

# Research culture in pakistani universities



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Research plays an important role in the development of nations. Countries which provide the basic and quality education to their citizens are known for their ethical and social values and also excel in the field of science and technology. People living in these countries are habitual of asking questions, making hypothesis and testify them for the sake of better living life. We are living in a nation that is surrounded by many internal and external problems and how to get out of this critical situation is still a question. Universities, though, can be of vital help to improve the prevailing situation as usually universities are the centers where intellectuals and thinkers are produced. These intellectuals, with aid of researching tool can pull the nation upward from the fall. The paper aims to discover and analyse the current situation of research culture in Pakistani universities. The extent of research culture in Pakistani universities is discovered through quantitative research with the sample size of 150 students, to identify the problematic factors that are hindering in promoting research culture in the universities. Field survey was conducted using a structured likert scale questionnaire for quantitative research. The tool designed by Santo et al. (2009) was modified and used accordingly to our study spectrum and collected data was analyzed in SPSS. Multistage sampling was conducted using a combination of snowball sampling, stratified sampling and random sampling techniques and data was collected from the students of different programs including management, engineering, medicine and humanities. Due to limitation of resources the data was collected only from universities in Lahore and Islamabad, two major cities of Pakistan. Univariate analysis with the help of descriptive statistics techniques and frequency table methods helped to identify the behaviour of respondents towards each of the 32 questions contained in the

questionnaire. The findings of research show that Pakistani universities are lacking a healthy research culture. In fact the results showed a positive sign of concern from the students that they want to get improved research facilities in their universities. Data also highlighted specifically the most problematic areas in a detailed fashion. The results gave the exact factors which need to be considered seriously by the university authorities in order to implement the research culture in its true sense in their universities. Also the results may open new avenues for improvements and bringing betterment in the current picture of local universities' research culture.

Key words:

Lack of Research Culture, Universities, Reasons, Pakistani

## **Introduction**

“ Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue”. It consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question. (Creswell, 2008).

Although research is defined differently by different authors and thinkers but the value of research is recognized equally by every philosopher.

Undoubtedly research is the most important tool to investigate the problems of the people, to find out their demands, and even to explore the mysteries of life, and research has the solutions for all.

Research is a significant process of digging the facts and laying the foundations of knowledge and is a key process in knowledge formulation.

The rate of evolution of knowledge depends on the rate of research in a particular field. With every passing day, the increased demand of detailed, authenticated and reliable knowledge, research is becoming most substantial process in every field of knowledge.

Some people may think that research is simply gathering information about people, things or a certain state of affairs by some organizations, etc., but there are others who call the means of progress in the life of the present global scenario, in which every nation come closer together and appear to depend in one way or the other (Nadeem, 2011).

The importance of research is recognized worldwide and developed countries are spending a lot more to promote research culture. In a speech to the Royal Society in April 2010, German Chancellor Dr Angela Merkel explained that ' the prosperity of a country such as Germany [...] must be sought through investment in research, education and science, and this to a disproportionate degree', (TheRoyalSociety, 2011).

Developing countries are not in a competitive position to go parallel with the developed countries in field of education, despite of other facts and reasons; lack of research oriented educational approach is the main reason of it. " Making countries progressed, as divide between developed and developing nations is clearly the educational system" (Sanyal & Varghese, 2006)

What we see nowadays the technology is making this world a global village, too many innovations taking place, ideas are getting converted into realities etc. is all due to the research by the researchers and their findings in them. We hear very often the word " R&D" that is " research and development",

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which means to develop something, research is at the first place. According to the Organization for Economic Co-operation and Development, R&D refers to “ creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”, (OECD Factbook 2008: Economic, Environmental and Social Statistics, 2008).

