Scientific research as an instrument that empowers lifelong learning. case study with applied psychological students, political science, and public administration students

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Abstract: This study is related to the field of education. Acquisition of knowledge and skills has an important role in this education, but their renewal is just as important. Of particular importance is obtaining reliable, true knowledge. This study aims to identify the key tools that make it possible to facilitate and empower learning in higher education and create an indispensable culture for lifelong learning. The training of the student in the methodology, methods and practices of scientific research affects his empowerment in his professional training, updating and generating new knowledge throughout life as well as his motivation to solve life problems and his influence for a better company.

Keywords: Education, Instrument, Knowledge, Prudence, Research.

1. Introduction

Students who complete higher studies at the bachelor, professional or scientific level, as soon as they come to life face many problems. First, they look for employment which in most rest turns out not to be employed. Immediately face economic problems that cannot be afforded to cope with living conditions.

Creating a new family is faced with affordable economic needs such as employment, the need for the necessary financial resources, entrepreneurial opportunities, rental living, buying an apartment, etc. All of these require professional knowledge but also a maturity to make the right decisions and the right decisions.

University curricula often provide professional knowledge but provide little knowledge to solve other living and social problems. The students must prepare for the profession but also for himself and for society. In this context, the subject of methodology and methods of scientific research takes an important role not only in generating new knowledge but also a creation of true, reliable knowledge and increases the ability of students to make decisions and solve problems encountered during life.

Methodology and research methods are important for the generation of new knowledge, for the creation of new theories and innovations necessary to provide solutions to difficult problems that arise in everyday life, for a rapid, quality and contemporary development but also in identifying and ignoring fake knowledge for successful decision making in solving problems of daily life, perspective as well as society. Methodology and research methods are also an instrument in strengthening the ability of lifelong learning so necessary for the vitalization of the profession and the acquisition of knowledge so necessary throughout life.

From the difficulties encountered by most students in solving these problems shows the lack of knowledge and skills acquired in universities and it turns out necessary to improve the curriculum of research methodology at all levels of study and in all universities. This investment will significantly

increase the quality of knowledge and professional improvement of students and society in solving its problems by multiplying the commitments of its citizens to solve them and not waiting for ready elections.

To equip students with the necessary qualitative knowledge and skills of scientific research, it is necessary to answer these research questions: What is currently being done for scientific research in higher education schools at both the bachelor and master level? What should be done in the research on high income according to the best experiences and according to the needs that time requires for solving problems? How can we improve the curriculum of methodology and research methods in higher education? How does training in research help the teacher in teaching and the importance that the approach proposed by Taysum (2020 takes on?

2. Literature Review

When we talk about knowledge, knowledge, we understand that we are dealing with knowledge, knowledge, principles, theories and laws that are true and serve to solve problems and develop society. In everyday life there are several ways in which knowledge is gained from people. Here are some recognition methods:

2.1. Intuition

The first method of knowing is intuition. When we use our intuition, we are relying on our guts, our emotions, and/or our instincts to guide us. Rather than examining facts or using rational thought, intuition involves believing what feels true. The problem with relying on intuition is that our intuitions can be wrong because they are driven by cognitive and motivational biases rather than logical reasoning or scientific evidence. While the strange behavior of your friend may lead you to think she/he is lying to you it may just be that she/he is holding in a bit of gas or is preoccupied with some other issue that is irrelevant to you. However, weighing alternatives and thinking of all the different possibilities can be paralyzing for some people and sometimes decisions based on intuition are actually superior to those based on analysis.

2.2. Authority

Perhaps one of the most common methods of acquiring knowledge is through authority. This method involves accepting new ideas because some authority figure states that they are true. These authorities include parents, the media, doctors, Priests and other religious authorities, the government, and professors. While in an ideal world we should be able to trust authority figures, history has taught us otherwise and many instances of atrocities against humanity are a consequence of people unquestioningly following authority (e.g., Salem Witch Trials, Nazi War Crimes). These examples illustrate that the problem with using authority to obtain knowledge is that they may be wrong, they may just be using their intuition to arrive at their conclusions, and they may have their own reasons to mislead you. In everyday life we have many cases of application and acquisition of knowledge as true by the trust or authority of the relevant persons and which in most cases turn out to be wrong or not right as well as ineffective.

2.3. Rationalism

Rationalism involves using logic and reasoning to acquire new knowledge. Using this method premises are stated and logical rules are followed to arrive at sound conclusions. For instance, if I am given the premise that all swans are white and the premise that this is a swan then I can come to the rational conclusion that this swan is white without actually seeing the swan. The problem with this method is that if the premises are wrong or there is an error in logic then the conclusion will not be valid. For instance, the premise that all swans are white is incorrect; there are black swans in Australia. Also, unless formally trained in the rules of logic it is easy to make an error. Nevertheless, if the

premises are correct and logical rules are followed appropriately then this is sound means of acquiring knowledge.

