

CHAPTER 5

DISCUSSION

The current chapter presents a detailed enumeration of discussion for all the results, objective by objective. This chapter is divided into five major sections, related to the following:

1. Discussion about the active and passive forms of social learning affecting ESCB.
2. Discussion about the factors influencing ESCB.
3. Discussion about the impact of active and passive forms of social learning on ESCB.
4. Discussion about the impact of active and passive forms of social learning on attitude towards ESCB.
5. Discussion about the relationship between attitude towards ESCB and ESCB among children.

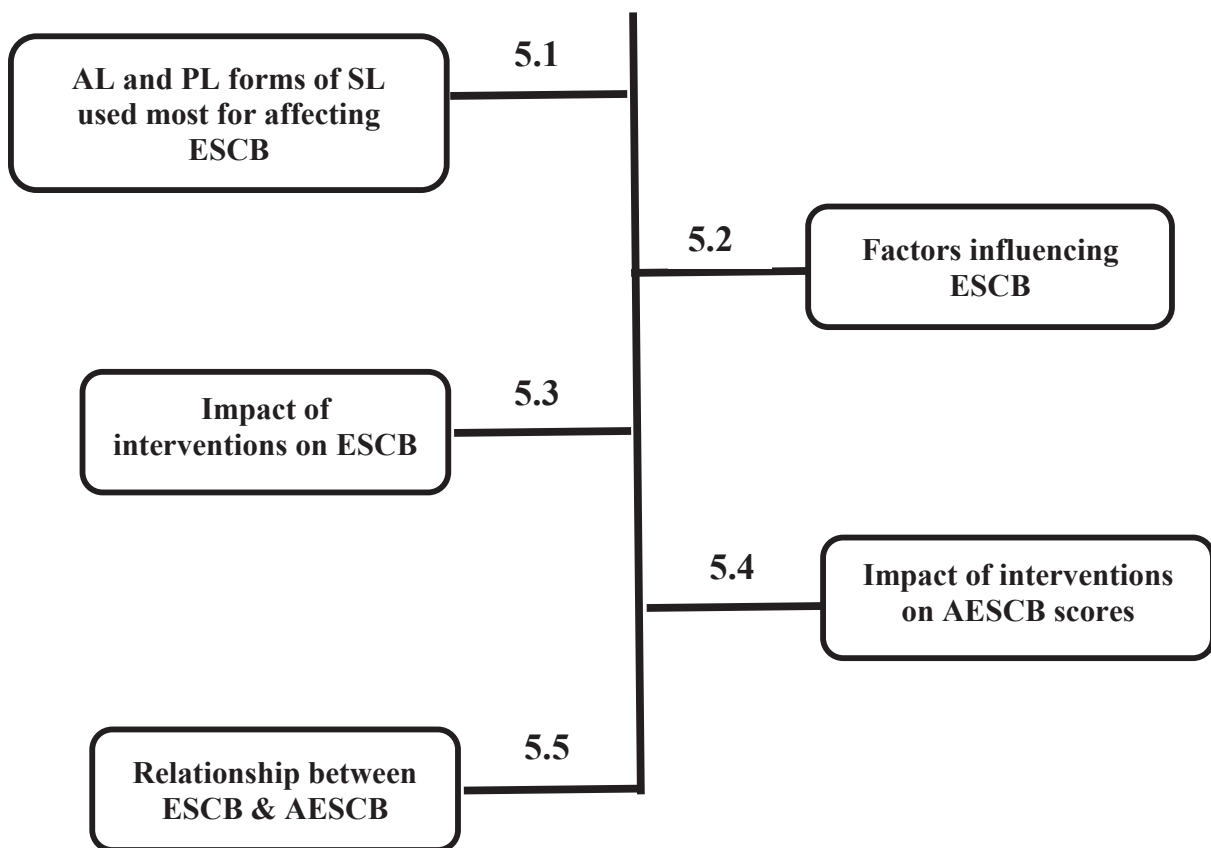


Figure 29: A Schematic representation of Chapter 5

5.1. Active and Passive forms of social learning used most for affecting ESCB

As from the result section 4.1.1, it is found that projects, demonstration, writing, problem-solving and visual based instruction tools were present in environmental studies textbooks of class 3, 4 and 5. Also from result section 4.1.3. we can see the most preferred tools by teachers that can be used for teaching ESCB related concepts. The relevance of these findings is discussed in detail in the subsection 5.1.1 and 5.1.2.

5.1.1. Active and Passive forms of social learning present in text book

Multiple active tools that have been found in private school's environmental studies book are projects, demonstration, writing, problem-solving, discussion, visual based instruction, fieldwork and cooperative learning. The wide emphasis on active tools in textbooks is supported by literature that says that such tools help children to develop psychomotor skills (Michael, Cater & Varela, 2006), to explore their own creativity & design skills (Bell, 2010) and enhance aesthetic sense. As active tools involve discussion and/or interactions while performing the activity, it facilitates children in consolidating what they have observed and learned (Bonwell & Eison, 1991). With the appropriate discussion, the child's understanding can be extended far beyond the point which they could have reached alone. Cooperative learning promotes peer learning which helps in improving social interactions (King, 1990; Webb, 1989). Children respond with enthusiasm when their creative ventures are appreciated rather than dismissed. These types of activities provide an opportunity to the children to express themselves. While actually carrying out the 3 active interventions, namely demonstration, visual based instruction and pausing lecture similar experience by field investigators and data collectors (which included the research scholar herself) was observed, specifically, that children were very happy to be involved in interactions during video sessions, pausing lecture and demonstration activities appeared especially attractive to them.

Passive tools that were found in private school's environmental studies books are stories and narrations, observations, and visual-based tools like a poster. Following literature evidence supports the textbooks' recommendations of these tools:

1. Stories and narrations have been used as a tool for sensitizing the child because a child can probably more easily empathize with characters in a story or a narrative (NCERT, Textbooks).
2. Observation has been seen to be a preferred tool because it helps to relate the child local knowledge to the knowledge given in the book (NCERT, Textbooks).

3. Some students may learn better through passive learning teaching because of differences in their learning styles (Rodrigues, 2004; Charlton, 2006).

All the active tools that were present in private school books were prescribed by the government school books except visual based instruction and fieldwork. Government school lacks availability of visual aids or infrastructure required for implementation of visual aids. These schools lack availability of rooms, visual terminals, electricity. A report published by District Information for School Education (DISE) in the year 2016 states that only 28.60% schools in Rajasthan have access to computers. This figure dipped to 5.29% in primary school from last year. The basic requirement for electricity connection necessary to run computers is also available only in 55.28% schools in the Rajasthan state [Hindustan Times article, 2016]. All the above data justifies that why there is lack of prescription of visual based instruction in government schools.

Fieldwork is also not prescribed in government school textbooks. As field work requires taking school students out for some practical exposure, which in turn requires enough instructors for taking care of and monitoring students. According to the DISE report (2016), teacher-student ratio in a government school is very low, which could be the likely reason to keep field visit out of syllabus.

5.1.2. Active and Passive forms of social learning preferred by teachers

5.1.2.1. Active forms of learning preferred by teachers

Teachers of both the schools (private and government) identified pausing lecture, visual based instruction and demonstration as most preferred tools for teaching ESCB. Teachers also identified, test and quizzes, computerized learning and problem-solving as the least preferred tools for teaching ESCB.

