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Impact of the Flipped Learning Approach on Student's Reading and Writing Skills in English Classrooms at Secondary Level

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Abstract
The research examines the influence of flipped learning approach on English language skills among secondary-level students in Pakistan, with a particular focus on reading skills and writing skills. Although English being extensively in use as a second language in Pakistani secondary schools, students still struggle with basic language skills, presumably due to conventional teacher-led pedagogy. The study aims to evaluate the effectiveness of the flipped learning model, in which students learn teaching materials outside the classroom and engage in interactive, student-directed activities inside the classroom to improve their language skills. An experimental approach was employed, comparing the effectiveness of the flipped learning approach with traditional teaching methods in enhancing students' reading and writing competencies. Data were collected through pre-tests and post-tests conducted on 114 randomly selected Grade- ninth students at a government girls' high school in Multan, Pakistan. The findings established that the flipped classroom significantly enhanced students' reading and writing skills as compared to traditional methods. Moreover, learners reported greater curiosity and active participation in the learning process. The results revealed that while flipped learning had the potential to advance English language skills, it also required access to technology and teacher preparedness. This research contributed to the body of literature on innovative teaching methods in developing countries and offered practical recommendations for teachers, institutions, and policymakers to better support language learning through flipped education.

Keywords: *Flipped Learning, English Language, Secondary Education, Writing Skills, Reading Comprehension*

Introduction

With increased interconnectedness in the world, English has become the leading world language as the most widely used medium of communication, learning, and commerce (Lo & Hew, 2021). In nations such as Pakistan, proficiency in English has not only become a harbinger of academic excellence but a vital need to achieve professional success and integrate with the world economy (Ahmad, 2021). Yet, even after decades of formal education, a significant proportion of Pakistani students, especially at the secondary level, remain behind in core skills of reading, writing, speaking, and listening in English (Rehman & Fatima, 2021). This long-standing mismatch between social and academic need for English and students' reality implies entrenched problems in pedagogical practice and education systems. Conventional teacher-led instruction with a focus on rote memorization rather than meaningful interaction has been criticized for not attending to communicative competence and critical thinking abilities that are crucial to language proficiency (Elian & Hamaidi, 2018). Additionally, issues like gigantic class sizes, scarce educational materials, and scarce exposure to English outside the classroom setting exacerbate students' issues with fluency and confidence (Cabi, 2018; Cheng et al., 2019).

New pedagogical interventions such as the flipped classroom strategy have been promising responses to these long-standing challenges. By flipping educational content delivery outside the classroom through digital media and reconfiguring classroom time into interactive, student-centered learning episodes, the flipped model promotes greater engagement, deeper thinking, and collaborative learning (Cheng et al., 2019; Basal, 2022). There has been international evidence to affirm that flipped learning has the potential to enhance students' motivation, language capability, and self-regulation (Bergmann & Sams, 2022; Shyr & Chen, 2018). For example, current research has reported notable improvement in reading and writing skills, ability to communicate, and critical literacy among students in flipped English classes (Cabi, 2018; Bishop & Verleger, 2013). Moreover, the model is consonant with constructivist language learning theories, placing prime importance on active construction of knowledge and authentic use (Piaget, 1971; Vygotsky, 1978). In Pakistan, though the deployment of technology in education is increasingly permeating the nation, particularly into urban and semi-urban markets (Ahmad, 2021), flipped learning constitutes an environmentally sustainable response to reconcile deficits between typical teacher inefficiencies and the demands for modern, student-centered pedagogies (Ali et al., 2021; Rehman & Fatima, 2021).

Though being its worldwide momentum, the introduction of flipped learning in the light of Pakistani high schools is not yet properly unfolded, particularly that of English language proficiency assessed as being able to successfully apply listening, speaking, reading, and writing skills in everyday contexts (Lo & Hew, 2021). Considering Pakistan's persisting issues like untrained teachers, overdependence on rote memorization, and poor language skills of students (Ahmad, 2021; National Education Policy, 2017). This research seeks to bridge the current research gap by investigating the impact of flipped learning

