INTRODUCTION
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There is a strong and persistent view that one of the worst crisis of our time is the 'Crisis of Character'. These days social, moral, cultural and spiritual values are disintegrating, religion losing its hold, power and knowledge are misused for vested interests, nations fail to trust one another and black-marketing, corruption, barbarism, indiscipline, violence are fast spreading. That is a chaotic condition is observed in almost all spheres of our life. According to Dr. S. Radhakrishnan the troubles of the whole world are because of the fact that education has been becoming a mere intellectual exercise and not the aid for acquisition of moral and spiritual values.

In the past, India had a rich and glorious tradition. But at present our society faces a lot of crisis in the field of social and moral values of life. In this connection Chilana (1987) opines, "In view of our glorious tradition of piety, tolerance, universal brotherhood and peaceful co-existence as contrasted with the present day phenomenon of hypocrisy, corruption, dishonesty and inhuman attitude, we are undoubtedly convinced that we face today the worst moral crisis" (Sarangi, 1994, p.146).

Gandhiji said, "By Education, I mean an overall allaround drawing out of the best in child and man in body, mind and spirit". In the present context, is it happening in our classrooms? Or in our educational process? With
knowledge explosion education has been restricted to transmission of specialized knowledge leaving aside the human values. Character training and value education has been ignored altogether in our educational system. Here education is soaked in textual scholarship forgetting the values.

"If we are given the right kind of education definitely we may be an exemplary to others. For example, take any tree when it bores fruits it bows down to the ground due to the weight of the fruits attached to the stem, so that the human beings can reach to their fruits easily. Similarly the educated man should stand like a tree which emphasizes the fact that we should be humble. Here definitely the man's character and values in the society will be appreciated by the people" (Vijayakumar and Namasivayam, 2005).

A study of the documents of the Government of India related to pre-independence period and post-independence period reveal the demand of the educators on the inclusion of moral education and its values in our educational system. The need for value education has also been stressed by all the commissions set up for educational development from time to time.

Radhakrishnan Commission (1948), Sri Prakasa Committee on Religious and Moral Instruction (1959), Kothari Commission (1964-66), National Policy on Education (1986) and Programme of Action, NPE (1992) have been highlighting the urgent need for value education. According to Tagore, in order to emphasize the need and importance of value oriented
education, the greatest use of Education is not merely to collect facts but to know man and make oneself known to man (Mehndirata, 1997, P. 981).

Value Education forms the foundation of character and moral development. It is able to inculcate in children humility, truthfulness, tolerance, honesty, sincerity, courtesy, sympathy, fellow feeling, affection spirit of service and sacrifice through education.

The National Policy on Education (NPE, 1986) has rightly pointed out the crisis in values in all aspects of life. Therefore it has recommended a special thrust on inculcation of values at all stages of education, especially at the school stage.

The first and foremost educational agency in the development of children is the family itself. After a particular age they enter school which is the next and most important agency for their development. It is the climate and ethos of the school which is the most significant factor for developing values in children. In the school the curriculum, teachers, friends and all the like influence their moral development.

The teacher is essentially a part and parcel of the society. He is preparing the child in a small community known as school for a larger community known as the society. The teacher is responsible for the alround development of the child in physical, intellectual, emotional, psychic and spiritual domains. The recommendation of the Education Commission
(1964-66) emphasized that every teacher whatever his/her subject must necessarily accept the responsibility of value development of their students.

At present the educational system has undergone many changes; children as enter school at an earlier age than before; a sense of competition which shadows revenge appears in examinations, and all over teachers feel that the society wants only good results in examinations and thus looks for only career development. Instead, the role of the teacher should be upbringing the child by giving importance to the value aspect of the life and thus the development of a child into a better acceptable personality in the society.

Children must behave morally from the earliest stage so that they need a set of moral principles to guide them. This is the kind of development a teacher should expect from their students. First of all the teacher himself should be an embodiment of values and for which he must possess value oriented outlook and then he should follow ways and means of spreading values in the students.

The present attempt is focusing the importance of value education where the role of teacher is the relevant area.

