Exploring the Impact of Brainstorming Techniques on Student-Centered Learning in ESL Classrooms: A Case Study Approach

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Abstract:

Student-centered learning (SCL) is an approach in which the student must accommodate his desire of obtaining knowledge, and assistant-support should be provided to this kind type accommodating need. One of the essential strategies in fostering SCL is brainstorming, which involves sharing ideas openly and collectively generating thoughts usually within small groups to boost participation. However, in the English as a Secondary Language (ESL) classroom students are often unwilling to speak voluntarily. The main purpose of this research is to examine how the implementation of brainstorming in a classroom can foster speaking participation among ESL learners. The research was conducted on 350 intermediate part-I (11th-grade) students from Government Higher Secondary School, Lahore. We sought to investigate the range of different types of brainstorming activities used and evaluate their efficacy for SCL. In this study researcher used a mixed-method research design quantitative data obtained from student through questionnaires and quantitative data gather through interviews from five English teachers. The data indicate that English teachers highlighting the five areas of Active Participation, Creative Thinking, Confidence Building, Collaborative Learning and Vocabulary Development. Teachers revealed that the two challenge process builds student engagement, collaboration skills and confidence as well. This study therefore concludes that brainstorming aids student reticence not only in speaking but also fostering peer learning which advantaged lower-proficient students through interacting with more proficient peers. As such, this study offers important implications for language teachers to help students speak more boldly as well as listen and participate actively during ESL class activities.

Keywords: Brainstorming, Student-Centered Learning, ESL Classrooms

Introduction

Introducing brainstorming techniques for better student-centered learning (SCL)

performance in ESL classrooms: A case of speaking skills. Student Centered Learning (SCL) is an instructional approach aiming at student inculcation of deep learning through encouragement to talented youth, by active involvement and thinking for themselves. Speaking skills are essential because they necessary to communicate and understand the content in an English as a Second Language (ESL) class room. Standard teaching techniques tend not to produce natural, confident speaking in ESL students…hence the search for alternatives. Brainstorming is one of these strategies that it has been referred to quite effective way for generating a relaxed and meaningful learning mood or encouraging speaking skill improvement.

Previous work has investigated different facets of SCL and speaking skills drawing upon classroom experience in ESL settings; however, a gap exists regarding the particular role brainstorming strategies might play in fostering SCL. While there are a few studies showing the promise of brainstorming to increase participation and engagement, rigorous research on its effectiveness in developing speaking skills within student-centered pedagogy is lacking. One of them is speaking, and that shows clearly in secondary school settings where teaching oral interaction skills can be quite a challenge.

This study seeks to resolve this research hiatus by investigating the appropriateness of using brainstorming activities for SCL in ESL speaking skills development through a contextual investigation. This identification of the more effective types of brainstorming that has been undertaken and both students' and teachers 'perceptions, provides a practical strategy to improve ESL teaching. The results may be instructive to pedagogy practices and aid in aiding better student outcomes in language proficiency.

This study is motivated by the growing acknowledgment in ESL education of the value of speaking and for SCL compliant teaching methods to be implemented. The above topic has been chosen based on the motivation that stems from being an ESL educator, who is a completely possible researcher as well because it aims to offer improved language learning strategies and coping mechanisms for improving speaking skills among students. This study is expected to provide some practical measures and insightful perspectives of identifying efficient methods for teaching languages in multiple schools, aiming at contributing to an ongoing debate on successful methodologies.

Statement of Problem

In the world of English as a Second Language (ESL) teaching, creating engagement while making sure that language skill-building remains student centered is essential for fostering speaking effectively. Although the advantages of student-centered learning (SCL) are well recognized, information about how different brainstorming techniques influence its outcomes is scarce in research. Although brainstorming activities are widely used in ESL classrooms, little has been done to shed light on their ability to facilitate deep learning and/or active student engagement. The purpose of this study is to fill in the gap by looking at what types of brainstorming activities are used for SCL and how these development contribute towards active student participation conducive environment, speaking skills enhancement as well as both teachers 'and students'

perception about it. The dimensions have importance for the facilitation of pedagogical strategy, and speech outcomes in ESL education.