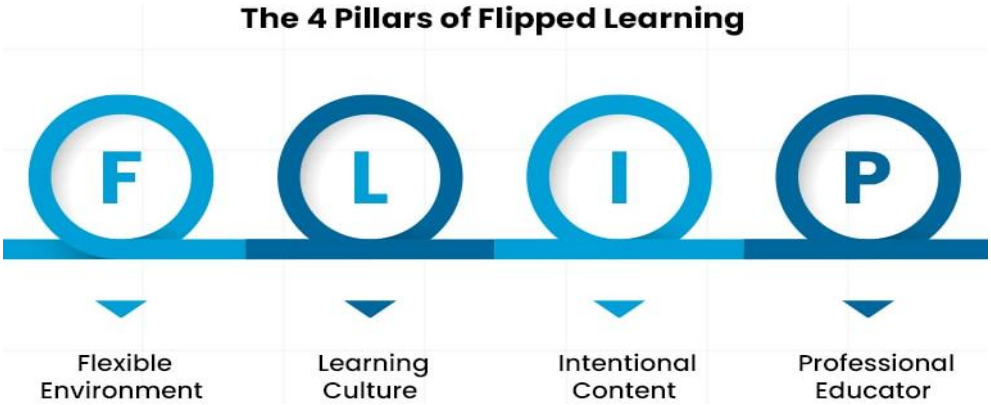
on students' English language proficiency in terms of coherence, cohesion, argument writing, and critical reading capacity (Commonwealth of Learning, 2019; NACTE, 2009; NACTE, 2016). Also, the research aims to evaluate students and teachers' perceptions about the suitability and efficacy of such a strategy within the Pakistani learning environment, where educational reforms emphasize even more heavily critical thinking and learner-centered education (Government of Pakistan, 2018). By this new model of teaching, the research hopes to yield practical suggestions for educators, curriculum planners, and policymakers who are striving to reformulate English language teaching and better learning outcomes in secondary schools across Pakistan.

Pillars Supporting the Flipped Classrooms

According to the Flipped Learning Network (2014), there are four main components that make a flipped classroom work. The cornerstones consist of an adaptable classroom setting, an educational culture, timely subject matter, and competent teachers. The primary principle the necessity for adaptable environments arises from the concept that schools must conform to the requirements of their students. However, there must be flexibility in presentation and assessment of instruction both in form and physical space. There must be a well-arranged classroom layout that facilitates and supports both group and individual instructions (Fulton, 2013).

This is the Flipped Learning Network that analyzed the second pillar of the transformation in educational methodologies. The objective is to measure educational advancements by assessing the influence of external instruction and the modifications implemented within the classroom to optimize learning specific to that subject. We acknowledge this as a crucial step in cultivating a learning culture in the classroom. This falls under the substantive content as the third pillar. A flipped class demands a rethink of course materials. Educators should partially transfer their responsibilities from within the classroom.

Teachers are transforming the student from a person being taught to one who learns with own efforts, and not putting him or herself at the center of instruction. Du Plessis (2020) referred to this approach as learner-centered teaching. The fourth foundation involves the utilization of trained teachers. Teachers' capability to connect with learners in multiple ways is paramount in making the flipped classroom approach a success. Since these meetings today provide coaching, support, and facilitation rather than mere information transmission, the flipped classroom concept was more student-centered in direct student-teacher contact than regular classrooms. Therefore, no online instructor can really be a good teacher in the full sense of the word, because being a good teacher plays a very important role in the whole learning process. Being able to act as a role model means that teachers can motivate learners to take more responsibility over their own education.



"Note: (Yarbro et al., 2015)"

Fig. 1: *Four Pillars of Flipped Learning*

Objectives of the Study

The objectives of the study were to:

1. To evaluate the effectiveness of flipped learning approach on secondary school students' reading abilities in English.
2. To evaluate the effectiveness of flipped learning approach on secondary school students' writing skills in English.

Literature Review

English has cemented its position as the world's lingua franca and has become the door opener to the world of communication, scholarship, business, and learning (Hew, 2021). English is acquired as a second language in nations such as Pakistan and is the door opener to higher education as well as improved career opportunities (Ahmad, 2021). Though its position remains questionable, Pakistani secondary level students all these years are still struggling to attain functional proficiency in English, with restrictions in all four areas of language, i.e., reading, writing, speaking, and listening (Rehman & Fatima, 2021). It becomes a challenge in terms of the efficiency of current instructional practices, by pointing towards paradigm-breaking instructional practices, which go beyond the conventional traditional memory-based practices. The dominant Pakistani education model is highly teacher-centric, with a high overdependence on memorization instead of actual language use (Ali et al., 2021).

Such approaches deprive learners of interaction, self-expression, and critical thinking—processes critical in effective language acquisition (Elian & Hamaidi, 2018). High student-teacher ratios, inadequate learning infrastructure, and limited one-to-one teaching also cause learners' low language performance (Lee, 2020; Cheng et al., 2019). Furthermore, English is frequently treated as a foreign language compared to a second one in most of Pakistan, and thus it is mostly practiced and exposed to in the classroom environments (Ahmad, 2021), which leads to an added complication in building communicative competence

(Cabi, 2018). Flipped learning has cropped up as a teaching model that is able to solve these very complications all the way around the world (El Miedany & El Miedany, 2019).

