Objective of Study

Object Oriented Analysis & Design is an innovative way of thinking about problems using models organized real world concepts. The fundamental construct in this approach is the object, which combines both data structure and behavior in a single entity. These models are useful for understanding problems, communicating with application experts, modeling enterprises, preparing documentation and designing programs and databases. Specifically the term “object oriented” means that we organize software as a collection of discrete objects that incorporate both data structure and behavior. This is in contrast to traditional programming approach in which data structure and behavior are loosely connected.

The key objective of this study is to explore and understand the principles of Object Oriented Analysis and Design and their applications. It is obvious that successful implementation of the OOAD principles primarily depends on the level of understanding, proper interpretation of OOAD representation schemes and their usage, thus it is imperative that there is also a need of level of understanding and expertise of the developers who are using this approach which is of course raises a need of study of cognitive aspects of developers depending on their mental orientation. Thus an approach of mental simulation is also considered in the proposed work. It intends to develop and validate a methodology for studying the behavior of different groups of OO application designers working on a design task as novice and experts. In this process, following are the research questions which would be intended to be addressed:

1. Identifying the principles those should be followed while designing an investigational task and developing an experimental set up for the pragmatic study of OO designers?
2. Whether it possible to devise an some mechanism on the basis of cognitive factors mental simulation, internal illustration and notion (abstraction) provide a basis for comparing Object Oriented designers?
3. Is it possible to distinguish the factors completeness, correctness and extensibility between the results produced by experts and learner Object Oriented designers?
4. Whether the differences can be determined, by an experimental set up based on the approach being proposed during the process of research, between experts and novices working on a problem from different domain?