Out of three, **pausing lecture** was the most preferred tools as it allows discussion among students and puts the focus on clarifying and assimilating the information presented. While clarifying it helps to retrieve, recognize and recall relevant knowledge from long-term memory (Bonwell & Eison, 1991). The actual statements given by teachers for pausing lecture express their favor/ disfavor and or rational with respect to these 3 tools are given below:

Teacher 1:

*I use **pausing lecture** because when a teacher gives a lecture with pauses, children are able to take notes and grasp better, therefore after some time they are able to make sense of what had been said. Additionally, comparing notes leads to increased recall of topics.*

Teacher 2:

*I prefer **pausing lecture** as it helps me to emphasize important points during pauses. Children can not only complete and compare their notes but also use them for later referencing.*

The positive points given by teachers for pausing lecture has been supported by Ebert-May, Brewer & Allred (1997) who found that active learning lecture format was related to significantly higher self-efficacy and skill development. Analysis of teacher's responses revealed that lecturers have number of characteristics which make this tool look like a desirable approach in the classroom: a) helps to communicate the intrinsic interest of the subject matter, b) describe subject matter that is otherwise unavailable, c) helps to organize materials in a way to meet the particular needs, d) efficiently deliver large amount of information (Chism, Cano & Pruitt, 1989). Pausing lecture are also preferred as they are cost effective as they can reach many listeners at one time. In contrast, a one-way, non-interactive lecture involves just the delivering of the topic to the class which makes listener difficult to listen effectively for a longer time (Verner & Dickinson, 1967). Studies shows that while teaching with normal lecture in class 10 percent of audience start displaying sign of inattention within 15 minutes and after 35 minutes everyone becomes inattentive and after 24 hours' audience recalls insignificant details, thus, while lengthy lectures are not considered conducive to effective learning (Verner & Dickinson, 1967; Bonwell & Eison, 1991), pausing lecture gives advantages of having two to three five minutes' breaks for discussion resulting in maintenance of attention of children for longer duration which in turn helps in promoting thought and change attitude. (Bonwell & Eison, 1991).

Yet another support from literature for pausing lecture rests on the premise that it improves student's skills in listening and synthesizing information and that discussion between the lecture helps in acquiring facts and principles which help in developing cognitive skills (Costin, 1972). Pausing lecture is also a preferred tool for large classes as it enhances interaction between students and teachers, students and students since it allows a teacher to talk to students, move around during

the class (Bonwell & Eison, 1991). It has also been seen as an appropriate tool for creating a personal environment and sense of responsibility in students towards their instructor or fellow students. Additionally, its role in creating a supportive climate & in making instructor approachable (Gleason, 1986) is supportive of the tool's choice by teachers. Pausing lecture is also most preferred in both the schools as it does not require any additional infrastructure – they can easily be conducted in normal classrooms (especially, given that government schools are low on resources).

The second most preferred tool for teaching ESCB is **visual based instruction**. The uses of visual based instructions have been studied by multiple researchers and their findings echo similar beneficial outcomes as emphasized and voted by teachers. One of the statements to support the use of visual based instruction given by a respondent is provided verbatim here:

Teacher 1:

*I use **visual based instruction** most frequently because I believe that students learn and retain more by seeing than listening, as they can correlate what they learn to with their own world.*

Visuals have been supported as they can be used not only for any subject area (Bruno, 1982; Curtin, 2006) but also for diverse classes compositions (Curtis, 2004; Curtin, 2006). The video, which is one of the tools under “visual based instruction” is used to demonstrate new ways that teachers can explore specific content areas with students (Sherin, 2005). Visuals were found helpful in teaching students whose first language at school is not their mother tongue (Vaughn, Bos & Schumm, 2003; Carrier, 2005). In case of Bhiwadi, from where respondents were chosen for investigation, the mother tongue of most students was either Hindi or Rajasthani (the local dialect).

School teachers who were interviewed felt that video helps in motivating students because too much of reading makes students bore which in turn results in low attention or distraction. This is supported by the literature, as according to Hughes (2009) visual based instruction involves more area of working memory than reading. It increases retention and thus results in better interaction between teacher and student. On a similar line, Berk (2009) ; Saltrick, Honey & Pasnick (2004) state that visually based instruction provides strong powerful cognitive and emotional impacts on one's mind. This, in turn, helps in learning outcomes' achievement by grabbing attention, focusing concentration, generating interest, draw on one's imagination, increasing the

memory of content, increase understanding, fostering creativity, stimulate the flow of ideas, foster deeper learning, create memorable visual images.

It is generally believed that students learn more by seeing and hearing. It is supported by the research done by Wimen & Meierhenry (1969) who states that “.....people will generally remember: • 10% of what they read • 20% of what they hear • 30% of what they see and • 50% of what they see and hear.” Visual based instruction provides teachers innovative and effective means to address and deliver the required content.

As per Carrier (2005) and Rokni & Karimi (2013), learning is enhanced by pictures, cartoons, maps, graphs, charts, diagrams, videos, and other multimedia resources as they engage different senses, accommodate visual learners, and help reinforce key ideas by presenting information in alternative formats. Since under this tool, a topic can be broken down into more manageable pieces, enhancing teaching effectiveness, it also helps teachers to minimize lesson preparation time.

It’s power as a tool also finds support in what Saltrick, Honey & Pasnick (2004) is saying, namely, that, visual based instruction helps students to make cross-discipline connection across by opening the walls of the classroom by bringing in places, peoples, and events that students could not otherwise experience.

While intuitively it sounds, practical and justified, we looked also at what research investigations had to say about the demonstration. This tool was found to be effective for schools (Allison & Rehm, 2007), apt for students from diverse and multicultural backgrounds (Kline, 1995) who prefer hands-on-learning experience. This tool has also been supported for ease of assessment (Carrier, 2005; Curtin, 2006, Allison, 2007). Demonstration as an AL tool was also one of the most favored tools as captured in the current study. One of the teachers mentioned this:

Teacher 1:

*I use **demonstration** in class because it helps children to relate better to their existing world and develop thinking skills. This also helps in making classroom assessment easy.*

According to teacher’s, the demonstration is considered as a self-teach approach where instructor plays a supporting role, and it also helps teachers to tailor their course material according to the individual needs. Demonstration helps in better learning because students work in a group

of two to four students, therefore, learning from peers enhance the knowledge. It stimulates participation, encourages personalized instruction and thinking and argues their view; students receive feedback immediately through their own work. It helps in better learning by acting like an attention inducer (Ekeyi, 2013). Moreover, teachers think that it helps in the translation of theory into practice. According to teacher's perception, it is visually very appealing which a good way of showing the appropriate ways of doing things (Iline, 2013).

While the qualitative statements collected from school teachers point that teachers believe that this tool can help in covering a large amount of material, they also think that their capacity for preparation, arranging resources and being able to answer on-the-spot questions children ask limits their use of this tool. They also felt that for demonstration extra preparation is required which they would need extra time and effort.