The flipped classroom format reassigns lecture time to home video learning and opens up classroom time for collaborative, student-led learning activities (Bergmann & Sams, 2022). Experimental research has established that this format of structure encourages greater student engagement, critical thinking, and independence abilities especially useful in language acquisition (Cheng et al., 2019; Cabi, 2018). By flipped learning, students have greater chances to practice English through listening, speaking, reading, and writing activities and get immediate feedback from the teacher (Amiryousefi, 2019). Conventional practices employed in Pakistani classrooms compartmentalize language skills and focus on the mechanical nature of grammar and vocabulary (Ali et al., 2021).

Conversely, English language mastery demands synergistic control of all four skills in real contexts and real tasks (Lo & Hew, 2021). Flipped learning allows for this by inviting learners to use communicative practice both within and outside the classroom (Bishop & Verleger, 2013). Holistic implies being at the center to go beyond shallowness in a bid to attain true mastery (Cabi, 2018). The flipped approach has significant dependence upon constructivist conceptions of learning, which give stress to the active engagement and knowledge construction by the learners, instead of their passive reception (Robertson, 2022; Piaget, 1971; Vygotsky, 1978).

Flipped students are entrusted with responsibility of their own learning through engaging on course materials outside of class and affirming knowledge by means of interactive exercises during class (Cheng et al., 2019). This strategy adheres to best practices in communicative language instruction and is compatible with cognitive language acquisition processes (Basal, 2022). The philosophical basis of flipping learning stems from Piaget's and Bruner's cognitive developmental theories that rely on active interaction and experience-dependent learning (Piaget, 1970; Bruner, 1961, as mentioned in Clark, 2018).

In Pakistan, where education integration with technology is making incremental progress, flipped learning can possibly utilize mobile and internet connectivity to impart education in a more effective manner (Ahmad, 2021). It provides a realistic solution towards preventing problems like congested classrooms, a lack of teachers, and inadequate learning material (Rehman & Fatima, 2021). Pakistan's education reforms are creating high levels of expectations for student-centered, active pedagogies that promote critical thinking and innovation (Ahmad, 2021). Flipped learning is in support of these national aspirations through the facilitation of collaborative learning, self-regulation, and higher-order thinking (Samadi et al., 2024; Cabi, 2018).

Lo and Hew (2021) discovered that students in flipped English classes performed better than their language proficiency and critical thinking peers. Cabi (2018) also discovered notable improvements in the reading and writing abilities of students and their confidence in using English overall. These observations forecast that flipped learning can bring about a paradigm shift in the teaching of the English language in Pakistan, wherein conventional approaches hitherto have not produced desired effects (Basal, 2022). Although such motivating global trends are still continuing, their adoption is still in the nascent stage in Pakistan, especially at secondary levels (Ali, 2021). The available literature provides a reflection that few studies exist addressing the influence of flipped pedagogies on the excellence of the English language in Pakistani learners. Since the national education policy is seeking revolutionary methodologies to raise critical and thinking minds, this study is endeavoring to meet the gap (National Education Policy, 2017).

International organizations such as the Commonwealth of Learning (2019) have determined that flipped classrooms have the potential to introduce deeper learning and critical thinking. Their findings affirm that flipped learning produces more active learners and improved learning outcomes. This aligns with the education agenda for the country and highlights the need for studies at the grassroots level to explore the ways in which flipped learning can be effectively employed in schools in the country. Pakistan also faces a severe lack of highly skilled teachers, an issue that has been able to sustain low learning outcomes at all levels of schooling (Ministry of Federal Education & Professional Training, 2018).

Part of the solution can be drawn from the application of ICT to teacher education programs that can equip teachers with newer pedagogical competencies and enhance their teaching capabilities. The flipped classroom, as an ICT model, possesses a long-term approach towards optimizing the performance of the instructors as well as the learners (Commonwealth of Learning, 2019). Flipped learning, similar to other implementations of technology within classrooms, is focused on maximizing the teaching-learning process and providing education to students more conveniently (Commonwealth of Learning, 2019). Yet choosing technology and learning practices needs introspection, more so in developed countries like Pakistan. Considering this, in this research work, the feasibility and effectiveness of flipping learning is explored in such an environment and thus adds to the international agenda in technology-supportive education.

Innovations in teaching are fundamental to education reform (Commonwealth of Learning, 2019; NACTE, 2009; NACTE, 2016). One of the innovations that have shifted teaching practices globally is the concept of the flipped classroom, which developed with information and communication technology innovations. Its application in Pakistan is its ability to rectify the systemic deficits in conventional English language teaching and enable better learning experiences (Wang et al., 2023). Reading is considered a complex task as it involves the use of multiple strategies to comprehend text effectively. Successful reading not only depends on the reader's understanding of vocabulary and grammar but also on their ability to critically analyze, synthesize, and assess the information presented (A. M. Ali & Razali, 2019; Namjoo & Marzban, 2014).

