
DEVELOPMENT OF RESEARCH IDENTITY AND CULTURE AT A NEW UNIVERSITY – ESTABLISHMENT OF THE RESEARCH GROUPS AT THE UNIVERSITY OF SHARJAH

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ABSTRACT: The University of Sharjah was established in 1997 with the mission of serving the community in part through adding to human knowledge and scientific research. The vision of the university is to become a leading academic institution in the region that is well recognized internationally. To join the league of leading academic organizations in the region, the relatively young university has strategically and diligently worked on building sustainable academic programs as a first priority. With its academic programs accredited and graduates successfully integrated in the workforce, the university achieved a high degree of maturity allowing it to strategically move towards creating a unique research identity and culture. For a young undergraduate academic institution, creating a research identity and culture is of great importance, even though research takes the backseat relative to building the academic programs during the establishment years. The creation of research identity and culture is being achieved using a variety of strategies, which include investing in the research infrastructure, employing high profile researchers in key strategic research areas, developing strong links with business, industry, and other research oriented organizations, initiating graduate studies with strong research components, integrating research activity in faculty development and evaluation, and creating research groups. This paper is focused on the formation of the research groups at the University of Sharjah, which were launched in June 2004. The paper details the system that was devised to manage, fund, reward, monitor and develop the groups. The system is presented as a model that can be used as a starting point for similar developments, especially for younger universities in the region.

1. INTRODUCTION

The University of Sharjah was established in 1997 with few colleges and academic programs. Since then, the university has grown to a full fledged academic institution that currently includes 13 colleges (Table 1), with each college offering multiple academic programs. The university has experienced significant recent growth and expansion, mainly in the medical and health related areas. In 1999, the University established the Research and Studies Center to implement the research policies of the university under the supervision of the University Research Board. At the start of the academic year 2006/2007, the university created the College of Graduate Studies and Research (CGSR) to oversee all matters related to research and graduate programs. The university research activities that are conducted by faculty and students are managed through a hierarchy of entities as depicted in Figure 1. Researchers are employed by the Colleges where the research infrastructure exists. Colleges report all research related issues to the CGSR where they are processed and executed following the

Research Bylaws and Guidelines of the University. All new research issues, strategic and development plans, and funding decisions are considered by the University Research Board. In June 2004, at the end of the academic year 2003/2004, the University Research Board (URB) established a number of Research Groups (Table 2) belonging at the time to the former Research and Studies Center (RSC) and hosted by various colleges at the University. These groups were selected based on a rigorous review process from 13 applications to form nuclei for future research units and centers in research areas that can contribute towards supporting the development of Sharjah and the United Arab Emirates in particular. Researchers in the Colleges thus can belong to the Research Groups, which can be viewed as Research Centers in the making. These research groups are hosted by the Colleges but follow the Research and Studies center directly. At the start of the academic year 2006/2007, the University approved five additional research groups.

Table 1: Colleges of the University of Sharjah.

1. College of Sharia'a & Islamic Studies	8. College of Communication
2. College of Arts & Sciences	9. College of Medicine
3. College of Business Administration	10. College of Dentistry
4. College of Engineering	11. College of Pharmacy
5. College of Health Sciences	12. The Community College
6. College of Law	13. College Graduate Studies & Research
7. College of Fine Arts & Design	

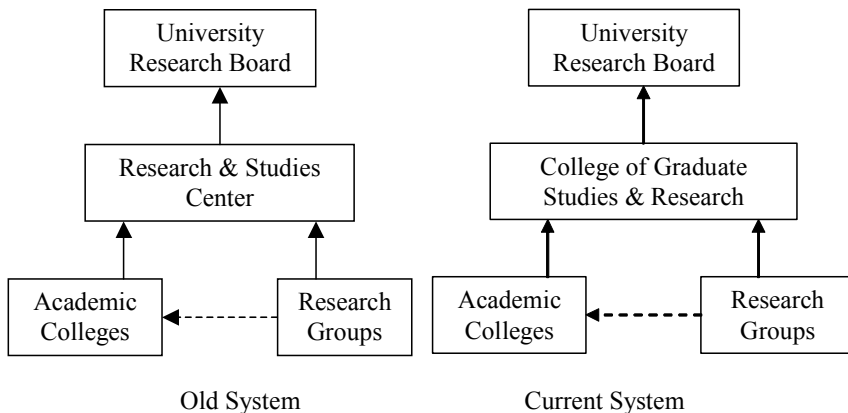


Figure 1: Hierarchy of Research Organization at the University of Sharjah (old: 1999-2006 and New 2006 onwards)².