Objectives of the Study
The main objective of this study was:

1) To identify the types of brainstorming activities used in promoting student-centered learning (SCL) for speaking skills in an ESL classroom.
2) To examine how brainstorming activities are employed to foster active student engagement and deep learning in the development of speaking skills within the ESL context.
3) To explore teachers' perceptions of the effectiveness of brainstorming activities in enhancing speaking skills in a student-centered ESL classroom.

Significance of the Study
The current study is significant because its focus on different brainstorming techniques to be employed in the ESL classrooms impacts student-centered learning (SCL) and offers many recommendations regarding how various skills especially speaking could enhance via these methods. The research hopes to facilitate meaningful student engagement and encourage deep learning through the identification of useful brainstorming activities. The perceptions of such activities by students and teachers will be well-understood, which not only allows in enhancing ESL instructional strategies but also building truly effective ways for student-centered learning to take place when teaching languages. The findings of this study could provide how to do brainstorming best practice and for future research can be drawn in facilitating language acquisition aspects together with enhancing student participation.

2.Literature Review
Student-centered leaning (SCL) has become more popular within ESL (English as a Second Language) education. SCL, among other things is supposed to achieve through brainstorming techniques that allows students participate and be able to think creatively which facilitates learning. This review identifies the latest literature on SCL engagement with brainstorming techniques in ESL classroom for datasets from 2022 and 2024 published research.

2.1Brainstorming and Student-Centered Learning
Brainstorming is a collaborative and creative problem-solving technique that many within education believe has the potential to enhance student-centered learning. Smith and Jones (2023) argue that brainstorming, creating a mediated space for collaborative work during which students take on the role of both speaker and listener" could be seen as functional within SCL.

2.2 Theoretical Underpinnings of Brainstorming in SCL
Brainstorming is based on constructivist theories which advocate for active learning and student involvement. When we utilized brain-storming techniques, Miller and Adams (2023) Upon allowing the student to reflect on personal experiences as scaffolding in which to build relevant knowledge with other students these practices bring relevancy from personal life of each member thus enhancing not only understand but also promotes critical thinking.

2.3 Impact of Brainstorming on ESL Learning Outcomes

A number of research studies have studied the effect of brainstorming techniques on ESL learning. Lee & Tan (2024) concluded discussions increased speaking skills enormously since it was a non-threatening task for students to practice language. Meanwhile, Patel and Singh (2023) found that brainstorming created a double-happy solution by boosting the self-confidence of ESL learners which in turn strengthened their capabilities to speak during some tasks they were facing language boundaries.

2.4 Types of Brainstorming Activities

There is no one-size-fits-all answer to how effective brainstorming techniques are in ESL classrooms. Kumar and Sharma (2023) state that activities like word mapping, story-telling, picture prompts etc., are very effective while in engaging the students from improving their speaking skills. Song-based brainstorming, for instance, has proved a success while engaging students in language production (Nguyen 2023); it appears that there is almost nothing we can do to change the effectiveness of song study with respect to second-language acquisition.

2.5 Student Perceptions and Engagement

Student Perceptions and the Efficacy of Brainstorming Techniques Zhang & Lee (2024) also wrote that students generally appreciate mostly the brainstorming process invoking their engagement which could make this a positive activity from learners' perspective. Yet there might be tasks related to brainstorming which are not appreciated by some students and that can affect the overall effectiveness of such activities (Williams & Brown, 2023).

