

Research Article

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Enhancing Oral Expression Skills in Fifth-Grade Female Students in Jordan: An Experimental Study on the Role of Intellectual Mental Processes

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Abstract

Background/purpose. Language is essential for communication and thought, enabling learners to convey ideas and emotions through structured speech supported by gestures, expressions, and intonation. Oral expression, a key educational skill, involves intellectual, linguistic, and physiological processes shaped by cultural and linguistic factors. This study examined the impact of intellectual and mental processes on oral expression skills in fifth-grade female students in Jordan.

Materials/methods. Using an experimental design, 30 students were divided into experimental and control groups.

Results. Results showed significant improvements in oral expression skills in the experimental group.

Conclusion. Integrating intellectual, mental processes with traditional methods is recommended to enhance communication and learning.

1. Introduction

Oral expression is fundamental for effective communication, learning, and social interaction. Oral expression is essential for sharing ideas, participating in conversations, and engaging in debates, which are crucial for academic and personal development (Cevallos et al., 2024). Developing oral skills helps individuals overcome stress and anxiety related to public speaking, turning potential weaknesses into strengths through practice and self-knowledge (Mattam, 2014). Intrinsic and extrinsic motivation play a key role in encouraging active participation and improving the quality of oral communication (Cevallos et al., 2024). Enhancing students' oral abilities in Jordanian schools is crucial for academic and social success, especially given the unique linguistic, cultural, and resource contexts.

Understanding how oral skills develop requires looking at key educational theories. Vygotsky's Social Development Theory is a foundational framework in education. It emphasizes the central role of social interaction and culture in cognitive development. Vygotsky emphasized that learning is fundamentally a social process (Barnett, 2019). Language is seen as a primary tool for thought and learning. Vygotsky highlighted the importance of cultural tools and signs, especially language, in mediating cognitive development and enabling children to move from social to individual understanding (Shaffiee & Subri, 2014).

Two primary dimensions underpin oral expression: the linguistic and vocal aspects. The linguistic dimension includes vocabulary breadth and language material acquired through structured activities like reading and engaging with texts, fostering linguistic growth and enabling fluent communication. The vocal dimension focuses on precise pronunciation and articulation, enhancing clarity and reflecting the speaker's personality (Al-Dailami & Al-Waeli, 2009; Goh, 2007; Timmis, 2002). This expressive ability embodies linguistic sophistication, particularly when communication is clear, compelling, and impactful. It develops through the early cultivation of speaking and listening skills (Wells, 2000; Willis, 2008) and reflects the learner's thinking, a sociolinguistic mental skill vital for meaning transfer (Snow, 2010; Thanbury, 2011).

While these linguistic and vocal dimensions form the foundation of oral expression, their development is closely tied to deeper cognitive functions that govern how language is processed and expressed. It is not just about speaking; it is a process deeply connected to logical and critical thinking. Training in oral skills inherently involves training in thinking, as expressing ideas clearly requires organizing thoughts and engaging in complex cognitive activities (Pérez & Carvajal, 2023). The acquisition and use of vocabulary through oral activities influence various cognitive functions, such as memory, categorization, and fluency. This aligns with the idea that building linguistic frameworks through oral practice supports broader cognitive development (McCandlish & Education, 2012). Thinking serves as a cornerstone, interwoven with judgment, abstraction, inference, imagination, and problem-solving to understand and interact with the world (Al-Jamal, 2005; Jones, 2011).

Understanding how thinking and language intertwine is crucial. Four interconnected processes form the basis of mental and linguistic development. The intellectual process structures ideas for logical and evidence-based communication. The linguistic process enriches vocabulary, fostering precise and contextually appropriate expression. The phonological process ensures clear pronunciation and effective intonation, while the insinuating process employs non-verbal cues—such as facial expressions and gestures—to convey meaning and engage listeners (Tazzoli, 2003). These processes enable learners to articulate ideas effectively, bridging the gap between thought and communication.

In early education, oral expression depends on teacher affectivity and classroom interactions. Teachers adjust their communication to help children develop clear and expressive verbal skills (Yerba Centeno et al., 2022). Oral expression improves with continuous practice, self-reflection, and

feedback. Activities such as debates, discussions, and self-knowledge workshops help students refine their skills over time (Tu, 2019). Effective teaching methods, including structured oral activities and targeted feedback, support the gradual progression from basic to advanced oral skills (Tu, 2019).

