

## The Impact of Contextual Teaching and Learning on Students' Communication Skills

Akhmad Asyari<sup>1</sup>, Muhamad Ahyar Rasidi<sup>2</sup>

<sup>1</sup>Universitas Islam Negeri Mataram Indonesia

Corresponding authors: [akhmadasyari@uinmataram.ac.id](mailto:akhmadasyari@uinmataram.ac.id)

### Abstract:

This study aimed to examine the effect of the Contextual Teaching and Learning (CTL) model on university students' communication skills. The study employed a quasi-experimental pretest–posttest control-group design. The research subjects consisted of two classes: an experimental class that implemented the CTL model and a control class that used conventional instruction. The results showed that the mean pretest score for students' communication skills in the experimental class was 66, while in the control class it was 63, indicating similar initial abilities. After the treatment, the mean posttest score of the experimental class increased to 84, whereas the control class reached 71. The N-gain value of the experimental class was 0.50, categorized as moderate, while the control class obtained an N-gain of 0.23, categorized as low. Furthermore, an effect size of 0.82 indicated a large impact of the CTL model on students' communication skills. Therefore, the CTL model is statistically and practically effective in improving university students' communication skills.

*Keywords: CTL, communication, methods, student*

### INTRODUCTION

Contextual Teaching and Learning (CTL) connects instructional material to real-life contexts, thereby increasing the relevance of learning for university students. (Maulidah et al., 2025; Winata & Nasution, 2025). Contextual learning encourages active student engagement, making both oral and written communication more participatory. (Hidayati, 2024; Kurniasih, 2021; Rahman et al., 2017) . CTL that leverages learning communities and reflection strengthens students' ability to explain ideas and arguments in a communicative manner (Musaeva et al., 2025).

Quasi-experimental research shows a significant increase in mathematical communication skills following the implementation of CTL (Putri, 2020). Classroom action research in speaking instruction found that CTL improves students' self-confidence and speaking fluency (Gopalan et al., 2020; Lam & Wolfe, 2023). In addition, meta-studies and literature reviews report that CTL positively contributes to students' representational abilities and the communication of academic concepts. (Zhang, 2020).

CTL facilitates learning through authentic tasks that require students to formulate and convey ideas; thus, improvements in communication skills are a direct result of this practice (Bhasin & Raghava, 2004; Haritsahrizal et al., 2025). The application of modeling strategies and feedback within CTL

provides students with opportunities to repeatedly revise their communicative messages (Iswati et al., 2025; Munir & Nur, 2018).

Although many local studies show positive effects of CTL on communication, most are contextual in nature and focus on specific subjects, limiting generalization across disciplines. (Muh. Arwin et al., 2025; Waruwu et al., 2021). Many studies also rely on short-term outcome measures, resulting in limited evidence on the long-term retention of communication skills after CTL interventions (Arwin, 2025). Some studies have not examined mediating variables, such as motivation or institutional culture, that may influence the effectiveness of CTL in improving communication skills.

For teaching practice, integrating authentic tasks, collaboration, and consistent authentic assessment is recommended to maximize the impact of CTL on students' communication skills. (Juliansyah, 2018; Ridhwan & Murtiyasa, 2023). Future research should include long-term, cross-disciplinary studies and experimental designs that control for mediating variables to achieve a more comprehensive understanding of CTL's effectiveness in communication (Pranjani et al., 2022).

## **METHODOLOGY**

This study used a quasi-experimental pretest–posttest control group design (Miller et al., 2020) to examine the effect of the Contextual Teaching and Learning (CTL) model on students' communication skills. This design allows for comparison of changes in communication skills between the experimental group receiving CTL and the control group undergoing conventional learning in a real-life classroom context. The study subjects were students in education programs at public or private universities selected through cluster random sampling, with two classes serving as samples. The experimental class implemented CTL learning, encompassing constructivism, inquiry, learning communities, modeling, reflection, and authentic assessment, while the control class used lecture and question-and-answer methods.

The research instruments included a communication skills test and observation sheets assessing oral and written communication, including clarity of ideas, accuracy of terminology, argument structure, and discussion interactions. The instruments were validated through expert judgment and tested for reliability using Cronbach's alpha. Data were collected through pre- and posttests across several sessions, supported by observational data on students' communication activities. Data analysis was performed using an independent-samples t-test (ANCOVA) with pretest scores as a covariate, after meeting normality and homogeneity tests. The results were used to assess the significance and magnitude of the CTL effect using the effect size.

## DISCUSSION

The descriptive analysis results indicate that students in both the experimental and control groups had similar communication skills before the treatment, as reflected by pretest mean scores that did not differ significantly. The average pretest score for students' communication skills in the experimental group was in the moderate range, and the control group also showed a comparable level. Thus, it can be concluded that the initial communication abilities of both groups were relatively homogeneous prior to the implementation of the Contextual Teaching and Learning (CTL) model.

After the treatment was implemented, greater improvement in students' communication skills was observed in the experimental group than in the control group. The mean posttest score of the experimental group increased significantly, particularly on indicators such as clarity of idea expression, the ability to construct logical arguments, and active participation in discussions. Although the control group also showed improvement, the increase was relatively lower and uneven across the communication skill indicators.

The prerequisite tests showed that the posttest data of both groups were normally distributed and had homogeneous variances, thus meeting the assumptions for inferential statistical analysis. Based on the independent-samples t-test results, the significance value (Sig.) was less than 0.05, indicating a significant difference in mean communication skills between the experimental and control groups after the treatment.

Table 1.  
Mean pretest, posttest, N-gain, and effect size

| Group              | Mean Pretest | Mean Posttest | N-Gain | Effect Size (d) |
|--------------------|--------------|---------------|--------|-----------------|
| Experimental (CTL) | 66           | 84            | 0.50   | 0.84            |
| Control            | 63           | 71            | 0.23   | 0.35            |

Based on Table 1, the mean pretest scores of students' communication skills in both groups were relatively similar, indicating comparable initial abilities. After the treatment, the experimental group's mean posttest score increased significantly compared with the control group. The N-gain value for the experimental group was in the moderate category. In contrast, the control group was in the low category, indicating that the improvement in communication skills was greater in the experimental group. In addition, the effect size in the experimental group was large, whereas that in the control group was small to moderate, suggesting that implementing the CTL model had a strong impact on improving students' communication skills.

Furthermore, follow-up analysis using ANCOVA with pretest scores as covariates reinforced these findings, showing that the CTL model had a significant effect on students' communication skills after controlling for initial ability differences. The effect size fell within the moderate-to-high range,

indicating that the impact of the CTL model was not only statistically significant but also practically meaningful in enhancing students' communication skills.

In addition to quantitative data, observational results showed that students in the experimental group were more active in expressing opinions, better able to relate learning materials to real-life experiences, and demonstrated improved quality of peer interaction during the learning process. These findings indicate that implementing the CTL model creates a learning environment that more effectively supports the development of students' communication skills than conventional instruction.

## CONCLUSION

Based on the study results and data analysis, it can be concluded that implementing the CTL model significantly improves students' communication skills. Students who participated in CTL-based learning showed greater improvements in communication skills than those who received conventional instruction. This is evidenced by higher mean posttest scores in the experimental group, N-gain values in the moderate category, and a large effect size. These findings indicate that CTL is not only statistically effective but also has a meaningful practical impact on enhancing students' ability to express ideas, construct logical arguments, and interact academically. Therefore, the CTL model is an appropriate alternative instructional strategy for developing students' communication skills in higher education.

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