Problem-solving and computerized learning are the least preferred tools by teachers. It was observed while surveying teachers that **problem-solving** tool requires thorough knowledge to take the topic through a set of steps such as defining, diagnosing, searching and evaluation. Teachers felt that because elaborate assignment, they might not be able to cover much content in the time available. Additionally, they expressed that such a tool usually requires too much preparation before class and requires substantial revision of class notes for different sessions. Overall they felt that 'problem-solving' would require teachers to surrender some control in the classroom as resulting from above-mentioned dynamics. Literature supports that teachers do not prefer those techniques where they are afraid of losing control and are not structured (Bonwell & Eison, 1991). It was observed during the data collection that teachers perceive that students will not prefer those methods which lack rigid structure in the classrooms because primary school students expect instructors to maintain control over the class and simply present the facts so that they can take notes and memorize the facts. Problem-solving technique is new to teachers of the primary school. As a result, they experience some degree of discomfort and anxiety.

Results showed that **computerized learning** was the second least preferred tool. There were several reasons observed for this preference. In private school's teachers preferred it least because of less availability of computer systems and training needed to work on those systems if available. Computer-assisted learning points out Glasser (2009) would be contingent on educational infrastructure investments. The same was conspicuous by its lack was reported by almost all teachers- government schools had absolutely no access to computers for primary level

students (6 out of 11 government used computers for accounting purposes); while only 8 out of 73 private schools had a computer lab with 10-20 computers. Teachers stated that establishing computerized lab requires a lot of costs which was not considered to be feasible by administrators of the school.

Government school lacked not the only infrastructure for computer labs but also trained teachers in the school making any use of computers in teaching lowly preferred by teachers. Overall, teachers in both schools reported following constraints/problems: lack of trained or expert teachers, lack of preparation time (this perspective is supported by Niemi, 2002), non-recommended in prescribed textbook activities, load of syllabus completion and lack of infrastructure – all of which could be seen as reasons to push computerized learning to lower preference as an active tool.

5.1.2.2. Passive forms of learning preferred by teachers

Teachers of both the schools (private and government) identified listening to lecture, visual media as most preferred passive tools for teaching ESCB. Computerized learning assignments were identified as the least preferred tools for teaching ESCB by teachers.

Teachers of private and government school preferred listening **lecture** as the most preferred tool because they believe that it helps in describing the subject matter in detail at the single platform which is not available in the same manner elsewhere, or at maximum is available in a fragmented way. They suggested that by using lecture method large amount of information (facts and ideas) can be delivered to a large gathering in a more structured form and in less time, which is supported by Bonwell & Eison, (1991) and Charlton (2006).

An additional advantage as seen by teachers were:

1. That using this tool, they were able to customize course material to students' needs
2. Tool did not require any additional infrastructure support and hence was cost-effective; suitable for introducing a subject to students with a varied background
3. Gave them direction and purpose where there is a significant knowledge gap between lecturer and audience. (this is supported by Charlton, (2006))
4. No special training is required to apply tool to teaching pedagogy
5. Teachers do not have to provide immediate feedback to students, so their preparation time is low & the question of losing control in class also goes down making this tool less risky

which gives them a feeling of most important in the classroom (supported by Bonwell & Eison, 1991).

6. Teachers felt that it is an effective way to explain the difficult concepts with a lot of real-life examples.

Social learning is enhanced by **visual media** (pictures, cartoons, maps, graphs, charts, and diagrams) resources as they engage different senses, accommodate visual learners, and help reinforce key ideas by presenting information in alternative formats (Carrier, 2005, Rokni, 2013).

Teacher of both the school felt that visual media like poster, graphs, maps etc s are preferred way for transferring knowledge among students as they are not only cost effective, can be seen by large number of students {seconded by Ilic & Rowe (2013) and Osa & Musser (2004)}, gets immediate attention of students in class where unconscious learning takes place through the information present on the poster (this is also supported by Osa & Musser (2004)).

Studies by (Saltrick, Honey & Pasnik, 2004; Berk, 2009; Ilic & Rowe, 2013) have support visual medias as they are self-explanatory, resulting in multiple learning outcomes, like, increasing concentration, generating interest, increasing memory about content, increase understanding, fostering creativity, stimulate the flow of ideas and foster a deeper learning about the issue described.

Teachers also said that such a tool helps them to completely deliver the topic by giving a concise overview of the topic in one shot which is supported by what Ilic & Rowe, (2013) and Osa & Musser (2004) have said.

In pointing out to the effectiveness of this media, teachers pointed that they would be effective only when the layout of the posters including color schemes, the framing of information, readability of the information was well-crafted.

Computerized learning assignments were the least preferred tool by a teacher of both the schools. As it is already discussed in 5.1.2.1 when we have observed that why computerized learning instruction was least preferred as an active learning tool. Similar reasons explain for not preferring computerized learning assignments as a passive tool.

5.2. Discussion about factors influencing ESCB

To determine the influence of twelve social cognitive factors on ESCB among primary school children multiple regression was carried out. Results of multiple regression reveal that out of twelve social cognitive factors eight factors namely environmental concern, environmental values, environmental sensitivity, self-efficacy, peer-influence, parental influence, outcome expectation, and self-regulation were found significant. The proposed model has a moderately strong goodness of fit where adjusted R^2 showed that choices of variables are not faulty. R^2 is not very strong possibly because the interaction between and among variables have not been considered and more variables could be added to the model. As discussed in result section 4.2.2 self-regulation has the strongest influence on ESCB. Other four factors named environmental attitude, environmental knowledge, environmental responsibility and outcome expectancies were found non-significant.

Given below is the discussion about each significant independent variable.

- **Self-Regulation:** One key finding is that self-regulation has a substantial and maximum influence on ESCB as expected: increase in self-regulation will increase ESCB. Therefore, hypothesis H8a is accepted. The underlying logic is that among children who desire a healthy environment, less pollution, less garbage, their daily activities will be determined by how well they set goals, plan and monitor – self-regulate – what they do in their daily life routines for keeping the environment clean, throw less garbage. These findings extend previous research supporting the importance of self-regulatory subskills for initiating and sustaining ESCB (Sawitri, Hadiyanto & Hadi, 2015). According to Bandura (1986) children's forethought capability, they learn by observing probable consequences of actions performed by others, establish goals, and then plan courses of action. Through symbolizing enables children to conceptualize a behavior and its outcome which create motivation or inhibition to guide the selection of a course of action.

This study supports the idea that self-regulation enhances environmental consumption behaviour in line with Taberero & Hernandez (2011). These findings concur with the results presented by De Young et al. (2000) in a review of research papers that consider the intrinsic satisfaction experienced when engaging in environmentally responsible behavior as a source of motivation. Kalinowski, Lynne & Johnson (2006) consider that people's personal interest (which

is likely to be related to or lead to self-regulation) in performing an environmentally sustainable behavior is the key to explaining motivation towards environmental concerns. Research has shown that incentives or punishments are useful when generating environmentally sustainable behaviour (Levitt & Leventhal, 1986; Dwyer, Leeming, Corben, Porter & Jackson 1993; Srivastava, Locke & Bartol, 2001) – incentives and punishments could be understood to be logically related to driving self-regulation too. For example, in case there is the extra burden or cost of disposing off the non-environment friendly packaging of a product, it will be expected to drive people to practice self-regulation not to purchase products that have non-environment friendly packing and program their decision-making criteria accordingly.

- **Environmental Value:** results show that it is the second most important predictor of ESCB. Therefore, hypothesis H3a is accepted. This points to a relation that if a child is high on EV, he or she will be more likely to make the desirable ESCBs. The reason behind is that values are acquired from both through socialization and through unique learning experiences of individuals would help children to select and justify their actions leading them to behave in an environmentally positive way.

