Chapter 3
METHODOLOGY
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This chapter outlines the methodology used in the research. The chapter begins with the aims and objectives of the research in the first two sections. Also listed are the operational definitions of the variables, the various measures and the construction of the tools, the research design of the study. The derived hypotheses are listed in Section 3.4. The details of the methodology adopted in terms of planning, preparation and implementation are explained in section 3.5. The chapter ends with the Techniques of Analysis used in the study.

3.1 Aim of Research

The aim of the research is:
1. to identify the teaching methodologies used in Management colleges
2. to study the perception of Management faculty regarding using literature as a Management teaching tool
3. to design teaching modules to augment and illustrate selected Management concepts using fictional literature
4. to test the effectiveness of teaching selected Management concepts using novels in terms of achievement and perception
5. to test effectiveness of teaching selected Management concepts using novel in terms of knowledge retention.

3.2 Objectives of the Research

3.2.1 Main Objectives
The objective of this study is
1. To study whether the created life, which only exists in the imagination of the writer and the reader, can be used to teach management techniques.
2. To compare the cognitive achievement of students in selected Management concepts in experimental & control groups.
3 To compare the knowledge level within the cognitive achievement of students in selected Management concepts in experimental & control groups.
4 To compare the comprehension level within the cognitive achievement of students in selected Management concepts in experimental & control groups.
5 To compare the application level within the cognitive achievement of students in selected Management concepts in experimental & control groups.
6 To compare the student perception in experimental & control groups.
7 To compare the student knowledge retention in experimental & control groups.

3.2.2 Secondary Objectives
8 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to educational qualifications.
9 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to age.
10 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to gender.
11 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to CET scores.
12 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to social class.
13 To compare the cognitive achievement (total, knowledge, comprehension and application level) in selected Management concepts in experimental & control groups with respect to work experience.

3.3 Operational Definition of Terms

The next step is operational definition of the study i.e.to define the variables that we are using in our study. There are two obvious reasons why we should be clear about how we operationalise what we are studying. First, we simply need to be clear so that people reading our work are in no
doubt about what we are studying. This makes it easier for them to repeat the study in future to see if they also get the same (or similar) results; something called internal validity. Second, one of the criteria by which quantitative research is assessed, is how you define what your are measuring and how you choose to measure it.

Before giving the operation definition of the variables under study, the researcher would like to define some terms as used in the research.

Course refers to Master of Management Studies 2 year full time course under the University of Mumbai.

Subject refers to papers offered in the course. The two subjects covered in this study are Organization Behaviour; Business Ethics and Corporate Governance

Literature

Literature is the art of written work. Literature is commonly classified as having two major forms—fiction and non-fiction—and two major techniques—poetry and prose. Literature is defined as “pieces of writing that are valued as works of art, especially novels, plays and poems (in contrast to technical books and newspapers, magazines, etc.)” by the Oxford Advance Learners dictionary. The Merriam Webster dictionary defines it as “written works (such as poems, plays, and novels) that are considered to be very good and to have lasting as importance : books, articles, etc., about a particular subject : printed materials (such as booklets, leaflets, and brochures) that provide information about something” The Collins dictionary defines literature as “written material such as poetry, novels, essays, etc, especially works of imagination characterized by excellence of style and expression and by themes of general or enduring interest “Macmillan defines literature as “stories, poems, and plays, especially those that are considered to have value as art and not just entertainment.” For the purpose of this research, fictional novels have been considered as literature.

An independent variable, sometimes called an experimental or predictor variable, is a variable that is being manipulated in an experiment in order to observe the effect on a dependent variable, sometimes called an outcome variable.
Since the study aims to examine the effect that two different teaching methods (using conventional methods and using experimental method) had on the performance of Management Students, the variables being measured are listed below.

### 3.3.1 Dependent Variable

#### 3.3.1.1 Performance - Exam marks (measured from 0 to 60) (continuous interval variable)

What do we mean by performance? Performance could mean how students score in a piece of coursework, how many times they can answer questions in class, what marks they get in their exams, and so on. In the case of measuring a student’s performance there are a number of proxies that could be used, such as class participation, coursework marks and exam marks, since these are all good measures of performance. However, in this case, the researcher choose exam marks as the measure of performance because it was felt that a teacher's main job is to help the students get the best grade possible since this will affect her students’ overall grades in their post-graduate management degree.

According to Bloom (1956), there are three domains of educational activities

a. Cognitive: mental skills (*Knowledge*)

b. Affective: growth in feelings or emotional areas (*Attitude*)

c. Psychomotor: manual or physical skills (*Skills*)

For this study, the understanding of the students has been considered i.e.the cognitive domain was considered. The cognitive domain (Bloom, 1956) involves knowledge and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. Only on mastering one skill can a person move on to the next skill. There are six levels of learning in the cognitive domain:

a. At Knowledge Level of Learning a student can define terms

b. At Comprehension Level of Learning a student can work assigned problems and can example what they did
c. At Application Level of Learning a student recognizes what methods to use and then uses the methods to solve problems.
d. At Analysis Level of Learning a student can explain why the solution process works.
e. At Synthesis Level of Learning a student can combine the part of a process in new and useful ways.
f. At Evaluation Level of Learning a student can create a variety of ways to solve the problem and then, based on established criteria, select the solution method best suited for the problem.

For the purpose of this study only the first three levels have been considered.

**Knowledge:** Recall data or information.

**Comprehension:** Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.

**Application:** Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.

The dependent variable “performance” was measured with instructor-made tests which was designed to measure student knowledge, comprehension and application of important concepts taught during the experiment.

### 3.3.1.2 Perception

University administrators realized long ago that students could be important sources of information about what happens in classrooms. Student feedback in colleges and universities adds value for teachers and administrators alike in their efforts to improve teaching and learning. Many studies of student performance in Management rely on student perceptions of their learning experiences including how well or how much they have learned. Ultimately, student perceptions of their learning may be as good as other measures because these perceptions may be the catalysts for continuing to pursue coursework and other learning opportunities. Research into conceptions of teaching held by university teachers indicates that views of what teaching is include:

a) transmitting concepts of the syllabus

b) transmitting the teacher’s knowledge
c) helping students acquire concepts from the syllabus

d) helping students acquire teacher’s knowledge

e) helping students develop conceptions and

f) helping students to change conceptions (Prosser and Trigwell, 1997).

The feedback form used by the institution was used to assess the perception of the students. The primary measures of instructional quality are gathered under four headings called the four C’s. The four C’s are: Content, communication, connect and confidence. Each of the C is measured using multiple survey items. The form comprised of 15 questions in these four core areas: content (question 1-7), communication (question 8-10), connect (question 11-13), and confidence (question 14 – 15).

The following are brief descriptions of each concept.

1. **Content** concerns both effort and rigor. The teacher’s proficiency in the subject, the course material, preparation and organization in such a manner as to make the topic interesting and inspiring the students to read further are some of the factors evaluated. Captivating teachers make the material interesting, often by making it seem relevant to things about which students already care. Brain research establishes clearly that stimulating learning experiences and relevant material make lessons easier to remember than when the experience is boring and the material seems irrelevant. It also considers how teachers help students to organize material for more effective encoding in memory and for more efficient reasoning. These practices include reviewing and summarizing material at the end of classes and connecting ideas to material covered in previous lessons. Examples of questions concerning stimulation and relevance are interesting, inspired me to read further:

2. **Communication** concerns the ability of the teacher to present the subject in such a manner as to make it clear and understandable to the students. To be most effective, teachers should be able to diagnose students’ skills and knowledge, and they should be responsive to the students and interact with them regularly.
3. *Connect* concerns teacher behaviors that promote understanding. Interactions that clear up confusion and help students persevere are especially important. Each student comes with particular gaps in understanding and with both correct and incorrect interpretations of the world around them. To be most effective, teachers should be able to diagnose students’ skills and knowledge, and they need multiple ways of explaining ideas that are likely to be difficult for students to grasp. Teachers also must judge how much information students can absorb at any one time, and they should differentiate instruction according to individual maturity and interest. The enthusiasm of the teacher should percolate to the students.

