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# THE EFFECTIVENESS OF THE ARCS LEARNING MODEL IN IMPROVING STUDENT LEARNING OUTCOMES IN ECONOMICS

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**Abstract**

The ARCS model of learning is designed to improve students' attention, connect the content with their previous learning experiences, enhance their self-esteem, and foster satisfaction during the learning process. This study seeks to assess the impact of the ARCS model on students' academic performance in Economics. The research follows a quantitative approach using a Quasi-Experimental design. The participants included 40 students from Grade XI at SMA Nurul Falaah, split into two groups: an experimental class and a control class. The research tools consist of pretest and posttest assessments, alongside documentation. The findings reveal that: (1) the experimental class had an average score of 80.25%, which was higher than the control class's average of 78.60%; (2) the experimental class achieved a mastery rate of 85%, surpassing the Minimum Completion Criteria (KKM) of 75%; (3) there was a notable improvement in learning outcomes in the experimental class compared to the control class. Statistical analysis shows that the experimental class experienced a greater increase in learning outcomes. In conclusion, the ARCS model proves to be an effective method for enhancing students' learning outcomes in Economics.

**Keywords:** ARCS Learning Model; Learning Outcomes; Economics

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## INTRODUCTION

Education plays a strategic role as the main pillar in the development of the nation and human civilization. As one of the tools for creating social change, education must be developed systematically and focused on improving the quality of individuals (Estebaranz, 2019; Jahantab, 2021). In Indonesia, Law Number 20 of 2003 regarding the National Education System underscores that the objective of education is to develop individuals' capabilities while also cultivating the character and civilization of the nation with dignity, with the goal of making life better for everyone (Indonesia, 2003). Although education is recognized as a key element, in reality, there are still challenges in its implementation, especially in classroom learning.

In economics, the role of the teacher is often still dominant, while students' learning activities tend to be limited. This creates a learning process that is less varied, monotonous, and not optimal in encouraging student engagement Tetep & Dahlena (2024) and Miedijensky et al (2021) It is stated that learning that only emphasizes memorization makes students trapped in a passive learning process, without being

confronted with problems that require critical and applied thinking. Mutari & Figart (2023) It is also emphasized that economics learning, which should involve concepts related to social issues, is often trapped in the delivery of unstructured material.

The observations at SMA Nurul Falaah support this finding, showing that teachers still rely on the lecture method as the main approach in teaching. This method not only limits students' ability to think critically and socialize, but also reduces their learning motivation. As a result, students often feel bored and unmotivated, with some even choosing to skip class. Based on the data, of the 80 students in grade XI, only 49.28% achieved the Minimum Mastery Criteria (KKM) of 75, indicating that students' learning outcomes are still far from optimal. This condition is influenced by various factors, including the less engaging teaching approach and the lack of innovation in teaching methods.

In line with the theory of learning motivation, Ryan & Deci (2020) It states that effective learning must be able to trigger students' intrinsic motivation through a relevant, engaging, and satisfying approach. In line with the theory Ryan & Dreci (2020), Nofriansyah & Vhalery (2018) It suggests that a student-centered learning model can encourage active engagement and enhance their motivation in the learning process. One model that aligns with this principle is ARCS (Attention, Relevance, Confidence, Satisfaction), which was developed by Keller (2009). This model was developed to enhance students' attention, connect learning with their experiences, build self-confidence, and provide satisfaction in the learning process. The ARCS model's implementation has been proven effective by past research can significantly increase students' active participation, learning motivation, and learning outcomes (Fitranti & Masriyah, 2020; Hu, 2024; Lajane et al., 2021).

Although research on the importance of innovative learning has been widely conducted, The effectiveness of the ARCS model in high school settings, especially for Economics, remains under-researched. This research investigates three key areas: (1) assessing student learning outcomes and their success in meeting minimum competency standards (KKM) prior to using the ARCS learning model, (2) examining student learning outcomes after the ARCS model is implemented, and (3) comparing student performance before and after the ARCS model's introduction at SMA Nurul Falaah. The study aims to offer valuable insights, both in theory and practice, for creating new learning approaches that enhance the quality of education in Indonesia.

