



Role of Flipped Class in Developing Self-Regulated Learning of ESL Students at Undergraduate Level in Pakistan

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Abstract

Flipped learning is the inverted classroom method, which introduces the lesson at home and encourages practise as well as other already-introduced lesson-based activities inside the classroom for practical purposes. Students can use their self-regulated learning strategies to continue with their respective content learning. In the current research, undergraduate learners of a public sector university in Pakistan are enrolled in a "short reading comprehension course" and are classified into the control and experimental groups following the research questions. Data were accumulated quantitatively with the help of two questionnaires evaluating learners' satisfaction with the flipped experiment as well as the effect of the flipped method on developing self-regulated learning strategies. Flipped group learners, on the whole, exhibited satisfactory attitudes towards implementing the flipped method. The current study will aid future researchers using the flipped method in navigating the additional dimensions and models featuring self-regulated learning (SRL) strategies, along with incorporating the SRL-based model into the flipped method to analyse the results.

Keywords: SRL, self-regulated learning, flipped learning, learners' satisfaction, flipped classroom, reading comprehension skills

1. Introduction

In Pakistan, Urdu is used as a contact language, while English is spoken among the elite class in the government sector and is the second language of Pakistanis. Locally and privately, many approaches are taken to teach and learn the English language, while Widdowson (1978) maintains that later studies shifted focus from defining the formal features of English to exploring the ways of utilising actual language in real communication.

In learning English, the set of quadruplet skills—speaking, listening, reading, and writing—needs to be equally stressed during the language courses. However, in the current study, only reading comprehension was chosen as a need of the hour to be practised during the implementation of the flipped methodology on undergraduate ESL learners of the Mass Communication Department as part of their course. Taylor (1958) asserts that reading is acquired when fundamental reading skills such as interpretive skills, an adequate sight vocabulary, the ability to recognise different and similar words, and other specific skills such as map reading, using an index, and skimming are employed when reading some printed material. Fielding (1994) claims that only a well-balanced reading comprehension programme devotes a generous duration to actual reading and contains student-teacher sharing, collaborative learning, and well-instructed comprehension techniques for reading responses to comprehension questions. In the academic context, the comprehension section of the exams includes an unknown reading passage that the students must read and comprehend to answer the given set of questions. However, in the present study, the students are instructed to comprehend the text by considering aspects such as inference, organising principles, defining vocabulary, title formulation, the main idea, the tone of the author, and specific detail. These themes served as the pre- and post-achievement tests in the study.

Sifting through different learning theories such as behaviorism, cognitivism, constructivism, social constructivism, and other language learning theories, the linguists have now reached tech-assisted learning, and in the case of language learning, it is most commonly termed "Computer-Assisted Language Learning," which was identified by Levy (1997) as "the search for and study of applications of the computer in language teaching and learning" (p. 1). Computer-assisted language learning incorporates computer technology to facilitate language learning. The CALL concept further formulates the basis for other tech-assisted approaches such as blended learning environments and, with its extended concept, "flipped learning." Both of the concepts involve a compromise between face-to-face learning and tech-assisted learning. As stated by Flipped Learning Network (2014), direct instruction is moved from the group learning space to the individual learning space in the flipped learning model, and the resulting group space is transformed into a dynamic, interactive learning environment in which the educator guides students as they apply concepts and engage creatively in the subject matter. flipped learning (p. 1). According to Hamdan et al. (2013), a "flexible environment," "learning culture," "intentional content," and "professional educators" are the four pillars that support a flipped learning approach.

There are numerous different applications for flipped learning, and a number of educational theorists have presented their own interpretations of this cutting-edge teaching method (FLW). The flipped method, the peer feedback approach, and the jigsaw technique are all fundamental pillars of the flipped learning movement, and FLW integrates all three of these strategies into its instructional design. Overall, only a tiny number of academics have used this methodology, and none of them have done so with regard to Pakistan in particular. There are a total of 18 separate stages involved in each of the four phases, which are titled "Preparation," "Out of Class Session," "Face to Face Session," and "After-class Activities." because it is "concrete, realistic, and feasible for real-world teaching" and because it can reportedly be adapted to other settings (Luo et al., 2020, p. 16). Because of this, the researcher who is working on this study has modified it so that it better fits the parameters of this inquiry.



The idea of self-regulated learning is one that is intrinsically connected to the paradigm of the flipped classroom. In the most recent body of research, concepts of self-control and flipped classrooms are coming together. "Self-regulated learning" is defined as "an active, constructive process in which learners set goals for learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and contextual features of the environment," as stated by Pintrich (2000). "Self-regulated learning" can be defined as "an active, constructive process in which learners set goals for learning and then attempt to monitor, regulate, and control their cognition and motivation" (p. 453). This study evaluates students' self-regulated learning capacities by having them complete a modified version of Bernard et al.'s (2008) SRL questionnaire. The underlying assumption behind this research is that students develop these abilities as a consequence of being exposed to the flipped method.

Students in Pakistan are dissatisfied with their education regardless of the delivery mode, which contributes to the severity of the problem in that country. The traditional methodology does not investigate whether or not students are satisfied with the instruction they are receiving. The pleasure that the students had in their work was likely a major contributor to the strategy's overall level of success. Previous research has demonstrated that there is a paucity of published material that investigates the positive reactions that students have had to the flipped classroom concept. In response to a gap in the research that had already been done, the goal of this study was to try to figure out how happy learners were with the implementation of flipped learning and what the link was between flipped learning and self-regulated learning.

1.1 Research Questions

1. What is the difference between the self-regulated learning attitudes of experimental and control group undergraduate students in Pakistani universities?
2. To what extent are the respondents who learn through flipped learning satisfied with the flipped methodology?

2. Literature Review

Self-regulated learning is defined by Wolters et al. (2005) as "an active, constructive process in which learners set goals for learning and then attempt to monitor, regulate, and control their cognition, motivation, and behaviour, guided and constrained by their goals and the contextual features of the environment" (p. 5). They clarify further that "it is an active, constructive process in which learners establish objectives for learning and then strive to monitor, regulate, and manage their cognition, motivation, and behaviour" (Wolters et al., 2005, p. 5). According to the findings of research conducted by van Alten and colleagues (2020), students need to be able to self-regulate their own learning in order to make the most of the additional flexibility that comes with the flipped classroom model. This discovery, in turn, asks for the integration of self-regulated learning models with the current educational method, in this instance, the flipped classroom.

The effects of SRL assistance on students' SRL (self-reports and online activities), learning outcomes, and satisfaction were further investigated by van Alten et al. (2020), who reproduced the benefits of SRL support in flipped learning in secondary school for 115 eighth graders. This study looked at the impacts of SRL assistance on students' SRL (self-reported and online activities). Although it was discovered that every student had a positive attitude toward flipped learning, a few of the students chose not to get SRL support through video. Robbins et al. (2020) conducted research on reflective writing and self-regulated learning in classrooms with a high degree of flexibility. The researchers anticipated that the latter would improve as a consequence of the former being implemented. Surprising new research indicates that when flipped learning is implemented in classes covering a wide range of subject matter, both students' motivation and their learning strategies tend to suffer. Writing that is introspective, on the other hand, seems to counteract this inclination. Students in 12th grade participated in an experiment conducted by Dasa et al. (2021) to investigate the effects of self-regulated learning and flipped learning 3.0 on their abilities to give oral presentations. However, the results showed that there was no significant difference in speaking ability between the high and low self-regulated learning groups. The results also showed that there was a major difference in speaking ability between the flipped 3.0 group and the control group.