²Recently in 2006, and due to the significant growth of the Graduate Programs and research Activities, the Board of Trustees approved joining the Research and Studies Center with the Graduate Studies Board to form a new entity, the College of Graduate Studies and Research.

Table 2: Registered research groups information.

Group Title	Hosted by	No. of Members	Group Specialization
Holly Qur'an and Tradition	College of Shari'a and Islamic Studies	8	Multi-Disciplinary
Intelligent Systems and Infrastructure	College of Engineering	14	Multi-Disciplinary
Graphics, Image Processing & Multimedia Databases	College of Arts & Sciences	7	Multi-Disciplinary
Arabic Computational Linguistics	College of Arts & Sciences	6	Specialized
Molecular Studies	College of Health Sciences	3	Specialized
Energy and Environment	Research and Studies Center	7	Multi-Disciplinary
Management Research Group	College of Business Management	7	Multi-Disciplinary

The former Research and Studies Center at the University evolved with time. Initially, the functions of the Research and Studies Center were:

1. Implement the University research policies and guidelines.
2. Support the development of active scientific research at the University and provide the appropriate circumstances and environment to faculty members to engage in meaningful scientific research.
3. Encourage, support, and fund serious and meaningful research efforts at the University.
4. Build and maintain effective links with the local, regional and international research organizations to facilitate the development the research capabilities of the University.
5. Support spreading and transferring scientific knowledge and research results through publishing research and studies results and organizing scientific gatherings (conferences, symposia, forums,..) that relate to the main and targeted research areas at the University.
6. Managing scientific publishing and media issues related to scientific research, including publishing the two research journals of the university.

These functions were carried out by a number of Departments within the Research and Studies Center, as shown in Figure 2. In establishing the new College of Graduate Studies and Research, the University merged the executive functions of the Graduate Studies Council and the former Research and Studies Center.

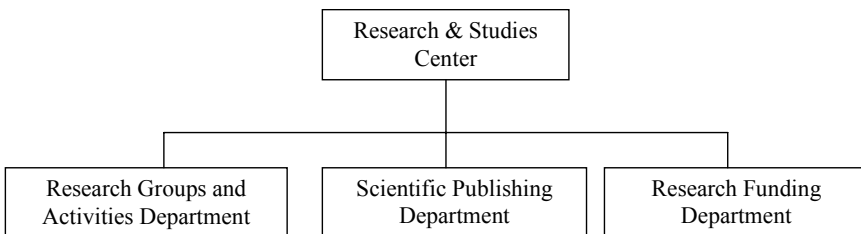


Figure 2: Departments of the former Research and Studies Center (1999-2006).

2. GUIDELINES FOR FORMING RESEARCH GROUPS

The general guidelines that were used in directing the process of forming the groups are summarized in Table 3. In the guidelines, the research groups are hosted by the various Colleges of the University and by the Research and Studies Center, with the requirement that the research activities of the group be in line with the research activities of the host College.

Colleges hosting research groups are required to provide tacit support that enables the groups to thrive and function effectively and efficiently. Colleges and centers are expected to publicize the groups and their activities within their printed and electronic reports and publicity material. It should be noted that the output of the groups is expected bear the name of the college. Example benefits for colleges from hosting research groups, include:

1. Having an active research entity within the college;
2. Gaining extra research funds for college faculty from the university;
3. Gaining extra publicity for the college from research activities;
4. Gaining additional research training opportunities for staff and students.

Table 3: General guidelines for forming research groups.

