



## Applying True or False Method to Improve Learning on Faith in Elementary Students

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**Abstract:** The success of learning is greatly influenced by a teacher's ability to design effective teaching strategies. Low student enthusiasm has a negative impact on learning outcomes, highlighting the need for improvement. One proposed approach is the True or False learning model, which can enhance student engagement. This study aims to improve students' learning outcomes on the topic of faith in qadha and qadar in class VI at MIN 2 Aceh Timur through the application of this model. The method used is action research with two cycles, each consisting of four stages: planning, action and observation, reflection, and revision. The target of the research is class VI students, with data collected from formative tests and observation sheets. The analysis results indicate a significant improvement in student learning outcomes. The mastery level in cycle I reached 74.10%, increasing to 85.19% in cycle II. The average student score also rose from 75 in cycle I to 82.8 in cycle II. Additionally, student activity increased from 66.67% in cycle I to 96.3% in cycle II. Therefore, the True or False model is effective in enhancing students' learning outcomes and engagement in Akidah Akhlak lessons.

**Keywords:** Faith in Qadha and Qadar; Learning Outcomes; True or False Learning Model

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## INTRODUCTION

Education is a conscious effort aimed at developing a person's potential through learning activities (Morris, 2019). There are two educational concepts that are interrelated with each other, namely learning and instruction. The concept of learning is rooted in the learner and the concept of learning is rooted in the educator (Shearer et al., 2020).

The learning process is a process that contains a series of actions of teachers and students based on reciprocal relationships that occur in educational situations to achieve certain goals (Munna & Kalam, 2021). Interaction or reciprocal relationships or teachers and students are the main requirements for the learning process to take place. Interaction in learning events has a broader meaning, not just the relationship between teachers and students, but in the form of educational interactions. In this case, it is not only the delivery of messages in the form of lesson materials, but also the instillation of attitudes and values in students who are learning (Kumarassamy & Koh, 2019).

The learning process which is the core of the education process, has many problems. The success of learning will be effective depending on various factors. One of them is how we as a teacher can package learning strategies (Retnawati et al., 2019). In the education process, what often happens is that children are not encouraged to develop their thinking skills.

Teachers as educators who interact with students who have diverse potentials, then learning should be more directed towards creative learning processes by using divergent thinking processes (thinking processes in various directions and producing many alternative solutions) and convergent thinking processes (thinking processes seeking the most appropriate single answer). In this context, teachers play more of a role as facilitators than directors who determine everything for students (Sun & Gao, 2019). As facilitators, teachers encourage students (motivators) to develop initiatives to explore new tasks.

One of the problems faced by the world of education is the weak learning process that occurs in many schools. In this context, it is often seen that children do not get enough encouragement to develop critical and creative thinking skills. For example, in the learning process in the classroom, the approach taken tends to emphasize the ability to memorize information rather than understanding concepts. Children are forced to remember and accumulate various information without relating it to everyday life, so that they only focus on the numbers and facts that must be memorized. As a concrete example, when the exam takes place, many students are only able to answer questions based on memory, without being able to explain or apply the concepts they have learned in real situations. This creates an inability to think analytically and solve more complex problems in the real world. When these children graduate from school, they may look smart theoretically, but they often find it difficult to apply the knowledge they have gained in a practical context. Furthermore, when students are taught to rely only on memory, they also lose interest in learning and exploration. They are not encouraged to ask questions, argue, or find innovative solutions. As a result, many of them become passive in the learning process and are not trained to face greater challenges in the future. This condition clearly creates a gap between formal

education and the skills needed in the world of work. At the same time, if the learning process does not change, then we will continue to produce a generation that is rich in theoretical knowledge, but poor in terms of application and practical skills. This is a serious challenge that must be addressed immediately so that our education does not only focus on academic aspects, but also on character development, critical thinking skills, and the ability to adapt quickly amidst dynamic changes.