2.4. Empiricism

Empiricism involves acquiring knowledge through observation and experience. Once again many of you may have believed that all swans are white because you have only ever seen white swans. For centuries people believed the world is flat because it appears to be flat. These examples and the many visual illusions that trick our senses illustrate the problems with relying on empiricism alone to derive knowledge. We are limited in what we can experience and observe and our senses can deceive us. Moreover, our prior experiences can alter the way we perceive events. Nevertheless, empiricism is at the heart of the scientific method. Science relies on observations. But not just any observations, science relies on structured observations which is known as systematic empiricism.

2.5. The Scientific Method

The scientific method is a process of systematically collecting and evaluating evidence to test ideas and answer questions. While scientists may use intuition, authority, rationalism, and empiricism to generate new ideas they don't stop there. Scientists go a step further by using systematic empiricism to make careful observations under various controlled conditions in order to test their ideas and they use rationalism to arrive at valid conclusions. While the scientific method is the most likely of all of the methods to produce valid knowledge, like all methods of acquiring knowledge it also has its drawbacks (Cuttler,2017). One major problem is that it is not always feasible to use the scientific method; this method can require considerable time and resources. Another problem with the scientific method is that it cannot be used to answer all questions. The scientific method can only be used to address empirical questions.

As we see from the definition of scientific research we understand that other methods are included in scientific research to conclude on reliable, true knowledge and tested as such.

The first thing we will refer to is the meaning and definition of scientific research as quoted above. Scientific research requires the necessary skills and knowledge to realize it, so for scientific research you can learn and be trained in university programs.

From the understanding and definition of the scientific method of gaining knowledge comes the necessity of its development with priority for students in universities.

The development of technology has made possible the quick and easy communication in which a large amount of information is transmitted to the Internet and media, such as information, marketing or advertisements and carry in most cases untrue which are taken from the public and serve as orientation for solving different problems or maintaining different attitudes. In this context, the method of scientific research serves as a necessary instrument for obtaining true, fair and successful knowledge for the development of society.

2.6. Why the Scientific Method?

Have you ever wondered how to get your students thinking critically about scientific matters? Maybe they need to be more systematic in their thinking, or become independent at planning and pursuing their own investigations. One of the best ways to accomplish these goals is by teaching the scientific method, a way of thinking and learning about science. The scientific method focuses on asking a strong research question, finding strategies for appropriately investigating the question, analyzing findings, and drawing conclusions. The scientific method helps students get into the mindset of scientists, always framing and planning investigations.

2.7. What is the Scientific Method?

Traditionally, the scientific method has been taught in terms of a set of linear steps that should be followed in order. These steps include stating the purpose of the investigation, doing background

research, developing a hypothesis or working theory, conducting an experiment, analyzing results, and drawing a conclusion (Cuttler,2017).

These steps are indeed important to any scientific process; however, we now understand that real scientists do not necessarily work in such a linear way. Instead, scientists focus their work on asking questions and work in various ways over time to find answers. Along the way, they might construct new hypotheses or even change the nature of the question. To teach students about the scientific method is to teach them to think like scientists, who choose the best methods available for answering their questions in accurate and meaningful ways.

2.8. Role of Research to Students in Higher Education

The goal of undergraduate research is 'to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions' (Association, 2009: 20).

On hearing of the term higher education one thing that makes a lot of significance is the outcome from the learning that has been done in those crucial years.

Students investing in higher education must be given exposure and opportunities to be able to use all that knowledge to evolve themselves as well as be able to contribute in the discipline with better research, studies and other discoveries made.

The pointers mentioned below implies the role and need of research in higher education and why research must be a part of every higher education institution (Dekker, 2016).