General practices of research and development activities in universities facilitate the industries through their implementations. “ Research oriented universities assist the industries directly and indirectly: directly by provision of skills and indirectly by spillovers” (Wu, 2007)

In a research culture maximum people of a group, university, business firm, area, city and or country, sit together to indicate and solve the problems like corruption, water sharing, economic crises, state security, distribution of resources and obligation etc. The meaning of research culture is also that each and every direction in the society must be biased on reason, rational, logical, pragmatic and science, as an instrument of events and resolving problems, (Ahmed, 2006). Whereas universities are considered to be the birthplaces of research and researchers and lot has happened in the world to change the non-research culture to a research culture and to the change has been the most difficult part, (Cheetham, 2007).

Situation in Pakistan in regards of research at universities is not impressive and Pakistan still lacks research culture at par with developed countries, (Lodhi A. , 2010). The research output by universities in Pakistan in terms of number of research publications as against the total faculties of universities is not more than 13 per cent, (Qureshi, 2011). Pakistan is ranked 34 in the

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list of countries by research and development which spent 2.73 billion US\$ in the year 2007. However, most R&D funding in Pakistan is consumed by the military sector (60%), (UNESCO, 2010). "There are deficiencies in the quality of both skills and research output of the education sector. A viable quality assurance mechanism is essentially required in Pakistan to change and improve the quality of output and efficiency of the higher education learning systems." (Mahmood & Shafique, 2009)

This current scenario of research culture leads results in the low yield of research output in terms of research publications. HEC Pakistan took many initiatives in order to promote research culture in Universities. But these initiatives didn't payback the desired results, i. e. a healthy research culture in Pakistani universities. This paper aims to find out the reasons of these negative results in terms of reasons of lack of research culture.

Extensive research has been carried out by various researchers to analyze the extent of research culture in different institutes and universities.

Literature review indicates that most of these researches are more focused towards the instructor's approaches towards research culture. The role of students and the institutional policies in research are not critically analyzed. This paper is an attempt to cover the gap in this area of knowledge.

It is felt that research culture is not fully introduced and facilitated and the paper aims to find and identify what are the reasons might be for the current prevailing situation of lack of research culture in the universities. Either this is due to weak infrastructure, non-serious behavior of students or teachers are not making it realized to students of the importance of research.

Moreover, role of individual factors of students and institutional policies in a research culture is critically and deeply analyzed in this paper.

Ultimately we are looking to promote the research culture in Pakistani universities and also to rectify the problems from its roots that are hindering in promoting the research culture.

## **Literature Review**

It was during the Second World War that governments, notably the US government, recognized the significant contribution made by university research, especially by the scientists and engineers, to their success in the war, (Sanyal & Varghese, 2006). The world recognized university educational research, but it is more evident in the developed nations as compared to the developing world. According to UNCTAD, 2007 they reported that there are only 94.3 scientific researchers per million people in the least developed countries (LDCs), against 313 in the other developing countries (ODCs) and 3,728 in rich countries (high-income OECD). Enrolment in university level institutions (that is, tertiary school enrolment as a share of the corresponding age group) is only 3.5% in the LDCs, against 23% in ODCs and 69% in rich countries. (Vessuri, 2011). Just to quote to some examples, the number of enrollments in PhDs in Australia, there has been 300% increase from 9,298 in the year 1990 to 27,996 in 2000, (Stehlic, 2011). Similarly North America and Europe are considered as the home to the great majority of the world's university faculty, as well as virtually all of the world's high-quality institutions (Vessuri, 2011). On the other hand the scenario is worst in the least developed countries due to several reasons. One of them may be due to non supportive living conditions. As reported by UNSTAD, <https://assignbuster.com/research-culture-in-pakistani-universities/>

2007 countries like Haiti, Cape Verde, Samoa, Gambia and Somalia have lost more than half of their university-educated professionals in recent years because they have moved to industrialized countries in search of better working and living conditions, (Mamdani, 2011) (Vessuri, 2011).