2.6 Challenges and Considerations

While there are great benefits of using brainstorming techniques in ESL classrooms, the implementation is not easy. Kim and Lee (2024) suggest that it may be difficult for teachers to address various student needs as well as ensure every child is actively engaged in brainstorming activities. Another aspect that affects the success of brainstorming is class size and student language proficiency level (García & Martínez, 2023). Finally, recent literature demonstrates brainstorming tools as an adjunct to student-centered learning with ESL students. When utilized, these methods will increase learner engagement and advance oral proficiency in a positive classroom. Indeed, the efficacy of brainstorming activities can be met with varied success thus it is necessary for educators to also consider student perceptions and potential pitfalls.

3. Research Methodology

The study aims to investigate the effectiveness of brainstorming when applied as a student-centered approach in an ESL classroom with a mixed-method design utilized for obtaining valid and reliable data. Data were collected by surveys and quasi-experimental, purposeful sampling research techniques. Through a survey administered to 350 students, quantitative data was collected from the student population regarding their experience with brainstorming activities. The goal of the survey was to reveal what types of brainstorming activities are used and students perceptions on using these activates in improving their speaking. The interviews also included the teachers and covered five English Teachers to support the quantitative data collected. In these interviews, the way how brainstorming is employed by educators to enhance speaking skills of their students has been tried elicited from them. In this study, it used the method of purposeful sampling to choose teachers

who promoted participation through using brainstorming in small group discussions when setting up speaking tasks. Through combining both quantitative and qualitative data this study synthesizes how brainstorming can be used as an ESL student-centered approach for students to create scaffolding toward English speaking skills. Student survey and teacher interview data, in concert with classroom observations, provides salient information regarding the enactment of brainstorming among both students and their teachers.

3.1 Theoretical perspective

Speaking activities in the classroom need to go well beyond engaging students there must be an authentic reason for why communication is occurring. Student-centered Learning the SCL is fascinating because it models an actual, interesting speaking experience. This affords a comfortable learning experience with which students do not have to be afraid of asking any questions or share their opinions. Through SCLS, brainstorming becomes part of the learning process and students feel free to share their ideas and inquire about anything that captures their interest. Brainstorming Open-ended learning environment; this means that the students dictate what will be discussed, but as the teacher you are there to facilitate. The study portrays the versatile usage of brainstorming to improve speaking skills, beyond its traditional role in the stage before writing. Get ready for a series of five types of brainstorming activities: Picture, Poem and word-mapping, Story-telling & Word lists. These activities encourage verbal expression and communication. The study also looks at the effect of brainstorming on speaking ability from both students' and their teachers' perspectives. This study combines both SCL and those engaging speaking practices by employing these brainstorming strategies to foster the fluent lesson of Speaking in a Non-English major classroom.

3.2 Research design

The study was carried out using a mixed-method approach (Creswell, 1999) and both quantitative as well as qualitative type of data were collected. The research was conducted on a sample of 350 students at the Govt Higher Secondary School, Lahore. Three sections were given using a self-designed questionnaire. Section A: demographic information, including gender/ Sex (Female vs. Male), Age in years and results of English grades Form Three public exam The items in Section C asked students to identify the various types of brainstorming activities they used during speaking lessons and then answered twenty questions on how these methods were perceived by them. The responses in section C were collected with a five-point Likert scale (1 = Strongly Disagree, 2=Disagree, 3=Neutral,4=Agree and5=strngily Agree).

Qualitative data were collected to supplement the quantitative findings from participant observation and semi-structured interviews. In this study, three different classes were observed during brainstorming and student behavior was analyzed. Participation stages were recorded using an observation checklist. Based on this, researcher interviewed 3 English teachers in semi-structured way. We conducted a semi structured interview with teachers using an open ended questionnaire based on 6 questions in order to elicit their perceptions and experience of the brainstorming process. The outcome of this mixed-methods design was a fuller and richer representation of the effectiveness as well as perception based on use and observation in brainstorming activities.

4. Findings

Researcher structured the results alongside the two data collection methods we used, surveys and interviews. There were different views on the study focus, and each tool added another interpretation of this story that we explore in separate results for every instrument. Survey data gave quantitative insights, provided qualitative illustrations based on real experiences, and interviews allowed for deeper personal perspectives. In the last subsection, a general result summary is provided uniting results from all three methods into an integrated overview of outcomes.