4. *Confidence* pertains to classroom management. Teachers need skills and the confidence to manage student propensities towards off-task or out-of-order behaviors, in order to foster conditions in the classroom that allow for effective communication and focus. Effective control helps to maintain order and supplements caring in making the classroom calm and emotionally safe from such things as negative peer pressures. Overall control of the class and confidence level of the faculty are the two factors evaluated.

### 3.3.1.3 Retention

One may be able to memorize facts in the short-term, but how well is your retention of those facts over the long-term? Retention is the ability to recall or recognize what has been learned or experienced after a period of time.

### 3.3.2 Independent Variables

**Teaching Method**

The purpose of the experiment was to determine if two different teaching methods differed in their ability to improve performance of Management students. Hence teaching method is being considered as a variable. For the purpose of this study, teaching method is the mode or manner of teaching i.e. lecture, powerpoint presentation, case study, using literature etc.

The study aims to examine the effect that two different teaching methods used to teach Selected Management concepts. The teaching methods considered are Experimental & Conventional.

*Using Literature as a Management Teaching Tool*
Experimental Method

The experimental method uses literature namely the novels *Lord of the Flies* by William Golding and *The Devil and Miss Prym* by Paulo Coelho to teach selected concepts of OB, ethics and corporate governance. A thematic analysis of the novels is done for the selected Management concepts and discussed with the students.

Conventional method

The conventional method uses a combination of

Lectures - A teaching method in which information is presented orally to a class with a minimal amount of class participation with the teacher or lecturer, at the front of the classroom talking to students.

PowerPoint presentation – The subject matter is presented to the students by means of a computer in the form of slides created using Microsoft Powerpoint.

Case study - A case study incorporates an issue that presents a problem. The students are then challenged to find the problem, identify where the problem started, and attempt to solve the problem.

3.3.3 Moderating Variables

The moderating variable is one that has a strong contingent effect on the independent variable and dependent variable relationship. That is the presence of a third variable modifies the original relationship between the independent and the dependent variables. Moderating variable is a variable that changes (increases or decreases) the otherwise established effect of the independent variable upon the dependent variable. So, if we look at the linear relationship where variable X supposedly causes or affects the variable Y, a moderator variable M would somehow alter the strength of that relationship.

The data for all the moderating variables was taken from the college in the form of the student database comprising of details taken from the admission form.
3.3.3.1 Entry qualifications

For a number of institutions, student admission is based on a number of different qualifications to the extent that students receiving instruction in the same course differ widely in terms of their prior knowledge. Learning is a cumulative process, thus a student recruited with higher entry requirements is expected to be well prepared for the course material compared to a student admitted based on the bare minimum qualifications.

This study seeks to explore the possible effects of entry qualifications on student performance.

A student is eligible for admission to post graduate degree program in the Faculty of Management (MMS) provided s/he has the any of the following degrees:

1. Arts graduates
2. Commerce & Management graduates
3. Science & Engineering graduates
4. Post graduates

It was felt the educational background prior to taking this course might impact the performance. Hence educational qualifications have been considered as one of the independent variables.

3.3.3.2 CET scores

In Maharashtra, admission procedure for the MMS course is conducted by the Directorate of Technical Education, Maharashtra (DTE). Common Entrance Test (CET) score is considered for admission. Students get admission into Business schools on the basis on the scores obtained in the Common Entrance Test.

The researcher has tried to find out if there is a relation of the CET scores with the performance of students. CET scores would be more relevant than entry educational qualification scores as CET exams would be the most recent common exam given by the students whereas they would have completed their graduation and/or post graduation in different streams and years.
The CET scores have been split into two groups with 100 score (50%) as the central point i.e.

Students with CET score greater than 100

Students with CET score less than or equal to 100.

3.3.3.3 Gender

The influence of age and gender on academic performance has been investigated in a number of studies with widely differing conclusions. Most of the differences in reported findings are due to varying contexts such as subject of study, age and gender interactions. This study undertakes the test of gender as a moderating variable. The standard categorization of male and female has been taken.

3.3.3.4 Age

With regard to the issue of student age, recent changes in educational policies around the world have led to an increase in the number of mature-age admissions in educational institutions. While a large proportion of Management students are still 21-24-year olds, the ages of students in classes are now more variable than 10-15 years ago.

The age band of the students in this study was 21 to 30. There were only two students whose age was greater than 28. Hence, in this study, students who were 21 to 24 years of age were classified as ‘junior’ students. Students aged above 24 were classified as the ‘senior’ category. The categorization and coding for age is as follows:

1 = Junior students 21 to 24 years of age
2 = Senior students > 24 years of age

3.3.3.5 Social Class

Empowerment of the Socially Disadvantaged Groups viz., the Scheduled Castes (SCs), the Other Backward Classes (OBCs) and the Minorities continues to be on the priority list of India’s developmental agenda. Reservations are constitutionally mandated in India. Article 14 requires equal protection of the laws, while Articles 15 and 16 prohibit discrimination by the state or by private persons in public accommodations and employment. These articles provide
explicit exceptions to the Article 14 mandate of formal equality to allow for special measures for upliftment of backward sectors in society. Article 15 states: “Nothing in this article … shall prevent the State from making any special provision for the advancement of any socially and educationally backward classes of citizens or for the Scheduled Castes and the Scheduled Tribes.”

Similarly, the Ninety-Third Amendment to the Constitution of India came into force on January 20, 2006, and allows the government to make special provisions for the admission “of any socially and educationally backward classes of citizens” to “educational institutions including private educational institutions, whether aided or unaided by the State.”

Certain number of seats are reserved on the basis of social class in Management colleges. An attempt has been made to identify if there is a relation between the social class and performance of students.

The categorization of social class by Mumbai University has been taken for this study which are as follows:

- General (not belonging to OBC/SBC/SC/ST/NT class)
- Other Backward class / Socially Backward class (OBC/ SBC) - Any student holding the relevant OBC/ SBC certificate as laid down by the Constitution and State
- Schedule Caste / Schedule Tribe / National Tribe (SC / ST/ NT) - Any student holding the relevant SC/ST/NT certificate as laid down by the Constitution and State.

3.3.3.6 Work Experience

In an effort to determine whether work experience of students would impact their performance, the fact whether students had joined the MMS course immediately after completing their Graduation/ Post graduation or had taken up jobs and were now returning to studies again was considered. Summer training or any other training which was part of the course work for the graduation or post graduation degree / diploma was not considered as work experience.

The students were categorized into

- Freshers – students who have not worked in any organization before joining this course.
- Work experience – Students who have worked in an organization before joining this course.
3.3.4 Control Variables
In any experimental design, a researcher manipulates one variable, the independent variable, and studies how that effects the dependent variables. Any other factor, which could potentially influence the results, must be correctly controlled. Its effect upon the results must be standardized, or eliminated, exerting the same influence upon the different sample groups. Failure to standardize even one of these controlled variables could cause a confounding variable and invalidate the results by compromising the internal validity.

Many issues bearing pedagogical importance were considered in the planning of this experiment. One way is to pick up the exogenous characteristics and deliberately spread them across groups such that each group has a similar mix of individuals in terms of gender, age and experience. To ensure that the internal validity is not affected, the following variables have been controlled.

3.3.4.1 Students
Both the experimental and control group comprised of MMS first semester (for the first experiment) and fourth semester (for the second experiment) students of the 2012-2014 batch of the same Management college in Mumbai were considered. Assignment of students to the class is determined by the college on a random basis i.e. they will have an equal probability of being distributed among the groups. This process of randomization ensures that these variables do not have a contributory or confounding effect. The process of randomization distributes the inequalities among the groups based on laws of normal distribution. The two groups were similar in all aspects except the teaching method adopted for two groups.

3.3.4.2 Teaching Expertise
The number of years of teaching experience was common to both the groups as the same instructor took both the classes. In order to minimize instructor influence on overall differences among the attitudes and performances of the students, a single instructor volunteered to teach both lecture sections of the course during the First semester. The common instructor ensured equality of presage variables like traits, experience, personal attributes.
3.3.4.3 Infrastructure
Classroom, Seating arrangement, Canteen facilities was common to both the groups as they were provided by the college.