Undoubtedly the knowledge divide between developing and developed countries is both deep and wide. A country's existing R&D activities are a reflection of its capacity to create knowledge, (Sanyal & Varghese, 2006). Higher education and science must become more evenly distributed around the world if political tension is to be eased and the chances of economic and social development are to improve. The role of education and science in this process is taken as a given - a point of departure - and it is assumed that knowledge and skills will be at least as important for the future of the developing world in this century as they were for developed and industrialized countries in the past, (Vessuri, 2011). Universities are the best places to implement the research culture. Humboldt, a German statesman, philologist and architect of the University, observed that the purpose of a university for both the teacher and the student is " a common quest for knowledge" or *Wissenschaft*, (Lueddeke, 2008). It is widely accepted that research, as the most important source of knowledge generation, occupies a critical position in promoting a nation's prosperity and its citizens' well-being in the knowledge-based era, (Li, Millwater, & Hudson, 2008) and educational research helps by improving the understanding of how students learn and how best to teach, (Morrell & Carroll, 2010). Moreover research is not only helps solve the practical problems and brings about material improvements via high-tech products, it also provides insights and new ideas that enrich

human understanding of various social, economic and cultural phenomena, (Li, Millwater, & Hudson, 2008). As also explained by Patricia D. Morrell and James B. Carroll in their book called *Conducting Educational Research*, educational research is important in:

Proposing theories

Testing theories

Increasing our understanding

Improving teaching learning (Morrell & Carroll, 2010)

The worldwide higher education landscape and research and knowledge production sectors are undergoing a profound transformation driven by unprecedented global social and economic forces and are embedded in an extremely complex reality, in which no self-evident choices are available and where actions have multiple effects in a dynamically interdependent environment (Vessuri, 2011). However integrating research and teaching in research-intensive universities is still an unresolved issue as we head into the 21st century, (Lueddeke, 2008) and expansion has taken place in fairly a limited part of the world (Vessuri, 2011). From the expanding literature, conferences and the reality on the ground, it does appear that most research-intensive universities across the globe still have not fully realized the harmonization of the research-teaching relationship, (Lueddeke, 2008). Whereas teaching in a University is different, we use the same word in primary school, secondary school, TAFE, Teachers Colleges, CAEs etc but it is not the same. One of the major differences is of course the extent to which it

(the teaching) is interwoven with research and our research principles, (Cheetham, 2007). The faculty in higher education institutions has traditionally been trifocal, consisting of teaching, research and community service/extension. University faculty members are required to become teachers, researchers, and service-oriented professionals, (Salazar-Clemeña & Almonte-Acosta). So finally we can say that, the trends in enrolment in higher education are an indicator of the widening or narrowing gap between developing and developed countries in terms of research capacity, (Sanyal & Varghese, 2006).

Although universities in the developed world, as compared to the developing world, have firm traditions of research whereas universities in the developing world have retained strong teaching functions and weak research functions, (Nadeem, 2011) (Sanyal & Varghese, 2006) (Salazar-Clemeña & Almonte-Acosta) (Lodhi A. S., 2011). Specifically talking about Pakistan, she lacks research culture at par (Lodhi A. , 2010). The nation expects from universities to contribute to basic, applied and/or action research to help minimize the problems of the country to meet the future targets, (Qureshi, 2011). There are many reasons being given by different researchers and scholars for not implementing research culture in general overall in the world and specifically for our country. Some of the reasons are extracted from different research papers and articles:

Pakistan is facing major challenges regarding population and socio-economic developments which include employment, resources, food, energy, sustainability and the race for talent (Qureshi, 2011), because until and

unless people will not get commodities (such as bread, cloth, and home) they cannot be turned for getting education, (Ahmed, 2006).

Lack of incentives by the government, cases of plagiarism and proper facilities to conduct research on technical and scientific subjects, small salary packages to teachers in government sector universities, (Lodhi A. , 2010).

Some of the problems as indicated by Sabahat Sultan of Karachi university, International Relations Department are; illiteracy & standard of education, lack of resources, in cooperative attitude of government & financial problems, lack of job oriented programs & publishing goods, lack of proper training of research and professionalism (Sultan).