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| <ol style="list-style-type: none">1. A minimum of three full-time academic researchers from the university are needed to form a group. Members can be from one or more colleges. Researchers from outside the University are considered associate members.2. The name of the group should be representative of the research expertise and proposed activities of its members.3. The group must nominate a coordinator, preferably full professor or associate professor. The position of the coordinator is renewable, and coordinators may be changed by two thirds majority vote of group members.4. Groups representing overlapping research interests may be required to merge.5. Successful Research Groups are registered for three years, renewable. Renewal is tied to the performance of the group, university policies, and approval of the University Research Board.6. The research groups receive annual operational grants, proportional to their needs and performance. The grants can be spent on specific items.7. Registered Research Groups are given extra privileges in terms of research support. For example, members of research groups are allowed to apply for and hold more than university funded research projects, are given the opportunity to attend an extra conferences using group funds, and can use the group funds to support research visits, all within the applicable spending limits.8. The groups are required to submit to the Research and Studies Center an annual report detailing group's activities, as well as a final 3-years report for the purpose of evaluation, publicizing the work of the groups, sharing and disseminating information, and registration renewal.9. Colleges and the Research and Studies Center can host relevant research groups with a commitment to providing the necessary facilities and support to enable these groups to succeed.10. The scientific outcome of the research groups shall bear the name of the host, provided that the scientific outcome is tied to the name of research groups.11. Academic researchers at the University may participate in more than one research group provided that they do not chair more than one group at a time. However, double counting research achievements is not allowed.12. The University Research Board can, upon the approval of the chancellor, approve partial or full teaching load reduction and allowance for the coordinators of the groups.13. In managing the groups affairs, the coordinator should agree with the members on the principles and mechanisms upon which decisions related to performance is taken within the group. |
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3. SELECTION OF RESEARCH GROUPS

The University Research Board (URB) approved the use of the following criteria (Table 4) for evaluating applications for registering Research Groups:

Table 4: Criteria for evaluating applications submitted to register new groups.

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| <ol style="list-style-type: none">1. Proposed group's title, objectives, and activities reflect the research activities of the members.2. Group members should have continuous research activity in the nominated areas of interest of the group.3. Group members must not be less than 3.4. Continuity in terms of the group not being focused around one specialized principal researcher so that if he/she leaves the group then there remains no basis to sustain the group.5. Research capabilities of members in terms of their research track record.6. Preferably, the group's coordinator should be associate professor or professor and should have experience in research group management.7. Objectives of the group and potential contribution towards scientific, social and economic development.8. Group should have high potential in terms of serving the community.9. Group should have high potential in terms of growth, success, continuity and developing a good reputation in chosen research areas.10. The basic resources needed for research should be available and accessible.11. The group must have a defined clear plan that is achievable with regards to members and resources.12. Continuity in terms of utilizing acquired resources so that they wont be wasted.13. Group must have potential return in terms of benefits to students and on teaching and learning.14. Potential of group to establish strong research collaboration with similar research groups locally and internationally. |
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4. ANNUAL OPERATIONAL GRANTS FOR THE GROUPS

As mentioned above, the research groups receive annual operational grants (i.e., funds to help the group operate as an entity or unit), proportional to their needs and performance. The grants are different than research grants applied for and secured by the group members from the university or from legitimate external sources.

To distribute the annual operational grants among the groups, a system was devised that is based on the following:

1. allocation based on expected performance for the coming year;
2. allocation based on actual performance for the previous year; and
3. reward or penalty based on discrepancy between expected and actual performance for the previous year.

The current system for assessing performance and distributing funds among the research groups is based on weighting the following three criteria (as explained below): total production; productivity; and nature of group.

4.1 Total Production. The recognized production items are listed in Table 5, below. Total production is defined herein as the (sum of number of recognized production items x weight for each item). Total production is weighed out of 5 points and the group with the maximum total production is given 5 points, as follows:

$$\text{Production Points} = 5 \times \text{Total Production} / \text{Total Production of Max Group} \dots\dots(1)$$

Table 5: Recognized production items and assigned weights[#].

