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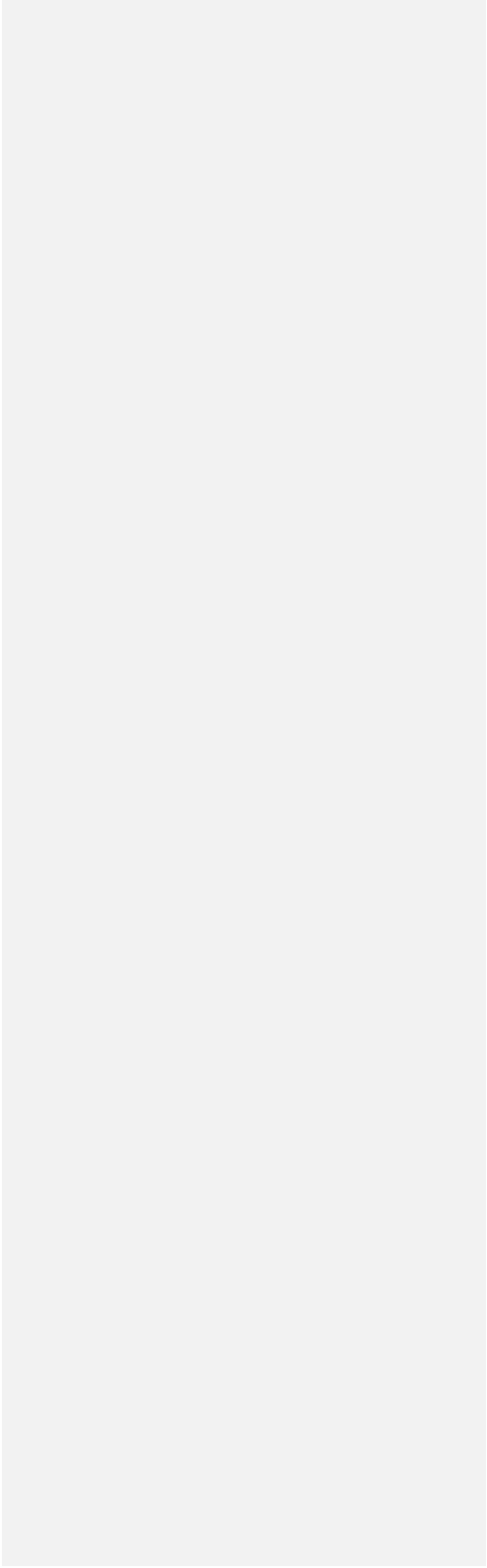
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**Kasetsart Journal of
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**Instructional Strategy Model Based on Reciprocal Teaching
Model (ISM-RTM) in Inclusive Classrooms in Higher
Education**

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Research Area:	Education

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1 **Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM) in**
2 **Inclusive Classrooms in Higher Education**

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Instructional strategies in inclusive classrooms in higher education have not become an
essential concern for lecturers who teach in inclusive classrooms. During this time,
instruction has not accommodated all students' needs and competencies with various
characteristics and learning styles. This research aims to identify students' opinions about
implementing the instructional strategy model based on the reciprocal teaching model (ISM-
RTM) in inclusive classrooms in higher education. Data were collected using classroom
observations, face-to-face interviews, and documentation on twenty-four teacher students,
consisting of twenty-two regular students (RS) and two students with special needs (SSN).
The study results revealed that the ISM-RTM could achieve competency, namely, develop
emotional skills, cognitive skills, and social skills in all students. In conclusion, the
implementation of ISM-RTM was suitable for instruction in inclusive classrooms with the
different characteristics, learning styles, and specificity of students in higher education.

Keywords: instructional strategy, reciprocal teaching model, inclusive classroom, higher
education

24
Introduction

Instruction in inclusive classrooms in higher education determines the competencies
that all students will obtain, including special needs students (SSN). The competencies that
all students will possess will largely determine students' success when entering the workforce
(Patrick, Worthen, & Frost, 2018). Learning must involve communication, collaboration,
innovation, and critical thinking to fulfill all the competencies needed of worked properly.
Lecturers must design instruction that can accommodate all students' needs with different

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1 characteristics, strengths, and different learning styles to fulfill all the skills students must
2 possess (Ungar, Margalio, Grobgeld, & Leshem, 2015).