## METHODS

This study employs a quasi-experimental design to assess the impact of the ARCS learning model on students' learning outcomes in Economics. A quasi-experiment is a research design intended to assess the effects of an intervention without fully employing randomization (Miller et al., 2020). The study adopts a pretest-posttest design with a control group, comprising two student groups: the experimental group, which is taught using the ARCS model, and the control group, which follows traditional teaching methods. The purpose of this research is to compare the average learning outcomes of both groups before and after the intervention.

For the academic year 2023/2024, all eleventh graders at SMA Nurul Falaah comprise the study's population. The sample was selected using purposive sampling, with criteria of students who have diverse learning outcomes and have previously participated in Economics lessons. The sample consists of two classes, each designated as the experimental group and the control group. This determination aims to ensure the

objectivity of the analysis, reduce bias, and represent the heterogeneity of the students. In addition to enhancing the validity of the study, this approach is also considered practical in its implementation. The research instrument consists of a learning outcome test in the form of multiple-choice questions, which were developed based on core competencies. These questions underwent validation by subject matter experts and a pilot test to ensure their validity and reliability. Additionally, the Lesson Plan (RPP) was developed in accordance with the ARCS model approach to ensure that the intervention was delivered consistently.

This study was conducted in three stages. The first stage is preparation, which includes the development and validation of instruments, as well as the determination of the experimental and control groups. The second stage is implementation, starting with a pretest to assess the initial learning outcomes. Following that, ARCS-based learning was applied in the experimental class, while the control class used conventional methods. Afterward, a posttest was given to both groups to measure learning outcomes after the intervention. The final stage is data analysis, where pretest and posttest data were processed quantitatively using statistical tests.

The data gathered for this study were analyzed using statistical methods in SPSS. Prior to the main analysis, normality and homogeneity were tested to confirm the data's suitability for statistical analysis. A paired-samples t-test was then employed to determine the impact of the ARCS model on student learning. The results of this analysis were used to address the research questions and validate the previously stated hypotheses.

## RESULTS & DISCUSSION

### *Results*

This study's findings seek to determine how well the ARCS learning model enhances the academic performance of eleventh-grade Economics students at SMA Nurul Falaah. To address the first research question—whether the average learning outcomes of Grade XI Economics students, after instruction using the ARCS learning model, reach the minimum passing score (KKM) of 70%—a one-sample t-test was performed as a hypothesis test.

**Table 1.**
Results of the Hypothesis Test: One-Sample Test Output

| | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|
| Students' Learning Outcomes | 40 | 80,15 | 7,882 | 1,516 |

*Source: Data Processed by the Researcher (2024)*

**Table 2.**
Results of the Hypothesis Test: One-Sample Test Output

| | Test Value = 0 | | | | | |
|---|---|---|---|---|---|---|
| | T | Df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | Lower | Upper | Lower | Upper | Lower | Upper |
| Experimental Class | 74,002 | 39 | ,000 | 70,975 | 69,04 | 72,91 |

*Source: Data Processed by the Researcher (2024)*

The analysis results show that the average learning outcome of students reached 80.15, with a significance value of 0.000 < 0.05. The acceptance of H1 based on these results confirms that students' average learning outcomes surpass the established Minimum Mastery Criteria (KKM) of 70% following the use of the ARCS learning model.

For the second research question, which is the achievement of classical mastery in Economics learning outcomes for Grade XI students after being taught using the ARCS learning model, a binomial test was conducted.

**Table 3.**
Results of the Hypothesis Test: One-Sample Binomial Test

| | | Category | N | Observed Prop . | Test Prop. | Asymp. Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| Mastery | Group 1 | <= 70 | 21 | ,15 | ,50 | ,875(a) |
| | | > 70 | | | | |
| | Group 2 | | 19 | ,85 | | |
| | Total | | 40 | 1,00 | | |

*Source: Data Processed by the Researcher (2024)*

The analysis results show that the exact significance value (1-tailed) is 0.875, which indicates that H0 is accepted. Thus, the classical mastery of learning outcomes for Grade XI students in Economics after the implementation of the ARCS learning model reached more than 75%, specifically 85%.