Based on initial observations conducted in class VI MIN 2 East Aceh, it was found that the learning process in the subject of Akidah, especially the material on believing in qadha and qadar, was less enthusiastic from students and seemed to underestimate them, so they did not understand what believing in qadha and qadar was. The results of the observation also showed that student learning outcomes for the material on believing in qadha and qadar were still low, where only 8 students out of 27 students (29.6%) reached the specified completion limit (KKM 70).

Especially in the subject of Aqidah Akhlak. In this subject, educators usually only make students listen, pay attention, and do practice questions, even though students should be able to do more than that. The subject of Aqidah Akhlak is one of the subjects that is a compulsory subject for all students in Indonesia if they are studying at the Madrasah Ibtidaiyah level, including students of MIN 2 East Aceh.

Due to these problems, it is certain that the objectives of learning Akidah Akhlak cannot be achieved optimally. For this reason, researchers try to improve learning Akidah Akhlak, especially the material on believing in qadha and qadar using the true or false learning model. This learning model is one of the learning models in the scientific approach to improve student learning outcomes. This model is an active learning model that stimulates student involvement in learning carried out by teachers.

## METHODOLOGY

This study uses Classroom Action Research (CAR) as the main method, because CAR is very effective in improving learning practices in the classroom context (Nurtanto et al., 2020). This method allows researchers to directly identify and address problems that arise during the teaching and learning process. In accordance with the type of research chosen, this study adopts the action research model from Kemmis and Taggart, which has a spiral structure, where each cycle is interconnected and builds on each other (Putra et al., 2021). With this approach, each cycle is designed to provide valuable feedback and produce continuous improvement in educational practices. Each cycle in CAR includes four main components: planning, action, observation, and reflection. A thorough planning process is very important, because this step allows researchers to formulate clear and directed strategies before implementing actions. The actions taken are expected to overcome the problems that have been identified and provide real solutions for students (Ferri et al., 2020).

Observations made during the cycle are crucial to collect relevant data, which will be the basis for assessing the success or failure of the actions implemented. After observation, the reflection step becomes an important stage

for analyzing the results of the actions that have been carried out. In this reflection, researchers and students can discuss what has worked and what needs to be improved. This creates an opportunity to learn from experience and apply that knowledge in the next cycle. In the next cycle, planning will be based on the results of the reflection that has been analyzed, so that the actions taken are more relevant and effective in achieving learning objectives. Before entering cycle 1, a preliminary action was carried out in the form of identifying problems. This preliminary action is very important to ensure that the research begins with a clear understanding of the challenges faced in the classroom. Proper identification will help researchers formulate specific and relevant objectives, and direct the focus of action to aspects that really need attention.

Thus, the use of PTK in this study is not only methodological, but also oriented towards real and sustainable results for student learning. For all these reasons, PTK is considered a very appropriate approach to improve the quality of learning and create a more responsive and dynamic learning environment. This study aims to produce learning practices that are not only theoretical but also applicable, so that students can feel the real benefits of the learning process that has been carried out.

## **RESULTS AND DISCUSSION**

### **Results**

The initial condition of learning Akidah Akhlak in class VI MIN 2 East Aceh was marked by a number of deficiencies in several aspects, namely less than encouraging learning outcomes through tests and student involvement in learning. Of the several aspects, the aspect of learning outcomes and student involvement in the learning process is the most lacking aspect and needs immediate attention so that it does not have a fatal impact on other aspects. Before this Classroom Action Research was carried out, the researcher conducted observations and collected data from the initial conditions of the class that would be given the action, namely class VI MIN 2 East Aceh.

At the beginning of the learning process, the researcher conducted direct observation of the learning conditions and atmosphere, because the Aqidah Akhlak lesson was in the last hour, besides that, the weather conditions were sometimes hot, sometimes heavy rain, resulting in many students who were not enthusiastic about participating in the learning process, some put their heads on the table, some were busy chatting with their friends, some were opening books on other subjects, and some were asking permission to go to the bathroom just to relieve the boredom in the classroom.