3 To achieve instructional objectives that can meet the needs and competencies, the
4 lecturer must design instructional strategies that can accommodate students' characteristics.
5 Lecturers must create instructional strategies that can involve activeness, collaboration, and
6 respect for all the limitations and weaknesses of all students (Sayeski, 2009; Buli-Holmberg
7 & Jeyaprabhan, 2016). For the instructional strategy to be compatible with inclusive
8 classrooms' characteristics, the lecturer must understand all students' characteristics, learning
9 styles, weaknesses, and strengths. This is so that we can achieve all student competencies
10 following instructional objectives.

11 But the fact is, there are still many lecturers who do not understand, plan and
12 implement learning or instructional strategies that are friendly and follow the characteristics
13 of inclusive classrooms. Various problems faced by lecturers in inclusive classrooms in
14 higher education are still limited to the fulfillment of subject matter, without regard to the real
15 instructional objectives. Lecturers do not understand students' characteristics, especially SEN,
16 and continue using one-way instructional methods with the lecturer as a learning center.
17 The impact is that not all competencies that students should obtain can be optimally
18 accommodated. For this reason, instructional strategies should be an essential concern for
19 lecturers before carrying out learning to achieve instructional objectives following
20 predetermined.

21 One instructional strategy that can develop student skills in inclusive classrooms is an
22 instructional strategy model based on the reciprocal teaching model (ISM-RTM) (Mitrova,
23 2008). The ISM-RTM is a model that can maximize student competency in learning activities
24 for all students, including students with special needs. The ISM-RTM is a set of learning
25 plans that involve students in developing cognitive aspects influenced by interactions with

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1 people who have extensive knowledge, such as experts, educators, parents, and peers who
2 encourage students to have more expertise be more competent. The ISM-RTM involves all
3 class members learning from each other. Lecturers can facilitate learning by grouping
4 students in groups consisting of students with special needs and regular students, so they
5 teach one another. The purpose of the ISM-RTM is to provide reading or cognitive
6 understanding, provide learning experiences, and improve the affective aspects of mutual
7 respect and empathy between students to achieve learning targets following the lecturer's
8 goals (Mitchell, 2008).

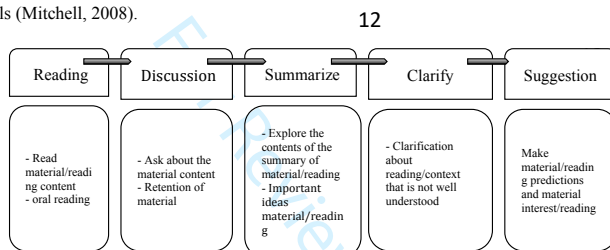


Figure 1 Reciprocal Teaching Model

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10 The purpose of this study is to explore student opinions about the competence of
11 implementation of the ISM-RTM in inclusive classrooms in higher education.

Methods

13 This study uses a qualitative approach to identify student opinions about the ISM-
14 RTM in inclusive classrooms in higher educations. A qualitative approach explores people's
15 opinions or thoughts more deeply about the topic being studied (Khotari, 2004).

Participants

17 Participants in this study came from one of the inclusive classrooms in the elementary
18 school curriculum development course at one of the private institutions of higher education in
19 West Java, Indonesia. The students involved were 5th-semester, with a total of twenty-four

1 (N=24) students consisting of twenty-two female and two male. The number of SSN in this classroom was two in the cerebral palsy category, and another was categorized as a slow learner. curriculum development foundation, curriculum components, curriculum design, and curriculum development models. In addition to regular learning needs, for research needs. Characteristics of a student with cerebral palsy in this class were an abnormality in lecturers created ISM-RTM. Table 1 below is an example of an ISM-RTM: one of the arms and fingers that could not be moved, so there was a limited movement in the right-hand area. While slow learner students with characteristics have low learning motivation, low learning outcomes, and weak interaction and communication, such was the case with the slow learner student in this study. Lecturers involved in learning were female lecturers with teaching experience for seven years and had competence in inclusive classroom learning.