The typical classroom is turned on its head with the implementation of the "flipped classroom paradigm," in which students study from home while simultaneously getting instruction in class (Dasa et al., 2021). "Direct instruction moves from the group learning space to the individual learning space," is how the Flipped Learning Network (2014) defines it. "The resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter" (p. 15). Bishop and Verleger (2013) discussed a number of aspects of the flipped classroom, including its definition, the theoretical framework, learning styles, and highlighting theories of the flipped classroom model. These highlighted theories include problem-based learning, peer-assisted learning, active learning, collaborative learning, cooperative learning, and two learning styles that emphasise different aspects of the traditional lecture format. In addition, the authors highlighted theories of the flipped classroom model. While Yemma (2015) established a connection between the strategies and pedagogies used in flipped classrooms and constructivist notions about active learning, as well as Kolb's experiential learning and Vygotsky's zone of proximal development.

In research involving 14 students from different countries, Han (2015) found that the flipped classroom had a beneficial impact on the learners' ability to make their own decisions. This positive effect was attributed to the high motivation of learners during flipped learning, which occurred while they were exploring the opportunities mediated by the flipped methodology. This positive effect was attributed to the fact that learners explored the opportunities mediated by the flipped methodology. Gounari (2016) investigated the possibility that flipped classrooms may encourage students to take a greater interest in their own education and development as language and subject learners. According to the findings of the study, in-depth academic conversations thrived in environments in which there was a high ratio of students to professors, sufficient time was allowed for students to cooperate on projects, and students had access to technologically enhanced literature. This strategy also extended to other types of differentiated assessment and made it possible for instructors to provide instant, content-related feedback to students in real time during in-person training. El-Bassuony (2016) conducted research to investigate the impact of a flipped classroom experiment on the grammatical competence of low-achieving secondary school language learners. The experiment took place over the course of nine weeks. Underachievers and their normal counterparts were proven to have successful grammatical performance in reading and writing activities by applying verbal IQ testing and before-and-after grammatical performance evaluations. The research that was carried out by Almodaires et al. (2019) was in the form of a quasi-experimental study, and its purpose was to evaluate the usefulness of flipped learning based on the perspectives of Kuwaiti pre-service teachers. According to the findings of a survey, students in the experimental group who entered the class with a more positive attitude toward flipped education performed much better overall. Fahmi et al. (2019) explored how educators employed the flipped learning technique and the four stages in the process of teaching narrative text. In addition, they investigated how students felt about the flipped learning model. The research was conducted via a qualitative case study. According to the findings of earlier studies, eighty percent of respondents had favourable opinions of the flipped classroom model. Students have discovered that studying using the flipped method is an enjoyable and interesting way to learn, which has assisted them in recognising and addressing the areas in which they struggle.

In order to enhance the L2 reading comprehension of a group of 100 female Iranian students, Abaeian and Samadi (2016) employed the flipped classroom approach with them. After 18 sessions of treatment, there was a significant increase in the performance of the experimental group, and the findings suggested that intermediate students benefited more from the flip method than upper-intermediate students did from the technique. Ibnian (2020) conducted research to investigate the effect that flipping the classroom had on the reading comprehension abilities of a group of 72 university students in Amman, Jordan. The researcher also sought to gain an understanding of how the students felt

about the newly implemented instructional method. The results demonstrated a statistically significant difference in favour of the experimental group, which resulted in an improvement in the reading comprehension of the students. In addition, the data showed that students in the flip group had more positive perspectives than those in the control group.

3. Methodology

3.1 Population of the Study

The population of this study consists of undergraduate ESL learners from the Mass Communication Department of the University of Sargodha. The respondents comprised both male and female L2 learners aged 17–20 years and were classified into experimental and control groups.

3.2 Sample of the study

All the participants from semester two were classified into experimental as well as control groups through a random sampling method. Both the groups contained male and female participants, and each group contained 30 participants on a random basis.

3.3 Research Tools

3.3.1 SRL Questionnaire

to measure and compare the SRL effects of the flip method and traditional methods of language teaching. As mentioned earlier, the instrument was adapted from Bernard et al. (2008). Originally, the instrument was developed to measure self-regulation in an online environment. Necessary changes were made to match the context. The total number of items in the questionnaire was 24. A 5-point Likert scale was used to measure the attitudes of learners regarding self-regulation. The questionnaire was administered physically.

3.3.2 Reliability of the Instrument

As contended by George and Mallery (2012), if a given number of items in the instrument maintains an alpha coefficient value of 0.8 or greater, the instrument is said to have internal consistency and reliability. The questionnaire for self-regulated skill evaluation maintains a 0.8 alpha value, which makes the instrument a reliable choice for administration in this study.

Table 4.1: Reliability Statistics

Cronbach's Alpha	Number of Items
0.850	24

3.3.3 Academic Satisfaction Pool (ASP Questionnaire)

It is about a satisfaction questionnaire regarding the flipped experience of the learners. The instrument was adopted from Chae and Shin (2016), which was constructed to measure the satisfaction of participants in the “e-study” program. The researcher replaced this “e-study” with “flip learning.” It consists of 8 items, and the rest of the questionnaire remained intact. The questionnaire was administered physically, and the Likert scale was used for this instrument.

3.4 Research Design

As revealed from the research objectives and the research questions, I used a mixed method design involving both kinds of data, i.e., qualitative and quantitative methods. The research further specifies an experimental research design in accordance with the aims of the study.

3.4.1 Flipped Method Implementation

The research was conducted over five weeks during the semester. Cumulatively, a total of 12 lectures were dedicated to reading comprehension instruction for each group. Two lectures a week were conducted for both groups. The short course designed was an extension of the participants’ English course from semester II. Therefore, it was favourable because of the overlapping objectives of the undertaken study and the participants’ English course outline. The flipped method’s implementation was also feasible in that context because participants were already using WhatsApp for study purposes. Technological devices and internet availability were already ensured before the flipped method’s application. Participants’ familiarity with the WhatsApp application for academic purposes and its availability to them on mobile phones tabs might be compared to the COVID-19 situation, when all institutions shifted to online communication.

3.4.2 Flipped Learning Wheel Execution

Originally developed by Luo et al. (2020), the flip learning wheel was built on a framework and process design for flipped L2 writing courses with the primary goal of improving students’ written expression. Additionally, a design-thinking methodology was applied to create the foundation. The purpose of this research was to acquire, modify, and implement the Flipped Learning Wheel as a means of instructing in reading comprehension. The initial 18 primary stages of FLW were divided into 4 phases, but the perpetrators claim that the framework is adaptable enough to accommodate additional alterations to meet specific requirements while maintaining the integrity of the phases. In the present investigation, each of the four stages—preparation, online, in-person, and post-class—has been completed in sequential order.