Before the researcher started the action, first, they collected information from the students about their perceptions or impressions of the Teaching and Learning Process of the Aqidah Akhlak lesson. Among the impressions that emerged from the students were, the monotonous learning process and the many lectures made them sleepy and unenthusiastic to learn, besides that the material of aqidah akhlak which was quite broad could not be understood deeply in a very short time.

To find out whether the impression and learning atmosphere as described above will affect the academic ability of students, the researcher conducted an academic ability assessment test. The results of the pre-test can be seen in the table below.

**Table 1. Analysis of Pre-Test Results of Grade VI Students of MIN 2 East Aceh**

No	Value Range	Number of Students	Percentage (%)
1	51-60	11	40.74
2	61-70	9	33.33
3	71-80	6	22.22
4	81-90	1	3.71
5	91-100	–	–
<b>Amount</b>		<b>27</b>	<b>100</b>

Based on the table above, it is known that the results of the assessment test of students' academic abilities, as many as 40.74% are in the range of 51-60, 33.33% of students are in the range of 61-70, 22.22% are in the range of 71-80, students who are in the range of 81-91 are only 3.71%, and none have occupied the range of 91-100. The results of this assessment test show that only 29.6% of students have achieved the KKM score.

#### **A. Description of Cycle I Results**

##### **1. Planning Stage**

At this stage, the researcher prepares learning tools consisting of lesson plans, worksheets, learning outcome test questions, and supporting teaching tools. For cycle I, the basic competency indicators are understanding the wisdom of believing in Qada' and Qadar which can form noble moral behavior and show examples of Qada' and Qadar in everyday life as an implementation of understanding the pillars of faith.

##### **2. Activity and implementation stages**

The implementation of teaching and learning activities for cycle I was carried out on November 21, 2023 in class VI with 27 students. The classroom atmosphere was still the same as in the initial conditions before the action was taken, but when the researcher began to explain the True or False strategy that would be used in that day's learning, students began to be interested with many of them asking about the mechanism of the True or False strategy and began to listen to explanations after explanations about the True or False strategy. Steps in implementing cycle I:

At the beginning of the lesson, the teacher warmly gathers the students and leads them in a prayer, helping set a respectful and focused tone for the learning to come. Following the prayer, the teacher outlines the lesson's main objectives, explaining that the students will learn about the wisdom in believing in Qada' and Qadar and how this understanding encourages noble behavior in everyday life. To make the goals clear, the

teacher provides examples of Qada' and Qadar in daily life as a way to deepen the students' grasp of the pillars of faith.

Introducing the True or False learning strategy, the teacher explains how it will be used to explore the material, creating an engaging atmosphere where students are encouraged to think critically about each concept. To spark curiosity, the teacher begins with an apperception activity, presenting illustrative pictures that give tangible context to the ideas of Qada' and Qadar.

The teacher then divides the class into four groups, providing each group with a set of cards—half with statements that are true, and half that are false. The teacher gives them the freedom to determine the best way to identify which cards contain true statements, fostering an environment of collaboration and independent problem-solving.

After the students complete their task, each group presents their findings, reading each card aloud to the class. As the cards are presented, students from other groups share their thoughts, debating whether the statement is true or false, allowing for a dynamic exchange of ideas. The teacher then provides feedback on each statement, ensuring everyone understands the reasoning, and asks students to note the correct answers.

Before concluding, the teacher administers a brief post-test to assess each student's understanding of the material. This final activity reinforces the key concepts, leaving students with a clear understanding of the importance of faith in Qada' and Qadar as they end the lesson on a note of reflection and comprehension.

### 3. Learning outcomes

The learning outcomes of students in cycle I obtained from the results of completing the evaluation questions are as follows:

**Table 2 Analysis of Post Test Results Cycle I**

No	Value Range	Number of Students	Percentage (%)
1	51-60	3	11.11
2	61-70	4	14.81
3	71-80	14	51.85
4	81-90	5	18.52
5	91-100	1	3.70
<b>Amount</b>		<b>27</b>	<b>100</b>

Based on the table above, it is known that the test results after the implementation of the true or false strategy, the learning outcomes of students have increased from the pre-test results where 11.11% are in the range of 51-60, 14.81% of students are in the range of 61-70, 51.85% are in the range of 71-80, students in the range of 81-91 are 18.52%, and 3.70% are in the range of 91-100. The results of this post-test show that only around 74.1% of students have achieved the KKM score (score > 71).

