This study has a twin task. On the one hand, it seeks to reconcile the objectivist and the subjectivist theories as these maybe relate to conception of scientific experience. On the other, it endeavors to draw from this reconciliation useful implications for improving the processes of teaching and learning of sciences in Kenya educational institutions.

The study begins this task from two basic premises. One is that the teaching and learning of science in Kenya is wanting: it requires improvement. The other is that objectivism as a basic epistemological theory within which scientific knowledge is conceived and practiced is inadequate. It tends to lead to the formation of an insufficient scientific experience.

As a theory of knowledge, objectivism is revealed in the thesis as defining scientific knowledge solely in terms of the facts, principles, laws and theories of science. That is, the view contends that the contents of objective knowledge are the basic elements in terms of which scientific knowledge may be fully conceptualized and practiced.

To teach learn science within this conception basically involves assimilating the facts, laws, principles and theories of science. It also means constructing one's mentality after the structural patterns dictated by the subject matter of science. The result is a scientific thinking and practice that tends to offer a passive slot to the learner. An Extreme version of this thinking, as we shall see in the study, in fact assigns a complete absence to the knower in any given scientific epistemological space.

Kenya's science education is reminiscent of such a scenario. For instance, pedagogical practices are often skewed towards ' consumption' of scientific facts. During experiments, the learners often observe science from a distance instead of participating by doing science. Also, they show a general inability to demonstrate scientific initiative and creativity. They are generally afraid of science; presumably, because they do not see it as something they can also produce.

The thesis contends that by representing science only in terms of objective contents, the objectivist theory fails to provide an adequate framework for the provision of a satisfactory scientific experience through science education. Here, science is experienced predominantly as abstract truth; it is visualized mainly in terms of validity characteristics. Its instrumental factors in lived experiences tend to be relegated to the background. Its effective power, as an attitude towards the world is also not fully grasped.

Indeed, if intuition, initiate, creativity and similar abilities are to be recognized as belonging to the continuum of knowledge, then there is need to investigate the subjective foundations of human knowledge. That is, while talking about human experience in all its forms, there is need to locate the human subject in his or her rightful place in relation to objects.

The study stresses, in this context, that it is not possible to put the knower or the learner on the sidelines in any conception of experience and still talk meaningfully about it. This is because experience in the first place is always a relation between the subject and the object. And that experience assumes its rightful qualities in a mutual interaction between the subject and the object. This is to say that both subjectivity and objectivity are intrinsic domains of human knowledge. They co-exist dialectically.

So far, the subjective foundations of scientific knowledge have not been fully explored and explained. As such, they have not been utilized to formulate or design pedagogical practice in any explicit way. More often than not, educators have not used the learner's subjective resources enough as a basis for designing and enhancing the process of scientific teaching and learning. Instead, they have tended to be predominantly guided by the objectively given structural demands of the subject matter together with factual requirements.

This thesis, therefore seeks to explore the subjective foundations of scientific knowledge and establish their implications for the teaching and learning of the sciences in Kenya.

The inquiry is a philosophical one and its methodological inputs include looking at subjectivity and objectivity in a dialectic relation. Also, conceptual analysis, critical questioning and phenomenological reflection have constantly characterized the general development of thought whose major object is to examine and interpret some relevant epistemological questions.