Educational sciences provide various scientific motivations for research-based teaching. The National Commission on Educating Undergraduates in the Research University in the USA (hereafter referred to as the Boyer Commission, 1998) recommends to 'Make research-based learning the standard', referring to 'a point strongly made by John Dewey almost a century ago: learning is based on discovery guided by mentoring rather than on the transmission of information' (Boyer, 1998: 15)

2.8.1. Teaching Will Improve if the Staff Engages in Research, it is Important to Improve the Teaching Through Research-Based Teaching

The first argument emphasizes on the necessity of research oriented teaching. Educators engaged in research are updated with latest and true information and updated facts instead of all that is mentioned in a book years old. It is essential that teachers engage in research to come out with latest, true and original information but also when they expect students to be research oriented they must have familiarity with various aspects to the concept. Also, educators familiar with research based teaching can help students with the following things (Dekker,2016):

- Teaching research results
- Making research known
- Showing what it means to be a researcher
- Helping to conduct research
- Providing research experience

2.8.2. Students will Learn More if they Come into Contact with Research a Good way to get Knowledge Through Research-Based Learning:

It is a good way to get knowledge. Students when involved in research based learning are bound to learn more and better than they would without the integration of research. Students start as consumers of knowledge and move toward knowledge producers in the following eight steps.

- Students are provided with an overview of the basic facts, terms, and ideas related to the discipline.
- Students learn about research findings in the (sub) field through lectures and readings dedicated to current research.

- Students discuss and critique research findings and approaches in the discipline or (sub) field; assignments include literature reviews or summaries.
- Students learn some research methodologies; engage in limited applications of those approaches in course assignments, such as statistical analyses.
- Students learn in a course dedicated to the research methodologies, engage in extensive applications of a variety of approaches.
- Students engage in faculty designed and led original to the student research such as replications of existing studies.
- Students engage in faculty designed and led original research such as research related to faculty projects and/or conducted in faculty labs.
- Students engage in student designed and led original (to the discipline) research such as a senior thesis or capstone project

Various publications offer academics concrete strategies for research-based teaching (among others, Healey & Jenkins 2009, Healey, et al. 2013, 2014; Walkington 2015, 2016). Hensel (2012) is a summary of best practices that support and sustain highly effective undergraduate research environments. Based on these publications and individual universities' and academics' reports we have compiled the following list of research-based activities for and by students.

2.8.3. Professional Practice Will Improve If Professional Workers in Their Training Learn How to Base Their Work on Research-Based Knowledge, Improving Abilities Through Research-Based Practice

This highlights the importance of hiring professionals who are familiar with research based practice. Having trainers who can help the current staff to make research based modules is also essential. To integrate the practice of research it is important to learn how to base curriculum aligned to the practice of research. It will get abilities through research-basted practice.

2.8.4. Professional Programs Have an Obligation to Improve the Knowledge Basis of Professional Work Through Research and Especially Research-Based Knowledge Production:

The main concern of this point is the importance of doing research to enhance 'evidence-based' knowledge. The need of this practice is to help students learn with hands-on experience and not just what's said and done but speak and do!

2.8.5. What to Do for More Research Based Teaching –Learning?

The literature offers various suggestions about what universities and their executive boards, faculty boards and educational directors in particular can do to promote research-based teaching (Brew & Jewell, 2012; Elsen, et al., 2009; Schapper and Mayson, 201016; Trowler and Wareham, 2008).

- Deciding that education and research are equally important.
- Appointing at least one university professor of research education.
- Establishing a university Centre for Teaching and Learning.
- Building a university Teaching and Learning House.
- Linking research and teaching committees.
- Bridging any divides between research staff and teaching staff.
- Appointing only academics who excel in both research and teaching.
- Strengthening positive attitudes towards research by students among staff and students.
- Making resources available for students to do research.
- Making it possible that libraries give information literacy instruction to students.
- Offering opportunities and incentives for teachers for further development of their 'research based' teaching competence and excellence.

- Creating and stimulating opportunities for dissemination of successful practices.
- Recognizing teaching excellence.
- Introducing an undergraduate student research award.
- Monitoring the growth of 'research-based' teaching.
- Ordering and financing more research of the teaching-research nexus and of research-based teaching and learning in particular.

Universities can improve the relevance of the education and can better prepare the students for follow-up studies and to the new and emerging demands of the labor market in the twenty-first century. Moreover, a close intertwining of teaching and research strengthens their identity. Academics can help students by engaging them in research to better develop highly valued competencies. More research-based teaching can also make teaching more attractive for academics and can make teaching instrumental to the academics' own research.

Research-based learning training as a teaching instrument and method for teaching students who will be learning.

Teaching students have a more important role in research training as they will transmit and teach students with true scientific knowledge. They will constantly encounter different knowledge and opinions and should be able to distinguish themselves and teach students how to understand true knowledge from false or unscientific knowledge.

The teaching profession makes it still necessary to train teaching students in scientific research and to use this as a teaching method in acquiring new knowledge for their students in the future.

The use of scientific research in teaching has been adapted naturally and very effectively by Taysum (2020). It is A Blueprint for Character Development for Evolution (ABCDE). This is through ABCDE characters:

A ask good questions

B search the best that has been thought and said for different perspectives to address the questions

C develop methods to gather data to understand what is currently happening

D develop change strategies using the data and test for proof of concept

E identify emerging principles from the change strategy that aligns with rule of law and human rights.