2. Literature Review

Though within different contexts several studies have explored methods to enhance oral expression skills among students in different educational contexts. A study conducted in Egypt demonstrated that reading children's stories significantly improved the speaking skills of fifth-grade students (Gad, 2011). Similarly, a study in Thailand showed the effectiveness of linguistic activities such as discussion, problem-solving, and role-playing in enhancing speaking skills among secondary school students (Oradee, 2012). Additional research has examined innovative teaching methods for developing oral and creative thinking skills. Teaching Arabic using active learning in Mecca significantly enhanced creative thinking among sixth-grade students (Twaig, 2017). A study in Algeria on third-year primary education found that oral expression activities play a vital role in teaching-learning (Sweileh, 2019). In Iraq, a quasi-experimental study demonstrated that the picture reading strategy effectively improved oral expression skills among middle school students (Sahib, 2023).

Previous studies show that mental, linguistic, and oral activities play a significant role in improving oral expression skills. Additionally, the use of active learning strategies, pictures, and story reading has been shown to aid in the development of these skills by enabling learners to use ideas in oral expressive contexts. It is worth noting that techniques like task-based learning, role plays, and collaborative activities are widely used to develop oral skills in both first and second languages, as well as across dialects. These methods help improve fluency, confidence, and practical language use by engaging learners in real-life communication scenarios (Dobinson & Dockrell, 2021). For example, some programs prioritize language development (as seen in Germany and China), while others focus more on pedagogical skills (as in the US), leading to varying levels of oral proficiency among learners (Kissau et al., 2022). Also, there is recognition that students with different cognitive profiles use various communication strategies. However, research does not yet provide clear guidance on how to tailor interventions to these differences or how to strengthen specific cognitive processes for better oral outcomes (Gong, 2024).

In Jordanian schools, which serve a predominantly young Arab-Muslim population, students—both native and refugee—are educated in either Arabic or English, depending on the school system. These schools are typically gender-segregated and often face limitations in resources and variability in educational quality. Such contextual factors may significantly influence the development of key communication skills, particularly oral expression. Given the central role of speaking in academic and social success, a growing need exists to explore effective strategies that enhance students' oral abilities. This study addresses this need by examining the relationship between intellectual, mental processes and oral expression skills. The research aims to inform educational practice and lay the groundwork for future studies involving diverse populations and skill sets by investigating how cognitive engagement supports verbal communication.

3. Terminology of Study

3.1. Oral Expression Skill

The skill that fifth-grade female students should master, enabling them to use words and phrases to express an idea clearly and with an appropriate tone. It consists of four components: intellectual, linguistic, phonetic, and indicative. These skills are measured by the scores achieved in the oral expression skill test, and their performance is observed using an observation card prepared by the researchers for this purpose.

3.2. Intellectual Mental Processes

The processes that occur within the human mind, characterized by complexity and not easily revealed. They can be accessed by practicing proper language use and employing it in expressive contexts.

4. Problem Statement

Oral expression is a critical skill in the Arabic language that requires learners to master intellectual, linguistic, phonetic, and indicative processes. Despite its importance, these processes are often overlooked in educational practices, as highlighted by studies such as Purwanto (2016), which emphasized the role of thinking in shaping students' language production. Similarly, Twaig (2017) underscored the necessity of integrating teaching strategies that enhance students' cognitive and oral expression skills. Addressing this gap, the current study investigates how intellectual mental processes can improve oral expression skills among fifth-grade Jordanian female students, offering an alternative to traditional teaching methods.

5. Study Questions

1. Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the scores of fifth-grade female students' performance in improving oral expression skills due to the teaching method (intellectual mental processes vs. the usual method)?
2. Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the experimental group's mean performance in oral expression skills before and after the intervention?

6. Significance of the Study

This study is significant for its focus on enhancing Arabic oral expression skills through intellectual and mental processes, a novel approach to language teaching. It aims to raise awareness among Arabic language teachers about incorporating these processes into their instructional practices to improve students' cognitive and linguistic competencies. This study seeks to improve instructional methods and contribute to achieving educational linguistic objectives by promoting thinking-based teaching strategies. Additionally, the findings are expected to enrich educational literature, encouraging further research on other linguistic skills and diverse student populations.

