



## Scholarship criteria in higher education from expert's viewpoints: A qualitative study

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### Abstract

**Introduction:** The scholarship domains based on Boyer's definition includes discovery, teaching and learning, application, integration and engagement, but it is a main question that which criteria must a scholarship activities have? In this research, the characteristics of scholarship activities have been studied using a qualitative approach based on higher education experts' viewpoints from four domains [humanities, engineering, basic sciences, and medical sciences]

**Method:** The method of this research was based on qualitative approach using a semi- structured interview in 2013. The sampling method was objective and 14 faculty members participated in the research. Data were analyzed using the expert's viewpoints.

**Results:** The analysis of the experts' viewpoints showed differences, infra-discipline characteristics. All of the experts reported that creativity, defining the correct problem and scientific reasoning were the first preferences and then necessity for sharing knowledge with peers, not only through publishing the articles but also in academic community in their universities. Based on the experts' viewpoints, the research framework was designed using 6 main criteria, 15 indicators and 43 items.

**Conclusion:** Since reasoning and defining the correct problem are the first step in beginning the scholarship activities and affect the quality, all of the experts emphasize them. It is necessary to establish the knowledge sharing mechanism in the entire scholarship domain.

**Keywords:** Scholarship, Criteria, Higher education

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### Introduction

Scholarship is a common term in higher education which is considered from different approaches. At the end of the 20th century, Ernest Boyer, in his book *scholarship reconsidered* critically observed the dominance of research papers in promotion and evaluation system of faculty members and ignorance of the quality of education (1-3). This criticism was based on Carnegie foundation's comprehensive research in USA (1969-1989) which showed that the role and importance of research in evaluation of faculty members had mostly increased while the importance of teaching and learning process was really neglected (4, 5).

Boyer (1990) divided the scholarship into four domains: *discovery, teaching and learning, integration, and application* (6). Six years later, he added the

"*Engagement*" domain because of the necessity of the relationship between society and university (7). If all activities and faculty member's tasks (teaching, application, integration, etc.) should be considered in evaluation system, this question will arise that what the main criteria of scholarship activities are and how these criteria should be evaluated? However, there is an agreement among all the mentioned domains (8-10), but each of them should have some criteria to be acceptable as a scholarship task (11, 12).

Diamond (1993) believes that scholarship activities in all fields must be done with a high level of knowledge, skill and experience, and they must lead to expansion of the knowledge borders. These kinds of scholarship tasks should be repeatable, ready to criticize, and produce the important and remarkable result and impression (13).

Also, *Hutchings & Schulman* (1999) believed that the most important criteria for evaluation of scholarship activities are the possibility to be criticized and analyzed, leading to evaluation that makes it ready for presentation (14).

*Rice* (1986) recommended the encouragement and reward mechanism to support those faculty members who follow the criteria of scholarship tasks in their research (15).

*Spake and Salem* (2000) and *Richlin* (2001) believed that scholarship should share knowledge among colleagues and other university members which is necessary for all to teach, learn and use this knowledge and experience (16, 17).

*Glassick et al* (1997) have done many studies to find the criteria of scholarship activities. They focused on finding those criteria that lead to establishment of the importance and role of research as the main scale in evaluation and promotion system of universities. They think that this system will develop faculty members' activities in all related fields.

To reach this goal, they have done three main studies:

1. In 1994, they had an interview with 51 managers of research foundations that allocated the grant for research to answer this question: What is the main criterion to award a grant to a research work?
2. They interviewed with 58 academic publishers. They asked about their criteria for books and other papers to be publishable.

They asked 31 editors to report their criteria for accepting an essay to be published in their scientific journals (18, 19)

Finally, the conclusions of these studies led to finding six main criteria included: Clear Goals, Adequate Preparation, Appropriate Methods, Significant Results, Effective Presentation and Reflective Critique.