4. Data Analysis

4.1 Research Question One

What are the self-regulated learning attitudes of undergraduate students in Pakistani universities?

4.1.1 Goal Setting

To understand the self-regulated learning attitude of students in the flip group and traditional group, we have asked different questions to the students that belong to a major category of self-learning attitude called “goal setting.” Thirty students were asked five questions about “goal setting” in the traditional group. The responses to all five questions from 30 students related to goal setting are presented in the bar chart diagram given below.

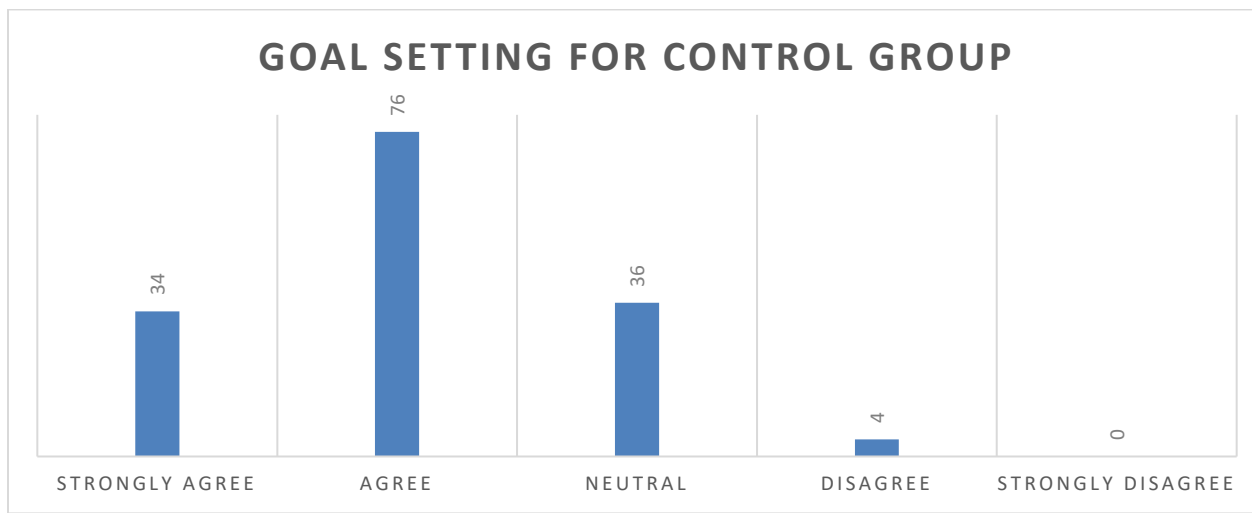


Figure 1: Goal Setting Graph for Control Group

The results from the bar chart diagram show that cumulatively, 110 responses from a total of 150 were in favour of "agree," while only 4 responses were given as "disagree," and 36 as neutral.

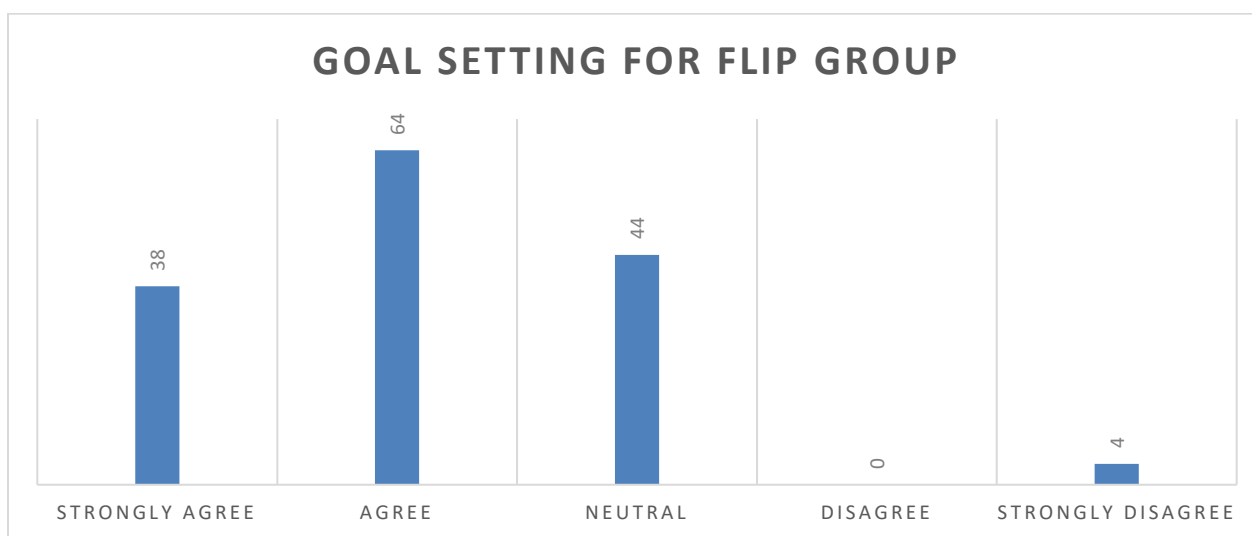


Figure 2: Goal Setting Graph for Experimental Group

In the case of the flipped learning group, similar five questions were asked under the goal-setting category, and responses were analysed cumulatively. These responses are almost identical to the traditional group where 102 responses are given as "agreed," 44 responses as "neutral," and four responses are inclined towards the "agreed" side. This shows that there is no significant difference between the traditional and flip learning groups in terms of goal setting.

4.1.2 Environmental structuring

The second dimension of the self-regulated learning attitude questionnaire is environmental structuring. A total of four questions were posed to the traditional group of environmental structuring experts. The cumulative data from all 30 participants is shown on the graph as follows:

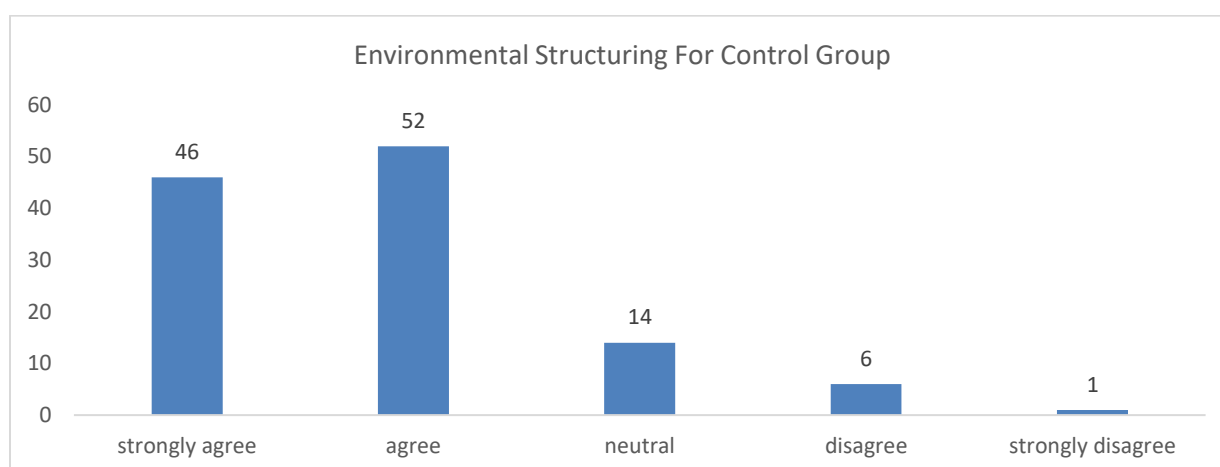


Figure 3: Environmental Structuring for Control Group

As revealed from the above graph, 98 responses out of 119 are given as "agreed," with 14 responses categorised as neutral. In contrast, 7 responses are marked as "disagreed."