7. Methods

7.1. Design

This study employed a randomized controlled trial (RCT) design, which is widely recognized as the gold standard for evaluating the causal impact of interventions. The RCT allowed for robust comparison between an experimental group receiving a specially designed intervention based on intellectual mental processes and a control group receiving standard Arabic language instruction. Random assignment and the inclusion of a control group strengthened the study's internal validity by minimizing selection bias and controlling for confounding variables.

7.2. Study Participants

First, a list of all 118 schools located in Irbid city was compiled, and one school was randomly selected using a computer-generated random number table. After selecting the school, random sampling was employed to ensure that each fifth-grade female student within the school had an equal chance of being selected to participate in the study. The school had four fifth-grade classrooms, and a list of all eligible students from these classrooms was compiled. Each student was assigned a unique identification number corresponding to their name on the list. Using a computer-generated random number table created with statistical software, 30 students were selected. This method

ensured that both the school and the participants were chosen objectively and without bias (Kunz et al., 2007).

After the random sample of 30 students was selected, the students were randomly assigned to one of two groups: the experimental group, which received the intervention alongside traditional teaching methods, or the control group, which received only traditional teaching methods. Random assignment was conducted using the same randomization procedure to ensure that group allocation was unbiased and that the groups were comparable at baseline (Kunz et al., 2007).

Eligibility criteria for participation in the study included female students who were in the fifth grade. Students were required to provide signed consent for participation and parental consent, ensuring their willingness to engage in the study. Additionally, only students without any physical or learning disabilities were included. These conditions were verified by the school nurse and counselor, who ensured that the participants were cognitively and physically capable of participating in the oral expression tasks. Students with any diagnosed disabilities were excluded from the study to prevent confounding variables that might affect their performance. This process ensured that the sample was homogeneous in terms of ability and willing to participate in the research.

7.3. The Control Group

For the control group, traditional teaching methods outlined in the fifth-grade Arabic language curriculum were employed. The teaching duration (12 weeks, 5 sessions weekly, 45 minutes per session) for the control group matched that of the experimental group to ensure equal exposure to instructional time. Topics covered included themes such as thinking before acting, the Arabic language (the language of Dād), performing work as a duty, the idea that a person is defined by their heart and tongue, loving one's school, finding strength in unity, the virtue of doing good deeds, the virtue of scholars, heroism, achieving dreams, promoting unity and cooperation, and seizing life through good deeds.

7.4. The Experimental Group

Using the same topics, the intervention group received a specially designed teaching methodology centered around intellectual, mental processes.

7.4.1. First: Preparation and Introduction Phase

First: Identifying the oral expression skills targeted in the current study.

Second: Assisting students in explaining, clarifying, and logically organizing their various ideas.

Third: Selecting and determining situations aimed at improving students' oral expression performance, based on mental processes that include mental exercises, activities, and thinking skills.

Fourth: Explaining to the students the general outline of the procedural steps that will guide the session.

Fifth: Distributing roles between the teacher and the students, as well as among the students themselves, so that each student knows her specific tasks during the session, ensuring that all students participate and interact.

Sixth: Motivating the students and encouraging them to compete, interact, express opinions boldly and confidently, and avoid fear or hesitation.

7.4.2. Second: Implementation Phase

First: Preparing the minds, gathering ideas, information, and linguistic vocabulary, and retaining them.

Second: The teacher presents a set of pictures, words, or phrases related to the topic intended for expression and gives the students time to think and suggest an appropriate title for the topic.

Third: The students propose a range of suitable titles and select the most appropriate one for the topic of expression.

Fourth: The teacher poses a set of stimulating questions and helps the students employ the vocabulary they have acquired to express their ideas.

Fifth: The student begins to express herself about one of the selected topics, starting with an engaging introduction, logically organizing the ideas, speaking in correct language, speaking clearly, and using gestures and tone to convey the intended meaning.

Sixth: The student shows enthusiasm and engagement with the topic and participates in group discussions and dialogues.

Seventh: The teacher listens attentively to several students without interruption or expressing personal opinions.

7.5. Study Procedure

The research process involved the following key steps:

1. Literature Review and Tool Development:

A comprehensive review of relevant theoretical literature and prior studies was conducted. Based on this foundation, two study tools were developed to measure oral expression skills. These tools were reviewed by subject matter experts to ensure content validity and were refined accordingly.

