

## *Abstract*

### Introduction:

Scientific education has witnessed extensive interest and development at all levels , world-wide and also in the Arab World. This is due to the explosion of knowledge and its effect during this century, and originated from the nature of science. The old view of science was that science is a static structure of scientific knowledge, including scientific facts , laws and theories that scientists had discovered and organised for the purpose of explaining the facts of the universe .But, the modern scientific approach views science as a developed, conceptual structure and as a form of intellectual organised investigations that is affected by the conceptual structure and affects its development as well. Besides, science has an effect on society and is affected by it as well .

As a result of this change in outlook toward science and its nature, the curricula of science have changed. The modern science curricula have stressed the main concepts, the methods of their investigation, and the interaction between them. But there is a gap between curriculum design and the related teaching methodology that may hinder the achievement of the developmental operation.

Effective teaching of the scientific branch must clarify the nature of the branch and its main structure. It also must provide the students with the truth of knowledge and the kinds of evidence and criteria related to it for the purpose of evaluating such knowledge, reconsidering it and re-modifying it. Effective teaching must also clarify the methods of research and investigations used by the discipline of science and the path that knowledge in that discipline follows from the preliminary information level to the level of results and theories .It is also necessary to stress the role of technology and science in society and their effects on the culture of the individuals and societies. Yet, educational researches related to the fields of teachers' understanding of the nature of science is still insufficient and unsuitable for the importance that curriculum designers have shown in this respect. Besides, it does not stress the relation between the teachers'

conceptions of the nature of science and the actual classroom performance.