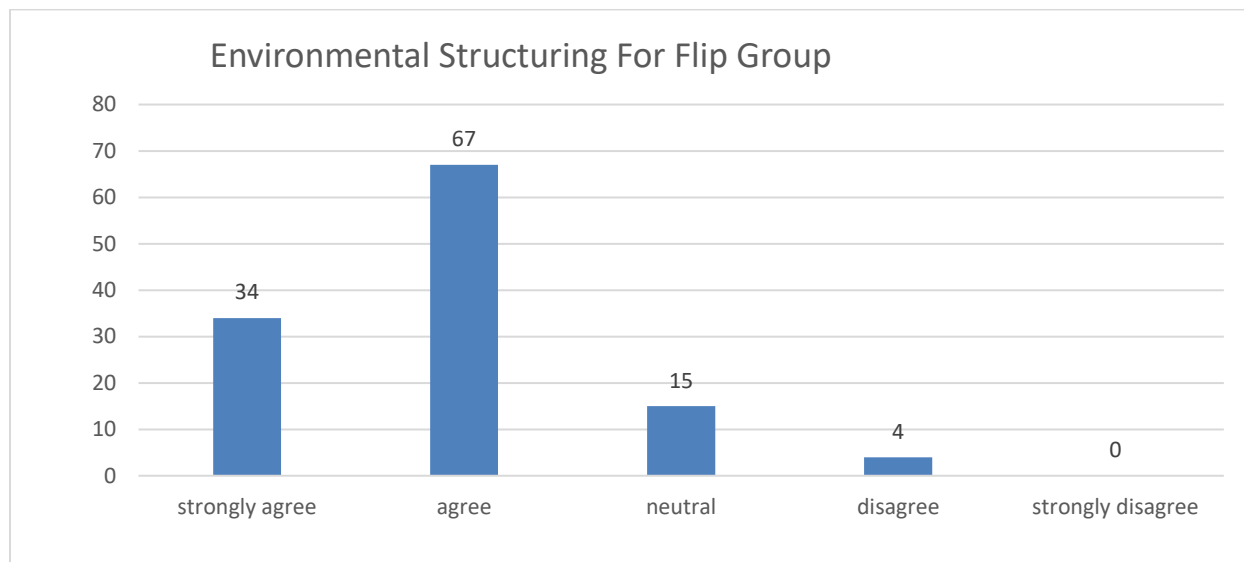


Figure 4: Environmental Structuring Graph for Experimental Group

When the same 4 questions belonging to environmental structuring were asked to flip group learners, a similar tendency was noted between flip group responses and traditional group responses. The following graph shows that 101 responses were in favour of “agreed” and 4 responses were given as “disagreed,” with 15 responses marked as neutral. No significant difference was seen between the responses of the two groups.

4.1.3 Task Strategies

Concerning task strategies, both groups were asked four questions, and their responses were analysed cumulatively.

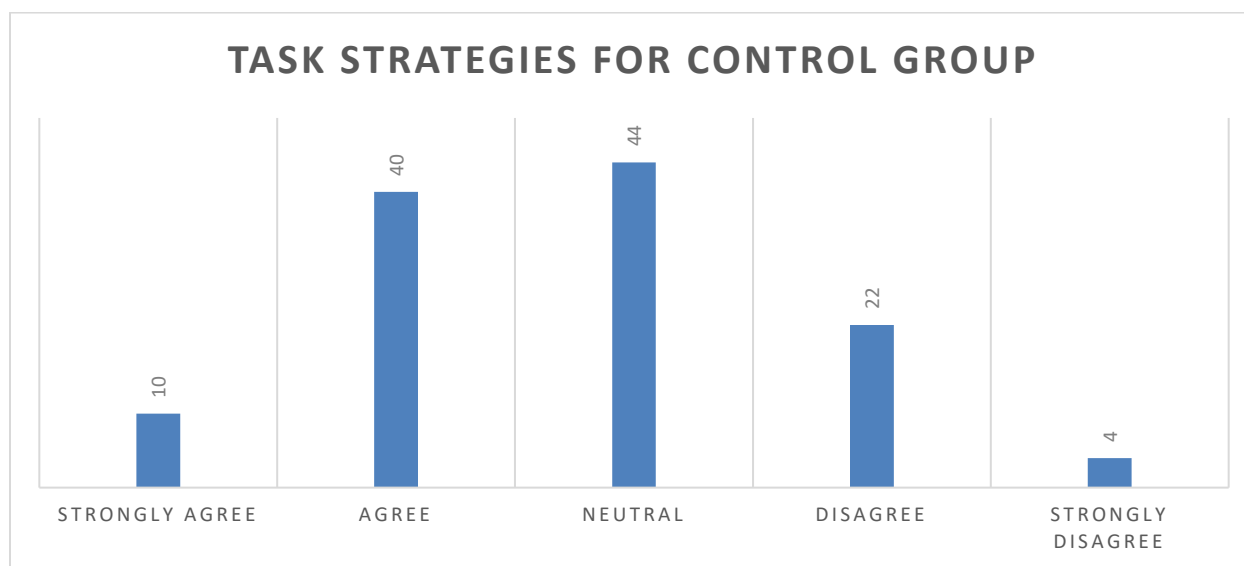


Figure 5: Task Strategies Graph for Control Group

In the case of the traditional group, the graph reveals that a total of 50 responses indicated a positive attitude and were found to be “agreed,” with 44 responses given as neutral and 26 responses declaring the “disagreed” tendency. In the case of the experimental group, 58 responses in the graph fall under the “agreed” domain, and 36 responses are termed neutral. Through this process, 25 responses from flip group learners are given in the “disagreed” category. An insignificant difference is seen between the responses of flip group learners and traditional group learners.