Recognized Production Item	Initial Weight^{##}
Publicity Material	10 Max*
Development of Internet Site	10 Max*
Organization of Scientific Events:	
Conference	15
Workshop	7
Seminar	2
Signing of Research Memorandum of Understanding with Recognized External Organizations	15
Completed Consultations, Community Service Projects	10
Grants:	
Internal per unit fund	4
External per unit fund	6
Patents	20
Tangible Products per product	30
Publications:	
Refereed Journal	15
Conference Proceedings	7.5
Authored Book	15
Edited Book	10
Chapter in Book	7.5
Technical Report	7.5
Abstracts/Non-refereed articles	3
Training of Research Graduate Students in the Name of the Group (Partial Credit Applies)	5

[#] Other production items may be considered once approved.

^{##} These weights were adopted for the initial phase of development but are subject to revision and change. Also, the weights may vary according to nature and quality of research output.

*Granted only once to new groups.

4.2 Productivity. Productivity is defined as the division of total production by the number of members in the group. Productivity, or weighted output of recognized items divided by the number of group members, is weighed out of 5 points, with the group that has the highest productivity given 5 points, as follows:

$$\text{Productivity Points} = 5 \times \text{Productivity/} \text{Productivity of Max Group} \dots\dots\dots(2)$$

4.3 Nature of Group. The nature of group refers to the research areas of the groups (i.e., Sciences, Arts, Fine Arts, Sharia’a, Health Science, Engineering). The coordinators of research groups agreed that each group be given 2 points regardless of its nature during the initial development phase, and the University Research Board endorsed the agreement for the same period.

4.4 Multiple-Counting of Production Items. For members who belong to more than one group, multiple counting of production items is not allowed unless contributions can truly be considered related to the activities of the groups. When multiple counting is allowed, the points contributed by the members involved in more than one group will be divided among the groups concerned.

5. MEMBERSHIP OF THE RESEARCH GROUPS

Because funding research groups is tied to the production and productivity of their members, group members are expected to be active researchers. Active group members are considered to be those who contribute to production/productivity and maintain, during the past three years, a productivity rate that is at least equivalent to the average rate for academics at the University. Recognizing that academics need to distribute their efforts among different tasks, including teaching, research and service, group members who chose, or are required by the University, to focus their efforts on teaching and/or service, may chose to freeze their membership in the groups until such time that they can dedicate more effort to research.

The membership of those who do not participate in the group activities or who do not sufficiently contribute to the group production/productivity over a period of three years and do not chose to freeze their membership may be frozen or terminated by the group. Faculty members who are not members of groups, or those with frozen memberships, can join/re-join such groups upon approval of the group's coordinator following consultation with the group members, and approval of the Research and Studies Center. The decision should be solely based on research related considerations.

While membership in more than one research group is possible, members must ensure that they are capable of adequately contributing to the groups that they join. In general, double counting production in more than one group is not acceptable unless in special circumstances in which contributions can truly be considered related to the activities of both groups. When double counting is allowed, only partial scores will be considered.

Members themselves can freeze their own membership, or by a majority decision of the group's council, and with the approval of the Research and Studies Center. Coordinators are appointed for three years, renewable for one term, with the approval of members, the Research and Studies Center and the University Research Board. Coordinators can be replaced at any time by two-thirds majority of members, after the approval of the Research and Studies Center and the University Research Board.

6. RESEARCH GROUPS COMMITTEE

The Research Groups Committee comprises the coordinators of the Research Groups and the relevant staff of the Research and Studies Center. The committee is charged with dealing with all issues that have to do with the groups' performance and development. The committee meets on a regular basis to discuss routine issues as well as planned activities and development strategies.

7. PERFORMANCE REPORTING

The research groups are expected to submit full annual reports. The annual reports are used to assess the performance of the groups, allocate funds for the following academic year, report to the University Research Board, publicize the work of the groups, and disseminate

information. The Research Groups are also required to submit interim semi-annual reports. At the end of the groups registration period of three years, the groups are required to submit a comprehensive report, which will be used by the University Research Board to decide on continued registration.

The various reports should include information on the group members, group activities and group achievements, particularly in terms of the recognized production items. The reports should address difficulties and limitation and proposals for improvement.