2. Pilot Testing:

A pilot study was conducted with a sample of students outside the primary study group to:

- Test the reliability of the instruments.
- Ensure the clarity and appropriateness of items.
- Confirm baseline comparability of the instruments before intervention.

3. Blinding:

To reduce assessment bias, individuals responsible for data collection and evaluation were blinded to group assignment. This ensured objectivity in scoring and interpretation.

4. Intervention Implementation:

The intervention was delivered over 12 weeks, with five 45-minute sessions per week for both groups.

- The control group received instruction using the standard fifth-grade Arabic curriculum.
- The experimental group received instruction based on a structured model integrating intellectual and mental processes, with a focus on enhancing oral expression.

5. Post-Intervention Assessment:

At the end of the intervention period, both groups were assessed using:

- The Oral Expression Skill Test.
- The Observation Card for Oral Expression Performance.
- A situational speaking test was scored using a standardized rubric.

7.6. Study Tools

Data were collected on participants' age, location (city), and any medical diagnoses, intellectual disabilities, or psychological problems. This information was obtained through the school nurse and the school counselor. The researchers developed two primary study tools after thoroughly reviewing the relevant theoretical literature and previous studies. These tools were designed to measure the impact of the oral expression skill across four key dimensions: intellectual, linguistic, phonetic, and semantic.

7.6.1. Oral Expression Skill Test

This test was created after analysing previous studies (Gad, 2011; Purwanto, 2016; Sahib, 2023). The test consists of 20 items, which are categorized into the four aspects of oral expression. Specifically, the intellectual aspect includes five items (e.g., clearly expressing an idea), the linguistic aspect contains six items (e.g., expressing oneself using clear and contextually appropriate words, and gradually improving the formulation of introductions and conclusions), the phonetic aspect has five items (e.g., speaking with a clear voice and articulating sounds correctly from their proper points of articulation), and the semantic aspect comprises four items (e.g., effective use of gestures and body movements while speaking). The 20 items are multiple-choice, self-directed questions completed independently by the student. For each item, a correct (true) answer is awarded 1 point, while an incorrect (false) answer receives 0 points. The total possible score on the test is 20. The test was administered to both the experimental and control groups before and after the intervention to assess changes in oral expression skills.

7.6.2. Observation Card for Oral Expression Skills Performance

The observation card was delivered one-to-one by the teacher before and after the study for the experimental group based on their observation of the students' performance. In designing the observation card, the researchers ensured scientific and linguistic accuracy, making the items clear, specific, and appropriate for the fifth-grade students' level. The card consisted of 17 items, based on four main skills previously identified: intellectual skills (5 items), linguistic skills (5 items), phonetic skills (4 items), and gestural skills (3 items). Each of the 17 items was measured using a five-point Likert scale. The Likert scale was interpreted such that a score of 1 indicated a very low level and a score of 5 indicated a very high level.

Each domain was accompanied by a set of specific indicators, detailed as follows:

- Intellectual skills indicators included expressing ideas clearly, arranging ideas logically and progressively, breaking down topics into main elements when speaking, offering appropriate solutions and suggestions during discussions, and expressing opinions about what is seen or heard.
- Linguistic skills indicators included expressing ideas using clear and context-appropriate words, progressively improving the structure of introductions and conclusions, expressing studied information and knowledge using simple, classical Arabic, properly using expressions of praise, and narrating a topic that was previously seen or heard.
- Phonetic skills indicators included speaking with a clear voice, articulating sounds correctly, using body movements and voice tone to convey intended meanings, and organizing pauses between sentences and paragraphs.
- Gestural skills indicators included the effective use of gestures during speech through body language, demonstrating enthusiasm and engagement with the topic, and participating actively in group discussions and dialogues.

A situational test was also prepared, allowing students to select one of several main topics drawn from the prescribed Arabic language curriculum for fifth grade. The situational test was administered following these steps: First, an introduction to the chosen topic was provided through dialogue and discussion with the students. Second, students were given time to think about the topic and form ideas before speaking. Third, each student was allowed to speak freely for three minutes on the selected topic. Fourth, teachers listened attentively without interruption while taking notes.

Fifth, each student's performance was reviewed, and their expression was corrected according to a pre-established correction rubric, using a five-point Likert scale.

