



**The Influence of Increased Understanding Through Direct  
Interaction Strategies on Class XI Students in Reading  
Instruction at SMK Telkom 2 Medan**

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**ABSTRACT**

This study investigates the effect of Direct Interaction Strategy on enhancing reading comprehension among Grade XI students at SMK Telkom 2 Medan. Reading comprehension is a fundamental skill in vocational education, yet many students continue to struggle with understanding texts due to low motivation and the use of passive instructional strategies. To address this issue, this research applies the Direct Interaction Strategy, which promotes structured, student-centered learning through active engagement, peer collaboration, and continuous feedback. A quasi-experimental quantitative design was employed, involving two groups: an experimental class taught using the Direct Interaction Strategy, and a control class taught with traditional methods. Pre-tests and post-tests were administered to assess students' comprehension before and after the intervention. The findings reveal a significant improvement in the reading scores of students in the experimental group, with an average increase of 31.92 points, compared to only 4.4 points in the control group. The results of the t-test analysis ( $t = 5.40$ ) confirm that the improvement was statistically significant. These findings suggest that the Direct Interaction Strategy is an effective instructional method for improving students' reading comprehension. This study contributes theoretically by strengthening the understanding of interactive teaching methods and offers practical implications for educators seeking to improve literacy outcomes in vocational school settings.

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**INTRODUCTION**

Reading instruction is a core skill that underpins academic success, especially in vocational education settings where students are expected to interpret technical texts critically. However, many students in Indonesian vocational schools continue to struggle with reading due to low motivation, limited engagement, and ineffective teaching strategies. As emphasized by

Rahmawati (2020), reading is a fundamental necessity that supports learning and academic achievement. This aligns with Buzan's view in Nggermanto (2001), which describes reading as an interactive process between the individual and symbolic information, highlighting the importance of cognitive aspects in comprehension.

Although the importance of reading skills is well recognized, students at SMK Telkom 2 Medan have shown limited development in effectively understanding texts. Initial classroom observations and teacher feedback indicate that traditional, non-interactive teaching methods often fail to stimulate student interest or encourage deeper engagement in reading activities. The lack of effective interaction-based instructional strategies hinders students' abilities to identify main ideas, make inferences, and connect concepts within a text skills that are crucial for both academic and professional success.

To address this issue, the present study examines the application of the Direct Interaction Strategy as a teaching method to enhance reading comprehension. According to Windu (2021), direct instruction is a structured approach conducted step-by-step to help students understand material through active involvement and direct interaction. This strategy has been widely acknowledged for its ability to increase student participation, promote peer collaboration, and reinforce comprehension through teacher feedback.

Previous studies (Aprinawati, 2018; Dahlani, 2019) have demonstrated the benefits of interactive methods in reading instruction. However, empirical research specifically evaluating the impact of direct interaction strategies in vocational school settings remains limited. This indicates a gap in the literature, particularly in understanding how such strategies can be adapted to the unique needs of vocational students, who often require contextual and engaging learning approaches.

Therefore, this study aims to fill that gap by evaluating the effectiveness of direct interaction strategies on the reading comprehension of eleventh-grade students at SMK Telkom 2 Medan. This research adopts a quantitative approach using a quasi-experimental method, involving both an experimental group and a control group to measure improvements before and after the strategy is implemented.

Thus, this study seeks to answer two main questions: (A) is there a statistically significant improvement in students' reading comprehension after the application of the direct interaction strategy, and (B) how is students' reading ability influenced by this method? The findings are expected to provide both theoretical contributions by expanding the understanding of direct

interaction strategies in reading instruction and practical insights by offering pedagogical recommendations for teachers, schools, and curriculum developers in vocational education settings.

## RESEARCH METHOD

This research applied a quantitative approach with a quasi-experimental design, aimed at determining the effect of the Direct Interaction Strategy on students' reading comprehension. The design involved two groups: an experimental group that received the Direct Interaction Strategy treatment and a control group taught using conventional methods. A pre-test and post-test were administered to both groups to measure changes in comprehension.