#### 4. Observation Results

In conducting this activity, the researcher was assisted by two religious teacher collaborators, namely Mrs. Andalia, S.Pd.I focused on student observation and Mrs. Nuraida, S.Pd focused on teacher observation. The complete results of the teacher observation sheet and the student observation sheet in cycle I can be seen in the following table:

**Table 3 Results of student observations in Cycle I**

No	Mark	Category	Number of Students	Percentage
1	80 – 100	Very good	4	14.81
2	70 – 79	Good	9	33.33
3	60 – 69	Enough	12	44.44
4	$\leq 59$	Not enough	2	7.41
<b>Amount</b>			<b>27</b>	<b>100</b>

Based on the table above, it is known that observations of student activity after the implementation of the true or false strategy, 14.81% are in the Very Good category, 33.33% are in the Good category, 44.44% are in the Sufficient category, and 7.41% are in the Less category.

In addition to observing student activities, collaborators also observe teacher activities, this observation is carried out during the learning process, whether it is in accordance with the lesson plan or the plan that has been prepared or not. From the results of observations of teachers, data was obtained that only 71.43% of teacher activities in learning were in accordance with the lesson plan and the lesson plan that had been prepared (see attachment).

#### 5. Reflection

After the learning process in cycle I was completed, the researcher conducted a reflection. From the results of the reflection, several weaknesses were found in cycle I that needed to be immediately fixed so that they could be used as guidelines for compiling an action plan in cycle II.

From the observation results, it shows that the learning that has been implemented has not been as expected and there are still many shortcomings. Among them, there are still some students who are less attentive to the lesson, some students directly ask the researcher who acts as a teacher rather than discussing with their friends, and when doing assignments there are still students who try to find answers from their friends.

The learning outcomes of students seen from the post-test results also show that only about 74.1% of students have achieved the KKM score (score  $> 71$ ). Therefore, to improve these things, it is followed up again in cycle II.

## **B. Description of Cycle II Results**

### **1. Planning Stage**

Based on the reflection of cycle I, the researcher began to compile improvements to perfect this research in cycle II. In cycle II, the researcher refined it through the steps arranged in the RPP as an initial guide in the learning process, to facilitate the running of cycle II, the researcher compiled student observation sheets, also compiled teacher observation sheets, and end-of-cycle test instruments.

### **2. Implementation Stage**

The second cycle of implementing the lesson began with the teacher inviting the students to pray together, creating a moment of calm and focus before the learning activities commenced. Once everyone settled, the teacher explained the core competencies for the day's lesson, centering on the wisdom of believing in Qada' and Qadar. The students learned how understanding these concepts could shape noble moral behavior, with examples from everyday life to illustrate how faith in Qada' and Qadar supports the pillars of Islam.

To encourage an engaging learning experience, the teacher introduced a True or False strategy, explaining how it would be applied in the lesson. As part of the apperception activity, the teacher presented images that visually represented aspects of Qada' and Qadar, encouraging students to connect the images with the concepts they were about to explore.

For the main activity, the teacher organized students into four groups, assigning each group a set of cards with statements that were either true or false. The number of cards matched the class size, ensuring active participation from all students. The students were given the flexibility to determine their approach to identifying the true and false statements, encouraging both critical thinking and collaboration.

Once each group completed the activity, they took turns presenting their answers to the class, with members of other groups offering their opinions on the statements. This peer review fostered a dynamic learning environment as students evaluated each other's reasoning. The teacher then provided feedback on each statement, clarifying any misconceptions and guiding students in documenting the correct information.

Before concluding the lesson, the teacher administered a post-test to assess each student's understanding. This assessment reflected the effectiveness of the interactive learning strategies in enhancing the students' grasp of Qada' and Qadar, revealing improvements from the previous cycle.

