AIM:--To Analyse Distinctive Features of Epistemology of Engineering Design

Epistemology of engineering design is related to the synthetic methodologies needed for the mental apprehension of appropriateness for change. Design epistemology is distinct from analytic methodologies, which is crucial to develop scientific initiatives.

There are four dimensions of engineering design: -

* Engineers as sociologist

The dimension inspired by the basic sciences views engineering as the application of the

natural and exact sciences, stressing the values of logics and rigour, and seeing knowledge as

produced through analysis and experimentation.

* Engineers as Scientist

Research is the preferred modus operandi of this

dimension, where the discovery of first principles is seen as the activity leading to higher

recognition. The social dimension of engineering sees engineers not just as technologists, but also as

social experts, in their ability to recognize the eminently social nature of the world they act upon and the social complexity of the teams they belong to.

* Engineers as doer

The creation of social and economic value and the belief in the satisfaction of end users emerge as central values in this dimension of engineering.

* Engineer as Designer

The design dimension sees engineering as the art of design. It values systems thinking much more than the analytical thinking that characterizes traditional science. Its practice is founded on holistic, contextual, and integrated visions of the world, rather than on partial visions. Typical values of this dimension include exploring alternatives and compromising. In this dimension, which resorts frequently to non-scientific forms of thinking, the key decisions are often based on incomplete knowledge and intuition, as well as on personal and collective experiences.

If we study the aggregation of the 4 dimensions as a workout in transdisciplinary, as described through Gibbons et al., we might also additionally see engineering as attributable to the mutual interpenetration of the epistemologies of the 4 dimensions withinside the context of disturbances that shake up the corresponding structures of know-how production. This has the same opinion with the information of transdisciplinary because the non-stop linking and re-linking, in precise clustering’s and configurations, of know-how this is delivered collectively on a brief foundation in precise contexts of application, which makes it strongly orientated to, and pushed through, problem-solving. If we now take the epistemological traditions of every one of the 4 dimensions, we're brought about renowned a probable positivist contribution from the epistemologies of the fundamental sciences. Identically positivist dominance can normally be diagnosed withinside the epistemological measurement of the social sciences, despite the fact that the adoption of constructivist methods on this measurement is gaining ground. Design brings to our epistemological cluster the maximum hard contribution, as we can in short speak withinside the subsequent section. Finally, despite the fact that the epistemology of realistic attention has a tendency to be much less pondered withinside the literature, its constructivist nature is strongly supported through the lifestyle of pragmatist philosophers.

RAISEC MODEL

**REALISTIC**

People who like to work with things. They tend to be assertive and competitive, and are interested in activities requiring motor coordination, skill and strength. They approach problem solving by doing something, rather than talking about it, or sitting and thinking about it. They also prefer concrete approaches to problem solving, rather than abstract theory. Finally, their interests tend to focus on scientific or mechanical rather than cultural and aesthetic areas.

**INVESTIGATIVE**

People who prefer to work with data. They like to think and observe rather than act, to organize and understand information rather than to persuade. They also prefer individual rather than people-oriented activities.

**ARTISTIC**

People who like to work with ideas and things. They tend to be creative, open, inventive, original, perceptive, sensitive, independent and emotional. They rebel against structure and rules, but enjoy tasks involving people or physical skills. They tend to be more emotional than the other types.

**SOCIAL**

People who like to work with people and who seem to satisfy their needs in teaching or helping situations. They tend to be drawn more to seek close relationships with other people and are less apt to want to be really intellectual or physical.

**ENTERPRISING**

People who like to work with people and data. They tend to be good talkers, and use this skill to lead or persuade others. They also value reputation, power, money and status.

**CONVENTIONAL**

People who prefer to work with data and who like rules and regulations and emphasize self-control. They like structure and order, and dislike unstructured or unclear work and interpersonal situations. They also place value on reputation, power, or status.