Initial Instructional Activities

No	Material / RTM	Steps / Learning Sequence	Method	Media	Materials	Assessment	Time allocation
10	Reading	a. Lecturers provide reading material or references that students must read with their respective groups. b. Each group found a problem that occurred following the topic of the	Exercise Discussion	Infocus Powerpoint	e-book journal	Discussion rubric	20 minutes
Main Instructional Activities							
12	Discussion	a. The lecturer asks each group to divide their group members between both SSN and non-SSN. Some types of SSNs who have been accepted are slow learners, cerebral palsy, ADHD, learning difficulties, bipolar, limited vision, (low vision). This private university is one of the private universities in West Java's province with the application of Islamic Tawhid (Monotheism), which provides opportunity and justice for every student to get an education without exception. Classrooms are set according to class categories that include SSNs. Arrangement of physical facilities such as chairs, tables, or other learning tools illustrates the academic atmosphere that provides comfort for all students to develop all their potential, including SSNs. Instruction is carried out inside and outside the classroom with various instructional methods such as observation, discussion, and practical.	Jigsaw Jigsaw	Infocus Journal	e-book discussion rubric	20 minutes	
13	Discussion	b. Lecturers created small discussion groups with the same issue as other groups. A table, for example, is a table regarding a problem.	Discussion	Powerpoint	Journal	Discussion rubric	20 minutes
14	Discussion	c. Every group member who has the same topic discusses the topic regarding a problem.	Jigsaw	Infocus Journal	Rubric	35 minutes	
15	Summarize	a. Each group member returns to his topic from the expert group. b. Each origin group explains each topic that are considered the most important to be displayed.	Jigsaw	Infocus Journal	Rubric	35 minutes	
16	Summarize	a. Each group member returns to his topic from the expert group. b. Each origin group explains each topic that are considered the most important to be displayed.	Jigsaw	Infocus Journal	Rubric	35 minutes	
17	Summarize	a. Each group member returns to his topic from the expert group. b. Each origin group explains each topic that are considered the most important to be displayed.	Jigsaw	Infocus Journal	Rubric	35 minutes	
18	Summarize	a. Each group member returns to his topic from the expert group. b. Each origin group explains each topic that are considered the most important to be displayed.	Jigsaw	Infocus Journal	Rubric	35 minutes	
19	Summarize	a. Each group member returns to his topic from the expert group. b. Each origin group explains each topic that are considered the most important to be displayed.	Jigsaw	Infocus Journal	Rubric	35 minutes	
Closing Activities							
20	Suggestion	a. The lecturer explains the topic that each group will discuss. b. Lecturer makes a conclusion	Expository	-	-	-	15 minutes

21 The advantages of today's learning are that all students, including SSN, actively discussed and gave opinions. Each group leader must practice it. Weaknesses: There are still students who are not confident when presenting or speaking in front of the class, including SSN, so they must practice it. For future efforts, SSN must be given a "bigger" portion so that their self-confidence is higher and their motivation for learning will develop, with five meetings, with each meeting consisting of 1.5 hours to 2 hours of face-to-face learning. Instructional materials included the curriculum's basic concepts, Data Collection

Data collection was done through several data sources, namely classroom observation, interviews, and documentation. Observations were made on the learning process using the

