METHODOLOGY AND WORK PLAN

Methodology

1. Research Design:

It is an Evaluation Study by Ex post facto design, where independent variables, present in the participants (engineering faculty) prior to the study, affect a dependent variable. Here the independent variables are the personality dimensions assessed by MBTI and classroom behavior dimensions of faculty and the dependent variable is the academic performance of their students. As the independent variable in question is something that is an innate characteristic of the faculty involved Quasi-experiment is employed as the research focuses on independent variables that cannot be randomly assigned.

2. Sampling:

Population: There are 552 engineering colleges in Tamil Nadu as of July 2016. Out of which 130 engineering colleges are in Chennai city. Every engineering college has an average of 50 teaching staff. Thus there are nearly 6500 teaching staff in engineering colleges in Chennai. Around 75000 students are studying in these colleges in various branches of engineering.

This research uses a combination of random sampling and systematic sampling.

1. Sample 1 includes 200 engineering staff from various engineering colleges in Chennai who will take the MBTI test for personality testing. Here systematic sampling and random sampling is used. 20 engineering colleges from Chennai are systematically selected based on their location in Chennai.
   - 5 engineering colleges from South Chennai.
   - 5 engineering colleges from North Chennai.
   - 5 engineering colleges from East Chennai.
   - 5 engineering colleges from West Chennai.

   Thus, from each college 10 staffs are then selected by random sampling.

2. Sample 2 includes the same 200 engineering staff who will be observed using an observatory schedule.

3. Sample 3 includes about 6000 students (all students under each staff) whose academic performance details are obtained from college.
3. Data Source and data collection

Both primary and secondary sources

**Primary data sources**

1. **Test of personality pattern of staff:** The responses received from staff by using Maier’s Brick Personality Testing tool along with questions to collect personal data like age, gender and position. MBTI is a standardized psychology testing tool widely used by psychologists. The Myer Briggs Type Indicator was developed to assess the personality types. The revised and shortened version of MBTI consists of 50 items alternative either or assumptions based on one’s preference, with pairs of comparison for each item. Scoring will then be done as per the key. Thus, MBTI test will arrive at the teaching staff’s predominant character includes the following variables
   - Extroversion / Introversion
   - Sensation / Intuition
   - Thinking / Feeling
   - Judging / Perceptive
   Here, we also collect data in the demographic variables of the faculty that includes
   - Age
   - Gender
   - Position

2. **Classroom behavior of staff:** The observations retrieved from observing the staff through an observation schedule with questions relating to the teacher’s classroom behavior including
   - Leniency
   - Teaching skills
   - Classroom management
   - Innovation

**Secondary Data Source**

**Academic Performance of the students:** The University Exam results of the students are received from the college database. It gives the following details,
   - Average score
   - Maximum and Minimum marks obtained
• No: of failures
• Pass Percentage

4. Data cleaning and analysis on collected data.

Because the research is dealing with various samples, it uses inferential statistical testing techniques including Regression, Multiple regression analysis, ANOVA (Analysis of variance), Chi – square test, T test and Z test.

Work Plan

1. Introduction to research topic
2. Review of literature
3. Determining Research Methodology and Research design
4. Data Collection Process
5. Graphical Representation and Tabulation
6. Data Analysis and Interpretation
7. Discussion of facts and discussion on data
8. Findings on research
9. Summary
10. Suggestions and future scope of research
11. References
UTILITY

In the past years, teacher education research has made significant strides in studying the complex relationships between teacher beliefs and practices. This new line of research will generate important findings that are of practical implications for teacher education and will examine multiple criteria of effective teaching in classrooms of professional colleges.

1. The findings will be useful to select staff during recruitment in engineering colleges as the study gives the connection between the personality pattern of the teacher and his/her classroom behavior and the performance of his/her students in the university exam for the subject handled by that staff. Thus socially acceptable personality patterns, leniency, teaching capacity, innovation and classroom control capacity of the staff can all be taken into consideration during staff recruitment.

2. The findings will be useful for subject and classroom allotment during the beginning of the semester.

3. The findings also help us to arrive at a conclusion of a more acceptable and productive classroom behavior of the staff from the students’ perspective. Thus developing and maintaining a good and healthy relationship between the staff and the student inside the classroom setup.

4. The research will also arrive at conclusions stating whether the demographic variables like gender, age and position of the staff and academic performance of their students are related.

5. Reducing the stress level in engineering students in colleges in Chennai and increasing their interest in the subject.

6. Creating better faculty and better engineers in future will be the primary benefit for the society from this research.