Children have been found to express their value of respect towards nature by having a positive attitude towards buying ecological products, recycling and taking part in activities that seek environmental protection. Other studies support that children with a clear sense of moral obligation carry out ecological protective behaviors and those with eco altruistic values, show a higher degree of involvement towards ecological behaviors. Additionally, many other studies support findings of this study, that those people who have higher scores on environmental values are most likely to engage in sustainable consumption behavior (Schwartz, 1977; Stern, 1999; Dayhong & Chenyang, 2007; Hessami & Yousefi, 2013; Wang, Liu & Qi, 2014)

- **Peer Influence and Parental Influence:** Empirical findings of this research suggest that children's affiliation with peers and parents who engage in environmental behavior is a strong predictor of the child's own behavior. Therefore, hypothesis 11a and 12a are accepted. This might be because parents and peers are regarded as primary socialization agents for the inculcation of values and behaviour (Jodl, Michael, Malanchuk, Eccles & Sameroff, 2001). Fletcher, Glen &

Mekos (2000) find that if parents are active in, or inspire contribution in community service, children are likely to be similarly active. Shaffer (1994) discusses that parents might influence their children as (a) reinforcing and punishing agents, (b) modeling agents, and (c) value-setters for environmental ideas or behaviour. McNeal & Ji (1999) suggest that, through the process of consumer socialization, adolescents learn symbolic meaning of goods and the products/brands/stores preferred are a result of influence by their peers. Lee (2008, 2009, 2010) has also studied peer and parental influence in the field of green purchase behavior. These findings are supported by other authors too (Wahid, Rahbar & Shyan, 2011; Gronhoj & Thogersen, 2012; Salazar, Oerlemans & Van, 2013).

Also, according to Bandura's (1986) social cognitive theory: children's vicarious capability helps them to learn from their environment (which has parents and peer too) through the process of observational learning. Individuals who are observed are called models. In society, children are surrounded mostly by their parents or with peers. Therefore, they provide examples of behavior to observe and imitate. According to the author (Bandura, 1986), observational learning is important in childhood it helps in teaching new behavior or affects the frequency of the learned behavior. Therefore, seeing a model (parent or peer) performing sustainable behavior motivates an observer to perform such behavior because observational learning theory implies that behavior is not simply shaped by immediate consequences, but rather by considering the implications of actions. Therefore, children perform environmentally sustainable consumption behavior if they observe their parents or peers performing the same.

- **Outcome Expectation:** To my knowledge outcome expectation has never been studied as a predictor of sustainable consumption behavior until 2014. Sawitri, Hadiyanto & Hadi (2015) in her conceptual paper suggested that this construct is used in environmental research where she found it to be a significant predictor of ESCB. The same was true for this study, and hence hypothesis 9a is accepted. This might be because as explained by Sawitri, Hadiyanto & Hadi (2015) outcome expectations may take various forms of behavior, namely social effects (recognition and acknowledgment) or financial benefits. Similarly, children also want to have a lot of recognition and acknowledgment for their behavior and hence leads in participating such behavior.

Additionally, possible reason of such significance could be rooted in the exposure of children to external environment (by means such as television, newspaper, computers with internet) which makes them aware of the outcomes and strengthens their expectations of the same as a consequence of some of their actions which in turn could drive them to enact in certain ways. Yet another source of learning in this context could be what Bandura (1986) mentions, namely, child learning through observing their role models (parents, teachers and peer)- when children see their role models performing activities related to ESCB and learn about corresponding outcomes (related to social such as recognition and acknowledgement from others, physical such as financial benefits and self-evaluative), they (children) are likely to develop beliefs about the actual happening of outcomes, which in turn drives their ESCBs.

Therefore, while some may be motivated by the expectation of a cleaner environment; some might be driven by recognition and acknowledgment from their teachers and their parents. Even parent's discourse that ESCBs would lead to financial benefits (for example he/ she thinks that by using both sides of the paper will not only lessen the purchase of notebook) or lead to saving trees from cutting could be expected to support their understanding of outcome expectations.

- **Self-Efficacy:** results of multiple regression implies that self-efficacy plays an important determinant of ESCB. It also predicts that if self-efficacy of individual enhances ESCB of children enhances. Consistent with self-efficacy (Bandura, 1986) and previous empirical findings (Hines, Hungerford & Tomera, 1987; Rice, Wongtada & Leelakulthanit, 1996; Kim & Choi, 2005; Meinhold & Malkus, 2005) we found a significant impact of self-efficacy on ESCB. The magnitude of the effect was rather small compares to previous literature. Hence hypothesis H7a is accepted. Self-efficacy has been identified an important predictor of ESCB by other researchers too (Sia, Hungerford & Tomera, 1986; Rice, Wongtada & Leelakulthanit, 1996; Meinhold & Malkus, 2005; Ojedokun & Balogun, 2010; Lee 2012; Failla & Gopalakrishna, 2014). This might be because of the four sources of self-efficacy as stated by Bandura (1986) mastery experience, vicarious experience, social persuasions and physiological reactions. Nothing is more powerful than having a direct experience (mastery experience). As it was observed during data collection that now a day's schools celebrate many events like "earth day" or "environment day" where children participate in various activities such as collecting and sorting of garbage item for

identification which items can be reused, recycled. Teacher asks students to bring items from their home which they feel are not of use anymore in their house and then teach them to make useful products which they can use. Also, schools organize field trips to various recycle factories which help them to identify the process of recycling material. Two of the statements in the support is given by a respondent is provided verbatim here:

Teacher 1:

I asked students to bring a newspaper from their home so that I can teach them how the used newspaper can be reused for making paper stand, or photo frames, etc. because I believe that if children see me performing these types of activities, they will try performing a similar activity in their surroundings.

Teacher 2:

I ask students to have a visit to gardens, recycling center, zoo because I believe that students learn and retain more by seeing, and as they can correlate what they learn to with their own world and thus enhance their curiosity to learn more about it.

All these activities give direct experience to children in performing the activities that can save the environment and cause less pollution and hence also increases the feeling of mastery leading to increases in self-efficacy (Rice, Wongtada & Leelakulthanit, 1996; Meinhold & Malkus, 2005; Ojedokun & Balogun, 2010).

Children enhance their self-efficacy by observing their role models (teachers, parents, peer), i.e., called vicarious experience (Bandura, 1986). Therefore, it was observed during the data collection and talking with teachers that while participating in various environmental activities (cleaning and sorting garbage items, recycling plastic, paper, etc. sharing or donating items) children watch their models (parent, teacher) performing those activities and succeeding in getting positive results raises their beliefs too in the capabilities of performing such activities. The response in support of the above reasoning given by a respondent (teacher) is provided verbatim here:

Teacher 1:

When students watch, me using both sides of paper they also try to perform similar activities.

Teacher 2:

When we ask students about what all products can be recycled, Students list down those products that they see their parents while giving it to kabadiwala such as newspaper, plastic empty bottles, old books, glass bottles, etc.

Self-efficacy of children is also affected by the words (and the actions) of others (social persuasions). It is believed that since children are very eager to learn when they see their role models telling and encouraging to perform activities that protect environment enhances children beliefs for performing the activities that can reduce garbage, pollution and can save resources.