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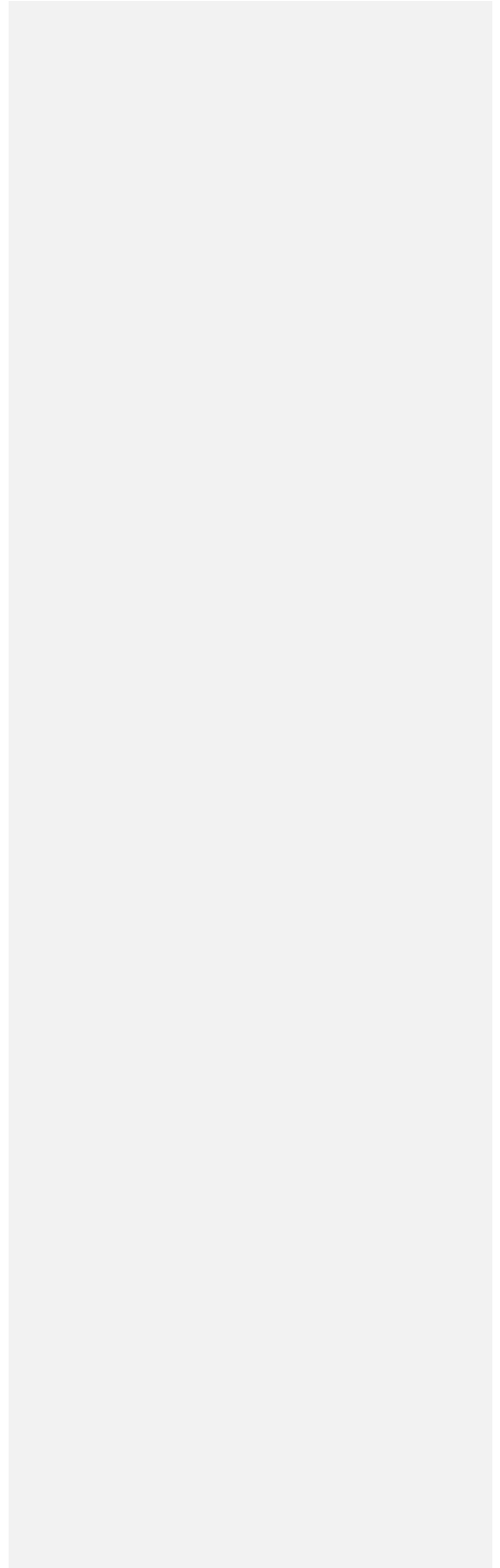
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1 ISM-RTM from the beginning of instruction to instruction. Observations were made to
document the instructional process between lecturers and students and students and students.
The instrument used in the observation was an observation guide related to instruction using
the ISM-RTM. The interview was conducted with a semi-structured face-to-face session,
which had been designed to identify SNSs opinions. The questions provided consisted of
twelve open questions to get more in-depth data. Two experts validated interview questions
with instructional design and inclusive education expertise, which upon revisions were made
according to the expert's direction.

The interview stage was conducted for three days, with ten people every day, with an
average of 3-4 hours. Primary data was collected in the form of video and audio recordings,
especially the learning process based on ISM-RTM. All learning activities were recorded
using a video camera and voice message. One camera was always in front of the class, while
the other camera followed the lecturer and student activities when interacting. There were
fourteen observation activities with 1.5-2 hours of learning. Researchers only chose five
observations as data to be analyzed because the ISM-RTM had been implemented well. The
results of these recordings are transcripts to be used as a more detailed data analysis.
Transcript results and interview results were analyzed using qualitative data analysis to obtain
further results.

Data Analysis

Data analysis was performed using a qualitative analysis model (Spradley, 2016;
Jamaris & Hartati, 2017) consisting of three steps, namely: (1) thematic analysis of all
participants, observing learning activities from the beginning of learning to the end of
learning both between teacher and student, as well as students and students, making field
notes, coding, and interviewing students; (2) within-participants thematic analysis,
identifying common themes from each learning activity; (3) cross participant analysis,

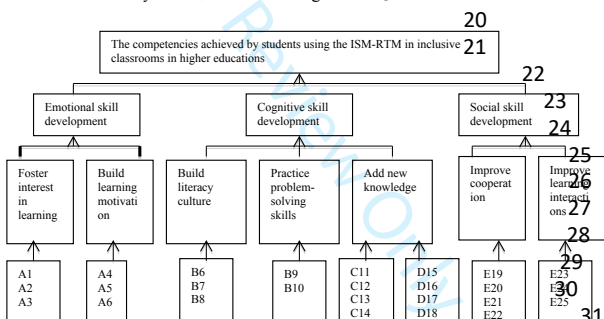
1 identifying common themes among participants. The final step in data analysis was to
 2 produce a cultural theme to implement the ISM-RTM in inclusive classrooms in higher
 3 educations. Table 2 describes the process used in the results of data analysis:

4 **Table 2** Qualitative data analysis

Included Term	Semantic Relation	Cover Term	
-Increase the desire to learn	Is part of	Emotional skill development	11
-Increase learning motivation			12
-Growing a culture of literacy problem-solving skills	Is part of	Cognitive skill development	13
-Practicing-Adding new knowledge			14
-Improve collaboration	Is part of	Social skill development	15
-Improve learning interactions			16

6 **Results and Discussion**

7 The results of data analysis are illustrated in Figure 2 below:



8 **Figure 2** Competencies achieved by students using the ISM-RTM model in inclusive