### **3. Learning outcomes**

The learning outcomes of students in cycle I obtained from the results of completing the evaluation questions are as follows:

**Table 4 Analysis of Post Test Results Cycle II**

No	Value Range	Number of Students	Percentage (%)
1	51-60	1	3.70
2	61-70	3	11.11
3	71-80	10	37.04
4	81-90	9	33.33
5	91-100	4	14.81
<b>Amount</b>		<b>27</b>	<b>100</b>

Based on the table above, it is known that the test results after the implementation of the true or false strategy, the learning outcomes of students have increased from the results of the post-test Cycle 1, where as many as 3.70% are in the range of 51-60, 11.11% of students are in the range of 61-70, 37.04% are in the range of 71-80, students in the range of 81-91 are 33.33%, and 14.81% are in the range of 91-100. The results of the post-test cycle 2 show that around 85.19% of students have achieved the KKM score (score > 71).

#### 4. Observation Results

The complete results of the teacher observation sheet and student observation sheet in cycle I can be seen in the following table:

**Table 5 Results of student observations in Cycle II**

No	Mark	Category	Number of Students	Percentage
1	80 – 100	Very good	6	22.22
2	70 – 79	Good	13	48.15
3	60 – 69	Enough	7	25.93
4	<59	Not enough	1	3.70
<b>Amount</b>		<b>27</b>	<b>100</b>	

Based on the table above, it is known that observations of student activity after the implementation of the true or false strategy, 22.22% are in the Very Good category, 48.15% are in the Good category, 25.93% are in the Sufficient category, and 3.70% are in the Less category.

As for the observation of teacher activities carried out in the learning process, whether they are in accordance with the RPP or the plan that has been prepared or not. From the results of observations of teachers, data was obtained that only 85.71% of teacher activities in learning were in accordance with the RPP and the lesson plan that had been prepared (see attachment).

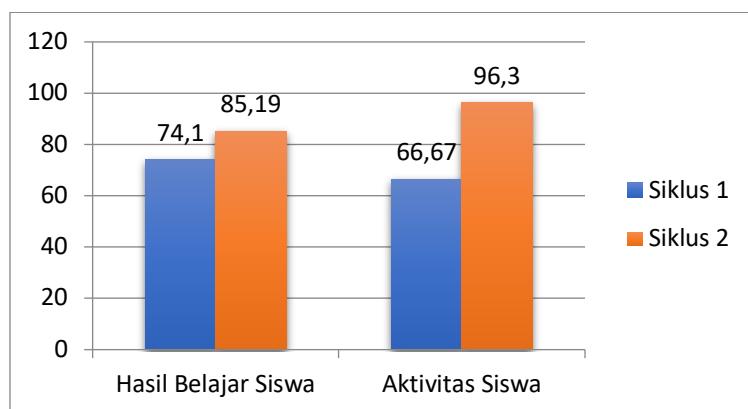
#### 5. Reflection

After making some improvements in the actions in cycle II, data was obtained showing changes in student activity that were increasing compared to cycle I, and there was also an increase in student learning outcomes carried out through academic ability tests that were in

accordance with the indicators of success in this study. Thus, it can be said that the actions taken in cycle II have brought about changes as expected. For this reason, the researcher considers this study sufficient until cycle II.

## Discussion

This Classroom Action Research focuses on student learning outcomes and student learning activities. Learning outcomes and observation results are carried out to determine whether the Classroom Action Research conducted is in accordance with the research objectives or not. The results of this study indicate that the true or false strategy has a positive impact on improving student learning outcomes. This can be seen from the increasingly solid understanding of students on the material presented by the teacher (learning completeness increased from cycles I and II) which were 74.1% and 85.19% respectively. In cycle II, student learning completeness has been achieved classically (KKM value > 71). Thus, the use of true or false strategy not only increases class activity, but also creates a more interactive learning environment and supports students' cognitive development. As a result, students not only become more motivated, but also experience significant improvements in their learning outcomes. These improvements can be seen in the graph below:



**Figure 1. Learning Outcomes and Observations of Students (in %)**

Based on data analysis, it was obtained that student activity in the learning process with the true or false strategy in each cycle increased. This has a positive impact on student learning outcomes, which can be shown by the increase in the average value of students in each cycle which continues to increase from cycle I and cycle II, namely 75 and 82.8.