- **Environmental Concern:** It was expected that for children with concern for the environment would be directly related to increasing in environmentally sustainable consumption behavior. Results support a significant correlation in this aspect. Therefore, hypothesis H2a was accepted. The reason observed behind this is that children show concern for the environment because of the threat to their health. They feel that throwing garbage, causing pollution all these are causing harm to their own health such as raising of temperature, irritation in eyes, skin infection, coughing and other problems. Hausbeck, Milbrath & Enright (1992) suggest that students desire to learn more about the environment because they believe that they can help in improving the environment and believe that a healthy environment is important to their future. one is concerned about the ecosystem for its own sake. People care about environmental quality mainly because of their belief that a degraded environment poses a threat to people's health. Thus, it is not the threat to the environment, but the threat to the well-being of people that is of central concern (Sharma & Bansal, 2013). Similar logic is expected to work for children, although it might not be so critically or seriously planted in their minds because of the way and extent to which children process information (especially children could be less far sighted) in this way, perceived personal threats caused by environmental deterioration (known to children) could strengthen their concern for environment via the concern for their own well-being leading to their support for ESCBs. The response in support of the above reasoning given by a respondent (student) is provided verbatim here:

Student 1:

There is a lot of pollution and garbage all around. Sometimes there is a lot of foul smell from this garbage which makes breathing very difficult and affects my health. There I want to clean my environment by knowing new and feasible ways.

Student 2:

A lot of pollution and wastage is caused by us which makes a lot of garbage piled all around us. It causes harm to our health too. Therefore there is need to learn more about the ways that can help us to clean our environment.

The result is supported by the literature (Hausbeck, Milbrath & Enright 1992; Minton, 1997; Roberts & Bacon, 1997; Fransson & Garling, 1999; Lee, 2008,2009; Wahid, Rahbar & Shyan, 2011, Lee, 2012).

- **Environmental Sensitivity:** results revealed that it is positively and significantly related to environmental sustainable consumption behavior. Hence, the hypothesis H4a is accepted. Few research papers (Sia, Hungergord & Tomera, 1986; Chawla, 1998; Mansuroglu et al., 2009; Wang, Liu, Qi, 2014) have identified the relationship between environmental sensitivity and environmentally sustainable behavior. Sia, Hungergord & Tomera (1986) and Wang, Liu, Qi (2014) found environmental sensitivity positively related to environmental behavior in lines with the finding of the current study. The reason observed behind children showing positive results is that children tend to love nature and feel bad if the environment is damaged. Their sensitiveness for the environment is likely to make them think more about its preservation and would push them to show oneness via their actions leading to ESCBs (Wilson, 2012). It is also supported by studies that mention that on the basis of their past experiences, children feel that main causes of health damage are pollution, the rise in temperature, garbage piles, increase in the use of plastics, etc. Therefore, they believe that if one wants to have the healthy and clean environment as the basis of significant life experience, then one should cultivate an interest in being well behaved via the practice of ESCBs.

Remaining four independent variables, namely **environmental knowledge, environmental attitude, environmental responsibility and outcome expectancies** were found

to be statistically insignificant. The possible reasons why they have found insignificant is discussed below.

- **Environmental Knowledge:** One key finding is that environmental knowledge is found positive but an insignificant predictor of ESCB. Therefore, hypothesis H5a is not accepted. As observed it was expected because as the subject of environmental studies has been made compulsory in classes of primary schools but the course structure does not comprise any part that focuses on how an individual should perform in their daily lives to reduce the consumption. Class III, IV, and V books focus mainly on materials that sensitize the child to the wide differences that exist within our society-in our physical abilities, economic background, and behavioral patterns. Syllabus of the subjects is broadly divided into six themes, namely, family and friends, food, shelter, water, travel and things we make and do. It comprises knowledge about various types of animals, teaches about types of food that we eat, work we do, etc. These topics give children little idea about how to protect the environment by using sustainable consumption practices.

In literature, mixed results are present. Some studies show significant effect of environmental knowledge on environmental behaviour (Hines, Hungerford & Tomera, 1986; Said, Yahaya & Ahmadun, 2007, Mostafa, 2007; Mansuroglu, Karaguzel, Atik & Kinikli, 2009; Lee, 2010, 2012; Wahid, Rahbar & Shyan, 2011; Altaher, 2013; Hessami & Yousefi, 2013; Kianpour, Anvari, Jusoh & Othman, 2014) because these researcher feels that increase in knowledge about the actions that can save environment might help individual to develop a sense of self-efficacy by doing it for the environment. This self-efficacy might, in turn, give them a sense of perceived effectiveness in their sustainable consumption behavior. Whereas some shows insignificant predictor (Grodzinska-Jurczak & Twardowska & Ballantyne; 2003 Bedi & Gulati, 2014).

- **Environmental Attitude:** Results revealed that environmental attitude is positively but insignificantly related. Therefore, hypothesis H1a is not accepted. Literature also shows the very mixed result. Few studies are in the same line where the attitude was found to be an insignificant predictor of environmental sustainable consumption behaviour (Wahid, Rahbar & Shyan, 2011; Kahrman-Ozturk, Olgan & Tuncer, 2012; Hasiloglu, Keles & Aydin, 2011; Lee, 2008). The possible reason here is that the educational program at a primary level does not focus on sustainable

consumption issues. Therefore, children did not develop their attitude towards the unknown domain of ESCBs.

This situation shows that reality could be out of sync with what researchers (Basile, 2000; Samuelsson & Kaga, 2008) suggest: specifically that early age of children is the receptive period for cognitive development such as, beliefs, attitude, etc., therefore it is essential to support the development of environmental attitude in primary school education. According to Piaget, (1959) children between the age of 7 to 11 are in a concrete operational stage where elimination of “egocentrism” takes place. Thus, children tend to care about views of others too. Therefore, if the environmental studies book comprises of various activities related to the environment, nature, sustainable consumption issues than maybe they are more inclined to value the nature for their own sake and for others too.

It is also reported that if children are made experienced to activities that protect nature such as visits to recycling center, sorting of garbage, sharing of items, donating unwanted items, etc. then it can have a positive impact on their attitude towards environment (Kidd & Kidd,1990) via direct experience of topics- this was found largely lacking as recommendations from textbooks and also from teachers’ preferred mode of teaching ESCBs. Researcher (Ewert,Place & Sibthorp, 2005) suggest that early life outdoor experiences had an impact on the formation of environmental attitudes. The more children have the opportunity to spend time outdoors during their early childhood, the more they adopt positive attitudes towards environmental issues. However, due to urbanization and increasing use of technology equipment such as TV, video games, computer children prefer to stay inside and therefore they are in less contact with the environment. This, in turn, could be responsible for the formation of positive environmental attitudes. Therefore, environmental education courses must have activities that allow children to spend more time in nature.