In Pakistan, where learners may not have reading and writing skills to critique critically, there is a systematic way of enhancing coherence, cohesion, and argument in English writing through flipped learning (Commonwealth of Learning, 2019). By engaging in pre-class and in-class activities, there is an opportunity for learners to cultivate over time reflective and analytical skills essential for professional and academic excellence (NACTE, 2009; NACTE, 2016).

Studies indicate that flipped learning holds promise to effect positively learners' cognitive, behavior, and affective development (Commonwealth of Learning, 2019). For Pakistani students, who typically have been confronted with passive and dull learning

episodes, flipped classes might provide them with a necessary break that leaves them more engaged and constructively active in studying language (Basal, 2022).

Research Methodology

The research took a quantitative design with a true experimental approach to investigate the impact of flipped learning on the improvement of English language skills among secondary school students. The researcher used both pre-tests and post-tests to assess learning outcomes in experimental and control groups. These tests offered a standardized way of measuring baseline abilities and measuring improvements after the intervention. Through the emphasis on measurable outcomes, the research set out to provide tangible proof of the effect of the flipped instructional model on reading and writing abilities among students at secondary level.

Research Design

A true experimental research design was used to test a cause-and-effect relationship between flipped learning teaching and English language proficiency skills in reading and writing. The design involved random assignment of the participants into an experimental group and a control group and the giving of both pre-tests and post-tests (Creswell & Creswell, 2017). This approach minimizes confounding variables via randomization and standardized procedures (Babbie, 2021), maximizing the validity of comparisons. The independent variable for this research was the flipped classroom teaching approach, and the dependent variable was students' academic performance in English (Field, 2018).

Population of the Study

The population was ninth-grade students from the science, humanities, and ICS streams at Government High School Shamsabad, Multan. The research was specifically targeted towards 281 female students from seven sections of grade- ninth. This delimitation helped maintain manageable limits for the research while still covering a diverse sample representative of secondary-level students at the chosen institution.

Sample of the Study

A simple random sample of 114 ninth-grade female students was taken from the science group of Girls High School Multan. The balanced sample provided equal representation in the experimental and control groups, thus maintaining internal validity (Faber & Fonseca, 2014). Following Brysbaert (2019) suggestion, the sample size was large enough to detect statistically significant differences between groups.

Delimitations of the study

Although it would be more appropriate to conduct study in all over Punjab province government sector, and all federal secondary schools but due to time and resource constraints this study is cover public sector, government Girls high school of district Multan at secondary level. The study is delimited to reading skills (vocabulary, chronological order, comprehension and grammatical skills) and writing skills of grade-ninth English girls' students. The delimitations of this study were clearly defined to ensure a focused and systematic investigation. Firstly, the research is restricted to grade- ninth students at Government Girls Higher Secondary School Multan, limiting the scope to a specific educational level and geographic location. This confines the generalizability of the findings to similar contexts and populations. National curriculum positions English teaching as language learning with communicative goals. Secondly, the study concentrates exclusively on reading skills and writing skills within an English as a Second Language (ESL) framework, deliberately excluding other language competencies such as speaking, listening. This ensures that the research remains targeted on understanding the impact of flipped learning approach specifically on reading comprehension skills and writing skills. Additionally, the study employs a true -experimental design with pre-test and post-test measures, which further narrows its scope to quantifiable improvements in writing and reading skills" such as, grammar, vocabulary ,reading comprehension ,chronological order skills areas and writing skills of students at secondary level.

Research Instrument

The primary research tools were pre-tests and post-tests designed to measure reading and writing abilities. These tests were developed in collaboration with subject matter experts to ensure content validity and were administered to experimental and control groups. The pre-test served to provide a baseline of students' capacity, while the post-test determined the gains made subsequent to the flipped learning intervention.

Validity and Reliability of the Instrument

In order to ensure the validity and reliability of the research tools, pilot testing was administered on 30 students. The comments of subject experts resulted in the improvement of test items, and the overall Cronbach's alpha coefficient of the reading skills test was determined as 0.79, which is within acceptable limits for educational research. Sub-tests like vocabulary, comprehension, grammar, and chronological skills were also found to be satisfactory in terms of reliability, and their alpha scores varied between 0.73 and 0.81.

Experiment

Participants were assigned at random to control and experimental groups in order to balance comparison. Both groups took identical pre- and post-measures, although post-tests contained items in a different order to reduce recall bias. All other conditions, including instructor experience, schedule, syllabus content, and school resources, were controlled. The only

variable that varied was the teaching method traditional teaching for the control group and flipped learning for the experimental group.

Data Collection

Data were physically gathered through the administration of pre-tests and post-tests at the school location. Prior consent for data collection was acquired from the District Officer of Secondary Schools in Multan to ensure ethical adherence and seamless coordination with school authorities.