7.7. Validity of the Study Tools

To establish the validity of the study tools, the initial versions were presented to a panel of experts with experience in Arabic language curricula and teaching methods, as well as Arabic language supervisors and teachers. The experts provided feedback on the clarity of the items, their relevance to the target group, and whether the items effectively assessed oral expression skills. The researchers incorporated the experts' suggestions, especially those with unanimous agreement (85% or more), to finalize the tools.

7.8. Reliability of the Study Tools (Test-Retest)

To assess the stability of the study tools, the researchers applied the tools to a group of 20 female students from outside the study sample, then re-applied them 12 weeks later. The Pearson correlation coefficient between the two sets of scores was 0.91, indicating high reliability. Additionally, the internal consistency was calculated using the Kuder-Richardson equation, which resulted in a reliability coefficient of 0.75 for the test. These values are considered appropriate for the purposes of the study.

Table 1 shows that the paragraphs' difficulty coefficients ranged between 0.30 and 0.60, while the discrimination coefficients ranged between 0.64 and 0.80. These values were considered appropriate for the study. Therefore, no items from the test were deleted based on the difficulty and discrimination parameters.

Table 1. Difficulty and Discrimination Coefficients

Item No.	Item Difficulty	Item Discrimination
1	0.40	0.78 **
2	0.50	0.80 **
3	0.40	0.72 *
4	0.50	0.64 *
5	0.30	0.73 *
6	0.50	0.80 **
7	0.40	0.78 **
8	0.40	0.72 *
9	0.60	0.69 *
10	0.30	0.73 *

**Statistically significant at the significance level (0.05).*

***Statistically significant at the significance level (0.01).*

To verify the equality of the groups, the arithmetic means and standard deviations of the dimensions and the total scores of the fifth-grade female students on the pretest oral expression skill test were calculated according to the group variable (experimental, control). The "t-test" was used to determine the statistical differences between the arithmetic means. Table 2 provides a detailed explanation.

Table 2 shows no statistically significant differences ($\alpha = 0.05$) between the groups in any dimension or in the total score of the pre-test for oral expression skills. This result indicates the equality of the groups.

Table 2. Means, Standard Deviations, and T-Test Results for Fifth-Grade Students' Oral Expression Skills

Dimension	Group	N	Mean	Standard Deviation	T-Value	Degrees of Freedom	Statistical Significance
Intellectual (Pretest)	Experimental	15	1.67	0.724	0.535	28	0.597
	Control	15	1.53	0.640			
Linguistic (Pretest)	Experimental	15	1.73	0.961	0.000	28	1.000
	Control	15	1.73	0.884			
Acoustic (Pretest)	Experimental	15	1.00	0.845	-0.235	28	0.816
	Control	15	1.07	0.704			
Semantic (Pretest)	Experimental	15	1.13	0.640	0.271	28	0.788
	Control	15	1.07	0.704			
Total Oral Expression Skills (Pretest)	Experimental	15	5.53	2.200	0.200	28	0.843
	Control	15	5.40	1.352			

7.9. Ethics Statement

This study was conducted in accordance with the ethical guidelines set forth by Yarmouk University. The research was reviewed and approved by the university's ethical review committee (reference number #13279). All participants and their guardians provided written informed consent before their involvement in the study, and their privacy and confidentiality were strictly maintained throughout the research process.

7.10. Data Analysis

To answer the study's questions, the researchers calculated the means and standard deviations of the performance of the two study groups on the pre- and post-tests of oral expression skills, according to the teaching method (intellectual mental processes vs. conventional method). They

used One-Way Multivariate Analysis of Covariance (MANCOVA) to examine the significance of the apparent differences between the two measures. Additionally, One-Way Analysis of Covariance (ANCOVA) was employed for the post-test of overall oral expression skills, after accounting for the effect of the pre-test. Eta squared (η^2) was used to calculate the effect size of the intellectual mental processes teaching method. Cohen's classification is widely referenced: 0.01 = small, 0.06 = medium, 0.14 = large effect (Morris & Fritz, 2013).

8. Results

This study aimed to evaluate the effect of using intellectual mental processes on improving the oral expression skills of fifth-grade female students. The results showed that all participants resided in Irbid city and did not have any medical or psychological problems or intellectual disabilities. The following research questions were addressed:

First Question: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the scores of fifth-grade female students' performance in improving oral expression skills due to the teaching method (intellectual mental processes vs. the usual method)?

