Middle East University Ranking Improvements Recommendations

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Abstract. This paper summarizes important steps to be considered in order to synchronize related paths which will improve a university ranking chances year after year. The main components of the paths are teaching staff, students and university regulations. The careful staff/ students approach will generate a high quality research. The high quality research papers are a major key for good university ranking. This fact has been established by most of the international ranking organizations. The university regulations are important issue to encourage and force high quality research output. This paper presents proven recommendations / procedures for a university ranking improvements.

Keywords: university, ranking, research, homework, teaching load, alumni.

1. Introduction

University ranking[1,2]is becoming the most important issue for all universities because it will help any university to have continual progress in all directions in particular high quality teaching and research which will be reflected positively on the university reputation. World Bank [3,4] earlier reports have related :'Knowledge for Development', where universities have the main role to generate knowledge. Most Middle East Universities suffer from inadequate ranking despite that good number of universities have some kind of accreditation such as ABBET, having reasonable teaching staff and reasonable research laboratories. I think the problem is mainly due to current regulations and the traditional methods or political reasons used to appoint top university management. The lack of advanced local industry deepens the problem. So universities have to devise ways to show always increasing high quality research papers. Several international organizations publish worldwide university rankings mainly based on the number of articles published in prestigious or high quality journals. Some of the main organizations: The Shanghai Academic Ranking of World Universities (ARWU)[5], Thomson Reuters (THE-TR) [6], The Russian Reitor ranking [7], The Leiden Ranking [8], Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT) [9], Webometrics [10] ranking of world universities according to universities webs, and many other organizations provide university rankings [11]. It is saving to say that the high quality research papers are the main factor for good university ranking. High quality teaching and graduate reputations are also important added factors.

2. Findings & Proposal

The findings and my proposal are based on my long academic experience, knowing the local environment, experience with university administrators, knowledge of top universities regulations[12] and the many teaching experiments I did to test my proposal. My proposal is based to the Electrical Engineering Schools and easily can be modified to fit other university specializations. Usually a university receives fresh students after they pass the country general certificate exams with averages above 80%.Students come from many places with different cultures and they face new environment. Unfortunately, most universities fail to make easy high school- university interface. The university gives the new students very little information

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needed about the university academic system. It is a fact that good number of students believe that they join the university to have good time and at the end they will have the first university certificate. Unfortunately, after the first or second semester of the first year good number of students score low marks. At the same time most of the universities regulations allow students to continue and give them more than one chance to raise their cumulative averages. No series attempts are made to understand why good number of students scored low marks. With time good number of the students do not understand most of the senior courses. So educational continuity is lost and a student may forget what he had learned in a prerequisite course. After four or five semesters, some students will start to face real problems, with some important courses such as the second Electronics course; a student could have lost most of the basic material. I did some experiments to find out the main reasons which make students not to remember earlier basic courses, the answer was the lack of home works and most of the students study only from the lecturer's notes and do not use the textbook. I did a unique experiment during teaching Electrical Circuit course, I wrote good number of home works, a different homework for each student and I encouraged the students to use the textbook. Students began to solve problems by themselves and began to ask more questions. Their class average was the highest for the last five years for that course as shown in table 1. I think similar arrangements should be repeated for all basic courses. At the same time known methods to improve teaching quality will be very useful [13].

Table 1. Circuits 1 Students' results

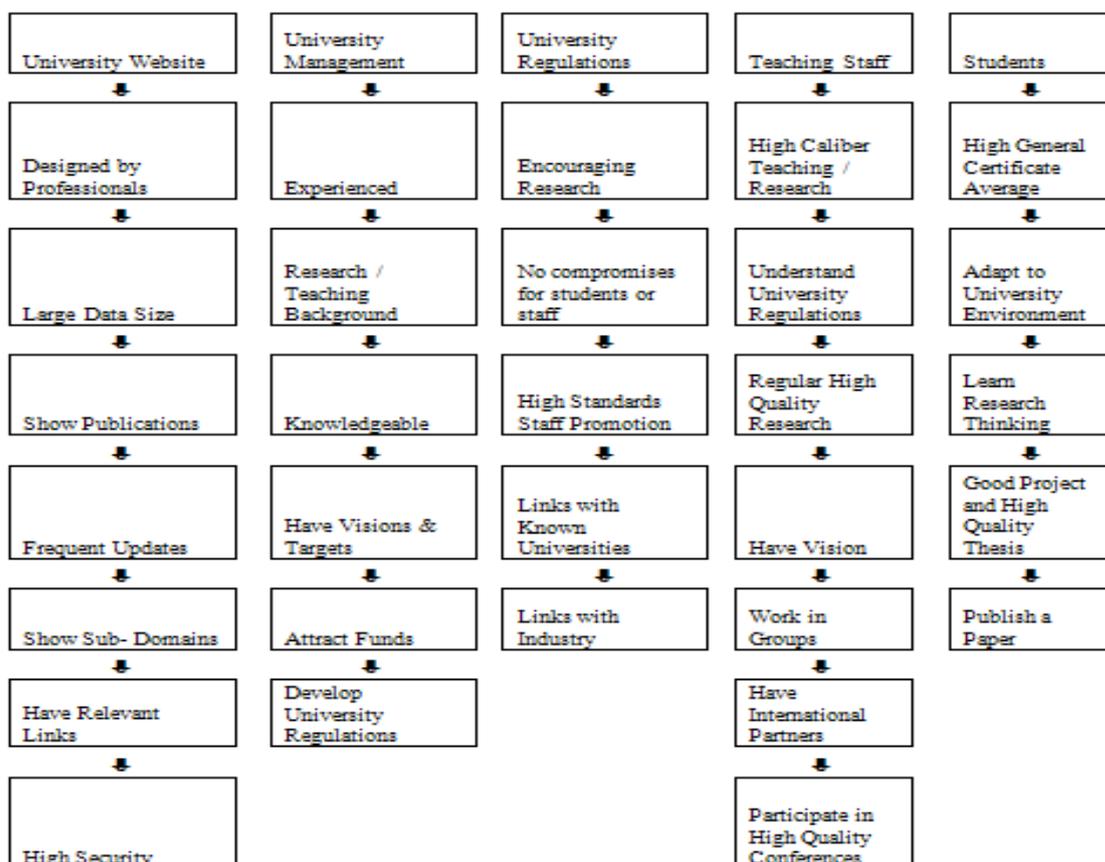| Categories Academic Year	Class Average	No. of Students in Class	No. of Failing students	% of failing students
2005/2006	62	30	5	16.67%
2006/2007	66.5	46	7	15.22%
2007/2008	58.6	40	7	17.5%
2008/2009	54.7	39	14	35.9%
2009/2010	59	38	5	13.16%
2010/2011	68.4	33	1	3.03%