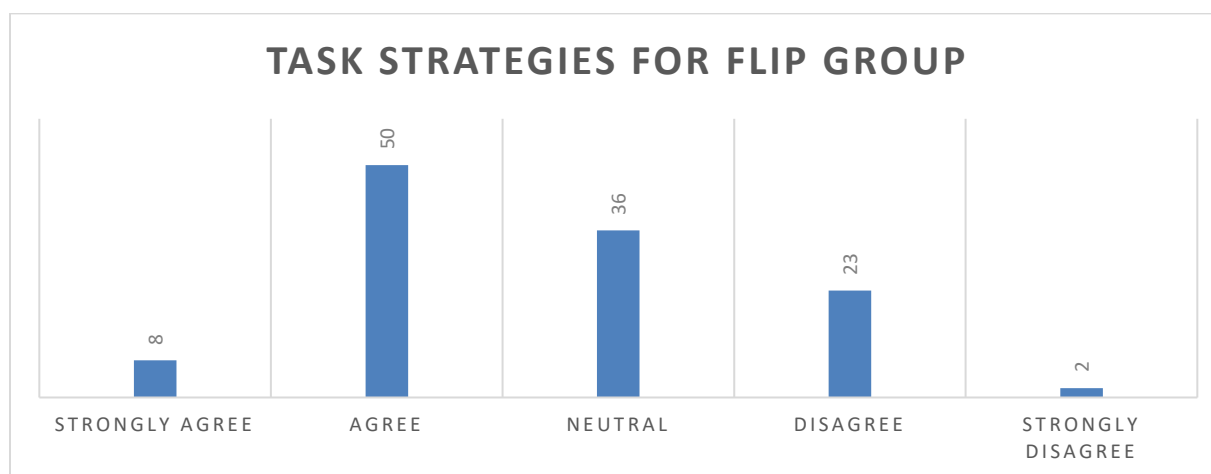


Figure 6: Task Strategies Graph for Experimental Group

4.1.4 Time management

Continuing the line of the self-regulated learning attitude measure, both groups were asked three questions covering the construct of time management. Cumulative results are displayed below.

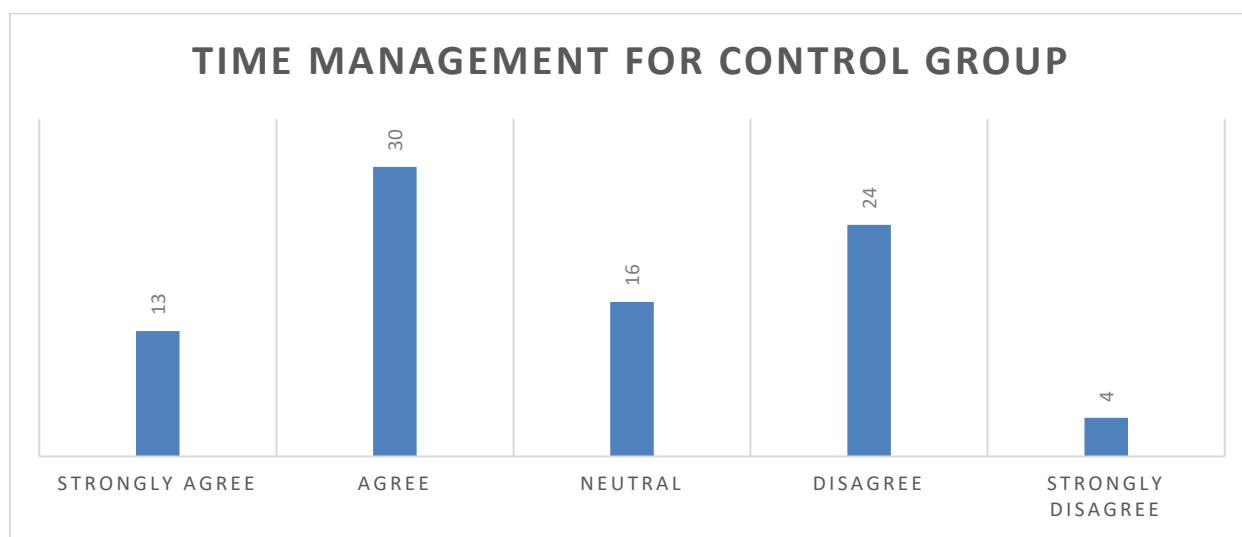


Figure 7: Time Management Graph for Control Group

In this graph of control group, it is noticed that 43 responses are given as “agreed” along with 16 responses being neutral. However, 28 responses are received showing a “disagreed” attitude.

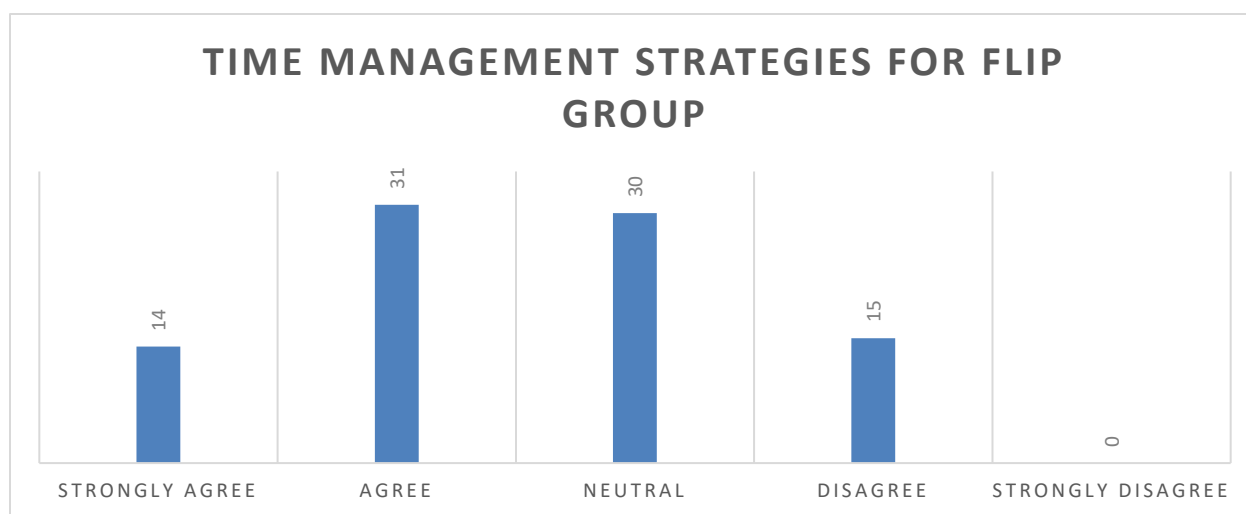


Figure 8: Time Management Graph for Experimental Group

To discuss the responses of the parallel group, which is flip, 45 responses are given as "agreed," 30 responses stay neutral, and 15 responses are found to be "disagreed." Unlike the “neutral” and “disagreed” attitudes of both groups, no significant difference has been found between the flip and traditional group responses indicating an “agreed” attitude. More responses from the flip group depicted a neutral attitude, unlike the traditional group. and a lower number of "disagreed" responses from the flip group.

4.1.5 Help-Seeking

The fifth dimension of the self-regulated learning questionnaire is seeking assistance. The construct consists of four questions that discuss help-seeking strategies utilised by participants. Both flip and traditional group learners were asked these questions to evaluate their SRL attitudes, which are discussed in the following graph.