9 classrooms

10 Notes:

- 11 A1: Lecturer invites students to sing along
- 12 A2: Lecturer makes a game in class
- 13 A3: Lecturer presents an example case
- 14 A4: Lecturer explains the benefits of the lesson
- 15 A5: Lecturer explains the relevance of the lesson to daily life
- 16 A6: Lecturer asks about problems that are relevant to the topic
- 17 B6: Lecturer gives the topic of reading
- 18 B7: The lecturer provides a chance for each student to make important points from reading
- 19 B8: Students focus on reading material that is not yet understood or that is important to discuss
- 20 B9: Students look for reading material that is the same as the topic to be addressed
- 21 B10: Lecturer makes opening questions for a case
- 22 C11: Lecturer provides opportunities to each group member to discuss the topic according to the reading

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- C12: Each group member presents reading material that is the focus and topic according to their task.
- C13: Each group member exchanges reading material with other group members with the same topic.
- C14: Each group member with the same topic and focus has a discussion.
- D15: Each group member returns to his group early to discuss.
- D16: Each group member provides opinions and solutions to the topic in the form of a problem.
- D17: The lecturer allows each group to present the problem according to the topic.
- D18: The lecturer gives clarification and understanding to all students.
- E19: Students work and study together in a group.
- E20: Regular students discuss with SSNs.
- E21: Regular students listen to SSNs' opinions.
- E22: All students play together in a group.
- E23: Each student gives an opinion in groups.
- E24: SSNs give an opinion in the group.
- E25: Each student is involved in a presentation (question and answer).

Emotional skill development

Emotional skills development is an ability that students will possess after undergoing learning, especially using the ISM-RTM. Emotional skills development helps foster student interest in learning and fosters a motivation to learn (Vongkulluksn, Matewos, Sinaha, & Marsh, 2018; Foster, 2019). Students' positive and negative opinions towards emotional development give more positive impacts than negative impacts to develop development emotional competence better. The most challenging thing for a lecturer when teaching lecture material is to foster student interest in learning so that students want to learn the subject matter. This is related to the background of each different student. Not every student has the same learning ability and academic achievement. In inclusive classrooms, with differences and characteristics, a lecturer must invite all students to have a positive interest in learning (Pearson et al., 2019; Van der Bij, Geijsel, Garst, & Ten Dam, 2016).

The use of ISM-RTM through 5 stages of activity provides free space for lecturer to foster student interest in learning. Students are given activities that directly practice what will be learned without dictating or explaining at length and without knowing the material substance. This is consistent with the opinion of SSN below:

"For me, it is challenging to start learning because of the limitations of my movements. Sometimes I am shy and not open enough to begin studying. But when a lecturer starts learning by giving an example of someone's success, I become interested in learning".

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1 The use of methods adapted to students' ability, encouragingly, will increase student
2 interest in learning (Johnson, 2017). Besides, lecturers can explain learning by linking subject
3 matter with a person's success story to learn the material. Moreover, such is the case with the
4 characteristics of students who have different backgrounds, diversity, and learning styles. In
5 the ISM-RTM, it is hoped that an exciting and enjoyable learning atmosphere can give
6 students an idea of their learning goals and the benefits that will be achieved in the future.

7 All students are actively involved in every learning activity, including students with
8 special needs. For RS, the use of the ISM-RTM can foster motivation to learn, such as the
9 opinion below:

10 "It is important for me to have the motivation to learn so that I know what I am
11 learning and what the benefits of the lesson are. My lecturer has given a concrete
12 example in a game that can motivate me to complete the instructional objectives without
13 knowing before".

14 Fostering motivation to learn for students aims to understand the subject matter's
15 purpose to be learned. Of course, this is related to the interest in learning, which also grows at
16 the beginning of learning. High motivation to learn will make it easier for students to achieve
17 the stated lesson objectives before learning (Billingsley, Thomas, & Webber, 2018).

18 **Cognitive skills development**

19 Cognitive skills development is the ability to think from remembering to evaluation
20 and creation, which is done by combining several ideas and ideas to solve problems.
21 Student's opinions on developing cognitive skills provided consisted of more positive
22 opinions than negative opinions. The use of the ISM-RTM model provides an opportunity for
23 students to solve problems through reading activities, discussions, understanding the contents
24 of the material read, and classifying the reading contents to conclude a particular topic. This
25 ISM-RTM model's benefits can improve student literacy, problem-solving skills, and ability

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1 to gain new knowledge, which has been an issue in previous lessons or even material that
2 never been discussed at previous meetings.