3.3.4.4 Resources
Library, Access to faculty was commonly available to both groups at the College.

3.3.4.5 Examination paper
A common Question Paper was given to both the groups at the end of the course. Student assessment scores used to assess performance included an exam based on the same topics covered in both the classes. The question paper comprised of questions to test the knowledge (10 marks for short notes), comprehension (20 marks) and application level (30 marks for case study) within the cognitive domain of the students. This exam was administered at the end of the semester and these scores were also used to compare the two instructional methods. The papers were corrected by the instructor who taught the courses. The control and experimental groups were tested over the same period of time.

3.3.4.6 Syllabus
The same syllabus was used for both lecture sections. For the first experiment the Mumbai University, MMS degree, 1st semester syllabus for Organization Behaviour was considered for both the groups. For the second experiment the Mumbai University, MMS degree, 4th semester syllabus for Ethics was considered for both the groups.

3.3.4.7 Course content
From the OB paper, the following concepts were taught to both the groups:
- Leadership & Power
- Motivation
- Personality
- Organizational change
- Organizational development
- Group Dynamics
- Conflict
From the Business Ethics and Corporate Governance paper, the following concepts were taught to both the groups:

- Normative Ethics
- Sources of ethics
- Ethical leadership
- Ethical decision making
- Corporate Governance

3.3.4.8 Course schedule

The course consisted of ten lecture sessions of 1.5 hours each for both the classes. Both the groups were given the same number of lectures a week with the same gap between lectures.

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<tr>
<th>TYPE OF VARIABLE</th>
<th>DESCRIPTION</th>
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<tr>
<td><strong>INDEPENDENT VARIABLE</strong></td>
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</table>
| Teaching Method - the mode or manner of teaching | Experimental  
                                                Conventional |
| Conventional Teaching Method | using lectures, Power point presentation and case study |
| Experimental Teaching Method | using literature |
| **DEPENDENT VARIABLE**    | MEASURES    |
| Exam scores – Total       | Overall scores of the exam |
| Exam scores – Knowledge   | Recall data or information. |
| Exam scores – Comprehension | Understand the meaning, translation, interpolation, and interpretation of instructions and problems. |
| Exam scores – Application | Applies what was learned in the classroom |
| Perception                | Scores of the student feedback form |
| **MODERATING VARIABLES**  | CODES       |
| Educational Qualifications | Degree applicable coded as  
                                1 = Arts Graduates  
                                2 = Commerce & Management Graduates |
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
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<tr>
<td>Age</td>
<td>1 = (Junior) 21 to 24 years of age 2 = (Senior) &gt; 24 years of age</td>
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<tr>
<td>Gender</td>
<td>1 = Male 2 = Female</td>
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<tr>
<td>Social Class</td>
<td>Social class coded as: 1 = General 2 = OBC/ SBC 3 = SC / ST /NT</td>
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<tr>
<td>CET Score</td>
<td>1 = CET score less than or equal to 100 2 = CET score greater than 100</td>
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</table>
| Work Experience               | Freshers – students who have not worked in any organization before joining this course. (summer training not considered as work experience)  
Work experience – Students who have worked in an organization before joining this course. |
| Controlled Variables          |                                                                                                                                               |
| Students                      | Experiment I :MMS first semester students of a Management college in Mumbai  
Experiment II :MMS fourth semester students of a Management college in Mumbai                                                             |
<p>| Teaching Expertise            | The number of years of teaching experience                                                                                                                                |
| Infrastructure                | Classroom, Seating arrangement, Canteen facilities                                                                                                |
| Resources                     | Library, Access to faculty                                                                                                                                 |
| Examination                   | Question Paper                                                                                                                                 |
| Syllabus                      | Experiment I : Mumbai University, MMS degree, 1st semester Syllabus for Organization                                                            |</p>
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<tr>
<th>Course Content</th>
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<td></td>
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<td>Group</td>
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<td>Experiment II:</td>
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<td>Normative Ethics</td>
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<td>Ethical decision making</td>
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<td></td>
<td>Corporate Governance</td>
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| Course Schedule | Ten lecture sessions of 1.5 hours each for both the classes separately for each experiment |

**TABLE 3.1 VARIABLES AT A GLANCE**
3.3.5 Schematic Diagram of the Theoretical Framework

![Diagram of Theoretical Framework]

**Figure 3.1: SCHEMATIC DIAGRAM OF THE THEORETICAL FRAMEWORK**

3.3.6 Experimental Design

The design would be Two-Group posttest only randomized Experimental Design.

The same design was adopted for both the experiments.
X: Experimental Teaching method using literature
Y: Conventional Teaching method
O: Observation or measurement of post test1
Q: Observation or measurement of post test2
R: Random assignment

<table>
<thead>
<tr>
<th>Group</th>
<th>Treatment</th>
<th>Post-test1</th>
<th>Post-Test2</th>
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<tr>
<td>Experimental Group 1</td>
<td>R</td>
<td>X</td>
<td>O1</td>
</tr>
<tr>
<td>Control Group 1</td>
<td>R</td>
<td>Y</td>
<td>O2</td>
</tr>
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Table 3.2: EXPERIMENTAL DESIGN

Treatment effect = O1 – O2

Treatment effect = Q1 – Q2

The choice of research design was based on an attempt to explain variance in student achievement through teaching methods.

The two-group posttest-only randomized experiment allows researchers to compare the final posttest results between the two groups, giving them an idea of the overall effectiveness of the intervention or treatment. In design notation, it has two lines -- one for each group -- with an R at the beginning of each line to indicate that the groups were randomly assigned. One group gets the treatment or program (X) and the other group is the comparison group which receive the standard or typical treatment. This study would be a relative comparison.

The posttest-only randomized experimental design is, despite its simple structure, one of the best research designs for assessing cause-effect relationships. It is easy to execute and, because it uses only a posttest, is relatively inexpensive.

Usually we include a pretest in order to determine whether groups are comparable prior to the program, but because we are using random assignment we can assume that the two groups are probabilistically equivalent to begin with and the pretest is not required. In this design, we are most interested in determining whether the two groups are different after the program. Typically we measure the groups on one or more measures (the Os in notation) and we compare them by testing for the differences between the means using a t-test.
The posttest-only randomized experiment is strong against the single-group threats to internal validity because it's not a single group design. It is strong against the all of the multiple-group threats except for selection-mortality. For instance, it's strong against selection-testing and selection-instrumentation because it doesn't use repeated measurement. The selection-mortality threat is especially salient if there are differential rates of dropouts in the two groups. This could result if the treatment or program is a noxious or negative one (e.g., a painful medical procedure like chemotherapy) or if the control group condition is painful or intolerable. This design is susceptible to all of the social interaction threats to internal validity. Because the design requires random assignment, in some institutional settings (e.g., schools) it is more likely to utilize persons who would be aware of each other and of the conditions they've been assigned to.

To analyze the two-group posttest-only randomized experimental design the requirement was an analysis that met the following requirements:

a) has two groups

For this study there were two batches of 60 students studying in the first semester of MMS.

b) uses a post-only measure

An examination was conducted after the course

c) has two distributions (measures), each with an average and variation

In this study, there are two distributions that were compared.

Distribution 1 (using experimental method)

The distribution of exam marks for the 60 students in a class that attended the experimental method class.

Distribution 2 (using conventional methods)

The distribution of exam marks for the 60 students in a class that attended the conventional method class.
The test was conducted for selected Management concepts. If the two distributions (the experimental distribution and the conventional distribution) are the same, this would mean that the use of literature as a teaching method did not have an effect on students’ performance and we would accept the null hypothesis. Alternatively, if there was a difference in the distributions and this difference was statistically significant, we would reject the null hypothesis.

d) assess treatment effect = statistical (i.e., non-chance) difference between the groups

This will be done using the independent t test.

3.4 Research Hypotheses

3.4.1 Main Hypotheses

1 There is no significant difference in the mean scores of the cognitive achievement in Selected Management concepts in experimental & control groups
2 There is no significant difference in the mean scores of the cognitive achievement (knowledge) in Selected Management concepts in experimental & control groups
3 There is no significant difference in the mean scores of the cognitive achievement (comprehension) in Selected Management concepts in experimental & control groups
4 There is no significant difference in the mean scores of the cognitive achievement (application) in Selected Management concepts in experimental & control groups
5 There is no significant difference in the mean scores of the student’s perception in the experimental and control groups
6 There is no significant difference in the mean of the student’s retention in the experimental and control groups

Test to be used: Independent t-test

3.4.2 Other Hypotheses

7A There is no significant difference in the mean scores of the cognitive achievement of selected Management concepts in experimental & control groups with respect to age.
There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of selected Management concepts in experimental & control groups with respect to age.