Descriptive Statistics

Demographics Data Analysis

Table 1 *Demographic Profile of Students (N = 114)*

Variable	Category	Frequency	Percent (%)
Gender	Girls	114	100.0
Age	14 Years	56	49.0
	15 Years	58	51.0
Parents' Occupation	Govt. Employee	24	21.0
	Private Job	23	20.2
	Farmer	44	38.6
	Business	12	10.6
	Labor	11	9.6
Monthly Income (PKR)	0-40,000 (Lower Income)	65	57.0
	41,000-100,000 (Middle Class)	46	40.4
	>100,000 (Upper Class)	3	2.6
Siblings	Only Child	7	6.2
	Have Siblings	107	93.8
Area	Rural	68	59.6
	Urban	46	40.4

The sample included only girls between the ages of 14-15 years old, who were predominantly from the rural backgrounds (59.6%), with most having siblings (93.8%), parents who worked primarily as farmers (38.6%), and more than half from lower-income families (57%).

Table 2 *Comparison of Pretest & Posttest Score of Students for Effect of the Flipped Learning Approach of Teaching in English Classroom*

Test Nature	Group Status	Mean	Overall Mean
Pre-Test	Control Group	56.21	57.19
	Experimental Group	58.16	
	Control Group	56.52	67.55
Post-Test	Experimental Group	78.58	

The scores on the post-test show a large difference in favor of the experimental group (78.58) over the control group (67.55), whereas both groups were more or less even on the pre-test scores (control: 56.21, experimental: 58.16**).** Parametric tests were applied to analyze the research hypotheses. A paired samples t-test was conducted to determine whether there was a statistically significant improvement in students' reading and writing skills performance over time. Furthermore, an independent samples t-test was employed to compare the reading and writing skills' outcomes between students taught using the flipped classroom approach and those taught through traditional instructional methods.

Table 3 *Pretest Control Group Score for Effect of the Flipped Learning Approach of Teaching in English Classroom*

Description	Marks	Mean Score	Marks Obtained Overall (%)
Reading Skills	50		
Vocabulary Skills	8	4.97	56.35
Reading comprehension Skills	22	17.50	
Chronological Skills	5	3.92	
Grammatical Skills	15	8.11	
Writing Skills	50	21.85	43.7

The control group's pre-test scores indicate the best performance in readings skills (56.35%), followed by writing skills (43.7%), with the lowest score in chronological skills (3.92)

Table 4 *Pretest Experimental Group Score for Effect of the Flipped Learning Approach of Teaching in English Classroom*

Description	Marks	Mean Score	Marks Obtained Overall (%)
Vocabulary Skills	8	5.00	
Reading comprehension Skills	22	17.73	
Chronological Skills	5	4.08	58.16
Grammatical Skills	15	8.11	
Writing Skills	50	23.24	

The experimental group pre-test scores reveal the best performance in writing abilities (23.24%), next is vocabulary ability (58.16%), with the lowest recorded in chronological abilities (4.08%).

Table 5 *Posttest Control Group Score for Effect of the Flipped Learning Approach of Teaching in English Classroom*

Description	Marks	Mean Score	Marks Obtained Overall (%)
Vocabulary Skills	8	4.97	
Reading Skills	22	17.35	
Chronological Skills	5	3.90	56.52
Grammatical Skills	15	8.11	
Writing Skills	50	22.18	

Control group post-test scores reveal the greatest performance in writing ability (22.18%), followed by vocabulary ability (56.52%), with the poorest performance again in chronological ability (3.90%).

Table 6 *Posttest Experimental Group Score for Effect of the Flipped Learning Approach of Teaching in English Classroom*

Description	Marks	Mean Score	Marks Obtained Overall (%)
Reading Skills			
Vocabulary Skills	8	6	
Reading comprehension Skills	22	19.31	
Chronological Skills	5	4.58	78.58
Grammatical Skills	15	10.10	
Writing Skills	50	38.61	

The experimental group's post-test scores show the greatest performance in writing skills (38.61%), then reading skills (19.31%), followed by vocabulary skills with a mean of 78.58%.

Table 7 *Pre-Test and Posttest Groups Score for Effect of the Flipped Learning Approach of Teaching in English Classroom*

	Reading Skills				Writing Skills	Total Marks
Description	Vocabulary Skills	Reading comprehension Skills	Chronological Skills	Grammatical Skills		100 Obtained Marks
	8 Marks	22 Marks	5 Marks	15 Marks	50 Marks	
Pre-Test Scores Control Group	4.97	17.50	3.92	8.11	21.85	56.21
Pre-Test Scores Experimental Group	5.00	17.73	4.08	8.11	23.24	58.16
Post-Test Scores Control Group	4.97	17.35	3.90	8.11	22.18	56.52
Post-Test Scores Experimental Group	6.00	19.31	4.58	10.10	38.61	78.58

The post-test and pre-test results for reading skills indicate that the experimental group developed significantly in reading comprehension skills (17.73-19.31), vocabulary skills (5.00-6.00), and writing skills (23.24-38.61) compared to the control group's scores, which were relatively unchanged.

