



# Program Manual of Funding Scientific Research and Development College of Arts



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# Table of Contents

No.	Title	Page No.
1.	Overview	4
2.	Creativity in Scientific Research	6
3.	Reasons for Funding	

# **Funding Scientific Research and Development**

## **Overview:**

The capital that is spent on research and development is considered a strategic investment that achieves successive and large quantum leaps, especially if it ultimately leads to reliance on self-capabilities and accumulated national expertise.

Yes, continuing education has become a characteristic of higher education in developed countries, and it indicates the importance of such a trend that most major institutions in industrialized countries and newly industrialized countries spend more than 15% of their budget on continuous training for their employees and require them to devote 20% of their time to training and rehabilitation. Following up on developments, of course, those who do not adhere to these standards will be dispensed with. Since qualification is the basic qualification for getting a job, the vast majority seek to qualify themselves through continuous training and this of course subjects the labor market to competition on the basis of "survival of the fittest" because both the "required skills" and the "offered job" are for young job seekers. It is made better possible by having great flexibility in mastering skills and gaining new experiences.

Accordingly, educational experts began to search for new methods or more flexible education systems that facilitate the youngsters' ability to sort, select and choose the specialization that suits their preferences and orientations in the educational institutions they enroll in, and this will better prepare them to face the reality of renewable work.

These methods require us to re-study and program our priorities in higher education, whether with regard to curricula or with regard to the cadres that offer those curricula after

correcting their course and bringing them closer to the requirements of the labor market, not to mention keeping pace with every new and emerging in the field of science and technology.

In any case, it is useful to refer to the experience of some prestigious English and German universities that have started adopting these days a special system for managing innovative processes or designs in their educational curricula, such as adopting basic strategies to improve the performance of university students, and this includes graduate students, especially the untalented ones - in The labor market. This method is based on creating the principle of integration and linking different types of ideas, knowledge and sciences to achieve innovative and creative production. At the forefront of this comes practical experience through mastering the experimental field in parallel and balance the theoretical concepts of those sciences Why not and these graduates are the ones who will enroll in graduate studies programs in universities or undertake work and research inside or outside the university and therefore building the correct scientific background is the qualitative measure of their future Practical.

### **Creativity in Scientific Research**

Yes, research and development need creative people in practical terms and have a rich theoretical background, and if that is available, the second task comes, which is overcoming the difficulties facing scientific research, which we talked about some of them in a previous article, which we will continue talking about in the folds of this article.

There is no doubt that one of the most important components of scientific research and development is the existence of adequate budgets that can be spent on research requirements of devices, materials and support crews, publishing, attending seminars and

conferences, exchange of visits, costs of consultants who are hired from abroad, and other exorbitant expenses. Yes, we say that because there is a relationship. A close disjunctive link between the amount of budgets allocated to research on the one hand and the rates and levels of growth in different countries of the world on the other hand.

In general, studies indicate that if the proportion of spending on research and development matters is less than 1% of the national gross product, then the desired impact of that research will be very limited, but if the spending on research and development ranges between 1% to 1.5 It falls within the minimum level, and if that spending ranges between 1.5 - 2% then it falls within the acceptable level.

Research and development for 2% of the gross national product of any country, the scientific research is at an appropriate level and has a good return on developing production sectors and providing them with new technologies.

In order for the picture to become clearer, we can refer to the share of scientific research from the total output in a number of developed and developing countries and the Arab countries during the mid-nineties of the twentieth century (1995), including that the share of scientific research in the United States of America from its total output has reached 3%. Japan 2.9%, Britain 2.8%, Germany 3.1%, France 2.5%, while developing countries this amounted to 0.7%, and in the Arab countries it was 0.9%.

Yes, the rate of spending on research and development in Arab countries is very low. A study prepared by the United Nations showed that the amount of public spending in 1990 on research and development in developing countries, including the Arab countries, calculated on the basis of per capita, is about 400 times less than in developed countries.



This clearly indicates the low level of spending and the small amounts allocated to research and development in the Arab world compared to the developed countries.

### **Funding for Scientific Research**

When we go back to the sources of funding for scientific research and development. We find that in the Arab countries depends entirely on what the state allocates for this purpose, which is not properly spent in most cases. But in developed countries we find that research and development has many sources of funding. western countries for example, the state, the institutions of the industrial sector, universities or other educational institutions and research centers with resources independent of the state, as well as banks and other capital sectors all participate in financing scientific research, not to mention the grants, donations, and endowments provided by the wealthy, businessmen, and charities for this purpose. The progress in these countries is attributed to this generous spending on practical research and development, which are the main pillar for every newcomer and for every invention that makes a qualitative leap that has implications for the economy and the well-being of the people of those countries.

Generally, we can say that if we want to achieve sustainable economic, social development for our society and for our growth rate to become competitive with global rates. Then a proportion of at least 2% of the gross product should be allocated for the benefit of scientific research and development in our country, and that support for research and development will reduce the gap between the developed countries and us. the capital that is spent on research and development is considered a strategic investment that achieves successive and large quantum leaps, especially if it ultimately leads to reliance on self-capabilities and accumulated national experience, and the best proof of this is that the

percentage of the contribution of technological innovation and development emanating from applied scientific research to the growth of output Nationalism reaches 80% in developed countries, and this means that its returns are much greater than returns on investment in other elements. An example of this is that more than half of the growth in Japanese per capita income during the past decades is attributed to advances in technologies that represent legitimate goals for research and development.

### **Reasons for Funding**

The truth says that the reason for the generous spending on research and development is the result of several reasons, perhaps the most important of which are:

1. Awareness and awareness among decision-makers in the public and private sectors that investing in technology and its outputs does not come without a tool for volunteering, enriching and supporting it, and they realized from an early age that this tool is research, development, renewed education and raising the efficiency of its workers.
2. As a result of the developed countries 'realization of the importance of supporting higher education and scientific research, which are the main pillars of research and development? These countries have set in mind the importance of setting legislation and controls that make support for different sectors of the research and development process a binding duty for everyone and not a charity offered