There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to age.

There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to age.

There is no significant difference in the mean scores of the cognitive achievement of Selected Management concepts in experimental & control groups with respect to gender.

There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of Selected Management concepts in experimental & control groups with respect to gender.

There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to gender.

There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to gender.

There is no significant difference in the mean scores of the cognitive achievement of Selected Management concepts in experimental & control groups with respect to CET scores.

There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of Selected Management concepts in experimental & control groups with respect to CET scores.

There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to CET scores.
9D There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to CET scores.

10A There is no significant difference in the mean scores of the cognitive achievement of Selected Management concepts in experimental & control groups with respect to Social class.

10B There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of Selected Management concepts in experimental & control groups with respect to Social class.

10C There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to Social class.

10D There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to Social class.

11A There is no significant difference in the mean scores of the cognitive achievement of Selected Management concepts in experimental & control groups with respect to Work experience.

11B There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of Selected Management concepts in experimental & control groups with respect to Work experience.

11C There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to Work experience.

11D There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to Work experience.

12A There is no significant difference in the mean scores of the cognitive achievement of Selected Management concepts in experimental & control groups with respect to entry qualifications.
12B There is no significant difference in the mean scores of the cognitive achievement (knowledge level) of Selected Management concepts in experimental & control groups with respect to entry qualifications.

12C There is no significant difference in the mean scores of the cognitive achievement (comprehension level) of Selected Management concepts in experimental & control groups with respect to entry qualifications.

12D There is no significant difference in the mean scores of the cognitive achievement (application level) of Selected Management concepts in experimental & control groups with respect to entry qualifications.

Test to be used:

General Linear Model – Univariate

MANOVA

3.5 Research Methodology

The purpose of the experiment was to determine if two different teaching methods differed in their ability to improve Management learning albeit organisation behaviour. In any research there are three stages Planning, Preparation and Implementation. A model was to be designed using a literary fiction to teach Management concepts. For this purpose, Instructional design was used for a systematic approach to teaching. The main goal of Instructional Design model or process is to construct a learning environment in order to provide the learners with the conditions to support the desired learning processes. Design models are used to represent the processes involved in designing instruction. While there are many design models, most instructional models are a derivative of the ADDIE model in that they include such core elements as analysis, design, development, implementation, and evaluation (ADDIE). (Gustafon & Branch, 1972) The ADDIE model was used in this research study.
3.6 Planning

In the first phase, the research methodology was planned out. An attempt was made to analyse the teaching methods in use, the student characteristics i.e. their knowledge and experience and the content to be learnt.

3.6.1 Faculty survey of teaching methods

A survey was conducted amongst faculty of various Management colleges in Mumbai regarding teaching methods used. Data was collected from faculty of Business schools from December 2009.

In the course of this research, to study the use of literature as a Management teaching tool, a need was felt to find out the teaching methods currently in use in Indian B-schools and to assess the response to the concept of using literature as a Management teaching tool. Getting this
information from those who taught Management seemed the right approach. Hence a survey was conducted among B-school faculty.

3.6.1.1 Aim of survey

The aim of the survey was to find out the teaching methods used by B-school faculty members, the types of constructive, co-operative and Art & Literature methods used and the response to using literature as a Management teaching tool.

3.6.1.2 Survey objectives

The objectives of the survey are to

a. identify the teaching methods used by B-school faculty members

b. determine the type of co-operative, constructive and art forms teaching methods used by B-school faculty members

c. find out the advantages and disadvantages of the teaching method as perceived by B-school faculty members

d. assess the use of co-operative, constructive teaching method as a Management teaching method.

e. assess the use of art & literature as a Management teaching method.

e. find out the issues envisaged in using literature as a Management teaching tool.

3.6.1.3 The Research Framework

The study ‘Faculty Survey’ was carried out by pursuing the following research framework. The study was started with interactions with B-school faculty from Mumbai. Based on the inputs at this level and review of related literature such as research articles and case studies, a suitable research tool was constructed.

The tool (questionnaire) was created in google docs. Websites of the top 100 Management Institutes and other b-schools were examined to build a database of email-ids of Management faculty. Around 2000 emails were sent across various locations in the country.
The data was collected and analysed by using SPSS 16 (Statistical Package for Social Sciences) and Microsoft Excel 2007.

3.6.1.4 Sample Size
The targeted participants for this survey were faculty members of B-schools across India at different levels and teaching different streams. In total, 94 faculty members participated on this survey. The respondents were from IIM, University departments and reputed B-schools. The zonal break up of faculty participation is given in Table 4.1 as part of the data demographics.

3.6.1.5 Questionnaire
The questionnaire comprised of 14 questions which were all structured. The questionnaire was concise, simple and intended to measure the specifics of the Management teaching methods. Anonymity and confidentiality was maintained. The questionnaire was made available in English.

The faculty survey forms included the following aspects:

A. Personal Descriptors:

Personal descriptors like name, institution, location, teaching experience and subject taught formed the first part of the form. The respondents were asked to mention their name (optional), the name and location of their institution, the number of years they had worked as b-school faculty and the subjects taught by them.

Teaching experience was classified into four categories on the basis of years taught. 0 to < 2 years, 2 to < 5 years, 5 to < 10 years, above 10 years. Subjects taught were classified into HR, finance, marketing, systems, operations, others.

B. Teaching descriptors:

Teaching methods in use, formed the next part of the survey. Teaching methods were classified as lectures, case study, powerpoint presentation, collaborative methods, constructive methods, art and literature, others. The respondent could choose more than one option.
C. Teaching method descriptors:

To find out the type of Collaborative, constructive and Art & Literature methods in use, the next part of the survey had respondents select the types used by them. Collaborative methods was classified as Group learning, Workshops, Team events, Jigsaw technique, Group assignments, Do not use co-operative teaching methods and Other. Constructive methods were classified as Research Project, Field Trips, Case Study, Role Play, Simulation, Management Games, Do not use constructive teaching methods and Other. Art and Literature methods were identified as Novels, Drama, Films, Poetry, Book Critique, None and Other. The respondent could choose more than one option.

D. Perceptions on teaching methods:

The advantage / disadvantages of Collaborative, constructive and Art & Literature methods as perceived by the respondents were collated. The list of choices given were Teacher centred, Student centred, Active student participation, No or less student participation, Good communications skill of faculty, High preparation time, Less preparation time, Proper instructions to be given to students, One way communication, Two way communication, Time consuming, Difficult to implement, Team building, Interesting to students, Lack of ready made material, Do not use the teaching methods, Other. The respondent could choose more than one option.

E. Perceptions on using literature as a Management teaching tool:

The perception of B-school faculty regarding using literature as a Management teaching tool was assessed in the last part of the survey. Respondents were asked to rate their view of the use of literature as a Management teaching tool on a Likert scale of 5 points. They were also asked regarding issues in implementing literature as a Management teaching tool. The choices given were Lots of preparation required, Time consuming, Lack of ready made material, Difficult to Implement, Time bound to finish syllabus, Other. The respondent could choose more than one option.
3.6.2 Student’s characteristics

It is important to understand the context and classroom environment of a typical Management class in India. In the Indian context of MBA curricula, understanding the classroom profile of incoming students is important. For most students coming straight from their under-graduate classes, most of them have never used the PowerPoint software for making a formal presentation in class. The learning is geared to scoring highly in end-of-the-year examinations. The biggest change for the MBA students, however, is the shift from ‘learning by rote’ to ‘learning through critical thinking.’ As the students progress through various courses, realization dawns on the need for total systems thinking combining management science (the hard aspects of decision-making) with management art (the softer art of implementation through people management).