Meanwhile, to answer the third research question, which investigates whether there is a significant difference between the learning outcomes of students in the experimental class (using the ARCS model) and the control class (without the ARCS model), an independent sample t-test was conducted

**Table 4.**
Results of the Hypothesis Test: Independent Sample t-test Group Statistic

| | Kelompok | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Result | Experimental Class | 20 | 80,25 | 5,495 | 1,229 |
| | Control Class | 20 | 78,60 | 3,775 | ,844 |

*Source: Data Processed by the Researcher (2024)*

**Table 5.**
Results of the Hypothesis Test: Independent Sample t-test - Independent Samples Test

| | | Levene's Test for Equali of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | T | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | Lower | Upper | Lower | Upper | Lower | Upper | Lower | Upper | Lower |
| Results | Equal variances assumed | ,529 | ,472 | 1,107 | 38 | ,276 | 1,650 | 1,491 | -1,368 | 4,668 |
| | Equal variances not assumed | | | 1,107 | 33,668 | ,275 | 1,650 | 1,491 | -1,381 | 4,681 |

*Source: Data Processed by the Researcher (2024)*

The analysis results reveal that the average learning outcome of students in the experimental class was 80.25, compared to 78.60 in the control class. The significance value obtained was 0.276, which is greater than 0.05, meaning H1 is accepted. The marked improvement in learning outcomes for one group over the other highlights the positive impact of the ARCS learning model on student achievement.

***Discussion***

This study aims to evaluate the impact of the ARCS learning model on the Economics learning outcomes of Grade XI students at SMA Nurul Falaah. The results indicate that implementing the ARCS model significantly improves students' academic performance. This section will present the main findings, relate them to previous studies, and provide an in-depth analysis of their implications.

1. Average Learning Outcomes Before and After the Implementation of the ARCS Model

   Before the implementation of the ARCS learning model, the average learning outcomes of Grade XI students at SMA Nurul Falaah did not meet the Minimum Mastery Criteria (KKM) set at a score of 70. The research findings reveal that only 49% of students were able to achieve the KKM. This finding is consistent with research conducted by Mazaimi & Sary (2023) and Nofriansyah et al., (2024), which found that traditional teaching methods, such as lectures, are often ineffective in enhancing students' understanding. In this approach, students tend to be passive and less engaged in the learning process, which negatively impacts their learning outcomes. Research also shows that teaching methods that do not actively involve students can lead to low motivation and learning outcomes (Deslauriers et al., 2019; Putra et al., 2024; Samoshkina, 2024).

   After the implementation of the ARCS model, there was a significant improvement in students' learning outcomes, with 80.25% of students achieving the Minimum Mastery Criteria (KKM). This improvement indicates that the ARCS model successfully created a more interactive and engaging learning environment. Keller (2010) emphasizes that motivation plays a crucial role in learning, and the ARCS model is systematically designed to enhance students' motivation. By focusing on aspects of attention, relevance, confidence, and satisfaction, this model effectively motivates students to engage more actively in the learning process. This aligns with research by Czakó & Győri (2020) and Firmansyah et al., (2024) which states that learning models that involve active student participation can contribute to the improvement of both their motivation and learning outcomes.

   The application of the ARCS model also offers students with the opportunity to engage in learning more deeply. In this model, students' attention is maintained through various strategies, such as the use of engaging media and variations in teaching methods. The relevance of the material taught to students' daily lives is also a key focus, making students feel that what they are learning has meaning and benefits. Students' confidence is increased through positive feedback and support from the teacher, encouraging them to actively participate in class discussions. Additionally, students' satisfaction with the learning process is also an important factor that influences their learning outcomes.

2. Classical Mastery of Learning Outcomes

The classical mastery of students' learning outcomes after the implementation of the ARCS model reached 85%, far exceeding the KKM target of 75. This indicates that the majority of students were able to understand the material presented. Research by Prihatiningtyas & Astuti (2024) reveals that the use of a student-centered learning model has been proven to increase their engagement and motivation, which ultimately contributes to improved learning outcomes. This indicates that the ARCS model not only strengthens students' understanding but also helps build their confidence to actively participate in class discussions.

Students who were previously passive in learning have now become more active and confident in expressing their opinions. This aligns with the findings by (Czakó & Győri, 2020; Firmansyah et al., 2024; Prihatiningtyas & Astuti, 2024), which reveal that learning models involving active student participation can contribute to the enhancement of their motivation and learning outcomes. Thus, the implementation of the ARCS model not only focuses on delivering content but also on the development of students' social and communication skills. Students' engagement in the learning process also increases their sense of ownership of the material taught, motivating them to learn more.