- **Environmental Responsibility:** Another finding is that environmental responsibility is found insignificant predictor of ESCB. Therefore, hypothesis H6a is not accepted. Although this finding is not in the same direction as other researchers predict it to be a significant predictor of ESB (Hines, Hungerford & Tomera, 1986; Kaiser, Ranney, Hartig & Bowler, 1999; Sinnappan & Rahman, 2011; Wang, Liu & Qi, 2014). The possible and obvious reason is that due to the lack of focus on environmental issues in course structure of environmental studies of primary classes

children are not aware of their individual responsibility in the protection of the environment. According to Piaget, (1959) children between the age of 7 to 11 are in the concrete operational stage. During this stage, children begin to think logically about tangible events. They begin to understand the concept of conservation and becomes more logical and organized. Therefore, course structure of environmental studies must induce content which can engage children logically in environmental practices and make them feel morally responsible for enhancing the responsibility of an individual towards the environment. Possibly the seriousness of children as being directly or indirectly responsible for environment-related problems due to wrong consumption habits at some instance in life was not being emphasized enough by teachers or parents. Teachers especially pointed that parents wanted their siblings to have more materialistic comforts and did not care about spending more or buying non-sustainable options if those items were cheaper or easier to use.

- **Outcome Expectancies:** Again, to my knowledge outcome expectancies has never been studied as a predictor of sustainable consumption behavior till 2014. But it has been studied as one of the most important SCT predictors for health behavior studies. Therefore, it was used in the study and found it to be an insignificant predictor of ESCB. Hence hypothesis 10a is rejected. A possible reason might be that as the content of books or teachers do not tell children realistically about the expectation of consequences they can have for their actions.

While one would not expect that children can be taken through a real experience to enhance expectations about the consequences of their environment-friendly or non-friendly actions, atleast symbolically representations would work provided they are included in interactions with children. This view is supported by Bandura's work (1986) which points that human has some unique capabilities - one of them being symbolizing capability (where an individual is able to symbolically perceive events conveyed in messages, construct possible solutions, and evaluate the anticipated outcomes). It could be possible that the content of books does not work on the above-mentioned perspective or teachers don't focus on teaching about harmful or useful impacts of consumption symbolically- especially given that consumption related issues are largely missing from the syllabus. This could be making children unable to store and process, and transform unobserved experiences into cognitive models that guide them in future actions and decisions.

5.3. Discussion about impact of social learning forms on ESCB scores

To determine the impact of active learning and passive forms on ESCB among primary school children ANOVA was carried out. Results of ANOVA revealed that out of active and passive learning forms active methods were more effective and significant than passive interventions. The effective size of active learning forms was found more effective than passive learning forms. Therefore, the results support our hypothesis that the impact of interventions (both AL and PL took together) on ESCB scores is positive and significant. In an attempt to look for literature that supports the finding that an intervention can lead to bringing about desirable behavior, Bandura's (1986) classic literature was found appropriate. According to Social cognitive theory by Bandura (1986) if any environmental factor (here, teaching techniques like AL and PL interventions) that can enhance learning related to cognitive factor (here, cognitive factors like environmental attitude, environmental sensitivity, environmental concern, environmental responsibility, environmental value, environmental knowledge, self-efficacy, outcome expectation) and it can it turn lead to or be effective in changing behavior (here, ESCB in children).

Additionally, it was found that in case of AL group impact vs. control group impact, the impact of the intervention on ESCB scores is positive and significant while in case of PL group impact vs. control group impact, the impact of interventions on ESCB scores is positive yet non-significant. This section on the discussion deals with these 2 types of impacts as separate sub-sections.

5.3.1. Discussion for impact of active learning forms on ESCB

Throughout most of the literature, AL forms are found to be effective for causing a change in ESCB related constructs or ESCB itself (in very few cases) which lends support to the results of the current study. Examples are: AL was found effective in enhancing waste management behavior (Grodzinska- Jurczak et al., 2003) health behaviors (Campbell et al., 1994) littering behavior and for energy consumption behavior (Abrahamse, Steg, Vlek & Rothengatter, 2007). In these studies, AL tools or methods significantly influenced behavior, indicating if students are involved in knowledge, comprehension, and application task related to sustainable consumption, which enhances their learning towards these types of activities are likely to be motivated towards ESCB (like, sharing and donating their toys, stationery items, recycling their used notebooks etc.). This result is consistent with previous findings that active learning methods propel people to

participate in environmental related activities and thus enhance their sustainable consumption behavior (Ballantyne & Packer, 2005; Abrahamse, Steg, Vlek & Rothengatter, 2007; Hanss & Bohm, 2013; Lieflander & Bogner, 2014).

An additional finding about the significant effect of active learning on behavior can be explained by Bloom, Engelhart, Furst, Hill & Krathwohl, (1956) taxonomy, which states that the effectiveness of each technique is expected to vary by the depth of learning at the level of important constructs, namely, knowledge, comprehension, and application resulting in effectively assessing cognitive outcomes. It is also understood that each teaching/learning technique has its own unique benefits and is effective for change in learning and consequently behavior (Marusic & Slisko, 2014).

Given these, it is likely that AL techniques such as demonstration, visuals, and pausing lecture had been able to positively impact the constructs like knowledge, comprehension, and application. This was very much supported by observations of children, interactions with them and the upfront support provided by school and teachers. The same is mentioned below in more detail:

1. **Observations of children:** The observation revealed that the children of those classes where active learning methods were used were keen to participate in various activities resulting in better learning and longer retention. It was found that they were very eager to know the impact of their daily consumption activities on the environment during the classes where these methods were used (demonstration and video). They were found to be very curious by asking various types of question such as:

Student 1:

“What happens when I drink cold drinks in a glass bottle with the help of straw?”

Student 2:

“How donation or sharing of items reduce consumption?”

Teachers also responded that during the intervention week students were very keen and eager to know the impact of activities on the environment that they are performing.

2. **Interactions with children:** Children were very keen to answer the questions that were raised to them. During these sessions, they were enjoying by participating in different activities and helping their friends to understand the concept. In these sessions, we also found one thing

interesting was that children were ready to sit in class for whole 50 minutes. In very few sessions one or two students went out. This also shows that how active learning tools enhances interest towards learning about the topic. When the informal feedback was taken from teachers about the behaviour of children during the intervention period, it was found that few students asked them to keep recycle bin where they can put their waste paper, charts that are of no longer in use in class for recycling at the end of the session.

3. **The upfront support provided by school and teachers:** Teachers were found to be very supportive while conducting the intervention. Principals were also very keen to see the responses of these active learning tools by children. Principal and teachers observed that children of the classes who were taught about the various sustainable consumption tried to implement those activities in their daily routines also such as using both sides of the paper without any instruction, not throwing chocolate or chips wrappers on the ground, they were keen to share their stationery items. Also, teachers respond that few students of classes who were taught with this method approached to them for donating their books and toys for the school. The teacher also supported it to be effective because they feel that active learning methods help to communicate the intrinsic interest of the subject differently and help to describe subject matter that is otherwise unavailable. They think that these types of help to organize material in ways to meet the particular needs of a given audience.

Support for demonstration as an AL tool that prompts students to reward information in a meaningful manner to show that they understand the material and apply the material to new phenomena or constructs is well supported by research studies (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956; Anderson & Krathwohl, 2001; Granello, 2001; Noble, 2004; Lord & Baviskar, 2007).

It was also observed, in general, through children's behavior, mentioned above that AL methods provide children with an opportunity to control their learning by providing a chance to try out or test their own ideas through discussion or doing. This is also supported by what has been given by other authors (Bonwell & Eison, 1991; Hackathorn et al., 2010; Zayapragassarazan & Kumar, 2012) that AL involves providing opportunities for children to meaningfully talk and listen, write, read, and reflect on the content, ideas, issues, and concerns of the subject they have

been taught. Since this is expected to help them in long-term retention of information, it will have the power to motivate children towards further learning and allow them to apply information in new settings by developing thinking skills resulting in a change in particular behaviour (McKeachie, 2002; Bachelor, Vaughan & Wall, 2012).