Students are expected to make presentations, use the internet and library for research, discuss the issues in teams and groups, and work on tough deadlines. In India, most MBA class compositions are alike. They would have an average age of 22 years. Students have been admitted through DTE or institutional quota on the basis of their CET scores. Around 15 per cent students may have an engineering or science background, 80 per cent of a commerce or Management background, 3 per cent from the Arts stream and a handful of post graduates. Majority of them are likely to be freshers without any work experience with about 2-3% having work experience. The female to male ratio could be anywhere between 10-20 per cent. Except for the six Indian Institutes of Management, most B-Schools in India would retain a regional-geographic bias in terms of faculty and students. A high percentage of students would be from the middle-class income levels. About 15-20% of the class would be from a scheduled or backward category.

3.6.3 Content to be learnt

Organisational behaviour is a major part of any business school curriculum because it sets out to help students understand how human beings deal with being part of organisations, large or small, working in teams and so forth. It concerns itself with the complicated patterns of individual and group working.

Leadership is by far one of the most important topics in the field of organizational behavior. Unfortunately, it is also one of the most difficult organizational behavior topics to teach to
students. Although there may be several reasons for this difficulty, two stand out. First, due to the plethora of leadership theories and concepts in the field, students have a tendency to become easily confused and bored when faced with this material in a classroom situation. Second, leadership, like many other management topics, is inexact and filled with contradictions and inconsistencies. These and other questions are difficult ones for the organizational behavior instructor to raise with students. Because concrete answers cannot be given, many students become frustrated and discount the concept of leadership. Just as in the case of leadership, there are a variety of theories dealing with organizational behaviour which can also confuse and bore students.

Core areas, such as accounting, finance, and marketing, are seen as hard skills-based courses, whereas the ethical issues in these professions and human resources are viewed, often with disdain, as soft and conceptual. (Velasquez, 1992). Thus, the OB instructor is in a quandary. On one hand, discussing leadership and power theories exclusively via lecture can lead to student confusion and detachment. On the other hand, using role playing or other experiential techniques to impart theory places a severe limitation on the number of theories that can be covered effectively within the time allotted to the topics. Thus, the instructor is faced with the seemingly contradictory goals of teaching students about the wide range of organizational behaviour theories while at the same time being efficient and maintaining student interest. Recognizing these problems, instructors have attempted to find more effective ways in which to teach leadership and power.

Several techniques have also been developed which are designed to teach OB topics in a non-traditional manner. For example, Marx (1986) discusses the use of a bestselling book (In Search of Excellence) in the OB classroom, while Michaelsen and Schultheiss (1988) developed an exercise which uses a classic film (The Magnificent Seven) to teach about influence. Fiction and creative writing have much to offer us. They provide insight into emotions and feelings which case studies and sometimes even biographies of leaders cannot. Since novelists and writers often build their fictional characters on an amalgam of people and situations they have experienced themselves, there are elements of the portraits of leaders in the following texts which are both enlightening and thought provoking. Author Joseph Badaracco Jr. (2006) thinks that future business leaders can learn something from literature's classics. In his book, Questions
of Character: Illuminating the Heart of Leadership Through Literature, he argues that certain literature "lets us watch leaders as they think, worry, hope, hesitate, commit, exult, regret, and reflect... These books draw us into leaders' worlds, put us in their shoes, and at times let us share their experiences. Hence for the purpose of this study, the model prepared is on organizational behavior concepts.

While current andragogy relies primarily on factual recounting of actual workplace incidents and actual and hypothetical case studies, this study proposes the use of fiction to enrich current teaching materials. This study illustrates the tremendous power of stories which deal with dilemmas in business to illuminate leadership issues like power, traits, skills, situational and ethical in ways that lead to a clearer understanding of organizational behaviour theory.

The learning goal and objective was to teach Selected Management concepts through the use of novels.

3.6.4 The Experiments

It was planned to conduct an experiment twice to establish the impact of using literature as a Management teaching tool

3.7 Preparation

Once the planning phase was completed, preparation for the experiment were embarked upon. The next step is to decide on the main instructional strategies and develop the instructional model.

3.7.1 Designing the experimental modules.

For each experiment, the Sample size would be 120.

The estimated time would be ten lectures of 1.5 hours each per experiment.

The training methods would comprise storytelling session, Lecture / Discussion, Student Participation.
The materials to be distributed are Story Synopsis, Chapter wise summary, timelines, important quotes and a soft copy of the novel.

The procedure adopted would be:

a. Distribute Synopsis in advance

b. Tell the story

   Identify the character or people in your story
   
   State their predicament or problem
   
   Clarify the character’s intention

c. Introduce the Management topic

d. Thematic Discussion / Student Activity

An examination would be conducted as a Post activity review.

A sample of the teaching plan prepared for the experimental method and conventional method is attached at Appendix IV.

3.7.2 Development

This phase comprises of constructing a course outline and thereafter preparing the course material based on this outline.

3.7.2.1 Course outline

The development phase comprised of constructing a course outline based on the MMS first semester OB syllabus and fourth semester Business Ethics and Corporate Governance syllabus of the Mumbai University. The syllabus is attached at Appendix III.

For the first experiment, the themes to be studied were identified on the basis of the major topics taught in OB which are about individuals, groups and the organization. Personality, leadership and motivation were considered for individuals. Group dynamics in terms of group formation,
norms and conflicts were taken into account. Organizational development and change were also taken up. Organizational behaviour is studied to understand why people work in certain ways and then working out how to use this knowledge to improve the use of resources. Hence concepts of Organization behaviour (OB) were chosen to prepare this model. As the sample comprised of first semester Management students, they would be learning organisation behaviour concepts for the first time.

For the second experiment, the themes to be studied were identified on the basis of the major topics taught in Business Ethics and Corporate Governance which are about normative theories of ethics, sources of ethics, ethical decision making, ethical leadership and corporate governance. Traditionally, ethics education has been characterized by theory, objective analysis, and higher order decision matrices (Velasquez, 1992). To grasp the ambiguities as well as complexities of real ethics problems, students must grapple with the realities of applying ethics to human behavior within organizational settings. In the current scenario, ethics is socially relevant and universally applicable, it was felt teaching such concepts to fourth semester Management students would make them better prepared for the business world they would face shortly.

3.7.2.2 Teaching Rationale for selection of the novels

Entire novels, or at least substantial selections from two novels, such as *The Lord of the Flies* and *The Devil and Miss Prym*, provide a rich tapestry of issues and characters for exploration in a Management class. Not only do they present people as multidimensional, rather than solely as egoists, or utilitarians, or deontologists, thus making literature more realistic, but they also explore how characters change as the stories unfold. In *The Lord of the Flies*, the changing facets of Jack and Ralph are seen throughout the novel.

Furthermore, the use of entire novels shows that morality involves an active relationship with people who sometimes have radically different beliefs, desires, and behaviors. Novels also expose the reader to the fact that moral problems take place against a background of political/ideological conflicts. *The Devil and Miss Prym*, for example, examines individual dilemmas within a larger sociopolitical context.

The novel chosen for thematic analysis for OB concepts and Corporate Governance, *Lord of the Flies*, is a novel by Nobel Prize-winning English author William Golding. It is about a group of
British boys stuck on an uninhabited island who try to govern themselves, with disastrous results. Golding is a master at his trade and *Lord of the Flies* has achieved critical acclaim as the best of his works. The development of the several focal characters in this work is brilliantly and concretely done. In addition, the omniscient narrative technique, plotting, relating story to setting and the use of irony, foreshadowing, and certainly, symbolism are so carefully and concretely accomplished that the work can serve as an invaluable teaching aid to prepare students to read other literature with a degree of understanding far beyond a simplistic knowledge of the surface events of the story. The strength of *Lord of the Flies* lies in techniques of characterization. There are five major characters who are developed as wholly-rounded individuals whose actions and intensity show complex human motivation: Ralph, Jack, Roger, Simon and Piggy. A study of these characterizations shows the wide range of techniques for developing persona utilized by Golding and by other authors: Ralph, the protagonist, is a rather befuddled everyman. He is chosen for leadership by the group for all the wrong reasons. Ralph does not seek the leadership role; he is elected because he is older, larger, is attractive in personal appearance and, most strikingly, he possesses the conch shell which reminds the boys of the megaphone with which their late adult supervisors directed and instructed them. In the unsought leadership role Ralph demonstrates courage, intelligence and some diplomatic skill. On the negative side he quickly becomes disillusioned with the democratic process and without Piggy's constant urgings would have cast aside the chiefs role even before Jack's *coup d'etat*. Ralph also demonstrates other weaknesses as he unthinkingly gives away Piggy's hated nickname and, more significantly, he gets caught up in the mob psychology of the savage dance and takes part in the ritualistic murder of Simon. Thus, by relating causes and effects, Golding reveals Ralph's change from a proper British lad to group leader to his disenchantment and finally to his becoming the object of the murderous hunt by the boys who once chose him as their leader. Jack, the antagonist, is developed as the forceful villain. Outgoing, cocky and confident, Jack marches his choirboys in military formation up the beach to answer the call of the conch. Jack is a natural leader who, except for his exploitative nature, might have been a congealing force for good. Instead, his lust for power precipitates the conflict with Ralph and Piggy's long-range planning for rescue. To attain leadership, Jack caters to boyish desires for ready delights and after he is assured that his choir boys will follow in this new direction, he resorts to intimidation to increase his following. In Jack, Golding has developed a prototype of the charismatic leader who gains adherents by