Although in recent years the scholarship field, especially scholarship of teaching and learning, and evaluating the educational process has started in Universities of Medical Sciences in Iran, there is no study conducted on it. In the present research, two main questions are posed:

1. What are the main criteria for evaluation of the educational scholarship activity?
2. How is the current status of scholarship criteria in Iranian universities?

## Methods

This research was done in 2013 based on qualitative approach using interview with 14 higher education experts in 4 discipline areas including engineering, medical sciences, basic sciences and humanities from 10 universities in Iran. Purposive sampling was used

in this study and experts were selected from 4 major fields: basic sciences (physics, geology, mathematics, chemistry), engineering (mechanics, electronics, chemistry, and architecture) humanities (sociology, law, higher education, pedagogy) and medical sciences (cardiology, orthopedics, medical education and internal medicine). 14 participants were professors with many research papers, books and lots of management experiences in their work fields. The interview was started with four participants in four different fields, one by one by a semi-structured format. The main questions of the interview were asked openly, "what are the main criteria of a scholarship activity in your field?" and "how is the current status of quality criteria of scholarship activities in Iranian universities? After data collection, the participants' viewpoints were categorized into 6 criteria and 43 indexes by content analysis method.

## Ethical considerations

As the participants' asked, their names were excluded from their identifications and only their ranks and major fields were mentioned in this research.

## Results

In this research, in order to find the quality criteria of scholarship and their situation in universities, the two mentioned questions were asked. After considering and analyzing the participants' viewpoints, the results were classified in six criteria and 43 indexes. Some of the participants' viewpoints are as follows:

### Criterion I. Clear Problems and purposes

**Participant 1** (Professor of mechanics engineering) said:

*"The most important criteria for analysis of a scientific work in engineering are the multilateral attention to the problem and exact expression of questions. The main difficulty in our field is lack of enough attention to these criteria. For example, in a research task, with a new topic and good title, applicability and suitable questions, there is an ignorance of multilateral attention which leads to wrong or incomplete results that are really useless. If we pay attention to these criteria and use them correctly, the results will be valuable, reliable and useful in industry and other types of research"*.

**Participant 2** (Professor of architecture) said:

*"We want to do a research but sometimes our logic and reasoning are weak. This problem often occurs in engineering fields that need a logical, documented and reasonable approach in scholarship works. Exact and correct results are only possible through reasonable and logical approaches"*.

**Participant 3** (Professor of medical sciences) said:

*“The most significant criteria in a scholarship are proper question and scientific and well- reasoned approach. We should have enough information about what we want to do. The other important criteria are creativity and innovation. It is a problem in our field that we just follow the foreign research and approve them.”*

### **Criterion II. Adequate Preparation**

**Participant 4** (professor of chemistry engineering) believed that:

*“Information about the topic and problem is vital in a scientific research. Lack of knowledge makes it impossible to gain useful results and it leads to parallel works and wasting money, energy and time”.*

**Participant 5** (Professor of electronics engineering), stated:

*“Applicability and usefulness are very important criteria in evaluation of scientific works. Although in some fields applicability is more important than others, for example in medical sciences and engineering it is stronger and more important than basic sciences or mathematics; it isn’t right to expect all studies to be applicable. Innovation and creativity are more important criteria in those fields that are more absolute than applicable”.*

**Participant 6** (Professor of pedagogy) believed:

*“Research questions must be designed based on enough background knowledge and scientific ability to do a scholarship work. It is very important to recognize the research framework and variables that make a concept map and meaningful relationship between them. Our serious problem in the current research in humanities and some other fields is lack of background knowledge about the problem and research topic. Disability to choose a scientific approach in a research work and doing a defective and useless task arises from inadequate background knowledge”.*

**Participant 7** (Associated professor and expert in higher education) said:

*“Imitation of foreign research works has moved us away from the main problems we have in our society. Although review and repetition in research can be useful, following foreign research without any innovation, creativity and relation to our problems will not solve anything”.*

**Participants 8** (Professors of geology) said:

*“First of all, we must determine our purpose and choose a scientific approach. Our motivation for doing research which completely leads to exact and clear results is very vital. But in our field the most important issue is money, tools, facilities, laboratory and materials which are essential and without them it is really impossible to do a scientific research work”.*