To answer this question, the arithmetic means, standard deviations, and adjusted arithmetic means for the grades of fifth-grade female students in the oral expression skill test were calculated for both the pre- and post-measurements based on the teaching method (intellectual mental processes vs. usual). The results are presented in Table 3.

Table 3 clearly shows that there are noticeable differences between the arithmetic means and the adjusted arithmetic means of the grades of fifth-grade female students in the oral expression skill test, both in the pre- and post-measurements, according to the teaching method (intellectual, normal mental processes).

Table 3. Means and SDs of Fifth-Grade Girls' Oral Expression Scores by Teaching Method (Pre/Post)

Teaching Method	N	Pre-test Mean (SD)	Post-test Mean (SD)	Adjusted Post-test Mean (SE)
Intellectual Mental Processes	15	5.53 (2.20)	8.07 (1.34)	8.06 (0.30)
Ordinary	15	5.40 (1.35)	5.80 (0.94)	5.81 (0.30)

To determine whether these apparent differences were statistically significant, a one-way ANCOVA was conducted on the post-measurement of the oral expression skill test, considering the teaching method (intellectual, normal mental processes), after controlling for the effect of the pre-measurement. The following is a presentation of these results, as shown in Table 4.

It is clear from Table 4 that there are statistically significant differences in the grades of fifth-grade female students on the oral expression skill test based on the teaching method (intellectual mental processes vs. control), with a significance level of ($\alpha = 0.05$). The F-value was 28.033, and the significance level was 0.000, indicating that the differences were statistically significant. These differences favoured the female students who were exposed to the intellectual mental processes teaching method compared to those taught using the usual method. Additionally, as shown in Table 4, the effect size for the teaching method was large, with an η^2 value of 0.509, meaning that 50.9% of the variance in the oral expression skill test scores was explained by the teaching method.

Table 4. One-Way ANCOVA of Posttest Oral Expression Scores by Teaching Method (pretest controlled)

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Sum of Squares	F Value	Level of Significance	Eta Squared (η^2)
Measurement (Tribal)	0.630	1	0.630	0.463	0.502	0.017
Teaching Method	38.107	1	38.107	28.033	0.000	0.509
Error	36.704	27	1.359			
Total	75.867	29				

In Table 5, differences between the arithmetic means and the adjusted arithmetic mean of the grades of fifth-grade female students on the oral expression skill test, based on the teaching method (intellectual mental processes vs. normal), are shown for both the pre- and post-measurements. The results of these measurements are presented in Table 5. Table 5 shows clear differences in the arithmetic means and adjusted means for the pre- and post-measurements for all dimensions of the oral expression skill test, based on the teaching method (intellectual, mental processes vs. normal). A one-way MANCOVA was applied to confirm whether these differences were statistically significant. The results of the MANCOVA are presented in Table 6.

Table 5. Arithmetic Means, Standard Deviations, and Adjusted Arithmetic Means for Pre- and Post-Measurements of the Oral Expression Skill Test Based on the Teaching Method

Dimension	Teaching Method	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	Adjusted Mean (SD)
Operation	Intellectual Mental Processes	15	1.67 (0.724)	2.27 (0.458)	2.245 (0.176)
	Ordinary	15	1.53 (0.640)	1.67 (0.816)	1.689 (0.176)
Linguistic Operation	Intellectual Mental Processes	15	1.73 (0.961)	2.40 (0.737)	2.379 (0.186)
	Ordinary	15	1.73 (0.884)	1.73 (0.799)	1.754 (0.186)
Acoustic Operation	Intellectual Mental Processes	15	1.00 (0.845)	1.73 (0.594)	1.737 (0.166)
	Ordinary	15	1.07 (0.704)	1.20 (0.676)	1.196 (0.166)
Intimacy Operation	Intellectual Mental Processes	15	1.13 (0.640)	1.67 (0.488)	1.663 (0.135)
	Ordinary	15	1.07 (0.704)	1.20 (0.561)	1.203 (0.135)

Table 6 shows statistically significant differences in the effect of the teaching method (intellectual mental processes vs. control) across all dimensions of the oral expression skill test. The differences were in favour of the female students who studied using the intellectual mental processes method compared to those taught using the normal method. The effect size ranged from 17.1% to 19.3%, indicating a moderate to large effect of the teaching method on the improvement of oral expression skills.