The population of the study consisted of Grade XI culinary students at SMK Telkom 2 Medan during the 2024/2025 academic year. A total of 49 students participated, divided equally between the experimental and control groups through purposive sampling.

The instruments used were:

- Reading comprehension tests (pre-test and post-test) developed by the researcher to assess students' understanding before and after the intervention.
- Questionnaires to collect student feedback about the use of the Direct Interaction Strategy.
- Observation sheets to record classroom engagement and learning behavior.

Data collection procedures involved administering the pre-test before applying the strategy, implementing the Direct Interaction Strategy over several sessions for the experimental group, followed by the post-test for both groups. Questionnaires were distributed after the intervention to gather student perceptions.

To analyze the data, descriptive statistics were used to calculate means and percentages, while inferential statistics were applied using an independent samples t-test to determine whether the improvement in reading scores was statistically significant. Standard formulas were used to calculate the mean, variance, and standard deviation.

Validity of the instruments was ensured through expert judgment, and reliability was supported by consistency in the test administration procedures. The study is limited to a single school context and does not include other teaching strategies beyond direct interaction.

## RESULT AND DISCUSSION

In this study, the researcher conducted direct field research to collect test scores from students in culinary classes. The study involved only two classes with a total of 49 students: Class XI-1 Culinary, consisting of 25 students, and Class XI-2 Culinary, consisting of 24 students. One class was designated as the experimental group, while the other served as the control group. This research focused on the experimental class, which received a special treatment using a direct interaction strategy, while the control class was taught using conventional teaching methods. pre-test was administered before the treatment to analyze students' understanding of reading comprehension. Meanwhile, the post-test results indicated whether there was an improvement in students' reading comprehension after applying the direct interaction strategy. The data from the experimental and control groups' pre-test and post-test results are presented below.

### Experimental Class

The Following Table presents the pretest results of the experimental class:  
Table data arrangement 3.A:

The Pretest score attainment of the experimental class students

| Descriptive Statistics |    |         |         |                        |         |
|------------------------|----|---------|---------|------------------------|---------|
|                        | N  | Minumum | Maximum | Overall students score | average |
| Pre Test Eks           | 25 | 50      | 100     | 1210                   | 48.08   |
| Post Test eks          | 25 | 50      | 100     | 2000                   | 80.00   |

Table 3.A shows the pretest results of the experimental class and the control class. It indicates that the initial scores of the experimental group ranged from a minimum of 50 to a maximum of 100, with a total student score of 1.210 and an average score of 48.8. on the other hand, the posttest experimen group showed a score range from a minimum of 60 to a maximum of 100, with a total student score of 2000 and an average score of 80.00.

### Control Class

Table data arrangement 3.B:

The Posttest score arrangement of the eksperimental class students

| Descriptive Statistics |    |         |         |                       |         |
|------------------------|----|---------|---------|-----------------------|---------|
|                        | N  | Minumum | Maximum | Overall student score | average |
| Pre Test control       | 25 | 50      | 100     | 830                   | 33.3    |

|                   |    |    |     |     |      |
|-------------------|----|----|-----|-----|------|
| Post Test control | 25 | 70 | 100 | 940 | 37.6 |
|-------------------|----|----|-----|-----|------|

The Table above shows the pretest results for both the experimental and control groups. The data indicates that the posttest scores in the experimental group ranged from A minimum of 50 to A maximum of 100. The total score off all students in this group was 940, with an average score of 37.6

#### Data Analysis Techniques

The pretest and posttest data were collected, followed by calculations using the t-test formula.