Yet another reason was given by literature (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956; Bonwell & Eison, 1991; Anderson & Krathwohl, 2001; Hackathorn & et al., 2010), which supports the role played by AL in leading to enhanced behaviour, is that AL helps children to engage in higher-order thinking such as analysis, synthesis, and evaluation. This, in turn, would enable them to identify the concepts in the real world, manipulate phenomena for their own purposes and think about the material in new and complex ways.

The impact of AL tools for the specific population at hand is supported by yet another feature, special to children. Children by their nature are inquisitive and have a lot of curiosity about the surrounding. They try to make sense of that world as it appears to them. AL tools are just the right tool to satisfy their curiosity via the interactive mode making AL an effective method. Yet another characteristic special to this population is that they are usually active and would enjoy in conditions provided by specific AL tools (like demonstration in this study) where they have ample chance to have physical movements in the classroom and interact with their peer (children are also peer-oriented) – both of which is also supported by literature: according to Edward (2015):

1. This method allows children to have a physical moment in class while discussing
2. It also enables children in sharing their ideas resulting in greater retention of ideas where children talk, discuss and listen to ideas among their peers, making a long-lasting impact on their memory and thus resulting change in behavior.

It was also observed in another study that AL gives immediate and frequent feedback to children on their learning and thus increases their self-confidence and self-reliance (Ghilay & Ghilay, 2015).

The role played by Bandura's (1986) Observational Learning Theory, also can help understand the impact of AL forms and supported by others (Burgess, Clark & Hendee, 1971; Staats, Wit & Midden, 1996). It is based on the rationale that children pay attention to what is happening around them, for example, in the video that they saw, what the characters of the videos are doing and what are the outcomes of the video. While they would have learned from the

interactions with the resource person delivering the AL video intervention, they would also learn from symbolic modeling by watching videos. The symbols used in videos are powerful vehicles of thought which provide children's lives with structure, meaning and serve as anchors for their future behavior. Overall, these results reinforce the impact of active learning methods on environmentally sustainable consumption behavior.

5.3.2. Discussion for impact of passive learning forms on ESCB

Passive learning forms were found to be effective only in size of effect when compared to control group, while their impact was non-significant. As compared with AL interventions, they were found to be less effective for this study. Some research studies support this finding (Staats, Wit & Midden, 1996; Hanssman, Loukopoulos & Scholz, 2009, Hanssman & Steimer 2016) The findings of these study states that although these learning modes increase the knowledge but do not affect the behaviour. Authors of these studies believe it to be due to the social dilemma, i.e., lack of trust in the knowledge delivered by other which although increased level of knowledge but hampers the change in behaviour.

Some of the possible explanations for this impact was found in literature and is given here. Beran (1999) and Myers (2004), point to a rationale that PL text seems to be less interesting and therefore lead to lack of cognition (and it can be further extended to the logic, that this might lead to a low impact on an expected behaviour). Felder (1997), Rahn & Moraga (2007) mention that in case PL tools present with material where there is lack of possibility to apply to their situations (because they may be based on foreign contexts), could mean that children will take material only for temporary use, thus impairing long-term use, and hence not result in a change in behaviour, i.e., ESCB. It is logical to think that this could especially be true for children who are looking for learning new and relevant things.

The observed reason is the attention span and lack of focus among primary school children. In passive learning classrooms, children are not capable of maintaining focus for long. In most of the passive learning classroom, students were feeling bored.

Yet another reason which was realized to operate silently even when the current study PL interventions were given was that, during passive learning methods, the resource person (here the researcher herself) while had a planned and well-developed material to be delivered, usually did not pause long enough, rather proceeded quickly to the next point. This would not have encouraged

students to think by themselves or to construct the knowledge in their minds and assimilate - which could have lead to change in their behaviour. This is supported by the similar finding of Mazur (1997).

It is important to note that while the impact was positive for PL group as compared to control group, it was non-significant. While the expectation of a positive & significant impact was driven by literature, the positive impact part is supported by studies that have found PL interventions to affect behaviour. Reference from such studies is given below.

The results of this study are in contradiction with the studies (Geller, 1973; Austin, Hatfield, Grindle & Bailey, 1993; Hanssman, Loukopoulos & Scholz, 2009; Hanssman & Steimer, 2015, 2016) where posters were found to be an effective medium for reduction of non-sustainable behavior such as littering. One explanation of why the results of the current study have turned out the way they are is that students of these classes were not able to read well. This would have made it difficult to read both posters and books. Annual Status of Education Report -2016 (ASER) survey report also showed that proportion of Class V children who can read a Class II level text fell to 47.8% in 2016 from 48.1% in 2014. It was also quoted in an article published in Indian Express (one of the leading newspapers in India) on 19th Jan 2017 that among class 3 students, only 1 student out of 2 is able to read class Ist class book.

The positive impact that was observed can be attributed to one factor mentioned about observational learning (Bandura, 1986: Observational Learning Theory), who mentioned that children learn by observing their peers, happenings around them & thus learning from their experience. One of the things that would have lent itself heavily to observation was poster unlike other 2 PL tools, namely, reading book and one-way lecture.

5.4. Discussion about impact of social learning forms on AESCB

To determine the impact of active learning and passive forms on attitude towards ESCB (AESCB) among primary school children ANOVA was carried out. Results of ANOVA compared as given below:

1. All interventions exposed group (AL+PL) to control group
2. AL exposed intervention group to control group
3. PL exposed intervention group to control group

The results revealed that expectations set in hypothesis (that AL and PL tools have positive and significant impact on ESCB outcomes) were met on all these comparisons, namely, that all interventions exposed group (AL+PL) had higher AESCB scores from pre-stage to post-test stage as compared to control group, AL exposed intervention had higher difference in AESCB scores from pre-stage to post-test stage as compared to control group (hypothesis 15a was accepted), PL group had had higher difference in AESCB scores from pre-stage to post-test stage as compared to control group (hypothesis 16a was accepted). Additionally, it was found that AL group had a higher difference in ESCB scores from pre-stage to the post-test stage as compared to PL group. This

This is in line with existing literature, where both the forms of learning were found to be effective for influencing attitude towards ESCB (Geller, Brasted, Williams & Mann, 1980; Goldenher & Connell, 1993). Geller, Brasted, Williams & Mann (1980) investigated how information provided in workshops can change electricity, gas and water usage among adults. The theory of planned behavior (TPB) presents an empirically validated model of the predictors that lead to behavior (Ajzen, 1985). Behavior is best predicted by an individual’s intention to engage in that behavior which in turn is influenced by the individual’s attitude towards the behavior, perceived behavioral control and social norms (Figure 30).