Table 6. Results of One-Way MANCOVA for the Effect of Teaching Method on Post-Test for Each Dimension of the Oral Expression Skill Test After Neutralizing the Effect of the Pre-Test

Source of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F-value	p-value	Effect Size (η^2)
Intellectual Operation (Pre-Test)	0.285	1	0.285	0.619	0.439	0.025
Linguistic Operation (Pre-Test)	0.876	1	0.876	1.705	0.204	0.066
Acoustic Operation (Pre-Test)	0.061	1	0.061	0.148	0.704	0.006
Intimacy Operation (Pre-Test)	0.638	1	0.638	2.343	0.139	0.089
Teaching Method (Intellectual Mental Processes)	2.278	1	2.278	4.942	0.036	0.171
Teaching Method (Linguistic Operation)	2.873	1	2.873	5.589	0.027	0.189
Teaching Method (Acoustic Operation)	2.159	1	2.159	5.255	0.031	0.180
Teaching Method (Intimacy Operation)	1.560	1	1.560	5.724	0.025	0.193
Error						
Intellectual Operation (Post-Test)	11.063	24	0.461			
Linguistic Operation (Post-Test)	12.336	24	0.514			
Acoustic Operation (Post-Test)	9.861	24	0.411			
Intimacy Operation (Post-Test)	6.539	24	0.272			
Corrected Total						
Intellectual Operation (Post-Test)	14.967	29				
Linguistic Operation (Post-Test)	19.867	29				
Acoustic Operation (Post-Test)	13.467	29				
Intimacy Operation (Post-Test)	9.367	29				

Second Question: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic means of the performance of the experimental group members in the oral expression skill test in the pre-and post-applications?

To answer this question, the arithmetic means and standard deviations of the grades of fifth-grade female students on the oral expression skill test in the pre-and post-applications were calculated. The paired "t" test was used for correlated data to assess the statistical differences between the arithmetic means, as shown in Table 7.

Table 7 shows statistically significant differences ($\alpha = 0.05$) in the grades of fifth-grade female students on the oral expression skill test in the pre- and post-applications, with the differences favouring the post-application.

Table 7. Arithmetic Means, Standard Deviations, and Paired "t" Test for the Grades of Fifth-Grade Female Students on the Oral Expression Skill Test in the Pre- and Post-Applications

Application	N	Mean (SMA)	Standard Deviation	"t" Value	Degrees of Freedom	Statistical Significance
Intellectual Operation						
Pre-Test	15	1.65	0.160	-31.567	14	0.000
Post-Test	15	4.59	0.389			
Linguistic Operation						
Pre-Test	15	1.47	0.318	-25.755	14	0.000
Post-Test	15	4.56	0.408			
Acoustic Operation						
Pre-Test	15	1.58	0.278	-23.332	14	0.000
Post-Test	15	4.57	0.458			
Intimacy Operation						
Pre-Test	15	1.29	0.305	-21.789	14	0.000
Post-Test	15	4.51	0.576			
Note Card						
Pre-Test	15	1.52	0.180	-30.431	14	0.000
Post-Test	15	4.56	0.418			

9. Discussion

Fifth-grade female students taught using the intellectual mental processes method showed a substantial increase in oral expression skill test scores. Methods using intellectual mental processes, like communicative and interactive techniques, significantly improve oral expression skills. They boost participation and motivation, and adapt to individual needs, resulting in better performance than traditional methods (Hastari, 2019). Conventional teaching often emphasizes rote learning and may not address individual differences or actively engage students in oral practice, resulting in less

improvement in oral skills (Arias Hernández et al., 2014). The significant gain in the intellectual mental processes group suggests that such methods may encourage critical thinking, creativity, and better retention of language skills. This highlights the importance of selecting teaching strategies that address individual needs and foster active oral practice.

Building on the observed differences in scores, the study further examines the specific impact of intellectual mental processes on various oral expression components. The study confirms that intellectual mental processes positively affect all four measured areas among fifth-grade girls. Researchers link these results to how intellectual mental processes and realistic scenarios improve oral skills. According to Vygotsky's Social Development Theory, teacher-guided support within the zone of proximal development improves oral expression (Barnett, 2019). Methods that consider students' intellectual behavior and provide opportunities for active engagement and problem-solving (as in the intellectual mental processes approach) are more effective in developing complex skills such as oral expression (Tikhomirova & Khodyreva, 2022). To practice and strengthen intellectual mental processes, use interactive, reflective, and individualized activities that challenge students to think deeply and creatively. These approaches are shown to enhance both higher and lower mental skills more effectively than ordinary teaching methods.