Table data arrangement 3.C Distribution Frequency Score

| No      | Y <sub>1</sub> : Posttest Eksperimen | Y <sub>2</sub> : Posttest Kontrol | X = (Y <sub>1</sub> - M <sub>1</sub> ) | Y = (Y <sub>2</sub> - M <sub>2</sub> ) | X <sup>2</sup> (X × X)   | Y <sup>2</sup> (Y × Y)    |
|---------|--------------------------------------|-----------------------------------|----------------------------------------|----------------------------------------|--------------------------|---------------------------|
| 1       | 90                                   | 40                                | 10.0                                   | 2.4                                    | 100.00                   | 5.76                      |
| 2       | 80                                   | 40                                | 0.0                                    | 2.4                                    | 0.00                     | 5.76                      |
| 3       | 70                                   | 50                                | -10.0                                  | 12.4                                   | 100.00                   | 153.76                    |
| 4       | 80                                   | 40                                | 0.0                                    | 2.4                                    | 0.00                     | 5.76                      |
| 5       | 90                                   | 50                                | 10.0                                   | 12.4                                   | 100.00                   | 153.76                    |
| 6       | 70                                   | 50                                | -10.0                                  | 12.4                                   | 100.00                   | 153.76                    |
| 7       | 60                                   | 40                                | -20.0                                  | 2.4                                    | 400.00                   | 5.76                      |
| 8       | 90                                   | 30                                | 10.0                                   | -7.6                                   | 100.00                   | 57.76                     |
| 9       | 80                                   | 30                                | 0.0                                    | -7.6                                   | 0.00                     | 57.76                     |
| 10      | 90                                   | 20                                | 10.0                                   | -17.6                                  | 100.00                   | 309.76                    |
| 11      | 80                                   | 40                                | 0.0                                    | 2.4                                    | 0.00                     | 5.76                      |
| 12      | 60                                   | 50                                | -20.0                                  | 12.4                                   | 400.00                   | 153.76                    |
| 13      | 90                                   | 40                                | 10.0                                   | 2.4                                    | 100.00                   | 5.76                      |
| 14      | 70                                   | 20                                | -10.0                                  | -17.6                                  | 100.00                   | 309.76                    |
| 15      | 90                                   | 40                                | 10.0                                   | 2.4                                    | 100.00                   | 5.76                      |
| 16      | 80                                   | 50                                | 0.0                                    | 12.4                                   | 0.00                     | 153.76                    |
| 17      | 80                                   | 40                                | 0.0                                    | 2.4                                    | 0.00                     | 5.76                      |
| 18      | 70                                   | 30                                | -10.0                                  | -7.6                                   | 100.00                   | 57.76                     |
| 19      | 80                                   | 30                                | 0.0                                    | -7.6                                   | 0.00                     | 57.76                     |
| 20      | 80                                   | 30                                | 0.0                                    | -7.6                                   | 0.00                     | 57.76                     |
| 21      | 90                                   | 40                                | 10.0                                   | 2.4                                    | 100.00                   | 5.76                      |
| 22      | 80                                   | 30                                | 0.0                                    | -7.6                                   | 0.00                     | 57.76                     |
| 23      | 70                                   | 40                                | -10.0                                  | 2.4                                    | 100.00                   | 5.76                      |
| 24      | 90                                   | 40                                | 10.0                                   | 2.4                                    | 100.00                   | 5.76                      |
| 25      | 90                                   | 30                                | 10.0                                   | -7.6                                   | 100.00                   | 57.76                     |
| X=25    | ΣM <sub>1</sub> =2000                | ΣM <sub>2</sub> =940              | ΣX <sub>1</sub> =25.0                  | ΣY=-13.6                               | ΣX <sup>2</sup> =2200.00 | ΣY <sup>2</sup> =1856.000 |
| Average | 80.0                                 | 37.6                              | 1.0                                    | -0.544                                 | 88.0                     | 74.24                     |

### Variance and Standard Deviation

$$s_x^2 = \frac{22.00}{25} = 88.00$$

Note :

$s_x^2$  = sample varians of data X

$\Sigma x^2$  = the sum of the squares of the values of X

$n$  = number of students

Standard deviation:

$$sx = \sqrt{sx^2} = \sqrt{88.00} = 9.38$$

Note :

$sx$  = standard deviation

$sx^2$  = variance

Control (Y)

Sample Variance:

$$sy^2 = \frac{\Sigma y^2}{n} = \frac{18.56}{25} = 74.24$$

Note :

$sy^2$  = variance

Standard deviation:

$$SY = \sqrt{74.24} = 8.61$$

Note :

