



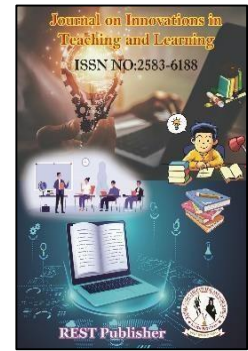
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# **Effect of Flipped Learning Material in Biology for Optimal Learning Environment by Nurturing Social Intelligence among Secondary School Students**

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**Abstract:** *We human being entirely depend or exploits the ecosystem diversity for our benefit and our greed. So investigator took the topic to convey the need for biodiversity conservation for sustainable development. The future generation should be aware of the need of co-existence with other species, that is co-existence otherwise no existence. Social values or social awareness are the key terms that come under Social Intelligence. It is the consciousness of oneself and about others and his/her surroundings. Through the study, the investigator tried to provide awareness about the environment we live and thereby make children to be socially responsible citizens with social values like sharing resources and working towards a common goal with the flipped learning materials (Flipped class room)*

**Keywords:** *Flipped learning Social Intelligence*

## **1. INTRODUCTION**

**“The Earth is what we have in common”. Conserve it:** Wendell Berry

The concept of Biodiversity has its origin in the dawn of 1970. The term ‘biodiversity’ or ‘biological diversity’ refers to the life on earth so it acts as the sauce of life. The ecological balance of the planet is maintained by Biodiversity. We are a human being who is entirely dependent on or exploits ecosystem diversity for our benefit and our greed. So investigator took the topic to convey the need for biodiversity conservation for sustainable development. The future generation should be aware of the need for co-existence with the other species, that is **co-existence otherwise no existence**. Social values or social awareness are the key terms that come under Social Intelligence. It is the consciousness of oneself and about others and his/her surroundings. Through the study the investigator tried to provide awareness about the environment we live and thereby make children to be socially responsible students with social values, interpersonal skills, and working towards a common goal. The investigator tried to provide the concept on Bio-diversity loss and its conservation through flipped classrooms among secondary school students. The flipped classroom is structured around the impression that conventional teaching is not the apt method for teaching, training students by using modern technological methods in the classroom is essential, here instead of the conventional method students should encounter information before class, freeing class time for activities that involve higher order thinking. In the flipped classroom the instructor pre-records the lecture, posts the recording to the students to make them aware of the topics, and later in class the instructor assists the students as they go through the assignment Learning Biology is important to everyday life because it allows humans to better understand their body, their resources, and potential threats in the environment. Biology is one of the few subjects in the curriculum in which the child can find out facts for himself as he /she is brought into close contact with the actual things and occurrences in the ecosystem.

**Need and significance of the study:** Biodiversity is the plenty fullness of flora and fauna in the ecosystem that is all biotic components of the earth which is incredibly essential to the existence of our planet or it maintains the balance of the ecosystem. Conventional methods are not enough to cater to the individual difference among the learner, especially for dealing the topics like biodiversity. The investigator here tried to generate social values among the students by incorporating social responsibility through the environmentally relevant topic in the flipped

classroom. The conventional method usually focused on the content rather than the practical knowledge. Hence through this study investigator tried to promote social values by stimulating social Intelligence among budding stars who are going future nation-builders. Flipped classrooms always focus on individual interpersonal skills by developing individual accountability through group activity which eventually promotes positive interdependence, Face to face pro motive interaction etc.

In the present study, the investigator used the following techniques to create flipped classrooms.

**The Discussion-Oriented Flipped Classroom:** Instructors dispense lecture videos on biodiversity and deliver motivational talks as well as other materials connected to the day’s topic. Class time is then dedicated to discussion and exploration of the subject. This can be an especially useful approach for socially relevant topics. Examples Investigator provides videos related to biodiversity prepared by herself provided it to the entire class and asked students to discuss the topic like types of Biodiversity, and its role to retain other living beings. Investigator provides the

Assignments in groups (Generates social skills like positive interdependence individual Accountability etc.)