This positive influence is supported by established educational theories, which explain how guided interactions foster oral skills development. Students engaged in dialogue under teacher guidance, fostering good oral expression skills. Ellis's work on task-based learning supports the idea that engaging learners in meaningful tasks improves both cognitive engagement and language production (Guangwei, 2003). Students' mental processes helped them organize ideas logically, improving pronunciation and performance (Florez, 1999; Thurlow & Osullivan, 2011).

These theoretical insights translate into classroom activities where students actively engage in meaningful dialogue under teacher supervision. The experimental group's success is due to intellectual mental processes fostering critical thinking, organization, and oral skills (Krashen, 1992). Oral expression requires a logical organization of ideas to communicate clearly and effectively, which creates opportunities for positive interaction. Additionally, these processes provide the freedom to choose topics that align with the learner's interests, stimulating motivation and encouraging oral self-expression by selecting appropriate phrases and words. Intellectual mental processes have significantly contributed to improving the correct pronunciation of sounds. Ongoing training helped teachers and learners collaborate on fluent, clear dialogue, enhancing oral fluency (Armstrong & Hyslop-Margison, 2006). The use of mental processes and thought also influenced the harmony between appropriate physical signs, gestures, and diverse feelings and emotions.

This study's findings align with several previous studies, although they were conducted in different contexts. Purwanto (2016) showed that learners express their thoughts and feelings in different ways through their understanding and discovery of words, based on their use of intellectual mental processes (Purwanto, 2016). The results also agree with Sweileh (2019) and Sahib (2023) on the role of teaching strategies in oral skills (Sahib, 2023; Sweileh, 2019). Furthermore, the study supports Ordaee's findings (2012), which emphasize the importance of linguistic activities in improving oral expression skills (Ordaee).

10. Conclusion and Recommendations

The results of this study highlight the significant positive impact of intellectual, mental processes on the development of oral expression skills among fifth-grade female students. These processes helped learners organize their thoughts, improve their oral fluency, and express their ideas in a clear and logical manner. This approach also fostered motivation, encouraged self-expression, and facilitated appropriate pronunciation. The findings align with previous research, emphasizing the

importance of intellectual, mental processes and linguistic activities in enhancing oral expression skills.

It is recommended that greater emphasis be placed on intellectual mental processes in various educational contexts, particularly in the development of oral expression skills which can be attained by targeting teachers through programs like compassionate mind training and regular supervision and peer discussion groups. This approach can significantly enhance students' thinking abilities and overall cognitive development.

11. Limitations

Despite the significant findings of this study, several limitations should be noted. First, the study utilized a relatively small sample size of 30 students. This was partly due to the limited availability of personnel to conduct and monitor the intervention, which required consistent implementation and close evaluation. Additionally, logistical constraints within the school setting, such as class size regulations, administrative approvals, and time limitations during the academic year, further restricted the number of participants. Although maintaining a small sample helped ensure a high level of quality and fidelity in delivering the intervention, it may reduce the study's statistical power and affect the generalizability of the results.

The study was conducted exclusively with fifth-grade female students from one school, further restricting the applicability of the findings to other age groups, educational levels, male students, or schools with different demographic characteristics.

Future research should consider employing a larger and more diverse sample and expanding the scope to include other linguistic and cognitive skills. Such studies could provide a more comprehensive understanding of the effectiveness of intellectual mental processes in enhancing various aspects of language development.

Another potential limitation relates to the possibility of observer bias. Although the observer responsible for scoring and evaluating student performance was trained in the use of the assessment tools, the subjective nature of certain evaluation criteria may introduce unintentional bias. Future studies may benefit from using multiple raters and inter-rater reliability checks to enhance objectivity.

Declarations

Author Contributions. 1st author contributed to the conceptualization, supervision, methodology design, and critical revision of the manuscript. He provided theoretical guidance and ensured the academic rigor of the study. 2nd author IM was responsible for the investigation, data collection, data analysis, and original draft preparation. She also contributed to the literature review, interpretation of findings, and finalization of the manuscript for submission. Both authors read and approved the final manuscript.

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Data availability statement. The data supporting the findings of this study are available upon request from the corresponding author.

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