4.1 Survey

The survey section is divided according to the three individual components comprising the questionnaire. Section A describes the respondents' demographic profile, including such elements as gender, age, and English marks. In the respondent group consisting of 350 participants, 184 51.09% of them are males and 166 48.91% are females. Moreover, the age distribution in the sample is as follows: 77.88% of the students are 15-years-olds, and the remaining 22.12% are 18 years old. Finally, the students' English performance is categorized into three groups: Advanced Grade A, Intermediate Grades B & C,and Low proficient Grades D & E. The respective percentages and numbers for each category are as follows: 80 students 25.00% received a grade A, and 64 students 19.94% earned the B grade, and 62 students 19.31% received the C grade. The remaining 110 students 17.13% obtained a D grade and 117 students 18.69% were assigned an E Grade. The general demographic information is summarized in table 1. Section B of the survey centers on the most frequent types of activities used in the classroom to encourage participation on the part of the student. As identified earlier, the activities may be presented as pictures, poems, word-mapping, storytelling, and word list. The percentage and frequency of the respective activities are detailed under Table 2. The results shed light on the most common approaches to attracting students' involvement in the learning process, prompting them to develop the skills to speak in English.

Table 1. Demographic data of the respondents.

Demographic	Frequency	Percentage
Gender		
Male	184	51.09
Female	166	48.91
Age		
15 years	250	77.88
18years	71	22.12
English Grade		
A	80	25.00
B	64	19.94
C	62	19.31

D	55	17.13
E	60	18.69

Table 2. Types of brainstorming.

Activities Using	Frequency	Percentage
Simple Word Lists	100	31.76
A Picture	87	27.10
Word Mapping	84	26.2
Story-telling	30	9.03
A Song	19	5.92

Findings reveal that the use of simple word lists (31.76%, N = 102), pictures (27.10%, N = 87) and word mapping were the top three brainstorming activities favored by participants collectively as shown in Table 2 below [please see Fig. The less frequently utilized methodologies were stories (9.03%, N = 29) and songs (.92%, N = 19).

Section C: In this section, the data show student opinion on brainstorming and how it can help to improve speaking skills. The results show that there is agreement about the efficacy of brainstorming for all but a few (less than 30%) statements. Items No. 6 (79.2%), item No7(81,1%) and Item n°17(78,8 %) had the most agreement between these settings which can mean that students mostly carry a good impression of this activity. Anyway, for this overall confidence item No. 9 scored worst; right below six out of ten respondents feeling that brainstorming can help them improve their vocabulary(59.5%).

Likewise, the poll item 20 which has been written negatively but shows overall the number of individuals who don't value brainstorming is 15.9%, hence considered a useful method from their perspective and represents most participants' orientation towards this tool. Table 3 presents the Likert scale ratings of all 20 items, with a visual display in Fig. 1 of overall agreement percentages. All in all, these results indicate that brainstorming is generally considered to be an advantage when it comes to speaking skills; however some fine-tuning has yet got done.

4.2 Semi-structured interviews

The results from semi-structured interviews with five English teachers highlight three key themes: Motivation, Confidence, and Participation.

Table 3: Teachers' perceptions of the effectiveness of brainstorming activities in enhancing speaking skills in a student-centered ESL classroom

Participant Number	Quotation	Theme
T1	"Brainstorming encourages students to get more involved in the lesson. They feel a little more ownership in the language because they contributed some ideas"	Active Participation
T2	"Brainstorming encourages students to think out of the box and share their ideas in English. Exposes them to new words and ideas"	Creative Thinking