NEED AND SIGNIFICANCE OF THE STUDY

Now-a-days teachers have the opinion that the value-crisis is reflecting in our classrooms. Some students are declared by teachers as mischievous,
indisciplined and some of the them are named delinquent while others are called 'good for nothing fellows', But are these applicable to children? Really not; not at all.

A child is a special sort of human being by reason of its being in a state of growth. Physically and psychologically a child is far more vulnerable than an adult. When a child is born, it is neither moral, nor immoral but amoral. It is the environment which makes him moral or immoral. This gives us the notion that through education and training morality can be inculcated in the child.

Freud proposed that children around four years of age assimilate the morals and standards of their same sex parent, resulting in the onset of the child's superego, which is the storehouse for one's conscience. Thus children have rudimentary sense of right and wrong based on the morals of their parental figure. According to Kohlberg (1969), as the child develops, the child learns that rules can be challenged and is able to consider other factors, such as a person's intentions and motivation. Once this stage in perception occurs, the child's moral development will progress to a higher stage.

Rani (1968) conducted a study on moral development in children and found that age was an important variable influencing the knowledge of moral values, which seemed to increase with an increase in age.
It is in the secondary school stage in which the demands of the society for value laden behaviour increases. Moral breakdown that occurs at the secondary stage might well have been avoided only through proper training. Since character is built largely during childhood and youth it should be a special responsibility of schools and colleges to provide education for character training.

Moral development of a child, according to some, results automatically from the social life of the school. The child as a member of the group imbibes the attitudes, values and general behaviour of the group and continually tries to mould himself according to the group norms. Such adjustment to life constitutes his moral development. Value Education of this period also is a process of aiding the child in such adjustment. "Ethical values are essential to make an individual a good and useful member of society and a good person himself and these values are essential for sustaining societies" (Venkataiah, 1998, p.5). Hence the need of a good atmosphere in school is necessary for the development of values in students.

There is no doubt that many agencies like teachers, friends, peer group and curriculum, all are influencing the development of a child. The development of an individual for leading a better life is happening unknowingly. The students are not aware of the effectiveness of the above agencies. May be that the saying 'Values are caught rather than taught' is true
here. It is sure that the good model of teachers, public, peers, all develop goodness in students. Here the opinion of Rohidekar (1998) is relevant. According to him Values are to be caught and not taught is a very old saying. It was perhaps true in days gone by when parents at home and leaders in community in various walks of life were all value based people. Therefore younger children and growing adolescents could catch values of elderly people and either by imitation or by special efforts developed appropriate values accepted and respected in society" (p.80).

If undesirable models are more in the world how can we expect that values can be caught from models? Therefore values have to be taught in addition to being caught, from selected situations and personalities.

Rohidekar adds, the practical solution lies in making a beginning of value education in which teacher training in values should be strong component and the curriculum in value education should be related to the present practical needs of society. Therefore, the need for development of appropriate curriculum and the relevant training courses for teachers to enable them to handle value education in a practical way is more stressing.

Even in any technological advancements the role of teacher is highly relevant and crucial in the development of the child. As is the teacher, so is the student. It is in school most children find their teachers as worthy models. They consciously or unconsciously imitate the values, ideals and habits of
their teachers. Students look up to the teacher with faith and hope and they seek his counsel in matters temporal or transcendental. Hence teacher should have keen sense of values.

Some say that teachers should spend their time teaching students to think rather than feel. This is because of the attitude that the objectives of the affective domain are to be developed by other agencies like family, religious institutions etc. But the separation of the cognitive and affective aspects for the development of an individual is untenable. In the process of education the alround development of the individual is to be given importance. This means a teacher should aim the development of the whole person.

In the present system of education, the text books play a pivotal role. Mani (2002) remarks, "when there is doubt on concept clarity, children tend to refer the text-book to a large extent. Sometimes it has more effect than the teacher himself does in the classroom. Therefore, text books have a great role to play in fostering values. Value development concepts should be interwoven with the syllabi. Instead of teaching value development as a separate subject, the concept can be effectively integrated through textbooks" (p. 40). Sharma (1998), Sivakumar (2004), Anilkumar (2005), Vijayan (2005), and Agarwal and Agarwal (2006) have stressed the significance of text books in value development of children.
The above studies show that all subjects like Languages, Civics, History, Geography, Economics, Commerce and Science do contain inherent values. The investigator has specialized in Biology and is specially trained in teaching of Biology only. Through this humble attempt the investigator wishes to find out whether values are hidden in the Biology text book of secondary classes also.