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highlighting the fears and fulfilling the ephemeral needs and desires of followers. Roger readily sheds a thin veneer of civilization which has been imposed upon him by the authority of the policeman and the law. His arm easily loses the restraints which had once prohibited him from hitting the ‘littluns’ with tossed rocks to a point where he can kill Piggy on impulse. It is but one more small step for him to proclaim the ritual dance must end in killing and to premeditate the murder of Ralph. Simon is the quintessential Christ—figure. A thin, frail little boy, subject to fainting spells, he alone has the mental acumen and the courage to go onto the mountain and disprove the existence of the "beast." He is martyred for his efforts by the group which no longer wishes to hear his "good news." Piggy, the pragmatic intellectual, is of necessity the most steadfast in motivation. He is tied to civilization by his physical weaknesses. Overweight, asthmatic, and completely dependent for sight upon his spectacles, the life of the happy savage has no allure for him. Without the aids of civilization, such as eye glasses and allergy shots, he cannot long survive. Consequently, he must reject the ephemeral allures offered by Jack and steadfastly hold, and seek to hold Ralph, to maintaining the smoke signal, his only hope for the aid and succor of rescue. His steadfastness in this aim enables him to call up the uncharacteristic courage to make the last appeal to Jack and his tribe before the rock fort because "right is right." His plea is to no avail; the sadistic Roger releases the boulder which throws Piggy from the cliff to his death.

Thus, Golding's techniques of characterization afford superior examples of the writer's craft and apt material to use to help students learn to interpret authorial voice and to respond to a piece of literature as a level beyond the denotative. Lord of the Flies has earned for itself and its author great critical acclaim. It has also been extolled by teachers for the excitement it can engender in readers and as a work in which the motivation of characters is readily understood by students readers. Gerald Lewis(2005) uses the novel Lord of the Flies as a case example of a traumatized culture. In a case study, Cooper and Kempner (1993) investigated the organizational culture of a community college and how it both contributed to and prevented organizational chaos during a period of change. The study made use of themes from William G. Golding's novel, "Lord of the Flies," to analyze the setting.

Paulo Coelho’s novel The Devil and Miss Prym is apt for thematic analysis of business ethics. It encourages students to think about moral issues before they master the technical language of moral philosophy. It helps them learn to pay attention to the context, details, and nuances of
moral situations. It shows how seemingly abstract ideas are dramatically realized in the behavior of individuals and groups. It directs them to accept the inevitable ambiguities and difficulties in attempting to solve moral problems and thereby reflect on the importance and the limits of ethical theory. It helps increase sensitivity and understanding of viewpoints expressed from different cultures, countries, and backgrounds. (Abdelkader, 2012).

The story is of a stranger who arrives in the seemingly idyllic mountain village of Viscos and offers the villager as a devil's bargain: kill an innocent person in the next seven days and earn a wealth in gold. The man is a former gun-runner whose wife and daughters were murdered by the same guns he sold, and ever since, he has been obsessed with testing the limits of human decency. Chantal Prym, the young bartendress, is the vessel chosen by the visitor to convey this bizarre challenge to the town. He will give one gold bar to her and ten gold bars to the villagers if they commit a murder within the next seven days. If they fall for the temptation, he’ll believe he was right; if not, then he would be proved wrong. Either way, he’ll leave with a definite answer to his question. Miss Prym finds herself caught in the middle of this diabolical offer. What follows is the dilemma faced by the girl, who is afraid to follow her dreams when the moment arrives. Worse, the town, led by a greedy priest, decides to accept the deal, and Miss Prym is at the top of the list of sacrificial lambs. Finally they settle on an old widow Berta, an old woman with no friends, who makes no contribution to the growth of the village. The pusillanimous, nevertheless greedy, villagers decide to go ahead with the crime, but are finally convinced otherwise, by Miss Prym. The stranger realizes that people have both good and evil in them; it’s ultimately a matter of choice.

In summary, Lord of the flies provides an excellent vehicle for teaching leadership and power and other organizational behavior concepts and The Devil and Miss Prym provides apt examples of ethical leadership, ethical decision making and normative theories. Not only do they clearly demonstrate a wide variety of leadership styles and techniques in the sources and uses of power, and moral exemplars, but also they do so in a manner which students have found to be highly interesting and enjoyable. The books portray interactions between the characters in ways that the students can understand and identify with. It is hoped that this exercise will stimulate instructors to further investigate the use of popular books to supplement different areas of classroom instruction by taking advantage of observational learning.

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3.7.2.3 Developing course material

To develop course materials, an extensive search on the internet for study material on the novel was done. Some of the resources on the web are listed below (the dates of retrieval are mentioned in the bibliography):

http://www.shmoop.com - Lord of the Flies: Background, Analysis, Summaries

http://www.rit.edu/~sjg2490/lotf/index.html Scott Gersner’s site on Lord of the Flies provides helpful summary and supporting material (including an artist’s rendition of the island).

http://en.wikipedia.org/wiki/Lord_of_the_Flies Wikipedia’s site is useful and easy to read, and it includes helpful background links.

http://nobelprize.org/educational_games/literature/golding/ This site has a simple but entertaining on-line game to help readers review some basic details and concepts in the novel.


http://wisdomwithinconsultancy.files.wordpress.com/2012/02/paulo-coehlo-the-devil-and-miss-prym.pdf The pdf version of the novel is available on this site.

http://tdmpreviewofshai.wordpress.com/category/elements/ This site explains the exposition of the novel and the main characters.

Thematic analysis was done by reading the novel several times to identify the situations which were examples for a theme. It was felt that the attention span of the current generation of students is short. Hence project resources like the chapter wise summary, plot synopsis, timelines, list of important quotes were prepared. The next step was to develop assessment items. It was felt that assessment would be done through traditional examination papers set by the college.
3.7.2.4 Validation of the model

A Pilot Study was conducted to identify the usefulness of literature in management education. The sample size was 30 MBA students. The pilot study was conducted at a conference in March 2010 in a Business school where organizational behavior concepts of ethical leadership were explained using the novel *The Devil and Miss Prym*. The semantic attitude scales form was filled and collected immediately after the lecture.

To identify the usefulness of literature in management education using the Semantic differential scale after demonstrating the concept to students.

The semantic differential (SD) is a useful technique for measuring attitudes toward objects. It is a method of observing and measuring the psychological meaning of words, usually concepts. The SD consisted of nine scales, each of which was a bipolar adjective pair. The bipolar adjectives were seven-point rating scales. The bipolar adjective pairs chosen were: Reject – Accept, Unstructured – Structured, Confusing – Clear, Stale – Fresh, Serious – Fun, Traditional – Progressive, Complicated – Simple, Useless – Useful, Boring – Interesting. A Semantic differential Scale was inscribed between two bipolar words and the students selected the point that most represents the direction and intensity of their feelings.