Inferential Statistics

Table 8 *Pre-test Comparison of English Vocabulary Skills (Control vs. Experimental Group)*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	17.40	2.45	-0.564	122	0.565
Experimental	57	17.43	2.32			

An independent samples t-test showed no statistically significant difference in vocabulary pre-test results between the experimental and control groups ($p = 0.565$), suggesting similar baseline levels.

Table 9 *Post-test Comparison of English Vocabulary Skills (Control vs. Experimental Group)*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	17.25	2.32	-6.167	122	0.001
Experimental	57	19.21	1.32			

A significant difference in vocabulary post-test scores was found, favoring the experimental group ($p = 0.001$), indicating notable improvement under the flipped learning model.

Table 10 *Control Group Vocabulary Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	17.52	57	2.34	0.975	61	0.331
Post-test	17.34	57	2.24			

Paired t-test results showed no significant improvement in vocabulary for the control group ($p = 0.331$).

Table 11 *Experimental Group Vocabulary Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	17.63	57	2.12	-5.778	61	0.002
Post-test	19.21	57	1.32			

There was a significant gain in vocabulary skills for the experimental group (p = 0.002).

Table 12 *Pre-test Comparison of Reading Comprehension Skills (Control vs. Experimental Group)*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	17.50	2.35	-0.574	122	0.567
Experimental	57	17.73	2.02			

No significant pre-test difference was found in reading comprehension between groups (p = 0.567).

Table 13 *Post-test Comparison of Reading Comprehension (Control vs. Experimental Group)*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	17.35	2.22	-6.067	122	0.000
Experimental	57	19.31	1.22			

A significant improvement in post-test reading comprehension scores was observed in the experimental group (p = 0.000).

Table 14 *Control Group Reading Comprehension (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	17.50	57	2.35	0.976	61	0.333
Post-test	17.35	57	2.22			

No meaningful difference was found within the control group (p = 0.333).

Table 15 *Experimental Group Reading Comprehension (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	17.73	57	2.02	-5.678	61	0.000
Post-test	19.31	57	1.22			

Significant progress was recorded in the experimental group's reading skills (p = 0.000).

Table 16 *Pre-test Comparison of Creative Writing Skills (Control vs. Experimental Group)*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	21.85	2.85	-2.486	122	0.014
Experimental	57	23.24	3.34			

There was a statistically significant difference in creative writing skills at pre-test level (p = 0.014).

Table 17 *Post-test Comparison of Creative Writing Skills*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	22.18	2.68	-25.893	122	0.000
Experimental	57	38.61	4.22			

A highly significant enhancement in creative writing was noted in the experimental group (p = 0.000).

Table 18 *Control Group Creative Writing (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	21.85	57	2.85	-1.333	61	0.188
Post-test	22.18	57	2.68			

No substantial change was detected within the control group (p = 0.188).

Table 19 *Experimental Group Creative Writing (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	23.24	57	3.34	-24.452	61	0.000
Post-test	38.61	57	4.22			

The experimental group demonstrated substantial progress in creative writing (p = 0.000).

Table 20

Pre-test Comparison of Chronological Writing Skills

Group	N	Mean	SD	t-value	df	Sig.
Control	57	3.92	1.32	-0.667	122	0.506
Experimental	57	4.08	1.37			

No significant difference was found in chronological writing at the pre-test stage (p = 0.506).

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Table 21 *Post-test Comparison of Chronological Writing Skills*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	3.90	1.31	-3.647	122	0.000
Experimental	57	4.58	0.64			

Significant differences in chronological writing emerged in favor of the experimental group (p = 0.000).

Table 22 *Control Group Chronological Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	3.92	57	1.32	1.000	61	0.321
Post-test	3.90	57	1.31			

No notable improvement was detected in control group scores (p = 0.321).

Table 23 *Experimental Group Chronological Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	4.08	57	1.37	-2.837	61	0.006
Post-test	4.58	57	0.64			

A statistically significant rise was noted in the experimental group's chronological writing ability (p = 0.006).

Table 24 *Pre-test Comparison of Grammatical Skills*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	8.11	0.99	0.000	122	1.000
Experimental	57	8.11	0.99			

There was no significant difference in grammar scores at the pre-test level (p = 1.000).

Table 25 *Post-test Comparison of Grammatical Skills*

Group	N	Mean	SD	t-value	df	Sig.
Control	57	8.11	0.99	-10.252	122	0.000
Experimental	57	10.10	1.16			

Post-test grammar scores differed significantly, favoring the experimental group (p = 0.000).