Before transaction of the text book, the teacher should know the effectiveness of the book by looking for its aims and objectives. As the first step teacher should try to find out the value aspect of the book and then approach the transaction procedure/technique to develop them in students. This should be accepted by all teachers as their regular responsibility. That is why the investigator selected teacher as the sample for the study.

SPECIAL SIGNIFICANCE OF THE STUDY

The usual practices of value education in classrooms by the teachers are as follows;

- Extension lectures of experts on morality or value oriented education.
- Celebration of birthdays of great men and women and celebration of International Days also.
- Arrangement of book exhibitions on literature related to moral values.
- Extracurricular activities for moral development in children.
On the spot art and painting competitions on themes related to different types of values.

Role play.

Singh (2004) pointed out the limitations of the above said methods as all these appeal to emotions and not to reason. The rational outlook is essential as it makes the man open-minded, tentative and provisional in nature, dispassionate, cool and tolerant in opinion. Our feeling gives us the values but the reasoning helps us to achieve those values. So such a method of teaching is required which is conducive to imbibe values by students. The aim of the method should be to teach procedure rather than to give solutions.

"A moral person, according to Venkataiah (1998), not only does the right thing but also knows the reason as to why he does it".

The search for such a method ended in Jurisprudential Inquiry Model of teaching (JIM). This model of teaching involves conception of values and productive dialogue as well as curriculum and pedagogical considerations. One notable advantage of this method is that open climate for discussion is there which is a major feature of childcentred approach in the classroom. Another advantage is that the teacher is very powerful person who initiates the questions or inquiry during the process which push students' thinking and help them to learn.
Therefore, the investigator felt the effectiveness of JIM and thus the necessity to orient teachers on JIM. It is also felt that as the textbooks are the real source of values they are to be analysed first for identifying those values and then the values be transacted through JIM. As the investigator is specialized in Biology only she can work on the secondary level Biology curriculum alone.

Hence she decided to conduct an experimental study for which secondary level Biology teachers who are in service can be utilised. The study could be giving training to the selected sample for analyzing the content of the Biology text books to find out values and to transact these values through JIM to the students in the schools. To make the study more useful to the teaching community it was decided to convert the training procedure into a module for self-learning.

How the Study is Different from the Earlier Studies in the Field

The present study is not intended to duplicate the existing studies. It is intended to be an extension of the pervious studies conducted in the area as indicated below.

1. All the studies have proved the relevance of moral education theoretically. This study approaches value education in a practical way.

2. The present study has taken teachers as the sample and mainly focused on the role of teachers in value education.
3. The present study is conducted through a training programme given to teachers after collecting their opinion about the present status of value education in the schools and developed the study along with their expectations in the relevant area.

4. As the teachers pointed out the limitations of already practiced techniques or methods for value education, this study highlights the importance of an effective model JIM for value inculcation.

5. Along with the theoretical aspects this study provides an experimental experience to teachers about JIM for its classroom practice.

6. The earlier studies in this area suggested JIM as an effective strategy for value development in students, the present study is practicing the strategy with utmost care.

7. The references showed that value education is a neglected area in the teachers training programme. Hence the present study attempts to develop a self learning material/module for its use in teachers training programme/ in-service teaching by the mass.

Possible Outcomes of the Study

The findings of the study are intended to yield the following outcomes.

1. As the teachers are the sample for transaction of values which are first identified from the content and then its practice through JIM, every
Biology student of the consecutive years will get its benefits from the same teacher.

2. The trained teachers can transfer the procedure practiced in this study to other teachers of different subjects also. It is helpful to all teachers because every subject inhere values.

3. As the study develops a module/self learning material for JIM, it is highly useful as a ready reference material to all teachers.

4. As the study provides a technique for transaction of values it is helpful for inservice teachers, pre-service training and training through mass media.