**Participant 9** (Professor of medical sciences and manager of research department) said:

*“Our researchers usually don’t follow different stages of a scientific work. They probably don’t know these processes or don’t like to follow them. A researcher must recognize the problem, have enough background of the problem, be able to work on it in a scientific way, choose a suitable topic and proper method in his work. These steps are vital in every scholarship activities and it is our duty to teach the researchers what they need to learn about different features of a scientific research and make them follow directions and use them carefully in their research”.*

### **Criterion III. Method**

**Participant 10** (Professor of sociology) said:

*“Method is important but a well-done research with useful and practical results is more important. We should be more creative and try to find new methods and new ways. We must not be only repeating of others’ method and approach. It is necessary to do experimental studies and gain new idea and new experience that help us to be creative and innovative”.*

**Participant 4** (Professor of chemistry engineering) thought:

*“The first step is understanding the problem; the second one is using a scientific method. It is very important to manage the method during the research. The method should be used clearly and completely. Fortunately we have not much difficulty in our field and our researchers usually follow these criteria in their studies”.*

**Participant 9** (Professor of medical sciences and manager of research department) said:

*“Our method and its different stages should be described in details. In a practical research it is necessary to explain all parts, step by step, to have a real experimental work which can be used by other researchers. We usually have difficulty in this area such as lack of detailed explanation and absence of enough experience of recording all stages, documents and testifiers”.*

### **Criterion IV. Significant results**

**Participant 1** (Professor of mechanics engineering) said:

*“In engineering fields, we need practical results that can be used in industry. It is not enough to do a research just for abstract knowledge. We must try to simplify the complex results to be usable in real world. The relationship between knowledge and industry is very important in our field. For example, in a factory the boilers do not work properly, so a researcher should recognize all aspects and find all problems and their solutions; but usually these are very complex and abstract that should become simple, concrete and usable in fixing*

the boilers. Every scientific research should expand and improve the knowledge, produce new science and have significant results”.

**Participant 11** (Professor of law):

“Law is one of the main humanities fields that is really important in society. The result of research in this field must answer the main problems of the community and are applicable for it”.

#### **Criterion V. Self criticism**

During the interview, all the participants, except one, did not talk about self criticism as a special issue, although they mentioned its importance in evaluation of scholarship activities.

**Participant 4** (professor of chemistry engineering) discussed self criticism and said:

“An important part of scientific work is conclusion”. We usually have difficulty here and sometimes cannot sum up the research perfectly. It comes from lack of scientific background and insufficient data about the problem. We need a criticizing thought which can evaluate, criticize and correct our mistakes to have a scientific conclusion. We must pay more attention to self criticism system. And use it in our research as much as possible”.

#### **Criterion VI. Documentation and publication**

**Participant 1** (Professor of mechanics engineering) said:

“One of the most important criteria of scholarship activities is knowledge sharing. The results should be shared with other researchers not only inside the country but also in the world. It is necessary for our professors and researchers to publish their research in the international level”.

**Participant 4** (professor of chemistry engineering).

“Only after criticism and publication, we can consider a research a scientific work, because it should be accessible and usable for all. It is a credit to publish an article in a foreign journal but it should not lead to ignoring publication inside the country which unfortunately happens in engineering and basic sciences fields”.

**Participant 2** (Professor of architectonics) believed:

“Criticism and feedback are very important in evaluation of a scientific work. We know that sciences have their special space which can expand and improve, there. This environment should prepare scientific purpose background knowledge, motivation, facilities, etc. to find appropriate and scientific results. In this situation we can criticize and evaluate scholarship activities to improve our knowledge and open new horizons of science. It is not our recorded articles; we must try to have a challenging condition which makes it possible to read and criticize articles in order to develop new areas of knowledge”.