3. Research Methodology

Research methodology and methods aim to meet research responses.

Some of the answers are obtained from the literature review and their complete fulfillment is done after data collection, and their analysis.

This study is carried out with the methodology of qualitative research and is based on the interpretive approach, that of discourse and phenomenological analysis. The methods of data collection of the study is based on documentation, observations, focus groups and semi-structured interviews. The target group of the study are the students of the Faculty of Education at the University of Elbasan "Aleksandër Xhuvani".

The documentation collects data related to research subjects that are developed at all levels of study such as bachelor, professional master and master. the way of defending students' diplomas, how many preparatory activities for training in scientific research are done in support of students, etc.

The documents also show how the departments have cooperated to identify and address the problems of the university in a scientific way, how financially supported are the professors for studies, how many studies they have done in collaboration with students, how many studies they have done in the team, etc.

To equip students with the necessary qualitative knowledge and skills of scientific research, it is necessary to answer these research questions: What is currently being done for scientific research in higher education schools such as bachelor and master? What should be done in the research on high income according to the best experiences and according to the needs that time requires for solving

problems? How can we improve the curriculum of methodology and research methods in higher education? How does training in research help the teacher in teaching and the importance that the approach proposed by Taysum (2020) takes on?

4. Discussion of Data

Data from the review of documentation and statistical data of the university.

Research in higher education requires special attention. From the review of documentation, curricula and syllabi we conclude that at the bachelor level the subject of scientific research is not developed, while the subjects have many research tasks, argumentative essays and need to be trained with scientific research knowledge to be able to defend the diploma with research paper and not with general exam.

The research curriculum is developed at the level of professional master and scientific master. This curriculum takes place in one semester in the first year. Quantitative research methods are not developed separately from qualitative research methods. Even in master level studies, research becomes a curriculum research methods in education. During the completion of the course a course assignment based on research methods is required. The defense of the diploma for the completion of master studies is done by developing a research topic or by a general exam. Regarding the defense of the master's degree diploma I think it should be through the development of a research topic and the training of the student to do independent research in the future.

In the professional master level program for education administration that aims to prepare school principals and education experts, scientific research methods are not developed while the defense of the diploma is mandatory to do through the development of scientific research. In this master, the training of students with the application of scientific research is more than necessary even during the performance of the task of the director of the school in which reports and analysis of problems are made and as such are necessary skills and knowledge that must be obtained from students.

The students appreciate the curriculum of research methods and they expressed this:
Students 1.
My opinion is that the more we have scientific knowledge, the more we are enriched with knowledge.
Students 2.
Students should also participate in scientific research together with their professors.
Students 3.
Scientific research helps us to find and process information.
Students 4.
I think that scientific research is very important for us as students and there should be as many innovations for scientific research.
Students 5.
Scientific research is very important for deepening knowledge in a certain field.

From the data of students' answers it results that they have a positive desire for research methods, evaluate finding and processing information through them as well as adding new knowledge through research methods.

The training of students with the research methodology and research methods is also influenced by the activities that the university should develop for the students: regarding these activities, here is how the students express themselves:
Students 1.
In our university there are no conferences or various trainings for students, which would serve us well in the path we have started. A future that will serve different generations. I do not want the average to influence the choice of the diploma or exam topic because not all students have the opportunity to do the topic.
Students 2.
Students should also participate in scientific research together with their professors.

Students 3.

I think it should be supported more students as there are students who have the first time doing a research and may encounter difficulties.

Students 4.

I think that more voice should be given to students and their scientific works.

Students 5.

The infrastructure and methodology of scientific research should be improved, pupils (students) should be more involved in scientific research.

From the student data it results that students are not supported by research activities. There is no case that a lecturer has done a joint study or has been involved and student in it. There is no financial aid for students to rely on to conduct research. There is a lack of infrastructure to assist students in conducting scientific research. It turns out that there are no trainings for teachers to be trained and unify the requirements to lead students to the highest quality.

5. Conclusions

The development of the curriculum of scientific research methodology at the university is considered as a very important curriculum and as such requires special attention and support for students to achieve the objectives of the course and to be able to learn and study throughout life. The methodology of scientific research is considered an important instrument for lifelong learning. For the teaching profession, training in the methodology of scientific research and research studies, ABCDE instrument (Taysum 2020) as a way for students to achieve high learning outcomes, enabling students to solve problems in everyday life and maintaining and improving mental health and well-being.

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