8. EVOLUTION AND PROGRESS

The first batch of Research Groups was approved and officially registered for a period of three years at the end of the 2003/2004 academic year in June 2004. The groups started activities in September 2004 following the summer break. Recently in September/October of 2007, the College of Graduate Studies and Research conducted a thorough review of the performance of the seven initially registered groups (Table 2). Out of the seven groups, two groups were discontinued and five groups were renewed for an additional terms of three more years. Lack of adequate progress was the main reason for discontinuing the two groups.

Early in 2007, the University approved six additional groups to bring the total number of approved groups to 18. The data in Figure 3 provide a quick summary of the number of approved groups and year of formation. The increase in the number of groups reflects the importance and growing "prestige" of the groups to faculty but may also dilute the original purpose of creating "Research Identities" in strategic research areas.

Furthermore, the "Research Groups" have helped established the University's research culture. The research groups have also started to compete among each other in terms of performance, visibility, funding, and relevance to the community. Some of the Groups have gained significant credibility and visibility in the Community through the professional activities organized by the groups. However, with the change of the groups' administration system from the "Research Center" to "College of Graduate Studies & Research", a subtle change is noticed by the author in terms of the groups increasingly becoming transformed into "Research Project Teams" rather than "Administratively Recognized Research Units" in their way to becoming future research centers. Nevertheless, discussion on creation of research centers from successful groups has been initiated and is expected to materialize in the near future.

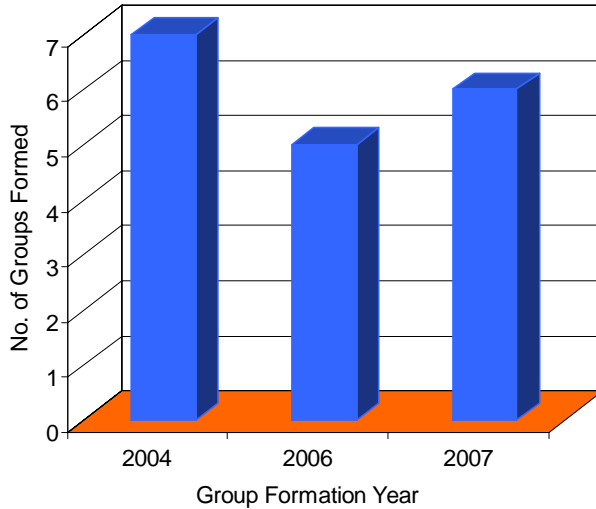


Figure 3: Number and year of formation of groups.

All of the above evidence suggests that the concept of the "Research Group" is achieving its objectives, especially in terms of creating research teams and organizing faculty into groups, creating focus areas for university research activities, and helping in developing a research identity for the University. However, it remains too early to assess the actual success of the Research Groups in terms of making, and being recognized for making, major contributions to the development of the community and to the discovery and application of knowledge. Nevertheless, the "Research Groups" has successfully helped in transforming the culture to a more research-oriented one that encourages team work and collaboration. In terms of research output and impact, the research groups helped focus the output of the groups in the areas of their research interests. It also motivated the researchers in the groups to collaborate and apply for joint research projects funds relevant to their research groups.

The research Group concept is widely used internationally, typically evolving around a successful research team leader or around a collaborating group of researchers. Research groups may be formally or informally recognized in the organization and the community. However, the formation of Research Groups as a University strategy to help create research teams, identity and culture while completing the development of the university represents an optimized approach, especially for young universities.

9. SUMMARY AND CONCLUSIONS

The experience of developing the research groups has so far proved to be successful for the University to help develop research focus areas, research teams and a team research culture while completing the development and consolidation of the academic programs and the organization. The transition from a mainly teaching and learning culture that develops during building a new university and its academic programs takes time and requires significant resources. Formation of the research groups however required minimum resources as they were developed around available research capabilities, in terms of faculty and research infrastructure. Furthermore, the research groups systems helped the University identify available areas of research strength which will be most helpful in strategically planning for further development.

This paper outlined the system that was used to establish the groups and manage their affairs. The system is presented as a model for similar developments and for discussion during the conference.

10. REFERENCES

- [1] Executive Research Bylaws of the University of Sharjah, www.uos.ac.ae
- [2] Research Groups Booklet, University of Sharjah, www.uos.ac.ae