**Participant 12** (Professor of mathematics) said:

“A scientific work should be based on meaningful purpose, follow important question, should be done perfectly and finally must be criticized. It is a problem in our field that we only think of publishing our work but we usually do not discuss and criticize it among ourselves. It is necessary to talk about our research before publishing them. We can understand our common problems in our universities and society better than others. We need to share our experiences not only our research works but also our teaching and learning experience”.

**Participant 13** (Professor of physics) said:

“A scientific article must be published in international journals to be accessible all over the world. Participating in the international competitions will improve our scientific ability”.

**Participant 5** (Professor of electronics engineering) believed:

“Although emphasizing ISI articles and publication in international journals sometimes leads to neglecting the main problem of our society, the article has passed the international criteria which is very severe filter; therefore, one of the most significant criteria of a scientific work is international publication. It will be a reference for others’ work and can be very useful for students and professors to become more familiar with recent international works”.

**Participant 14** (Professor of chemistry engineering) thought:

“The university that I work in is one of the high rank universities in Iran. Our researchers work on very important and fundamental issues and try to publish their works in international journals; this is very useful for our credit but it has decreased the relationship among our professors, students and other faculty members. We usually do not have any information about another one’s work”.

In addition to professor’s point of view, reviewing scholarship criteria in universities and according to theoretical bases of scientific research, quality criteria of scholarship activities were classified into 6 criteria, 15 indicators and 43 items, as shown in Table 1.

#### **Discussion**

The results of the present research confirm the findings of Glassick et al.’s study (1997). All faculty members emphasized proper and purposive questions, suitable goal and understanding the problem which are equal to first and second criteria proposed by Glassick (18, 19). It is remarkable that these two criteria are related to the next four criteria. Meaningful recognition and proper theoretical framework leading to accurate questions and topics, and understanding the variants

**Table1.** Quality criteria of scholarship according to analysis of participant's viewpoint

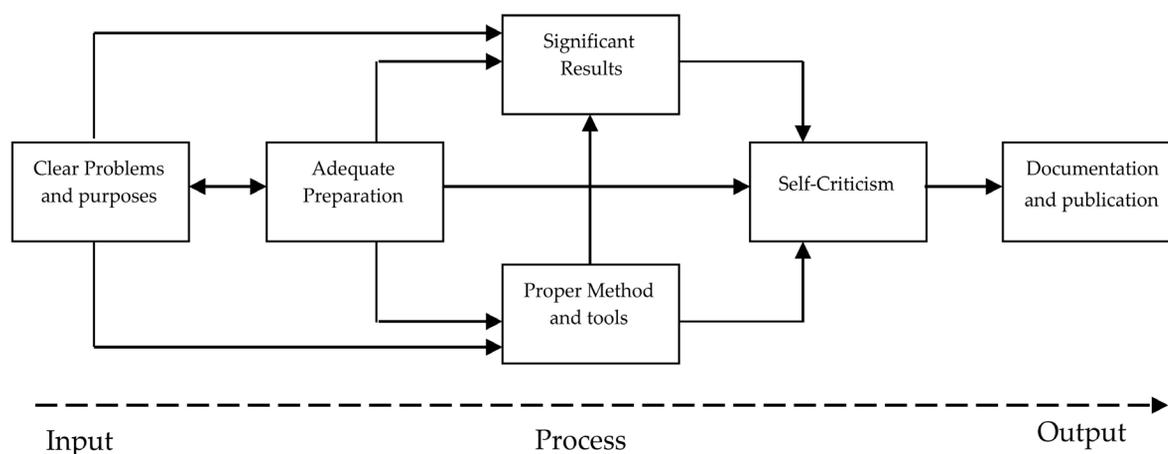
General criteria	Indicators	Items
Clear Problems and purposes	Importance	1. Proper understand of problem and logical reasoning 2. Explaining the necessity of work 3. Innovative topic 4. Equalization of topic and higher education purposes
	Transparency	5. Exact and clear goals 6. Measurable goals 7. Proportionality of goals and problems 8. Actuality of topic and goals
Preparation	Studies	9. Primary need assessment 10. Theoretical bases 11. Reviewing of experience and previous researches. 12. Theoretical framework
	Specialty	13. Proportionality of researcher's specialty and the topic 14. Using different specialties for interfiled researches
Proper Methods	Method	15. Clear explanation of work 16. Pilot study 17. Evaluation of experimental work
	Instruments	18. Using proper tools 19. Present the Documents about validity and reliability of tools
	Population	20. Specialty of people or samples included in the research 21. The place of the research 22. The level of results' generalization to the outside society
	Time	23. The needed time and the time of research
Significant results	Covering	24. Sufficiency of results 25. Proportionality of results and purpose
	Presentation	26. The way of presentation (tables, charts, etc.) 27. Explaining of differences, level of meaning, making changes (knowledge, skill, etc.) 28. Showing the comparative change process (monthly, annual )
Self-criticism	Effects	29. Useful results 30. Applicability 31. Effect on expanding knowledge borders 32. Generable results for future researchers
	Analysis	33. Explaining of limitations 34. Explaining the weak points and positive points 35. Explaining the threats and opportunities
Documentation and publication	Criticism	36. Comparing the results with others 37. Experience and theoretical bases. 38. Explaining the raised value of the research activities 39. Recommendation for future researches
	Knowledge Sharing	40. Documentation of scientific works (publishing articles in seminars, international journals, etc). 41. Presenting the ways for sharing knowledge with public (websites, television, speech, etc.)
	Extent of work and findings	42. Presenting the research in faulty, university, notional and international level 43. Having special credit for presenting the findings inside the university and sharing with cooperators.