In most cases the current process of appointing teaching staff is not appropriate. After appointments, 70% of the newly appointed teaching staff think that their main duty is teaching so do not engage in research for the first three years. Later will know from senior colleagues, research is needed for promotion and for salary increase. Around 25% of the teaching staff are happy with their salaries or they may teach extra courses to improve their salaries. This category may loose interest in research. Unfortunately most universities are unable to find solutions to above problems. In addition, the discontinuity in doing research after graduation will later lower the quality of published research papers and teaching staff starts to look for low quality journals. As a simple conclusion most of universities do not allocate special awards for research active teaching staff.

3. Recommendations

The recommendations will cover briefly students, teaching staff, university regulations, university management and university website. These are the main items related to research work. Ideally, any university regulation should be designed to graduate high level students and its teaching staff to continue publishing high quality research papers. Fresh students should receive clear information about academic life. The university regulations should stress the individual home work ideas for all basic courses such as: mathematics, physics, technical writing, electrical circuits and first course in electronics. For a five year engineering program, the students should complete a project at the end of the fourth year and complete a

high quality research oriented thesis at the end of the fifth year as a condition for graduation. Master students can't graduate without publishing a paper in an accredited journal or reputable international conference. University regulations should not allow for underground students to repeat any course more than two times and should stop excessive probation exemptions. Teaching staff appointments process should be revised to have only high caliber graduates of reputable universities. After appointments, teaching staff should publish at least one paper every year in a reputable conference or in an accredited journal. He should receive warning from the university president if he could not publish. Up to two warnings are enough to ask him to leave the university. On the other side, if a teaching staff exceeds minimum publications, he should receive either an exceptional promotion or an award. At the same time the maximum teaching load in a semester should not exceed 6 credit hours, plus one laboratory course and one project for assistant or associate professors, and 3 credit hours, plus one laboratory and one project for a professor. University should find ways to arrange for facilities and funds needed for research. University websites represents the image and the mission of a university. It is very useful tool to gather quick information about a university. University websites are becoming an important tool for students in selecting a specific university. This is why the Webometrics Ranking of World Universities results are becoming meaningful. Figure 1 shows a recommended model to start improving university ranking. The recommendations touch very important issues needed by decision makers to consider. Funds, facilities and laboratories are very important factors for any high quality research. Luckily, these days computers/ internet exist as an affordable helpful source for research. Joint research between neighboring universities using each university limited resources is very effective. Foreign research partners can help in supplying parts needed to make a complete research setup. More practical inexpensive ideas can be generated for continual research. Other countries experiences in studying university ranking will be useful for further improvements [14].The National University of Singapore (NUS) and Nanyang Technological University (NTU) has improved on their glopal ranking positions for last year. These two universities and other similar universities should be studied to benefit from their experiences. Other factors such as academic reputation, employers feedback, students to faculty ratio, number of international faculty and number of international students are very helpful for further advancement.

Figure 1. Recommended Model to Improve University Ranking (Assuming Reasonable Amounts of Funds)

4. Conclusion & Discussions

Above recommendations have been tested on small scale for good number of years using teaching experiments to enhance students performance. These results and other staff efforts showed good research output and resulted in high performance graduates. Above recommendations or similar are basics in a high ranking university. I think it is not impossible to be applied in Middle East countries. I feel that above recommendations will start giving good results in three years time and they will start to reflect positively on the university ranking results, on the quality of the graduates and will help in strengthening the local industry. Also there are other important issues which can help. Get Alumni to denote to the university, arrange Alumni meeting once every two years, and send to Alumni university news on regular basis. Watch university research articles output. Implement immediate plans in case research papers are not increasing and encourage teaching staff to publish in high quality journals and reputable conferences. Think on investing in new specializations such as biological related engineering or GIS engineering and expand in graduate programs. Have agreements with well known universities for student's exchange, joint research projects and for joint master programs. Improve university website on regular basis by specialized computer professionals with new ideas using up to date software tools. High quality universities will help their countries in building a sound industry by graduating high quality engineers and leaders.

5. Acknowledgment

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