3 The use of the ISM-RTM has provided opportunities for every student to be able to
4 practice problem-solving skills. Practicing problem-solving is very important for all students,
5 including students with special needs (Karatas & Baki, 2017). It is hoped that this exercise is
6 a positive step when they work at an institution after college. Students are expected to
7 provide solutions to problems that occur at work as part of problem-solving. This is related to
8 SSN's opinion:

9 "I am ashamed to express opinions in-group members, but now I am given the
10 opportunity even encouraged by friends to be able to give opinions and ideas so that I
11 feel the same as my friends when they express an opinion."

12 Both student opinions give an overview that the use of the ISM-RTM provides an
13 opportunity for every student to be active, express opinions and ideas related to problems or
14 questions that must be solved together. Equal opportunity without discrimination and fairness
15 for each group member in expressing opinions can practice problem-solving skills more
16 clearly (Siegel-Hawley & Frankenberg, 2012).

17 Each student can express opinions or ideas that are processed from various sources to
18 be discussed together in a group forum. Reading activities and expressing their opinions are
19 felt by students to provide many benefits (Rogers & Ardoin, 2018). Among other things, add
20 insight into knowledge, understand the renewability of the source of knowledge from books,
21 journals, and opinions. And can solve problems faced by students related to the subject
22 matter. This benefit can be illustrated by one of the following regular students:

23 "I am lazy to read, but with the learning process of this RTM model, I have to read,
24 and it helps me to be diligent in reading. This greatly affects my reading activity."

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1 The ISM-RTM provides new knowledge from the subject matter being studied and
2 trains problem solving and critical thinking. Through reading activities at the beginning of
3 instruction, students must understand the material, process, and produce opinions following
4 the theory and dynamics of the development of developing science (Molotja & Themane,
5 2018). 11

12
13 **Social skills development**

14 Social skills describe social interaction both between lecturers and students and
15 between students and students. Student's opinions about developing social skills provided
16 consisted of more positive opinions than negative opinions. Social skills describe social
17 interaction both between lecturers and students and between students and students. Besides,
18 good cooperation between lecturers and students and students and students will improve
19 social skills (Doyle, 2012). 22

20 The ISM-RTM provides opportunities for each student to understand the topic being
21 studied through discussion, question and answer, and debate activities. Through the ISM-
22 RTM, starting from the beginning of learning, lecturers have designed learning so that
23 activities are carried out in groups. The information obtained by each group member
24 and complements each other. 29

25 Some positive opinions of this collaboration, according to students, can hone
26 another's empathy, mutual respect for opinions and increase learning activity (Elfrida Yanti
27 Siregar et al., 2019). In-group activities, selfishness can usually be reduced because there is
28 mutual respect. Even such, selfish feelings of acceptance of opinions are often seen
29 in discussion activities, especially for regular students. In addition to positive opinions, there are
30 negative opinions from collaborative activities carried out by students, such as if they do not
31 agree or disagree with SSNs; it is not uncommon for SSNs to get bullied, especially in the
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1 form of verbal expression. This feeling of getting bullied remains when SSNs attend group
2 discussion forums. This opinion can be seen in the opinion of SSNs below:
3 "I was a bit worried when my discussion and opinion were not considered. I am afraid
4 of getting bullied by other students. This is because several times, I've felt it".
5 The ISM-RTM can train this sense of cooperation through the stages of the learning
6 model. Like the discussion stage, summarize and clarify stages, which provide equal
7 opportunities for each group member to express their opinions. Of course, supervision from
8 the lecturer is required to proceed according to the stages and achievements key in
9 implementing ISM-RTM. 17
10 Every step in the ISM-RTM provides opportunities between lecturers and students
11 and students and students in all directions of learning interactions. The interaction of learning
12 in inclusive classrooms is the key to success in learning. Without interaction, lecturers find it
13 difficult to know their achievement or understanding of the material being studied. 23
14 In inclusive classrooms where students have diverse characteristics, learning
15 interactions become unique (Rasmitadila, Samsudin, & Prasetyo, 2019). Especially the
16 interaction between regular students and special needs students. The interaction between
17 two must often use different methods and requires patience for the interaction to take place.
18 For regular students, they should assume that SSNs also get the same opportunities in
19 learning, expressing opinions so that they still get equal rights as other students. The RS must
20 understand the limitations and weaknesses of every SSN so that the attendance and opinions
21 of SSNs are as important as the presence and opinions of the RS. 36
22 Differences in characteristics and the diversity of learning styles in inclusive
23 classrooms should be a concern for lecturers. This greatly affects the achievement of all
24 students and the class to understand the material being studied. Interaction in learning is