Participant Number	Quotation	Theme
T3	"No One Is Right or Wrong in a Brainstorming Session but An Idea That Provides All the Answers Will Be the Best Choice. That really boosts their confidence"	Confidence Building
T4	"Brainstorming activities encourage solidarity. They way students learn to listen, respond and build on ideas is vital in a student centered class"	Collaborative Learning
T5	"Brainstorming exposes students to new words, often more natural and meaningful experiences in using vocabulary altogether."	Vocabulary Development

Theme 1: Active Participation

Quotation: "Brainstorming encourages students to get more involved in the lesson. They feel a little more ownership in the language because they contributed some ideas" Participant Number: T1

T1, the teacher with more years of experience within ESL classrooms, highlights that it is important to create a space for brainstorming in which students must be active. This teacher believes that brainstorming empowers our learners by providing the opportunity to open up and freely express their thoughts and ideas. This way the English language does not only attract their attention and motivation, but also improve them with respect to English language usage. A student that is there to learn will be more engaged and thus the teacher can train their speaking ability better.

Theme 2: Creative Thinking

Quote: "Brainstorming encourages students to think out of the box and share their ideas in English. Exposes them to new words and ideas" Participant Number: T2

There is really power in brainstorming and getting students to think creatively, as suggested by participant T2. According to the teacher, when students are asked for a brainstorming session they tend to move over and beyond traditional boundaries by putting forward fresh ideas. Not only does this creative process bring out varied thoughts but also it helps the students to express those in English which will contribute towards their language enhancement skills. Brainstorming, as the teacher says has new words they start to use while expressing their ideas and this increase in vocabulary (the linguistic repertoire) helps them communicate more effectively.

Theme 3: Confidence Building

Quotation: "No One Is Right or Wrong in a Brainstorming Session but An Idea That Provides All the Answers Will Be the Best Choice. That really boosts their confidence. Participant Number: T3

ESL classroom-student, Participant S1 commented that brainstorming practices in the class has largely added to making them more sure when speaking English. The student especially enjoys that brainstorming sessions are low-stakes there is no pressure to be

right or wrong, and it just happens. Students can talk more open in this environment and learn to experiment with the language, practicing to speak without being scared of making mistakes. This builds confidence which is important for speaking as well. This participant views brainstorming as a way to counteract the fear of making mistakes, which often undermines language learning.

Theme 4: Collaborative Learning

Quote: Brainstorming activities encourage solidarity. They way students learn to listen, respond and build on ideas is vital in a student centered class. Participant Number: T4

This is what participant T4, another teacher, emphasizes on the collar way of brainstorming in students centered classroom. Brainstorming It is helping students work together, listen to other points of view and build upon ideas shared by their peers. This collaborative exercise is beneficial in that it improves students speaking ability and, at the same time they feel a sense of teamwork with their classmates through this process. He says that in student-centered learning, where students learn and work with each other, such collaboration becomes important.

Theme 5: Vocabulary Development

Quote: "Brainstorming exposes students to new words, often more natural and meaningful experiences in using vocabulary altogether." Participant Number:T5

Brainstorming activities have expanded student vocabulary. When brainstorming, the student discovers many words and phrases which they see in other posts that may be useful for them to use themselves. This direct exposure about its application as it comes and goes prepares the students better for functional vocabulary acquisition pieces by environment. Students think that if they use these new words in a practical context, they could not only remember but implement them in ongoing conversations which enhances language proficiency.

Discussion:

The data exposed that brainstorming, an ideal way for increasing speaking skills is highly desired by students and teachers within the ESL classroom. Simple word lists, pictures and writing a poem on any given topic have been some activities to excel. The vast majority of students generally concur that brainstorming helps them with speaking, but some wonder if they could use more vocabulary practice. Teachers' insights (from semi-structured interviews) each fit in square with student feedback above: Active Participation Creative Thinking Confidence Building Collaborative Learning Vocabulary Development These themes the reinforce how brainstorming benefits a student-centered learning approach from multiple perspectives. It moves students toward active participation as so much of brain storming is really about them and what they would like to produce in their final product.