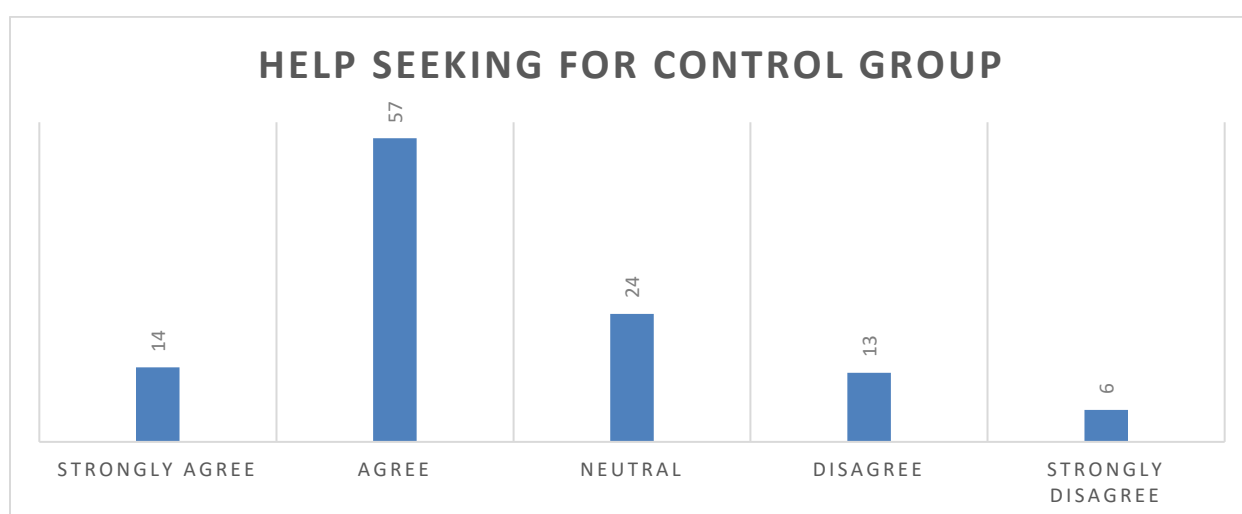


Figure 9: Help Seeking Strategies Graph for Control Group

The control group graph shows that 71 responses out of 114 are in the “agreed” category, with 24 responses identifying the neutral attitude of respondents. On the contrary, only 19 responses are given as "disagreed."

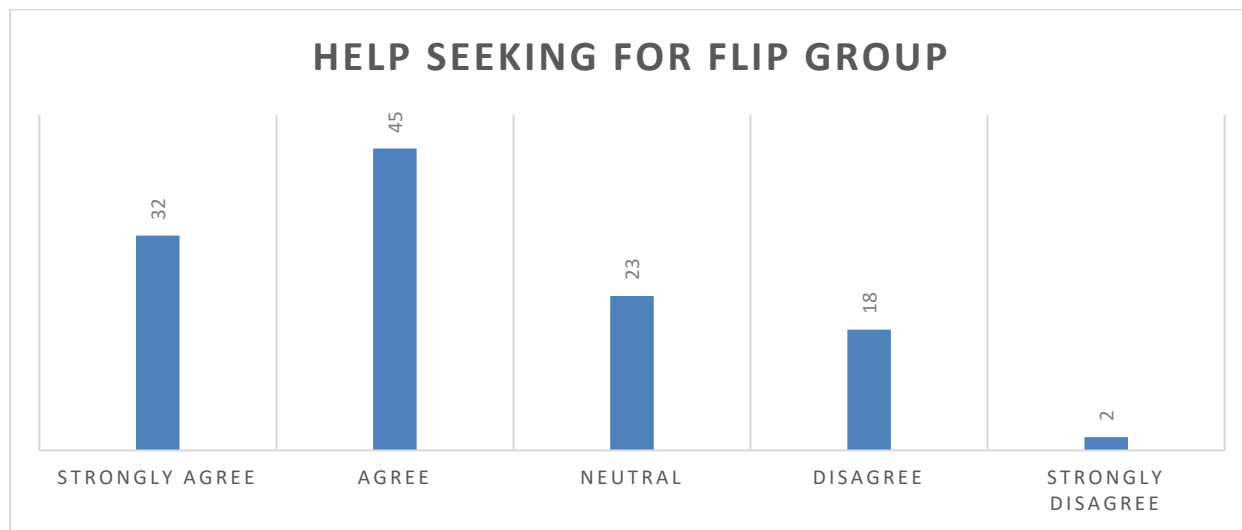


Figure 10: Help Seeking Strategies Graph for Experimental Group

The recent graph discloses the help-seeking strategies utilised by flip-group learners. 77 responses are stated as "agreed," with 23 responses marked as neutral. In contrast, a total of 20 responses expressed a “disagreed” attitude, which is almost as high as the “disagreed” responses of traditional group learners. Minor differences can be noted between the responses of flip learners and traditional group learners.

4.1.6 Self-evaluation

Self-evaluation is the sixth dimension of the self-regulated learning construct. Sixty participants (30 from the control group and 30 from the experimental group) were asked four questions in total. These questions assessed students' academic self-evaluation—the questions they asked themselves and others about their academic progress.

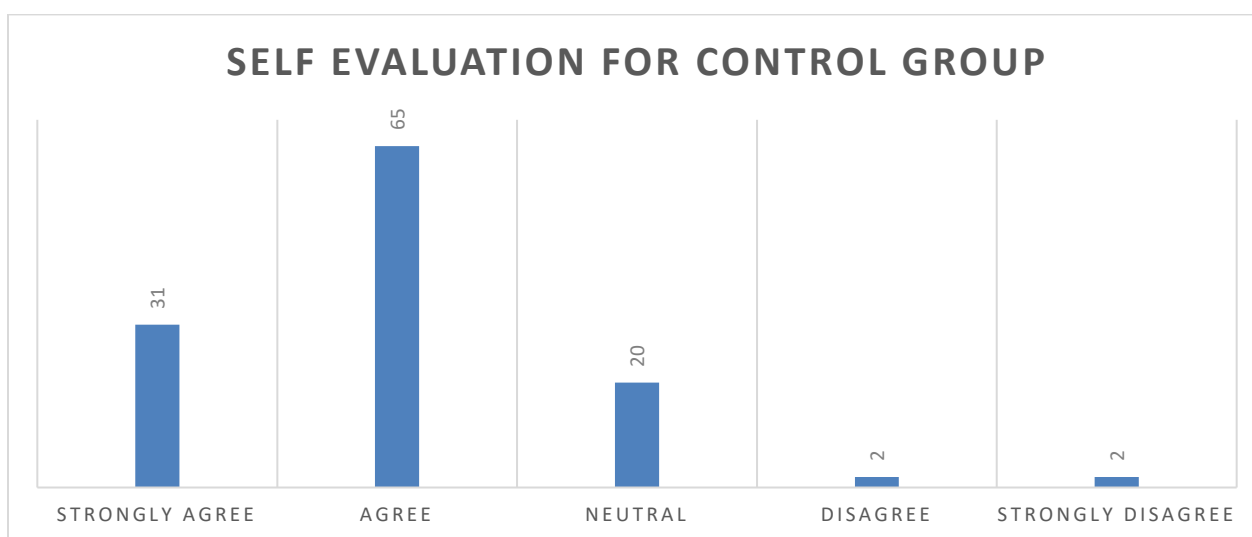


Figure 11: Self-evaluation Graph of Control Group

The following graph depicts the self-evaluation strategies used by the control group. Around 96 responses to self-evaluation questions are given in line with "agree," while 20 responses are presented as neutral, and only 4 responses are under the “disagree” category.