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1 about teachers knowing about the achievement of learning outcomes and understanding what
2 difficulties students face when studying (Harper, 2018). 6

3 **Conclusion and Recommendation**

4 Student opinions about the use of the ISM-RTM positively impacted emotional skills
5 development, cognitive skills, and social skills for all students, including SSNs. Emotional
6 skills development was evident by the growing interest in learning and increased motivation
7 to learn. The development of cognitive skills was shown by the growth of a literacy culture,
8 practice as a problem solver, and increased new knowledge for students related to the topic or
9 material being studied. The development of social skills is shown by the formation of
10 cooperation between students and the occurrence of interactions in learning activities.

11 The use of the ISM-RTM is very suitable for inclusive classrooms in higher
12 education. The ISM-RTM can accommodate all the needs of students with various
13 characteristics, learning styles, and strengths and weaknesses when implementing learning.

14 **Acknowledgments**

15 This work was supported by the Ministry of Research, Technology, and Higher
16 Education of the Republic of Indonesia through Grant the Assistance with Special Learning
17 Innovations in Higher Education, 2019.

18
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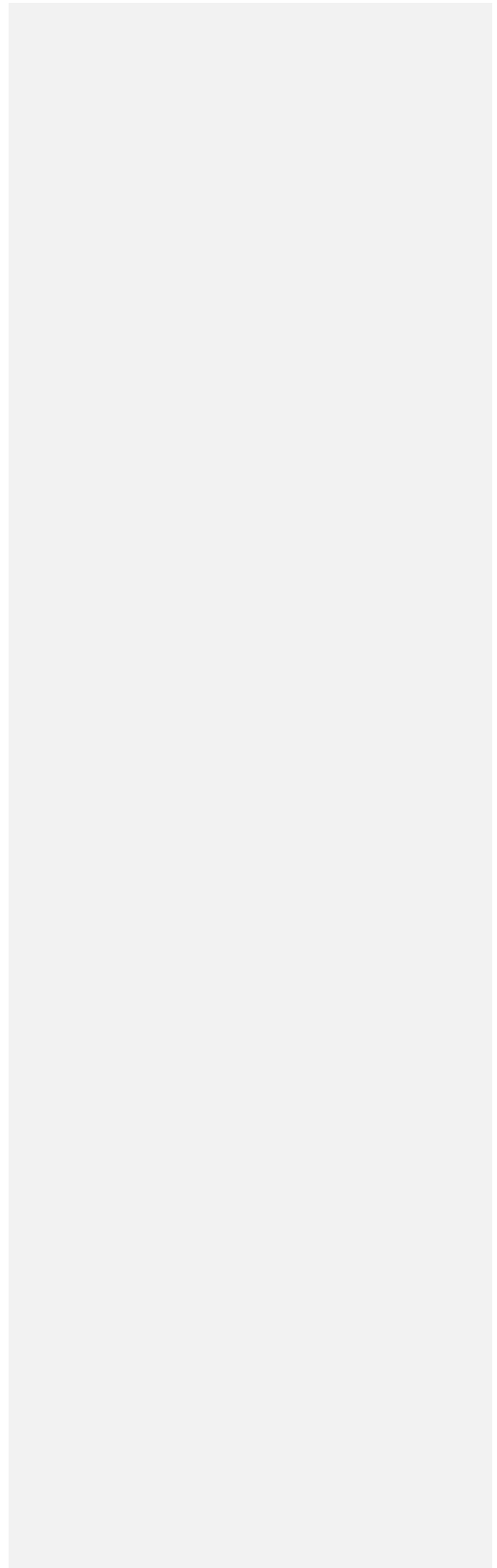
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2. Bukti konfirmasi revisi pertama artikel dari Editor dan Reviewer (25 April 2021)