In view of all the above aspects, the study was entitled as follows:

**TITLE OF THE STUDY**

The problem for the present study is entitled as "DEVELOPMENT OF A TRAINING MODULE FOR TEACHERS TO TRANSACT BIOLOGY CURRICULUM FOR DEVELOPING CERTAIN MORAL VALUES IN SECONDARY SCHOOL PUPILS".

**DEFINITION OF KEY TERMS**

The key terms included in the title of the study are defined as follows:
1. Development

Dictionary of Education (Good, 1973) defines development an extension of basic or applied research through which laboratory findings are reduced to practice.

For the present study "development" means transforming the complete procedure of the training programme conducted for teachers to develop values in students to a module. Thus the term stands for preparation of the module.

2. Training

According to Taneja (1989) training is systematic practice in the performance of a skill.

Dictionary of Education (Good, 1973) defines training as the special kind of teaching and instruction in which the goals are clearly determined, are usually readily demonstrated, and call for a degree of mastery which requires student practice and teacher guidance and appraisal of the student's improved performance capabilities.

For the present study training was given to the select Biology teachers of secondary schools to identify moral values hidden in the content of the Biology curriculum and to transact them for developing values in students.
3. Module

A module is a self contained and independent unit of instruction with the primary focus on a few well defined objectives. The substance of a module consists of materials and instructions needed to accomplish these objectives (Husen and Postlethwaite, 1985).

4. Biology Curriculum

For the present study, Biology curriculum refers to the science of life with special reference to the syllabus of Botany and Zoology prescribed for secondary school students.

5. Moral Values

Moral values refer to those values which are related to an individual's character and personality conforming to what is right and virtuous. Examples; honesty, integrity, sense of responsibility, compassion etc. (Venkataiah, 1998).


Students studying in standards VIII, IX and X in recognized high schools in Kerala state. For the present study only students of standard IX were taken as the representative sample.
OBJECTIVES OF THE STUDY

The following are the objectives of the present study:

1. To train teachers to transact Biology curriculum for developing certain moral values in secondary school pupils.
2. To develop a training module based on the above procedure.

HYPOTHESES OF THE STUDY

The following hypotheses are formulated for the study:

1. There will be a positive effect for the training given to develop moral values identified from the secondary school Biology curriculum which is transformed into a module.

2. The effect of training given for developing moral values, which is presented in the module, will be long lasting as evidenced by the retention of the same.

METHODOLOGY

The methodology of the study is provided below in brief.

a) Design of the Study

The study was conducted at first as an experimental one, the procedure of which was then developed into a training module. The training was for teachers to transact Biology curriculum for developing certain moral values in
secondary school pupils. The study aimed at giving training to a limited number of Biology teachers of secondary level first to analyse Biology curriculum of standards VIII, IX and X to find out the moral values in the Biology content. Secondly training was given to transact these values to the students by using a strategy namely Jurisprudential Inquiry Model (JIM). After becoming well versed in the strategy teachers were allowed to practice the same in their classes. The effect of the treatment was compared between pre-testing, post-testing and retention testings. The complete training procedure was then transformed into a module by hoping that this will be useful for all Biology teachers as a self-learning material for identifying values from the content of text books and for practice of JIM in the field. Hence the design of the study was a single group pre-test –treatment–post-test–retention test experiment combined with development of a self-learning material.

b) Variables of the Study

The following are the variables of the study;

1. Dependent variable – The development of moral values in secondary school students.

2. Independent variable – The training given to teachers to transact Biology curriculum which was later developed as a module.
c) Sample for the Study

The sample for the training was 30 Biology teachers of secondary school level. This sample was selected from the teacher community with those who are willing to participate and practice the training procedure in their classes. The sample was selected from three locales, namely Thrissur, Manjeri and Calicut University Campus regions.

The treatment was applied and tests were administered to 1094 students of standard IX.

d) Tools used for the Study

The following tools were used for the study;

1. Test of Moral Values for secondary school students
2. Eight value based lesson plans on JIM to develop the identified moral values from the Biology curriculum, which were later transformed as the module.

e) Procedure

The procedure adopted for the study is as follows;

1. Analysing the Biology text books for standards VIII, IX and X to locate moral values that can be developed from the curriculum.
2. Making the teachers aware of the scope of Biology curriculum to develop certain moral values and the need for certain special transacting procedures to develop those values.