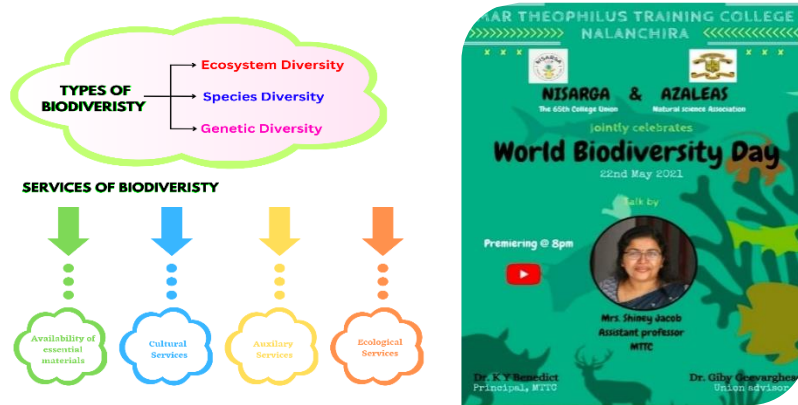


FIGURE 1. The Discussion-Oriented Flipped Classroom

**The Faux-Flipped Classroom:** The faux-flipped classroom is perfect for younger learners for whom homework might not be enough to learn a concept. This flipped classroom model pre-recorded video and materials on the topic of Biodiversity loss evil quartet are given and it enables students to re watch the lecture video. It provides an opportunity for the learners to review materials on his or her pace own pace. The investigator supports students by offering individual support to each young learner. Investigator asked the students to discuss in groups about Biodiversity Evil Quartet (Biodiversity Loss). Developed Social Values like Conflict Management, Group dynamics by giving an awareness of Biodiversity loss with extra worksheet

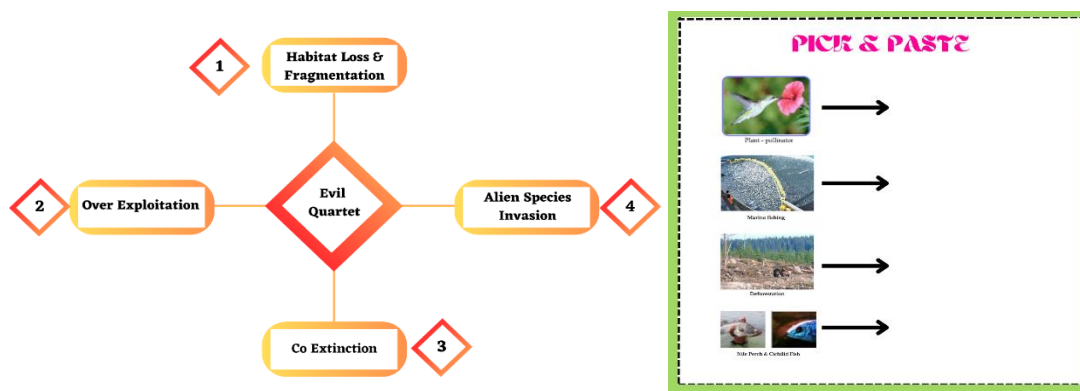


FIGURE 2. Flipping the teacher

**Flipping the Teacher:** Reciprocal teaching through flipped classes is not necessary to begin and end with a mentor Students also can make use of videos to well establish proficiency. Instructors assigned roles to the students to act as the role of the mentor and ask each to make relevant content by themselves for presenting a new subject or skill as a means to “teach the teacher”. Example Topic Relevance of Red data book to reducing Biodiversity Loss. Here learner views the topic and acts as a teacher-learner to discuss the topic related to

Endangered extinct and vulnerable species and the role of the Red data book in conserving biodiversity (Caters to Resilience and face to face promotive interaction among Teacher and Learner ).

 <https://www.youtube.com/watch?v=wDxwaXRrbIM>



**FIGURE 3.** Research questions

- What are the flipped learning materials is usually used in the classrooms?
- How the flipped learning material in Biodiversity caters to Social Intelligence components among Secondary School students?
- To develop flipped learning strategies in Biodiversity for enhancing Social Intelligence among Secondary School Students

## 2. OBJECTIVES OF THE STUDY

### *Hypotheses*

Developed Flipped model learning strategies in Biodiversity for enhancing Social Intelligence among the Secondary School Students

### *Methodology*

Pre-test post -test experimental design

### *Sampling technique*

Random Sampling Technique 163 Secondary students have been taken from the T District of Kerala

### *Tool Used*

Social Intelligence scale

### *Analysis and Interpretation*

**TABLE 1.** Depicts the values of Mean Median, Standard Deviation & t -value of Social Intelligence

Variable		Mean	Median	Standard Deviation	Minimum & Maximum	P - value	t-value
Social Intelligence	Pre-test	4.48	4	2.39	1 & 10	10	0.0001
	Post test	15.53	16	3.85	7 & 24	24	

- The observed t-value is above the table value (2.61) and it is statistically significant. Hence the hypothesis stated has been accepted

## 3. CONCLUSION

- To promote Group Dynamics and Social Behaviour in the classroom by training effective social skills of children, especially by sharing resources
- To enable secondary students to go through the difficult task and come out of it without losing their mind
- The study caters to individuals' positive perception towards Social responsibility, Individual accountability, and Positive Interdependence The study helps educators to set attainable goals and channel them to learn with appropriate teaching-learning strategies.
- The study fosters a sense of accomplishment which is the foremost element in students to develop positive well-being over time. Research also specifies people with a strong sense of purpose, persistence, and accomplishment perform better at work.

- The study acts as a torch bearer for promoting Social values among children and also caters to the relevance of co-existence with a positive outlook it is the basic move to the sustainable development

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