Faculty members in the Pakistani universities are less enthusiastic about research, apart from a few amount of faculty members in different universities, others have not done voluntary research. Similarly students, they take up research project which is primarily a compulsory component for the award of degree, but that is done under compulsion which does not ignite students' inquiry skills nor attract teachers to go for voluntary research. (Nadeem, 2011).

One of true factors, which equally are applicable to Pakistani environment, as indicted by Sanyal and Varghese 2006, " Gender Disparities". As they say in their research paper, female researchers constitute a relatively small share in all countries except the CIS countries. Even the ratio found very less in the advanced countries like USA and Germany, (Sanyal & Varghese, 2006)

The South Asian Region also suffers from lack of linkages between public and private actors and no university-industry collaboration to speak of. It is noted in that, overall, Pakistan, Bangladesh and Sri Lanka seem better at producing basic knowledge than commercializing it, (UNESCO, 2010) (Wu, 2007)

Introduction of research into early years of undergraduate education is not so obvious talking in the context of Role of Disciplinary Variation in Conceptualizing Research and Teaching, (Lueddeke, 2008).

Research culture is largely affected by personal and organizational characteristics with leadership being the most critical attribute, (Theodore & Lynette, 2010) (Lodhi A. S., 2011).

Research Culture requires stable political climate, (Theodore & Lynette, 2010).

## **Methodology**

This research is based on quantitative data analysis. Data collected were analysed on statistical explanatory data analysis techniques mainly due to the reason of our intent to find only problematic factors that are causing lack of research culture in Pakistani universities.

## **Sample Size**

Expert's opinion was used to determine the sample size and a sample size of sample of 150 for was suggested.

## **Tool**

Quantitative research was carried out with the help of a structured questionnaire developed by Santo, Engstrom, Reetz, Schweinle, & Reed, <https://assignbuster.com/research-culture-in-pakistani-universities/>

2009 (Santo, Engstrom, Reetz, Schweinle, & Reed, 2009) and further used by Lodhi S. A., 2011 (Lodhi A. S., 2011) who modified the tool on the basis of his experiences to conduct his research in the Pakistani universities context. We modified the tool accordingly with the help of an expert for our research work to be conducted specially on students rather than on teachers and or faculty members in the universities.

## **Respondents**

Sample population consists of a blend of students from different areas of study including engineering, medical, humanities, social sciences and management. Due to time and financial constraints, out of different private and public sector universities in Pakistan, we selected seven universities only from Lahore and Islamabad.

The educational background of the respondents was such that they were both male and female students accompanied in bachelor's and master's degree courses in their perspective universities. Out of 150 students 105 were from bachelors and 45 respondents were master's degree programs. 83 of them were male and rest, i. e. 67 were female students.

## **Sampling technique and data collection procedure**

Multistage sampling was conducted using a combination of snowball sampling, stratified sampling and random sampling techniques to collect the data that resulted in a diverse and unbiased population sampling. 186 questionnaires were got filled out of which 150 questionnaires were used for the analysis purpose. Total time of 3 months was consumed in data

collection and then entered in SPSS (version 17) and Microsoft Excel for further analysis.

## **Data Analysis**

This quantitative study intends to find out the factors causing hindrances in a healthy research culture by focusing on individual factors of students or the institutional and leadership factors.

All items in the questionnaire were individually analyzed through univariant analysis. Initially, frequencies, means, standard deviations, histograms and percentages were used to analyze the responses. Through the analysis of the all questions, few individual and institutional factors were identified that are paying major contribution towards creating lack of research culture in Pakistani universities. The problematic factors were then further categorized to favorable conditions and unfavorable conditions. Favorable conditions include the responses that were responded as “strongly agree” and “agree” patterns. Whereas unfavorable conditions include the responses that were in “strongly disagree and disagree and Neither Agree Nor Disagree” patterns. These factors were deeply analyzed.