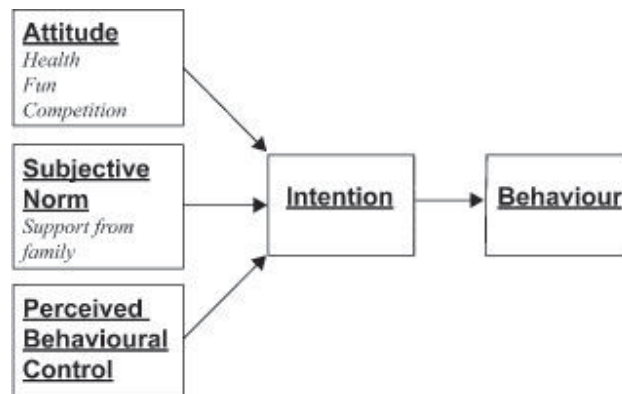


Figure 30: Schematic Diagram of Theory of Planned behaviour

Therefore, it can be assumed with a fair degree of stability that studies for which learning methods tested to show the positive and significant impact on ESCB, a positive attitude formation towards behavior would have existed (irrespective of whether researchers measured attitude or not

depending on their research questions). Hence, in that sense, the evidence that supports the impact of AL and PL tools on ESCB, can be used to lead support (although a little distantly) to current study's findings that AL and PL interventions positively and significantly impact AESCB. Even as one notes the effect size that is resulting, it can be seen that all effect sizes are quite large, indicating that interventions were highly effective. Given this backdrop, many research studies that have found the positive and significant impact of interventions for enhancing ESCB and they are briefly described below.

Researchers (Burgess, Clark & Hendee, 1971; Ballantyne & Packer, 2005; Grodzinska-Jurczak et al., 2003; Abrahamse, Steg, Vlek & Rothengatter, 2007) have investigated the relationship between AL intervention and ESCB and identified a significant positive influence. Whereas some other researchers (Austin, Hatfield, Grindle & Bailey, 1993; Staats, Wit & Midden, 1996; Hanssman, Loukopoulos & Scholz, 2009; Hanssman & Steimer, 2015) investigated the effectiveness of passive learning on ESCB and identified the positive impact on ESCB. ESCB behaviors that they have considered are related to energy usage, water usage, litter control behavior, recycling behavior in the adult population as well as in children.

One more route to understand how the attitude towards behavior gets created is the concept of getting involved in direct or indirect experience with attitude object, which tends to develop an attitude towards it. Such experiences exert different influences on cognitive (i.e., intellectual), affective (i.e., emotional), and evaluative (i.e., moral) development resulting in a change in attitude (Kellert, 2002). This result is consistent with previous findings that active learning and passive learning methods propel people to participate in environmental related activities and thus enhance their attitude towards ESCB (Kals, 2003). On a similar line, this study found that the AL and PL tools provide some vicarious experience or getting involved experience (as in "demonstration") thereby could have led to attitude formation.

While AL involves learning by doing, i.e., involving direct experience with the object by engaging and motivating students, by enhancing understanding and performance. Researchers suggest that direct experience leads to more effective responses resulting into attitude formation for the object (Fazio & Zanna, 1981). The effective responses created by direct experience are more predictive of attitude than indirect experience. Researchers also suggest that direct sensory-perceptual stimulation tends to produce "effectively charged" response (Leventhal, 1984; Millar & Tessar, 1986,1989; Wu, 1987) resulting in a change in attitude towards behavior. The logic and

support offered by all the above-mentioned study to findings of this study add strength to the conclusions drawn and makes it more credible.

On the other hand, PL methods that affect attitude via indirect route have shown to have an effective and significant influence on AESCB (Schultz & Zelezny, 1999). Indirect experience from PL tools is lead to more cognitive responses (knowledge) learning (Fazio & Zanna, 1981). Both these perspectives lend support to confirming the results of a current study that PL tools can lead to a positive and significant impact on AESCB.

Study of Fazio (1989) in this line examined that the attitudes of participants who had an indirect experience seemed to produce an attitude with the same predictive power as an attitude produced through direct experience. It was also observed that each of these

The comparative results given by this study (whereas among both active and passive learning methods active methods were found more effective as compared to control group, AL tools were more effective for enhancing AESCB) are also confirmed. Previous findings by Dettmann (1999) found AL tools to be more effective in the formation of attitude towards ESCB. He pointed out that the direct experience from PL tools enhanced children's interest for performing the activities and observing the results.

For example, during a demonstration of recycle paper making a student said that:
"I have always liked hands-on things and then observing the results. Whereas when I just go out and see posters about paper recycling or reading in the book, it just increases my knowledge."

It was also observed during the intervention that students and teacher feel active learning methods to have a greater emotional impact because they are in direct contact with a subject which gave them a greater thrill.

Another student responded after the demonstration of paper recycling by saying *"I feel like now I can reduce the wastage of paper by recycling paper at my home which will reduce the cutting of tree and also the garbage that surrounds our school and home."*

Whereas when the same situation which was taught by passive learning method student said: *"It is just another thing I learned about sustainable consumption behavior."* Yet another student pointed that *"learning by doing helped as they saw things and outcomes firsthand."* AL tools probably act as a catalyst, converting pre-existing knowledge into action.

5.5. Discussion about influence of “AESC B” on “ESC B”

Investigations revealed that for primary school children, AESCB plays an important role in enhancing their enacting of environmentally sustainable consumption behaviors. While the results showed the moderate relation between AESCB” and “ESC B” in pre-test phase; the post-test phase after they were exposed to intervention showed a marked increase in the strength of the correlation between the two variables. Similar effects of environmental attitude towards environmental behavior have been shown by many research studies (Yousuf & Bhutta 2012) while some studies have also found otherwise (Meinhold & Malkus, 2005). The research findings indicated that children had an inclination towards environmentally sustainable consumption, a similar result was obtained by the study of Grodzinska-Jurczak et al., (2006), that aimed at exploring school children environmental attitudes towards environmental behavior.

Literature has suggested that 1) presence of positive AESCB suggest that children’s concern for the environment influences their specific attitude to protect the same (Schultz, Oskamp & Mainieri, 1995; Mostafa, 2007; Fuji, 2006; Sinnappan & Rahman, 2011; Wahid, Rahbar & Shyan, 2011; Lee,2012; Bedi & Gulati,2014), 2) environmental knowledge is the predictor of environmental attitudes Nikolaeva (2008) {meaning, if children are not informed about sustainable consumption activities and its importance for sustainability, they would not be expected to develop desirable attitudes towards ESCB}, 3) direct experience shapes better attitudes, and it results in stronger correlation with behaviour (Collado, Staats & Corraliza, 2013). All these 3 aspects exist to a reasonable extent in the context and in the interventions provided to children.

The support from context comes from the fact that the population of this study was children in urban setting who have direct experience with the nuisance created (for example, excessive use of plastic bags, use of non-environment friendly amount and style of packaging, disposing off of even hazardous wastes in an unthoughtful manner {especially true of Indian urban settings in a place like Bhiwadi}), which would have pushed them to develop attitudes that are stronger and also correlate with ESCB to a higher level. In our case the argument offered by Robertson, (2009) that urbanization restricts children’s opportunities to have experiences with the natural environment and thus prevents them from developing desirable environmental attitudes to enhance ESCB seem to be materializing less than the former argument.

Secondly, as the interventions were designed to take into consideration all factors in SCT which are supposed to lead to behaviour (all in the domain of ESC), it can be argued that those

facets of the intervention like concern, value & knowledge must have had influence in shaping not only a strong attitude but also, it's correlation to behaviour. Additionally, the experiential nature of interventions would have supported the “direct experience” factor.