result in correct method and approach.

Diagram 1 shows the relationship among six quality criteria of a scientific process. Primary plan and idea, scientific preparation, background knowledge, understanding different features of the problem and

theoretical framework are the input of this chart that directly and indirectly influences the scientific process.

The most remarkable issue in the above diagram is the very effective relationship between the first and



**Diagram 1.** The relationship among quality criteria in a scholarship process

second basic criteria and other parts of the process. “Clear Problems and purposes” and “Adequate Preparation” have a direct relationship with “Method” and “Significant Results” and an indirect relationship with other criteria. Obviously these relations usually are one-way streets because after finishing and publishing the research, it is impossible to return and correct the mistakes or change questions and method.

In comparison with Classick’s criteria, the criterion to which the participant’s paid less attention was “self-criticism” that is one of the most important criteria in scholarship activities (4, 18).

According to this criterion, the researchers must compare their work with other similar studies and explain the scientific process of their activities step by step, criticize their work to clarify their limitation, difficulties and shortages and finally share their experience with others.

Self-criticism in research activities usually is equal to “Discussion and Conclusion”, “Research limitation” and “Recommendation for the future” in research. It is very important in teaching, management and applied sciences because the results of criticism can be very useful for others to prevent wasting energy, time and money.

Critical evaluation and self-criticism which show the criticism acceptance rate can lead to scientific discussion among researchers. The participants emphasized the necessity of international publication and reaching the highest level of scientific criteria.

Analysis of the participant’s statements indicates that faculty members are more interested in publishing their work in international journals while they are less interested in knowledge and experience sharing with other faculty members and researchers around themselves.

Some participants believed that although ISI papers and international publishing is one of the most significant criteria in evaluation of a scientific

research which will be a reference for others, it sometimes decreases the quality of the studies and leads to abstract and unpractical results without useful application. Participants take this threat seriously and recommend sharing knowledge inside the faculties and universities by means of seminars, journal clubs, websites, etc. The necessity of sharing knowledge and publishing of scientific research is the same as the fifth criterion of Glassick, called “effective presentation” criterion that completes the research process.

### Conclusion

Totally, the criteria shown in Table 1 can be used in evaluation of all fields of scholarship activities. It is obvious that the role and weight of these criteria are different in scholarship of discovery, teaching and learning, integration, application and engagement according to the experts and professors’ point of view in different fields. Higher education managers must consider all aspects of functioning in the university rather than focusing only on research and publication.

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