The format of the engagement, along with encouragement to be imaginative whilst using language in new ways leads through as a conduit for varied vocabulary. The relaxed format of brainstorming sessions also helps to imbue students with confidence, giving them a pressure-free zone in which they are free to play around the language and

make mistakes. In addition, the collaborative property of brainstorming reinforces students learning from one another and practice responding to and building on other people's ideas; which is something that needs daily reinforcement in a student centered classroom. In addition, students benefit from the reinforcement of patterned words within a meaningful context that they are exposed to during these sessions although it is clear that more work needs to be done in this area with some students.

The data interconnects to present that brainstorming is functional for ESL education as a technique and particularly effective in speaking ability with tracks which can be extended by giving attention on improving vocabulary development. Both the results of students and teachers highlights the fact that brainstorming is significant to include as part of classroom practices, in order to provide an exciting learning environment where you learn better.

Conclusion:

The results of the study show that brainstorming activities are highly favored by both teachers and students, cultural dimensions included envision their role as very productive in speaking skills within a student-centered ESL classroom. Simple word lists (31.76%), pictures (27.10%) and word mapping were reported as the predominant methods of brainstorming, whereas stories(9.03%) and songs(0.92%); Fig 1 was adopted in not an ignorable percentage respectively ranked lower; This preference of visual and textual aids implies that they are more effective when it comes to encouraging student engagement, as well language development.

For the most part, students are of a favorable opinion with regard to how helpful they find this technique as far as achieving their speaking skills goals. These opinions converge around the learning potential in terms of vocabulary acquisition it offers and its positive effect on developing fluency plus practical communicative involvement quite generally agreed upon here. The single highest-rated items focused on confidence-building and creativity, suggesting broad acceptance of brainstorming as a method for enhancing students' self-esteem and prompting the development of novel language. There was some caveat; particularly the impact that may see on improved vocabulary had lower agreement rate this time.

Our research findings have been additionally supported by semi-structured interviews with English teachers highlighting the five areas of Active Participation, Creative Thinking, Confidence Building, Collaborative Learning and Vocabulary Development. Teachers revealed that the two-challenge process builds student engagement, collaboration skills and confidence as well. In addition, students are exposed to new words and English usage through the brainstorming activities conducted in these lessons. To summarize, brainstorming can be an effective way to enhance speaking skills in the ESL classroom. It provides obvious benefits in engagement and language growth, but it also points to opportunities for improvement where students could ideally have a bit clearer picture of how their vocabulary is transforming so they can take more control over the learning process. The areas related to brainstorming that influence the vocabulary learning effects should be explored in order to improve its efficacy and furnish

appropriate strategies for language development by future works.

Recommendations:

This paper uses the results of semi-structured interviews with English teachers as a basis for five recommendations to improve brainstorming activities in an ESL classroom designed around student-centered practices.

1. Encourage Students to Participate in Brainstorming Sound interesting right, would it not increase student engagement and motivation to speak the language when students can share their thoughts as freely allowed.

2. Create design-oriented brainstorming tasks that push students out of a traditional mindset. Even for young learners, all students need to be encouraged to generate and share fresh English ideas and expression ideas you use will boost your vocabulary more generally again but also encourage language proficiency and communication ability.

3. Integrate brain storming session as a means of enhancing the English speaking abilities on students. Feel free to stress that brainstorming is an easy game no answer can ever be wrong. This technique allows the students to feel less inhibited about making mistakes, and gives them more confidence in using their new language.

4. Use ideation activities that provide opportunity for student-student collaboration. Urge them to listen, talk back and extend the ideas of whatever their peers say. This approach is not only collaborative but it also helps students to do teamwork and speak well by means of shared learning.

5. Incorporate vocabulary and conversational phrases or idioms that will be realized in brainstorming activities. Using brainstorming to bring in and Drill New Vocabulary, which are then used weeks later when our students have had plenty of opportunity too talk about their topics outside class.

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