$SY$  = standard deviation

### Uji-t (Independent Samples T-Test)

To test whether there is a significant difference between  $Y_1$  (Experimental) and  $Y_2$  (Control), the following formula can be used

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} = \frac{88.00 - 74.24}{\sqrt{\frac{9.38^2}{25} + \frac{8.61^2}{25}}} = \frac{13.76}{\sqrt{\frac{88.0 + 74.13}{25}}} = \frac{13.76}{3.5216 + 2.9652} = \frac{13.76}{\sqrt{6.4868}} = \frac{13.76}{2.5478} \approx 5.40$$

Note :

$\bar{x}_1 = 88.00$  (average post-test experimen)      $\bar{x}_2 = 37.6$  (average post-test control)

$s_1 = 9.38$

$s_2 = 8.6$

$n_1 = 25$

$n_2 = 25$

Result:  $t = 5.40 \rightarrow$  *highly significant*

### Percentage of Student Responses

The researcher used a questionnaire and distributed it to students in order to identify their perspectives, opinions, and understanding of the use of direct

interaction strategies in reading instruction. This questionnaire serves as one of the supporting data for this research.

Table 3.D

Percentage of Student Responses

| No.     | Statement                                                                                                                                            | Stongly agree | agree  | disagree | Strongly disagree |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------|----------|-------------------|
| 1.      | Does the direct interaction strategy improve your ability to analyze reading texts?                                                                  | 33%           | 66%    | 5%       | 0%                |
| 2.      | Do you feel more confident when reading in class with this strategy?                                                                                 | 34%           | 65%    | 5%       | 0%                |
| 3.      | Do you feel more actively involved in reading lessons when using this strategy?                                                                      | 16%           | 81%    | 5%       | 5%                |
| 4.      | Does the teacher provide clear feedback during lesson using the direct interaction strategy?                                                         | 24%           | 74%    | 5%       | 0%                |
| 5.      | How effective is the teacher's implementation of the direct interaction strategy in improving your understanding?                                    | 44%           | 26%    | 30%      | 0%                |
| 6.      | Does the direct interaction strategy help you understand the reading material better?                                                                | 40%           | 43%    | 17%      | 0%                |
| 7.      | Do you agree that the teacher should use the direct interaction strategy in reading instruction?                                                     | 37%           | 50%    | 13%      | 0%                |
| 8.      | What was your level of understanding of the reading material before using the direct interaction strategy? Did you face any difficulties in reading? | 26%           | 46%    | 24%      | 7%                |
| 9.      | How much do you agree with participating in reading lessons in class?                                                                                | 39%           | 40%    | 19%      | 5%                |
| Average |                                                                                                                                                      | 32.56%        | 54.56% | 13.11%   | 1.89%             |

## Discussion

The findings of this study reveal that the application of the Direct Interaction Strategy had a significant impact on improving students' reading

comprehension. The experimental group showed a substantial increase in their post-test scores (from a mean of 48.08 to 80.00), while the control group's improvement was minimal (from 33.2 to 37.6). The statistical analysis confirmed this difference with a t-value of 5.40, indicating that active learning through direct interaction promotes deeper understanding. This strategy allowed students to engage with texts more meaningfully through discussion, questioning, and feedback, leading to better comprehension outcomes compared to conventional methods.

## CONCLUSION

This study concludes that the Direct Interaction Strategy has a significant and positive effect on improving the reading comprehension of Grade XI students at SMK Telkom 2 Medan. The post-test results of the experimental group, which increased from 48.08 to 80.00, compared to the minimal increase in the control group (from 33.2 to 37.6), demonstrate the effectiveness of this interactive, student-centered approach. The statistical analysis using an independent sample t-test ( $t = 5.40$ ) supports this finding, indicating that the observed improvement is not due to chance but to the treatment applied. These findings are important because they provide strong evidence for the implementation of direct, participatory strategies in reading instruction, especially in vocational schools where such skills are often underemphasized. By encouraging active student involvement, discussion, and feedback, the strategy enhances not only comprehension but also engagement and confidence in reading activities. The results of this research can contribute to the development of more effective teaching models and serve as a reference for future studies in similar educational contexts.

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