Measuring student reaction for the use of literature as a Management teaching tool with the nine bipolar adjectives was confirmed with a Cronbach alpha reliability of 0.697. The coefficient alpha estimate of internal consistency reliability increases to 0.763 with the removal of the unstructured – structured bipolar adjective pair. In the second case, the Guttman split half value is 0.686. This is acceptable as per George and Mallery (2003) who states that a Cronach Apha reliability around .7 is acceptable while .8 and .9 are good and excellent respectively. (pg. 231). Central Tendency Effect is a tendency that the subjects in a survey study would rate a scale at the neutral or the middle point of a scale in order not to show their extreme feelings or attitudes toward any directions. Such tendency is not visible in the survey results.
Table 3.3 SEMANTIC DIFFERENTIAL SURVEY RESULTS

The students found the model very progressive and they felt the approach was interesting, fun and fresh. The model could be made more clear and simpler. This would make it more useful. They were not very sure about the structure of the model and were unclear whether they would outright accept or reject it.

The model was also validated by a professor teaching in a Management institute. The validation inputs were incorporated in the model. This formative evaluation gave an impetus to go ahead with the study.

3.8 Implementation

The implementation phase was the actual execution of the model and ensuring that the exogenous variables are controlled. Two experiments were conducted as planned. The procedure followed in conducting the experiment ensured that ethical issues were also taken care of.

3.8.1 Sampling

A. Population

The study used the population of Management students. The sample was drawn from the two divisions of the same population. The treatment was randomly assigned to each of the groups. The inclusion criteria were:

i. The respondents should be students of a business school studying MMS.
ii. They should be first semester students. (experiment I)
iii. They should be fourth semester students. (experiment II)

**B. Type of Sampling**
Due to the nature of the study, the sample was purposive, under non probability type. The research was conducted in a business schools in Mumbai. The respondents were first semester and fourth semester Management students.

**C. Sample Description**
The Sample size was 120 students. 60 students formed the experimental group and were taught by means of the experimental method. Another set of 60 students, being the control group, were taught by means of the conventional method.

Students had got admission on the basis of their MH-CET scores. There were category / ethnic origin quota namely general, OBC – SBC and SC – ST – NT. The male female ratio is 65-35. The age group of the students is 21-30. The students came from different graduation streams like Arts, Science (including engineering) and Commerce (including Management). There were a few post graduates also. On an average, 3% students have an Arts background, 15% students have a Science (science| engineering) background, 75% students have a Commerce (Management / commerce) background and a mere 2% of the students are Post Graduates. Some students had work experience prior to joining the course but a majority of the students were freshers.

**3.8.2 Conducting the Experiment**
The research tried to establish that using literature to teach Management students affects the student’s performance as compared to Management students taught using conventional methods. Due to time and resource constraint, the model was tested in one Management college only. Prior permission was obtained from the authorities of the business school.

The experiment was conducted from August 2012 to November 2012 with two classes of MMS first semester students of a Management college. Each class had 60 students. One class formed the control group randomly and was taught through the conventional methods. The other class formed the experimental group and was taught using literature. Organization Behaviour concepts were taught during this experiment.
The same experimental process was replicated from January 2014 to April 2014 with two classes of MMS fourth semester students of a Management college. Each class had 60 students. One class formed the control group randomly and was taught through the conventional methods. The other class formed the experimental group and was taught using literature. Ethics and Corporate Governance concepts were taught during this experiment.

The teaching methods compared were

a) conventional : using lectures, Powerpoint presentation and case study and
b) experimental : using literature (the novel *Lord of the Flies* by William Golding and *The Devil and Miss Prym* by Paulo Coelho)

The procedure followed for both the experiments was as follows:
The module prepared considers some concepts of the organizational behaviour and ethics and corporate governance as stated in the Mumbai University syllabus. The professor who was to conduct the lectures was trained by the research in the experimental method using the novels. The course was conducted by the same college professor for both the groups. The trained professor monitored, guided, and facilitated as learners completed the course.

To ensure the fidelity of the experiment, the research acted as an observer for the experimental and the control group.

After the completion of the course, an examination was conducted on topics from Organizational Behavior which were taught to the students. The examination was conducted by the college. The same post-test exam was administered to both groups. The control and experimental groups were tested simultaneously.

The dependent variable “performance” was measured with instructor-made tests which were designed to measure student learning of important concepts taught during the experiment. The performance was evaluated on the basis of marks scored in the exam conducted. The difference between the post-test scores of the two groups is measured to give the net effects of the treatment.

In a global management graduate survey conducted in 2012 by the Graduate Management Admission Council, it was found that the top three drivers of quality for graduate business education are the curriculum, faculty, and program structure. Keeping this in mind, the faculty
feedback form used by the college was used to gather the reaction of the students to the course. The dependent variable perception was analysed on the basis of the feedback scores. A test was given after a month to assess the student retention of important concepts taught during the experiment. The dependent variable retention was analysed on the basis of the marks scored in the exam conducted. The difference between the retention scores of the two groups is measured to give the net effects of the treatment. The same process was adopted for the second experiment.

### 3.8.3 Internal Validity

Internal Validity refers to the confidence we place in the cause effect relationship. Internal validity refers both to how well a study was run (research design, operational definitions used, how variables were measured, what was/wasn't measured, etc.), and how confidently one can conclude that the observed effects were produced solely by the independent variable and not extraneous ones. In experimental research, internal validity answers the question, "Was it really the treatment that caused the difference between the subjects in the control and experimental groups?"

#### 3.8.3.1 Factors effecting Internal Validity

In her book *Research Methods for Business*, Sekaran (2006) identifies and discusses 7 types of extraneous variables that can, if not controlled, jeopardize an experiment's internal validity.

The factors effecting internal validity are:

**A. History**

History refers to the effect external events have on subjects between the various measurements done in an experiment. These experiences function like extra, and unplanned, independent variables. Compounding this, the experiences are likely to vary across subjects which has a differential effect on the subjects' responses. Studies that take repeated measures on subjects over time are more likely to be affected by history variables than those that collect data in shorter time periods, or that do not use repeated measures.
B. Maturation

Maturation refers to how subjects naturally can change over the passage of time (rather than due to the treatment). For example, the more time that passes in a study the more likely subjects are to become tired and bored, more or less motivated as a function of hunger or thirst, older, etc.

C. Testing effects

Exposure to a pre-test could contaminate/influence the subject’s performance in a post-test. This kind of sensitization is called the testing effect.

D. Instrumentation

Instrumentation effect is yet another source of threat to internal validity. It refers to the objectivity, reliability and validity of the research measurements. Changing the measurement methods (or their method of administration) during a study can affect what is measured.

E. Statistical Regression

Statistical regression is the phenomenon whereby retest results tend to regress toward the mean. When subjects in a study are selected as participants because they scored extremely high or extremely low on some measure of performance (e.g., a test, etc.), retesting of the subjects will almost always produce a different distribution of scores, and the average for this new distribution will be closer to the population's. For example, if the chosen subjects all had high scores initially, the group's average on the retest will tend to be lower (i.e., less extreme) than it was originally. Conversely, if the group's mean was originally low, their retest mean would be higher.

F. Selection Bias

The threat to internal validity could also come from improper or unmatched selection of subjects for the experimental groups. Selection bias refers to the effect of nonequivalent groups on a study's validity. The subjects in comparison (e.g., the control and experimental) groups should be functionally equivalent at the beginning of a study. If the comparison groups are different from one another at the beginning of the study, then the observed effect(s) may be due to these differences, as opposed to the result of the experimental treatment.
G. Experimental Mortality/Attrition

Attrition refers to the potential bias that occurs depending on who stays or drops out of a study. Subjects frequently 'drop out' of studies. If one comparison group experiences a higher level of subject attrition than other groups, then observed differences between groups become questionable.

3.8.3.2 Handling the factors of Internal Validity

The post test only randomized two group design structure takes care of all the factors of internal validity. The sample selected comprised of students of the first year MMS course. As the groups were randomly selected on the basis of college distribution of students who had undertaken the state level Common Entrance Exam, the students were evenly distributed. There are no observed differences in the groups. There was a equal spread in both the groups.

A summary of the novel interspersed with relevant quotes to the students was adopted. The challenge for the Management educator was to create a stimulating learning environment for the students. The students enjoyed the story and the instructor ensured class participation to hold the attention of the students.

As no pretest was administered in this study, the question of the testing effects does not arise. One instructor taught both the groups the same syllabus albeit different teaching methods. The performance was assessed on the basis of a common question paper. The papers were corrected by one common instructor.