## **Descriptive Statistics**

Descriptive statistics are presented in Table 1 depicting means and SDs of all the items in the questionnaire. Means were in range from 2.45 to 3.74 with SDs in range from 0.897 to 1.244.

The overall behavior of the respondents was such that they were neither strongly disagreed nor strongly agreed in their views about each question so making the scenario middleware leaving a feel that students are not fully

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aware of the research practices as well as they don't really care about the situations regarding research culture prevalent in their universities. This behavioral trend of respondents makes the situation very vague & uncertain in terms of awareness about research culture and its factors.

## **Frequency Tables**

To know the in depth details of how respondents responded to each of the item in the questionnaire, we used frequency tables which gave us results in the form of frequencies and their subsequent percentages that how many out 150 students responded as "strongly disagree" or "disagree" or "neither agree nor disagree" or "agree" or "strongly agree" in the whole dataset. This technique helped us known that how many students, majority of them, think alike about the problems those were posed in the questionnaire. It was, ultimately, highly needed to identify the most problematic factors which may cause impediment in the growth of research culture in the universities. Most of the responses, also can be seen from the results of descriptive statistics, were centered to a middle are of histogram, i. e. responses ranging from "Disagree" to "Agree" with responses recorded as "Strongly Disagree" or "Strongly Agree". However our interest was not to see that how different respondents responded to a certain type of questions that was posed, but to find the problems creating hindrances in the growth of research culture in Pakistani Universities. The below findings are describing the most problematic factors:

## **Research Findings**

The detailed analysis of the responses enabled us to identify that how students think of each and every problem stated in the questionnaire. But it

was very needed to analyze and highlight those problems which are more critical and hence need special attention in order to bring positivity in the prevailing situation of research and research output in Pakistani Universities. To highlight such problems we defined a rule of thumb that responses being answered as “ Strongly Disagree”, “ Disagree” or “ Neither Agree or Nor Disagree” is unfavorable conditions and responses answered as “ Agree” and “ Strongly Agree” is favorable conditions. We further operationally defined that if cumulative percentage of unfavorable conditions equals or greater than 60% it shows characteristics of problematic factor which should be eliminated.

The other way to see the problematic factors is to look at the means of the responses in the questions. Questions having a mean less than 3 are problematic areas and they can be cross verified with the criteria being set above except for the question of “ At least monthly, I have substantive uninterrupted conversations about research and writing with colleagues in my university” whose mean is 2. 98 but cumulative percentage of unflavored answers is 59. 3%.

The factors which are highlighted problematic in the dataset is depicted below in the below figure.

Out of the eight above highlighted problematic factors, first four of them belong to Individual Factors and rest four of them belongs to Institutional and Organizational Factors. These factors include:

**I have/had an “ unassigned” mentor either in my department or in other departments/schools who provides (or provided) me with valuable guidance in research.**

Assigned mentor and unassigned mentor are up to students' interests' weather they approach to them to discuss the research topics and to get pieces of advice from them or not. Although in both the cases the responses from the students are unfavorable but the criteria equal to or greater than 60% cumulative percentages being set don't allow us to depict the assigned mentor question in the above bar graph figure but its importance can't be denied if 59. 3% people answer unfavorably. Anyways the scenario of unassigned mentor is clearly problematic as 71. 3% people responded in unflavored manner.

**I have a system that allows me to protect periods of uninterrupted time to address research activities.**

Students recorded unfavorable concerns equal to 75. 3% which means our students do not have such systems where they can save their uninterrupted time to address their research activities. Although a fair amount of students answered “ Agree” when they were asked about having adequate time for doing their research activities, but they are not into practices of saving uninterrupted times specifically to address the research activities.

**Up-to-date in qualitative research design and analysis**

64% of the students recorded their responses as unflavored as they see themselves weak in qualitative research design and analysis because they are not currently up-to-date with the qualitative research design.