Table 26 *Control Group Grammar Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	8.11	57	0.99	-6.347	61	0.000
Post-test	9.08	57	1.28			

Control group grammar scores improved significantly (p = 0.000).

Table 27 *Experimental Group Grammar Skills (Pre-test vs. Post-test)*

Test	Mean	N	SD	t-value	df	Sig.
Pre-test	8.11	57	0.99	-11.478	61	0.000
Post-test	10.10	57	1.16			

Significant gains in grammar proficiency were observed in the experimental group (p = 0.000).

Inferential Statistics

Table 28 *Difference in Mean Scores Based on Age of Respondents*

Age	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
14 Years	56	112.39	8.45	112	-13.07	0
15 Years	58	134.57	9.61			

The independent samples t-test revealed a statistically significant difference in scores between 14-year-old (M = 112.39, SD = 8.45) and 15-year-old students (M = 134.57, SD = 9.61), $t(112) = -13.07$, $p < 0.001$. This indicates that 15-year-old students scored significantly higher than their younger students, suggesting that age may be positively associated with the measured outcome.

Table 29 *Difference in Mean Scores Based on Sibling Status*

Sibling	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Only Child	7	108.86	6.82	112	-2.92	0.004
Have Siblings	107	124.64	14.17			

An independent samples t-test found a significant difference in scores between only children (M = 108.86, SD = 6.82) and students with siblings (M = 124.64, SD = 14.17), $t(112) = -2.92$, $p = 0.004$. Students with siblings performed significantly better, implying that sibling presence may contribute positively to the measured outcome.

Table 30 *Difference in Mean Scores Based on Area of Residence*

Area	N	Mean	Std. Deviation	df	t	Sig. (2-tailed)
Rural	68	115.00	11.08	112	-11.62	0
Urban	46	136.50	7.15			

The t-test results showed a significant difference in mean scores between rural (M = 115.00, SD = 11.08) and urban (M = 136.50, SD = 7.15) students, $t(112) = -11.62$, $p < 0.001$. Urban students significantly outperformed rural students, suggesting potential disparities in resources or educational support between the two environments.

Table 31 *Impact of Parents' Occupation on Scores*

Parents Occupation	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	11304.49	4	2826.12	25.89	0.00
Within Groups	11898.50	109	109.16		
Total	23202.99	113			

One-way ANOVA results demonstrated a significant difference in student scores based on parents' occupation, $F(4, 109) = 25.89$, $p < 0.001$. The large F-value indicates that the type of parental occupation may influence student outcomes, possibly reflecting socioeconomic or educational advantages associated with certain professions.

Table 32 *Impact of Monthly Household Income on Scores*

Monthly Income	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	14960.79	2	7480.39	100.74	0.00
Within Groups	8242.21	111	74.25		
Total	23202.99	113			

The ANOVA indicated a highly significant difference in scores across different income groups, $F(2, 111) = 100.74$, $p < 0.001$. The results suggest that students from higher-income households tend to achieve better outcomes, highlighting the strong influence of economic status on student performance.

Findings

Demographically, the sample of 14 to 15-years-old students comprised all such girls, among whom a majority (59.6%) belonged to rural areas. In terms of family background, the highest percentage of parents were farmers (38.6%), and the highest percentage of students came from poor families, among whom 57% earned less than PKR 40,000 per month. Ninety percent of the students were from families where they had a brother or a sister, and the sample cut evenly by age, with 49% at 14 and 51% at 15.

Academically, both the pre-test scores of the control and experimental groups were very much comparable to each other with minimal improvement in the experimental group. The post-test scores, however, were far apart and showed a very good improvement in the experimental group, especially vocabulary, reading comprehension, chronological skills, and grammatical skills abilities. The control group showed more consistent scores, whereas the experimental group showed a remarkable improvement in all areas, especially vocabulary (from 5.00 to 6.00), reading comprehension skill (mean 17.73 to 19.31), and writing skill (mean 23.24 to 38.61).

Inferential statistics also supported the control and experimental groups' significant differences following intervention. Outcomes of the independent t-test supported that the experimental group significantly surpassed the control group in post-test vocabulary, reading comprehension, chronological skills, and grammatical skills. Paired sample t-tests also showed significant improvements in the experimental group for all the areas of skills, validating the effective impact of the flipped learning process. On the other hand, the control group showed little variation in their post-test scores for the different skills tested.

