the results emphasize the fact that the outcomes of research can be beneficially applied to effective institutional decision making.
6. Conclusion
This paper explored the main benefits in the relationship between the scientific investigation and its impact over the higher education area. Based on the results obtained from the questionnaire some educators consider the research as an effective problem solving methodology and some no. Lecturers need keep up to date with the topics they are teaching through involving the results of their research in the instruction plans. Also, they communicate the results via sharing the knowledge obtained from their investigation with learners.

The majority of higher education research is oriented to create useful applied science in order to enhance the knowledge of the lectures. Applying the didactic investigation in educational study can greatly improve collaboration and knowledge sharing obtained from a real experiment. Also, Research is an activity that can support the teaching and learning process in superior education. The educators can compare their pure knowledge with the experimental science obtained from an educational investigation. They can apply the results of research in an education context that requires human involvement. One of the wide-ranging techniques to find out the answers to the questions is necessarily looking for them. Research is an effective resource in searching and discovering an adequate process to acquire didactical and educational knowledge. In conclusion, research has a creative, dynamic and productive impact over higher education through a wide variety of the investigation processes. The research can significantly improve the process of teaching, and learning in order to apply adequate and precise techniques that can simplify the analysis of the phenomenon. Due to the fact that this work provides a general view of the relationship between research and higher education, future focus will be:” How the education process of a particular area of science is influenced by didactical and scientific research”.

References


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