**Up-to-date in publisher-hunting skills (e. g. identifying appropriate journal/conference/exhibitions, understanding their procedures and submission evaluation for your research)**

Although our students believe that they are up-to-date in writing skill, presentation skills, IT skills (e. g. Microsoft Office, Design and Analysis Tools, Simulation Tools), and using relevant software for data-collection and analysis (e. g. SPSS, Nvivo, EndNote, etc.) but when it comes to their up-to-dated skills in publisher hunting for identifying appropriate journal/conference/exhibitions, understanding their procedures and submission evaluation for their research they are not well up-to-dated as 68% students recorded unflavored conditions.

**At least weekly, I have substantive uninterrupted conversations about research and writing with colleagues in my university**

72% of the people responded unfavorably as they feel they do not converse weekly about their research topics with their fellow colleagues in the university.

**I have access to adequate human resources such as secretarial support, support staff etc., to conduct my research projects**

66% of the students stated that they do not have access to adequate human resources such as secretarial support, support staff etc. in their universities to conduct their research projects.

### **My university provides me adequate financial support to travel to academic conferences/exhibitions within Pakistan**

Interestingly the most problematic factor of all is the one stated above i. e. universities provide financial support to travel to academic conferences and exhibitions within Pakistan where more than 83% people recorded their concerns unflavored.

### **My university provides me adequate administrative support to apply for travel grants from HEC or other external sources for presentation of paper in academic conferences within Pakistan.**

In the similar pattern about 70% students answered unfavorably that their universities provide adequate administrative support to apply for travel grants from HEC or other external sources for presentation of paper in academic conferences within Pakistan. The figure of 70% is less than of 83% in the above question may be due to readily available HEC support or due to HEC's itself marketing campaign but, as per the collected data, support from universities in this regard of applying for travel grants from HEC or other external sources is minimal.

### **Conclusion**

The studies show that universities play a prominent role in knowledge production, particularly in the pure or basic research fields, (Li, Millwater, & Hudson, 2008). A lot of effort is being made in the developed and developing world to make their universities as research centers, though knowledge divide is deep and is heavily tilted in favor of developing countries (Sanyal & Varghese, 2006). For a country like Pakistan is where there are so many social economic and security problems, the solutions lies in inculcating the <https://assignbuster.com/research-culture-in-pakistani-universities/>

research culture at higher education level. In Pakistani universities students need direction towards conducting research. Exposure of our students towards serious research is minimal or no as very minimum number of students have their papers published in world's journals and publications, hence the importance of research is not fully known by them. Teachers and management, however, can play a pivotal role to set the university campuses onto the high class seats of research centers and ultimately making the students ready for taking part in the prosperity of the nation. These are the teachers and management which can give the light of wisdom to the educating pupils that they have to come in the competition of conducting research or our nation should get ready to perish from the face of this earth. Study also highlighted the specific problems relating to individual and institutional & leadership factors causing the reasons of lack of research culture. It was noted that due to the moderate correlation existence between the stated two variables, present research output of individuals can be increased by controlling the problematic factors as identified in institutional and leadership factors' list, i. e. once the institutions develop systems for students to conduct their research work, they have the ability to capitalize on the things with their new and energetic ideas.

## **Implications**

In the light of the findings and the literature review, some of implications can be made to introduce the research culture into the students. These are enumerated as below:

Separate centers for research should be made with several research groups to promote the cause of research culture in universities. These centers

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should be granted grants and finance for their smooth operations. A number of students will be taking part actively under the umbrella of these research centers.

Teachers having no research experience or having not appeared in any international research journals/conferences with their papers are indeed a decline to research culture, (Cheetham, 2007). In our universities, we'll have to make it sure that our teachers are actively involved in conducting researches as ultimately they'll be able to translate the same habit to their students and if needed inductions of new highly qualified and trained tutors having experience in research can be made.

Top management should involve into the matter of concern and should make the environment such that students get all those tools that are required to write an international research paper, e. g. availability of liter