Therefore, it may be said that internal validity was controlled by the design.

3.8.4 External Validity

External validity represents the extent to which a study's results can be generalized or applied to other people or settings. Maximum external validity can be achieved by ensuring that as far as possible, lab experimental conditions should be as close to and compatible with the real world situation.

An interaction between how the subjects were selected and the treatment can occur. If subjects are not randomly selected from a population, then their particular characteristics may bias their
performance and the study's results may not be applicable to the population or to another group that more accurately.

Campbell and Stanley (1966) feel that subjects who know they are participants in a study, or who are aware of being observed, etc., may react differently to the treatment than a subject who experienced the treatment but was not aware of being observed (Hawthorne Effect).

Hawthorne Effect is a form of reactivity that the subjects in the experimental group improve or modify their behavior being experimentally measured simply in response to the fact that they are being studied, not in response to any particular experimental manipulation. So, the improvement would be higher than normal. Conversely, John Henry Effect is also a form of reactivity that the subjects in the controlled group try to improve or modify their behavior being experimentally measured to compete with those in the experiment group. So, the improvement would be higher than normal. Both these effects did not impact the study as the students were studying the same course material and had to give an examination at the end of the course which was part of their regular assessment. As the study conducted was part of the regular syllabus, the performance was as per their regular exam. The experiment played no role in their performance.

Pygmalion Effect or Rosenthal Effect, refers to the phenomenon when the greater the expectation placed upon the subjects in the controlled or experimental groups, the better they can perform. Subject-Expectancy Effect is a form of reactivity that occurs in an experiment when the subjects expects a given result and therefore unconsciously affects the outcome, or reports the expected result. There were no expectations from either group. Their performance was compared.

Observer-Expectancy Effect (also called the Experimenter-Expectancy Effect, Observer Effect, or Experimenter Effect) is a form of reactivity, in which a researcher's cognitive bias causes them to unconsciously influence the participants of an experiment. The lectures were taken by a college instructor for both the groups. The researcher did not have any opportunity to influence the participants.

Contamination effect was controlled by having the classes at different times and keeping the two groups physically apart. This ensured that the treatment did not seep through.

Novelty Effect or Honeymoon Effect is a tendency for the subjects in the experimental group to perform initially much more actively when new technology is instituted, not because of any actual improvement in learning or achievement, but in response to their increased interest in the new technology. The students may have found the method of teaching using literature novel in

*Using Literature as a Management Teaching Tool*
the initial part of the study but they had to study their course material in their college and they were taught by their regular faculty. So this effect would not have lasted.

3.8.5 Ethical issues in Experimental Research
Confidentiality and anonymity of the information given by the students was maintained.

3.9 Evaluation

The most crucial activity of Instruction design is the evaluative activity which is designed to improve the design, development, formation and implementation of a programme. Evaluation can be formative or summative. Formative evaluation was embedded at various stages for judging the value or worth of that process while the program activities were being formed. A pilot study was conducted to understand the reaction of Management students to a teaching method using literature. The model was validated by professors teaching the selected Management topics. Instruction effectiveness was monitored while being taught. The instructional strategies were adjusted according to students' interaction with the content, the instructor, and the peers. It was felt that variations in presentation and student participation would reduce the monotony. For eg. Briggs Myers personality concept was handled in a different manner whereby student participation was increased.

A summative evaluation was performed at the end of the Instructional Design process that focused on the outcome. The overall course effectiveness was measured at course completion by assessing the student's performance on the basis of marks scored in the exam conducted.

3.10 Techniques of Analysis
The researcher used the following techniques for data analysis depending upon the Objectives, hypotheses and variables:

3.10.1 Main hypothesis
The Independent Samples t Test compares the mean scores of two groups on a given variable.
Assumptions:
- The dependent variable is normally distributed.
- The two groups have approximately equal variance on the dependent variable
- The two groups are independent of one another.
The researcher has used it to test the mean scores of the control and experimental group. It has also been used to test the mean scores of the CET scores of the students to verify the equality of the groups.

**3.10.2 Moderating Variables**

An interaction effect exists when the effect of one independent variable on the dependent variable depends on the value (level) of some other independent variable included in the study design. In other words, the test of an interaction focuses on the question of whether or not the effect of one factor is the same for each level of the other factor.

The focal independent variable (teaching method) is the variable whose effect on the dependent variable (student performance) is thought to be moderated by some other independent variable included in the study (e.g., age, gender). The focal independent variable is the variable of primary interest. On the other hand, the moderator variable is a variable of interest because of its potential impact on the effects of the independent variable that is the primary focus of the study.

Analysis of variance (ANOVA) is a statistical technique that is used to evaluate whether there are differences between the average value, or mean, across several population groups. With this model, the response variable is continuous in nature, whereas the predictor variables are categorical. The researcher used it to test the association between the continuous variable and the categorical variable.

A General Linear Model is, as the name suggest, general in that it incorporates many different models, so that many different tests can be performed. Among these, are the one-and two-way ANOVA, and regression analyses. A one-way ANOVA is a univariate GLM with exactly one independent variable (e.g. fixed factor). A two-way ANOVA is a multivariate GLM with exactly two independent variables (e.g. fixed factors). There can be one or more independent variable or factors and/or variables. The MANOVA test in the same as ANOVA, but you can study two or more related DVs while controlling for the correlation between the DV.

Conducting a test of simple main effects involves examining the effect of one of the independent variables (focal) at a fixed level of another independent variable (moderator) included in the study. This was accomplished using factorial ANOVA using the general linear model- univariate procedure in SPSS 11.0.
Thereafter a MANOVA test was used to interpret the meaning of a significant interaction effect. This approach may be most useful when the researcher’s interest is in finding out which combination of the factors produces the most desirable results.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Experimental group</th>
<th>Control group</th>
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</thead>
<tbody>
<tr>
<td>Personal data form</td>
<td>Collected by college at time of admission</td>
<td>Collected by college at time of admission</td>
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<tr>
<td>Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of sessions</td>
<td>10 sessions</td>
<td>10 sessions</td>
</tr>
<tr>
<td>Session Duration</td>
<td>1.5 hours each</td>
<td>1.5 hours each</td>
</tr>
<tr>
<td>Session days</td>
<td>Monday, Wednesday, Friday</td>
<td>Tuesday, Thursday, Saturday</td>
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</tbody>
</table>
| Total Period           | Experiment I : August 2012 to November 2012.  
Experiment II : January 2014 to April 2014. |
| Examination            | 3 hours                                                | 3 hours                                            |
| Feedback form          | Half an hour                                            | Half an hour                                       |
| Retention test         | 2 hours                                                | 2 hours                                            |
| Variables controlled   |                                                        |                                                   |
| Students               | Experiment I : MMS first semester students of a Management college in Mumbai  
Experiment II : MMS fourth semester students of a Management college in Mumbai |
| Faculty                | Experiment I : Same faculty taught both groups          | Experiment I : Same faculty taught both groups     |
| Infrastructure         | Classroom, Seating arrangement, Canteen facilities      |                                                   |
| Resources              | Library, Access to faculty                             |                                                   |
| Examination            | Question Paper                                          |                                                   |
| Syllabus               | Mumbai University, MMS degree,  
1st semester Syllabus for Organization Behaviour  
4th semester syllabus for Business Ethics & Corporate Governance |                                                   |
<table>
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<tr>
<th>Course Content</th>
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<tr>
<td></td>
<td>Leadership</td>
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<td></td>
<td>Motivation - Maslow's hierarchy of needs</td>
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<td>Personality - Briggs Myer</td>
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<td>Organizational change</td>
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<td>Ethical leadership</td>
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<td>Ethical decision making</td>
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<td></td>
<td>Corporate Governance</td>
</tr>
</tbody>
</table>

| Course Schedule | Ten lecture sessions of 1.5 hours each for both the classes for each experiment. |

Table 3.4 ACTIVITIES AT A GLANCE

The entire experiment was conducted twice as per the activities listed in Table 3.4, once with OB and the second time with Ethics and Corporate Governance. After conducting the experiment, data was collected and analyzed. The details of the analysis and findings are discussed in the next chapter.