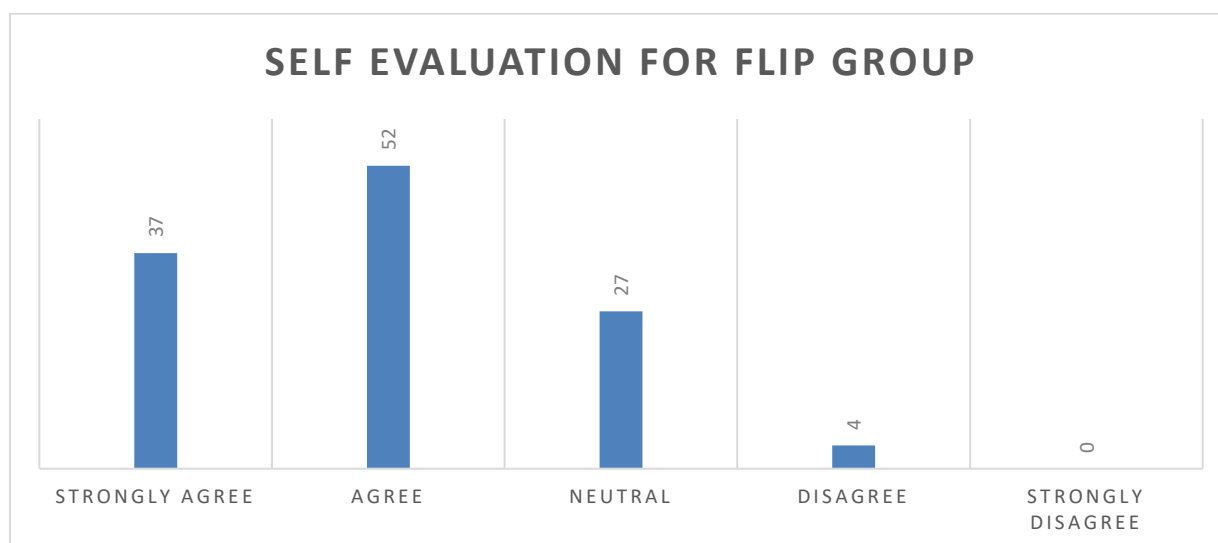


Figure 12: Self-evaluation Graph for Experimental Group

In the above graph, as follows, a total of 89 responses for the flip group are given as "agree," while 27 are presented as neutral; on the other hand, a total of 4 responses are provided in terms of "disagree." The findings suggest that both the flip group and control group's self-evaluation strategies are almost equal, but the results also point out that the control group learners who employ self-evaluation strategies are slightly greater than those in the flip group, which is against the researchers' expected results.

4.2 Research Question Two

Are the respondents learning through flipped learning satisfied with the methodology?

The flipped learning wheel model was used on experimental group participants in the current study to teach them a short "reading comprehension course." The experiment took five weeks. Following the completion of the experimental process, a physical satisfaction survey was conducted, and a questionnaire was distributed to the learners in the flip group. The questionnaire consists of 8 items evaluating the satisfactory attitude of flip-group learners.

The following graph analyses the data for all the items individually. Each item is identified by either two or three bars instead of four or five, which indicates that the 4th and 5th bars coded as disagree (4th) and strongly disagree (5th) have never been marked by any respondent, which indicates a positive attitude of learners towards the implemented flip methodology. There are 8 sets of bar clusters, and each bar cluster is synonymous with an individual question or item.

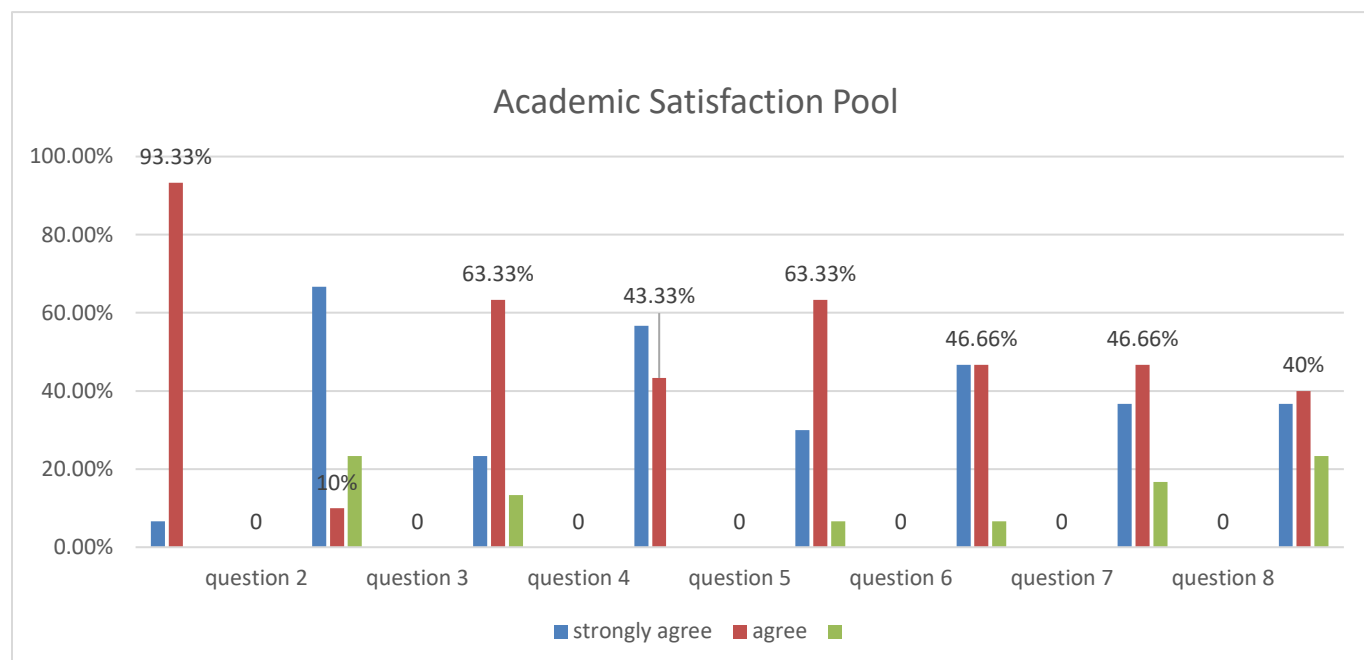


Figure 13: Graph depicting Learners' Satisfaction towards Flipped Method

The first bar cluster indicates that all the participants are satisfied with the flipped methodology, and the fourth bar cluster reveals that all the respondents favour the recommendation of the flipped methodology to their friends. 77.67% of participants declared that they have enjoyed flip classroom instruction more than traditional classroom instruction. Around 93.33% of participants opined that the flip method they got to utilise was good.

5. Discussion

5.1 Research Question One

What are the self-regulated learning attitudes of students of the undergraduate students in Pakistani universities?

As the present study explores the self-regulated learning effects of flipped classroom instruction on learners in comparison to those of traditional classroom instruction, a questionnaire adapted from Barnard et al. (2009), containing a total of 24 items classified into six constructs with a five-point Likert scale, was used.