After the action using the true or false strategy, learning was centered on students and the classroom atmosphere became more active. This strategy not only encourages student involvement, but also provides an opportunity for them to think critically and express their opinions (Tharayil et al., 2018). This is in line with the Constructivism theory put forward by Jean Piaget and Lev Vygotsky, which emphasizes the importance of direct experience in learning. In this context, students not only receive information, but are also actively involved in the learning process, so that they can build new knowledge based on existing understanding (Wibowo et al., 2025). Active student involvement also contributes to increased

learning motivation, which is an important factor in achieving good learning outcomes.

The Self-Determination Theory by Deci and Ryan explains that intrinsic motivation, which arises from a sense of involvement and autonomy in learning, can improve student learning outcomes. In situations where students are given the opportunity to give opinions and engage in discussions, they tend to feel more in control of their learning process, which in turn increases motivation (Ryan & Deci, 2020). In addition, through this strategy, students will gain various knowledge directly. By involving students in discussions and expressing opinions, they do not only rely on teaching from teachers, but also learn from each other from their friends (Holmes & Prieto-Rodriguez, 2018). This is in line with the Social Constructivism theory, which emphasizes that knowledge is built through social interaction (Geels, 2020). When students share ideas and arguments with each other, the learning process becomes more collaborative and in-depth (Gillies, 2019).

Seeing the development of students in each action continues to increase, it can be interpreted that learning Akidah Akhlak material Believing in Qada and Qadar through the true or false model can improve student learning outcomes. The results of this study are in line with research conducted by Rasyadi, where the results of this previous study showed an increase in student learning outcomes in cycle I from 57.14% to 87.24% in cycle II. Thus, it can be concluded that the application of the true or false learning model can improve motivation and learning outcomes.

## **CONCLUSION AND IMPLICATION**

### **Conclusion**

The implementation of the True or False learning model has shown significant improvements in both the learning outcomes and engagement of Class VI students at MIN 2 East Aceh in the subject of Akidah Akhlak, specifically on the topic of Belief in Qada and Qadar. Results from the classroom action research indicate that student learning completeness improved markedly, with the percentage of students achieving mastery rising from 74.10% in Cycle I to 85.19% in Cycle II. Additionally, the average student score increased, from 75 in Cycle I to 82.8 in Cycle II, reflecting a solid enhancement in understanding and retention of the material.

Beyond academic achievement, the True or False strategy also positively impacted student engagement and active participation. In Cycle I, student activity levels were recorded at 66.67%, which surged to an impressive 96.3% by Cycle II. This strategy's interactive nature encourages students to actively participate, discuss, and critically evaluate statements, thereby enhancing their grasp of core concepts. The overall improvements in both comprehension and participation underscore the effectiveness of the True or False learning model as a dynamic instructional approach for fostering deeper understanding and interest in the subject of Akidah Akhlak, particularly on complex topics like Qada and Qadar.

### Implication

The findings of this study suggest several important implications for enhancing learning outcomes and engagement in Akidah Akhlak classes, particularly for topics like Belief in Qada and Qadar. The successful application of the True or False learning model highlights its effectiveness as a method that can improve students' comprehension and retention. The increase in learning completeness, from 74.10% in Cycle I to 85.19% in Cycle II, alongside a rise in the average score from 75 to 82.8, demonstrates that this model not only supports students in mastering content but also contributes to their overall academic performance. Additionally, the increase in active student participation from 66.67% in Cycle I to 96.3% in Cycle II suggests that True or False activities are valuable for encouraging engagement and interaction.

These improvements imply that adopting interactive strategies like True or False can be particularly useful in subjects requiring a deep understanding of abstract concepts. By fostering a dynamic and participatory classroom environment, educators can facilitate better conceptual understanding and critical thinking. This model could be integrated more widely across similar Islamic studies topics to promote effective and engaging learning experiences for students, ultimately contributing to their moral and academic development.