3. Giving training to teachers to analyse the Biology text books to identify the values hidden in them.

4. Training the teachers for using JIM to develop moral values identified in the above step.

5. Conducting a pre-test of moral values for secondary school pupils selected as the sample.

6. Conducting classes by the trained teachers through JIM to develop the select moral values for the sampled students.

7. Conducting a post-test of moral values for the sample.

8. Testing the difference between pre-test and post-test scores for its significance.

9. Conducting a retention test of moral values for the sample.

10. Testing the difference between post test and retention test scores for its significance.

11. Developing the final module

f) **Statistical Techniques used for the Study**

The statistical technique used for analysing the data was the test of significance of the difference between correlated means
SCOPE AND LIMITATIONS OF THE STUDY

The descriptions of the study attempted above are mostly adequate to convey the scope and limitations of the study. Since they have been presented in combination with other routine descriptions, an attempt has been made here to examine separately the scope and limitations of the procedure adopted in the study. The important aspects that need special mention in this context are the following.

The present study has been designed as an experimental one and aimed at development of moral values in secondary school students. Now-a-days the area of moral education is becoming important in the educational scenario and it calls for direct, indirect and incidental way or with an integration of all these for maximum results. Many experts proposed different strategies for value inculcation also. Thus the dependent variable, that is, development of moral values seems highly relevant.

Teachers are the most powerful agents of value inculcation in their students. But there is a big question posed by teachers about how the values are to be identified and transacted. In such a context the teachers are to be trained for identification and transaction of values. Hence the sample of the study was teachers.

The training was systematic with planning and preparation of necessary materials. 30 teacher samples were selected from three regions of
two complete districts which is supposed to be an adequate size to be handled for an experimental study. The 30 teachers were given training in still a handy number in subgroups. The trained teachers conducted classes in their own classes and thus no artificiality could be experienced by the students in the experiment.

The necessary tools prepared for the study were Lesson plans based on JIM and Test of Moral Values for students. The tools were appropriate and adequate for the purpose. The lesson plans followed the actual phases of the JIM proposed in the source book. The components of the test were also appropriate as the test was a criterion referenced one which was then evaluated by experts in the field.

Simple experimental design was selected and significance of pre-post tests was analysed for effectiveness of the training. Necessary statistical techniques were applied for the same. Thus the findings are generalizable.

Since the training found its effectiveness, the complete procedure used for the training was transformed to a module which is hoped to be useful to all teachers to transact values in students.

Eventhough the investigator was careful enough to maximize the generalizibility of the study the following limitations also have crept into it.
1. Since it is a pre-test – post-test design the presence of some extraneous variables could have occurred in the experiment, which could not be controlled by the investigator.

2. Due to practical difficulties the study is limited to transaction of eight values through only eight classes by the trained teachers.

Still, it is expected that these limitations would not affect the result of the study and the results would certainly prove highly useful for all teachers especially Biology teachers for their academic and personal development.

ORGANISATION OF THE REPORT

The report has been presented in six chapters.

Chapter I is the Introduction which presents a rationale for selecting the problem, its significance including expected original outcomes of the study, statement of the problem, definition of key terms used, statement of the objectives and hypotheses of the study, methodology and scope and limitations of the study.

Chapter II is the Review of Related Literature. Its first part is the theoretical perspective of the variables in detail and the second part contains the survey of related studies. The chapter also contains a summary of the major trends observed in the studies reviewed.
Chapter III is the **Methodology**. It includes a detailed description of methodology adopted for the present study. It includes design of the study, variables, samples, tools, procedure in detail and statistical techniques used.

Chapter IV of the report is **Analysis and Interpretations**. This includes detailed statistical analysis of data, discussions and interpretations of the results.

Chapter V of the report is the **Module**. The outcome of the study is presented in the form of a Module which consists of two sections. First section is Identification of values from standard IX Biology textbook through content analysis. Second section is Transaction of the select values through Jurisprudential Inquiry Model.

Chapter VI is **Summary of Findings, Conclusions and Suggestions**. The study in retrospect, statement of the problem, major findings, educational implications and suggestions for further research form the aspects of this chapter.