According to the findings of the analysis of the data, there was not a discernible difference between the self-regulated learning attitudes of the experimental and control groups. Learners in the flipped group, on the other hand, had a much higher inclination toward self-regulated learning as compared to learners in the control group. The use of the "flipping" technique is to blame for the somewhat larger disparity in attitudes that was observed. It is assumed that self-regulated learning is a complementary feature of flipped classroom instruction because it is learner-centered and flexible. This allows the instructor to incorporate as many suitable learner-centered strategies and activities as he or she can depend on the goal of instruction, the needs of learners, and the requirements of the course and curriculum objectives. Self-regulated learning is assumed to be the complementary feature of flipped classroom instruction because it is learner-centered. If we take into account the requirements of "digital natives," who have a greater propensity to be self-directed and active in their work, the flipped methodology may be a more suitable option; however, in order for this to be the case, it must be effectively implemented while adhering to the standards and proposed four pillars of FLIP. The current research comes to a total of three conclusions about the subject matter. In the first place, both the flipped approach and the conventional method play an important role in the development of attitudes that promote self-regulated learning. Second, as compared to learners who were instructed using conventional methods, pupils who were taught using the flipped technique gained only a little bit better self-regulated learning ability. Thirdly, there was not a significant difference found between the experimental group and the control group in terms of their views about self-regulated learning.

5.2 Research Question Three

Are the respondents learning through flipped learning satisfied with the methodology?

As we found in our data analysis, all the flipped group learners have exhibited satisfactory attitudes regarding the flipped method. As a result of the positive outcomes, they are willing to use this approach again the following semester, as long as they are given permission and agree to recommend it to their peers. Approximately 93% of students believe that the flipped classroom model has the potential to make a difference in their education. This shift may be linked to a variety of factors, one of which is that flipped learners now get their education in a less stressful setting, one in which the role of the instructor is both more lax and less authoritarian. In addition, he makes it easier for students to finish their assignments and finds solutions to any academic issues they may have. Every kid receives the same amount of attention, regardless of how well they do in school or how capable they are. In this manner, the flipped approach, rather than focusing on praising just the brilliant kids, works toward the goal of making each student bright. It does not choose the monarch but rather creates one for itself. The instructor takes on the role of a knowledgeable classmate who pays close attention to the students' progress and the methods they use to finish the assignment. Therefore, the teacher seeks to use an emic approach and carefully educate the learners while taking into consideration the requirements, strengths, and limitations of each student individually. The learners work through their emotional as well as intellectual challenges, which are disregarded in the traditional technique, by participating in class activities and maintaining an open line of communication with the instructor. Because learners are given reading material to do at home and encouraged to do their understanding and learning at home, they have more time in the face-to-face session to raise questions and concerns about the read content. Additionally, the immediate feedback that is provided to them by their instructor relieves their confusion and builds their positive attitudes toward the flip method. They also discuss the same task in the group on an equal footing, which boosts their intrinsic motivation and confidence while also allowing them to understand the concept from various perspectives. After completing their task individually, they are motivated to teach the same to their less competent peers. After completing their task individually, they are motivated to teach the same to their less competent peers. These characteristics can be the reason why the learners' sentiments about the flipped teaching style that was used were positive.

6. Findings and Interpretation

6.1 Development of SRL strategies

There was no statistically significant difference in SRL between the experimental and control groups, but there were minor differences in the preferences of the learners in each group, as shown by a closer examination of the data. It's also important to note that, contrary to predictions, children in the experimental group did not demonstrate significantly more self-regulated learning than students in the control group. The self-regulated learning tendencies of the learners in the control group are comparable to or perhaps somewhat stronger than those of the learners in the flipped method group. Regarding the other four aspects—environmental structuring, task strategies, time management, and assistance seeking strategies—the experimental group had a little advantage over the control group. Overall, we noticed that both the flipped and traditional methods contributed to the development of SRL abilities among students and that there was no significant difference between the two groups in their use of SRL strategies. However, flipped students used more SRL strategies, including setting up their learning environments, organising their work, managing their time efficiently, and reaching out to their peers for assistance.

Al-Zahrani et al. (2015), Chen et al. (2015), Lai & Hwang (2016), and Sun et al. (2017) all point to the fact that flipped learners did not do as well as the conventional technique group when it came to using self-regulated learning (SRL) methods. Kornell and Bjork (2007) concur that the explicit instruction of SRL as pre-class tasks might be advantageous. These findings are consistent with those of Altas and Enisa (2020), who investigated the impact of FC on students' writing performance and SRL. The results contradict prior findings that the flipped classroom had no influence on students' capacity to self-regulate their learning (Sun et al., 2017; Elakovich, 2018). Students attending their first flipped classroom benefited from considerable training to ensure they had the cognitive and metacognitive SRL skills necessary for success (Al-Abdullatif, 2020, p. 9).

6.2 Satisfaction of Flipped Methodology Learners

Data analysis for the 4th research question reveals that all the participants were satisfied with the flipped method experiment. It was discovered that the implemented flip method received the highest percentage of approval (93%). They enjoyed the flipped learning method (Wanner & Palmer, 2015), their academic interest increased as a result of flipped learning (Dasa et al., 2021), and the method also allows them to contact their instructor at any time and any place. Flipped learners displayed a positive attitude towards flipped learning, which points to their satisfactory attitude and the effectiveness of the flipped method and Flipped Learning Wheel model. The satisfactory responses of the flipped group can be attributed to the teacher's friendly attitude, interesting classroom student-centered activities, and immediate feedback from the instructor.

Students enjoyed the flipped classroom because of the convenience of accessing lecture content in the form of recorded material whenever they wished. The flipped classroom made it easier for the learners to talk to the instructor about as many questions related to the content as they could during the class time (Findlay-Thompson & Mombourquette, 2014), which increased their positive perceptions and academic satisfaction regarding the flipped method. In short, the success of the implemented flipped method is further confirmed by the flipped methodology group's satisfactory attitudes towards the flip experiment. The findings regarding learner satisfaction with the flipped method contradict those of previous researchers Missildine et al. (2013) and Sommer and Ritzhaupt (2018), who found that learners were more satisfied with the control condition (traditional methodology) and less satisfied with the flipped method than other forms of instruction. The reason can be an improper implementation of the flipped method, learners' adherence to traditional methodologies, their passivity, or their spoon-feeding habits.

7. Conclusion

The present paper revolves around the implementation of the flipped method, its role in the development of self-regulated learning strategies, and learners' satisfaction with the implemented methodology. The sample was divided into a control and experimental group, and the flipped learning wheel (FLW) model was followed. The results reveal unexpected findings where flipped learners did not exhibit exceptional self-regulated learning tendencies, but rather in constructs such as goal setting and self-evaluation, control group responses revealing "agreed" status were greater in number than those of the experimental group. Both the methodologies, flipped learning and traditional learning, build self-regulated attitudes, and no significant difference has been noted between them. Through the questionnaire, flipped learners revealed that they were mostly satisfied with the implemented methodology. However, it is suggested to enhance effective flipped learning strategies through better planning, the availability of experienced and professional instructors, and the incorporation of smart tasks and activities to reduce time. The current results will help future researchers in Pakistan as well as around the world take extra care in planning and managing the flipped methodology-based classes.

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Bio-notes:

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