### REFERENCES

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies*, 10(4), 86. <https://doi.org/10.3390/soc10040086>

Geels, F. W. (2020). Micro-foundations of the multi-level perspective on socio-technical transitions: Developing a multi-dimensional model of agency through crossovers between social constructivism, evolutionary economics and neo-institutional theory. *Technological Forecasting and Social Change*, 152, 119894. <https://doi.org/10.1016/j.techfore.2019.119894>

Gillies, R. M. (2019). Promoting academically productive student dialogue during collaborative learning. *International Journal of Educational Research*, 97, 200–209. <https://doi.org/10.1016/j.ijer.2017.07.014>

Holmes, K., & Prieto-Rodriguez, E. (2018). Student and staff perceptions of a learning management system for blended learning in teacher education. *Australian Journal of Teacher Education (Online)*, 43(3), 21–34.

Kumarassamy, J., & Koh, C. (2019). Teachers' perceptions of infusion of values in science lessons: a qualitative study. *Research in Science Education*, 49(1), 109–136. <https://doi.org/10.1007/s11165-017-9612-8>

Morris, T. H. (2019). Self-directed learning: A fundamental competence in a rapidly changing world. *International Review of Education*, 65(4), 633–653. <https://doi.org/10.1007/s11159-019-09793-2>

Munna, A. S., & Kalam, M. A. (2021). Teaching and learning process to enhance teaching effectiveness: a literature review. *International Journal of Humanities and Innovation (IJHI)*, 4(1), 1–4. <https://doi.org/10.33750/ijhi.v4i1.102>

Nurtanto, M., Fawaid, M., & Sofyan, H. (2020). Problem based learning (PBL) in

Industry 4.0: Improving learning quality through character-based literacy learning and life career skill (LL-LCS). *Journal of Physics: Conference Series*, 1573(1), 012006. <https://doi.org/10.1088/1742-6596/1573/1/012006>

Putra, R. M., Solekhah, S., Agustina, D. D., & Sobirov, B. (2021). Action Learning Strategy to Enhance Students Speaking Skill: A Classroom Action Research. *Anglophilic Journal*, 2(1), 37–54. <https://doi.org/https://doi.org/10.51278/anglophilic.v2i1.269>

Retnawati, H., Djidu, H., Kartianom, K., Apino, E., & Anazifa, R. D. (2019). Teachers' Knowledge about Higher-Order Thinking Skills and Its Learning Strategy. *Problems of Education in the 21st Century*, 76(2), 215–230.

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. <https://doi.org/https://doi.org/10.1016/j.cedpsych.2020.101860>

Shearer, R. L., Aldemir, T., Hitchcock, J., Resig, J., Driver, J., & Kohler, M. (2020). What Students Want: A Vision of a Future Online Learning Experience Grounded in Distance Education Theory. *American Journal of Distance Education*, 34(1), 36–52. <https://doi.org/https://doi.org/10.1080/08923647.2019.1706019>

Sun, Y., & Gao, F. (2019). Exploring the roles of school leaders and teachers in a school-wide adoption of flipped classroom: School dynamics and institutional cultures. *British Journal of Educational Technology*, 50(3), 1241–1259. <https://doi.org/https://doi.org/10.1111/bjet.12769>

Tharayil, S., Borrego, M., Prince, M., Nguyen, K. A., Shekhar, P., Finelli, C. J., & Waters, C. (2018). Strategies to mitigate student resistance to active learning. *International Journal of STEM Education*, 5(7), 1–16. <https://doi.org/https://doi.org/10.1186/s40594-018-0102-y>

Wibowo, S., Wangi, M. N., & Firdaus, F. M. (2025). The relevance of Vygotsky's constructivism learning theory with the differentiated learning primary schools. *Journal of Education and Learning (EduLearn)*, 19(1), 431–440. <https://doi.org/https://doi.org/10.11591/edulearn.v19i1.21197>