Discussion

Findings of this research establish the substantial impacts of flipped learning on students' English Learning, demonstrating that it would be effective enough to improve secondary school students 'writing and reading skills (grammatical, reading comprehension, chronological order and vocabulary) skills in English at secondary level. Analysis using the quantitative method showed students who were exposed to the experiment through flipped learning significantly improved in their English Learning compared with the control group that received a traditional teaching session. These findings are in line with other studies that indicate flipped learning encourages active engagement and deeper understanding through the removal of lower-order cognitive tasks, like information acquisition, from the classroom and saving class time for higher-order cognitive processes, such as analysis and application (Bush, 2020). High effects in this experiment further support claims by Bishop and Verleger (2013) that the flipped learning actually improves students' academic performance mainly because of pre-class interaction of students with all the learning resources, which maximizes meaningful application during class, thus making in-class activities less passive and maximizing the internalization of grammatical structures. Thus, students actually retain and successfully apply language rules better.

The study pointed out one major observation regarding age and how student age has influenced the effectiveness of flipped learning. The results for the ANOVA showed a significant difference for learning gain among the groups that varied significantly based on age; older students indicate improvements as opposed to the younger students. This finding is supported by the self-regulated learning theory (Birgili et al., 2019), which suggests that older students possess better self-regulation skills,

such as time management, goal-setting, and self-monitoring, all of which are critical for success in flipped learning environments. Younger students, on the other hand, struggled with the autonomy required to engage with pre-class materials effectively. This is consistent with the fact that younger students, according to Strayer (2016), have more scaffolding and teacher's support in understanding self-directed models of learning. This finding is likely to carry an implication about the necessity for differentiated instructional approaches in using the flipped learning methodology with younger groups of students - such as instruction on how to approach digital learning content and parents' involvement that supports independent work.

Other factors taken into account include parental factors like occupation and income. According to the results, students whose parents are professionals or educators have a better performance in flipped learning settings than those whose parents have non-academic jobs. This is perhaps because of the academic-inclined parents who are educated and supportive, as suggested by Sein-Echaluce et al. (2024), where parental involvement was seen as critical in students' academic achievements, while students who came from higher income backgrounds showed more significant improvement regarding English Learning since they had better access to digital devices and stable internet connectivity. This accords with the concept of digital divide theory discussed in Listiqowati & Ruja (2022), explaining the ways by which socio-economic disparities affect how access and deployment of technology in learning affect learners' participation in educational processes. Flipped learning benefits could thus be curbed on students whose disadvantaged backgrounds possibly locked them out through technological disadvantages beforehand from perusal of resources ahead of time for class purposes. These findings should call upon the policymakers and instructors to implement inclusive strategies-whether it is the school-based provision of digital learning centers or having offline resources-just to ensure all the students get a good seat by bridging the gap.

The research in this paper contributes to the growing body of evidence supporting the effectiveness of this flanked learning approach to improve English Learning. Success for this model will, however, depend on the age of students, the parental background, and the access to technology, as well as the institutional support. Highly significant pedagogical benefits from flipped learning are in store, but it is sure to demand planning, professional development of teachers, and inclusive strategies for all learners. Future research should look into long-term impacts of flipped learning on language acquisition and how it can be better integrated into mainstream curricula so that maximum benefits can be achieved for diverse student populations.

Conclusion

In summary, the experiment verifies that the flipped learning method has significantly positive effects on secondary school students' performance in English, especially in writing and reading skills (vocabulary, reading comprehension, and grammatical skills). The experimental group of students who were exposed to the flipped learning method recorded significant improvement in all skills under study compared to the control group of students who were exposed to conventional teaching. These results are in line with the current literature, which has stated that flipping increases student engagement and enables a richer classroom experience in that class time is devoted to higher-order thinking activities, resulting in improved retention and utilization of knowledge. The results suggest that flipped learning can be an effective tool in supporting the acquisition of English skills in the secondary stage.

Nevertheless, effectiveness of the flipped classroom strategy depended on students' age, parents' education level, and access to technology. Older students, with more advanced self-regulation abilities, made greater gains, indicating flipped learning might need extra support for younger students. Also, students from more affluent families or whose parents were more academically inclined were at a clear advantage as they had greater access to online materials. These results highlight the necessity for differentiated instruction practices and policy measures to promote equal access to flipped learning, especially for underprivileged students. Long-term effects and the incorporation of flipped learning into conventional curricula are also some of the aspects requiring study in subsequent research to achieve maximum benefits among plural learners.

Recommendations

- Schools need to implement the flipped learning system gradually in their curriculum pedagogy so that the transition from conventional teaching is seamless.
- Educators need to be taught how to craft stimulating pre-class materials, leverage technology tools, and conduct participative in-class activities.
- Schools need to offer digital contents, which the low-income group of students would be able to access through printing or school-based digital resource centers.
- The long-term impact of flipped learning on the academic performance and language skills of students must be investigated through future studies to establish whether such enhancement in the short term persists with time.
- Future studies can entail how flipped learning can be tailored to meet students' needs according to their diverse learning styles and capacities, researching individualized learning paths in flipped learning environments.

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