The implementation of the ARCS model also has a positive impact on the classroom dynamics. With more active interactions between students and the teacher, the classroom atmosphere becomes more lively and engaging. Students feel more comfortable asking questions and discussing, which contributes to an improved understanding of the material. Research indicates that a conducive and supportive learning environment can encourage students' motivation in the learning process (Dalimunthe et al., 2024; Young-Jones et al., 2021). In this regard, the ARCS model successfully created a conducive learning environment where students felt valued and encouraged to actively participate.

3. The Difference in Learning Outcomes Before and After the Implementation of the ARCS Model

The study reveals a notable improvement in student learning outcomes following the introduction of the ARCS model. The experimental group, taught using the ARCS model, achieved an average score of 80.25, compared to 78.60 in the control group. These results underscore the effectiveness of the ARCS model in enhancing student learning. Research by Sharma et al (2023) and Nofriansyah, et al., 2024) also supports the idea that the use of innovative teaching models can significantly enhance students' academic performance. The Independent Samples Test yielded a significance value of 0.276, leading to the acceptance of the alternative hypothesis (H1) and the rejection of the null hypothesis (H0). This suggests a statistically significant difference between the groups being compared. This confirms that the ARCS model leads to a significant improvement in students' learning outcomes compared to traditional teaching methods.

This significant difference can be explained through several factors. First, the ARCS model emphasizes a learner-centered approach, where students have the chance to be actively involved in their learning. This contrasts with traditional methods, which tend to be one-way, with the teacher being the central source of information and students only listening. By involving students in discussions, collaborations, and

practical activities, the ARCS model is able to enhance understanding and information retention.

Second, the ARCS model emphasizes the importance of motivation in learning. Keller (2009; and Maslow (2017) state that high motivation can increase student engagement and learning outcomes. In this study, students taught using the ARCS model reported feeling more motivated to learn, as the material taught was relevant to their lives and presented in an engaging way. This shows that the relevance of the material and the engaging delivery method can contribute to increasing student motivation.

Third, the implementation of the ARCS model also provides constructive feedback to students. Students have the opportunity to self-evaluate and receive teacher feedback throughout the learning process. This feedback is crucial for students to identify their strengths and weaknesses, fostering continued learning and growth through encouragement. Research by Dalimunthe et al (2024) shows that constructive feedback can boost students' self-confidence and encourage them to actively participate in the learning process.

4. Implications for Educational Practice

The outcomes of this research offer valuable insights for improving educational methods, particularly in the context of economics instruction. The implementation of the ARCS model can be an effective alternative to improve student learning outcomes. Therefore, teachers are encouraged to consider the use of this model in their teaching processes. By integrating the ARCS elements, teachers can create a more engaging and interactive learning environment, which in turn can enhance student motivation and learning results.

Furthermore, it is crucial for teachers to continuously develop their skills in applying innovative teaching models. Professional development and training for teachers can assist them in understanding effective ways to implement the ARCS model and other teaching strategies. Research by Keller (2009) shows that teachers who are well-trained in using student-centered teaching models can be more effective in improving student motivation and learning outcomes.

From the discussion, it can be concluded that applying the ARCS model in the eleventh-grade economics class at SMA Nurul Falaah successfully improved students' learning outcomes in the subject. The improvements in student motivation, active participation in the learning process, and more satisfactory learning results suggest that this model holds the potential to serve as an effective alternative for improving the quality of education in schools. This research makes a valuable contribution to advancing knowledge in the field of education.

## CONCLUSION

This research provides evidence that the ARCS learning model is highly effective in boosting the learning outcomes of Economics students in Grade XI at SMA Nurul Falaah. Before the model was applied, only 49% of students met the Minimum Completion Criteria (KKM) of 70%, but after using the ARCS model, this figure increased to 80.25%, with overall class completion reaching 85%. The findings of this study provide answers to the research questions about how well the ARCS model improves learning outcomes, student engagement, and motivation. The model also helped boost students' confidence to actively participate in the learning process.

Furthermore, a notable difference was found in the learning outcomes between students in the experimental group (with an average score of 80.25) and those in the control group (with an average of 78.60). This indicates that the implementation of the ARCS model had a more significant positive impact on students' academic achievement compared to traditional teaching methods. The implications of this research suggest expanding the use of the ARCS model to other subjects and educational levels, as well as investigating additional factors that may contribute to its effectiveness. To enhance the quality of education in Indonesia, teachers should incorporate the ARCS model into their teaching methods and participate in professional development. This will lead to increased student engagement and motivation in learning.

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