KJSS: Decision on Manuscript ID KJSS-2021-0060 Eksternal > Kotak Masuk x

Yothin Sawangdee <onbehalf@manuscriptcentral.com> 25 Apr 2021 12.52 ☆ ↶ ⋮
kepada saya, KJSS ▾

🌐 Inggris ▾ > Indonesia ▾ **Terjemahkan pesan** Nonaktifkan untuk: Inggris x

25-Apr-2021

Dear Dr. Rasmitadila: Manuscript ID **KJSS-2021-0060** entitled "Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM) in Inclusive Classrooms in Higher Education" which you submitted to the Kasetsart Journal of Social Sciences, has been reviewed. The comments of the reviewer(s) are included at the bottom of this letter.

The reviewer(s) have recommended publication, but also suggest some minor revisions to your manuscript. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

To revise your manuscript, log into <https://mc03.manuscriptcentral.com/kjss> and enter your Author Center, where you will find your manuscript title listed under "Manuscripts with Decisions." Under "Actions," click on "Create a Revision." Your manuscript number has been appended to denote a revision.

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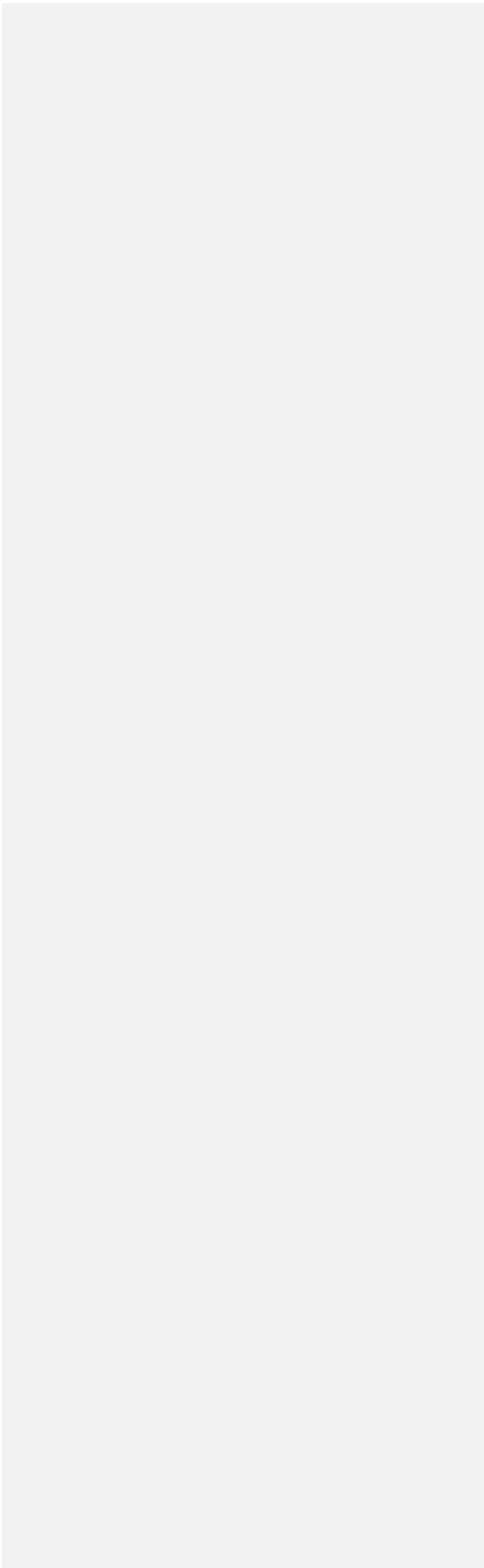
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Sincerely,
Dr. Yothin Sawangdee
Section Editor
Kasetsart Journal of Social Sciences

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Once again, thank you for submitting your manuscript to the Kasetsart Journal of Social Sciences and I look forward to receiving your revision.

Sincerely,
Dr. Yothin Sawangdee
Section Editor
Kasetsart Journal of Social Sciences

Reviewer(s) Comments to Author:

Reviewer: 1

Comments to the Author
Revision based on comments on the manuscript!

Reviewer: 2

Comments to the Author
The results of the research can solve problems in the learning activities of students with special needs in higher education.

To make the manuscript perfect. Please revise the manuscript according to the suggestions that have been given

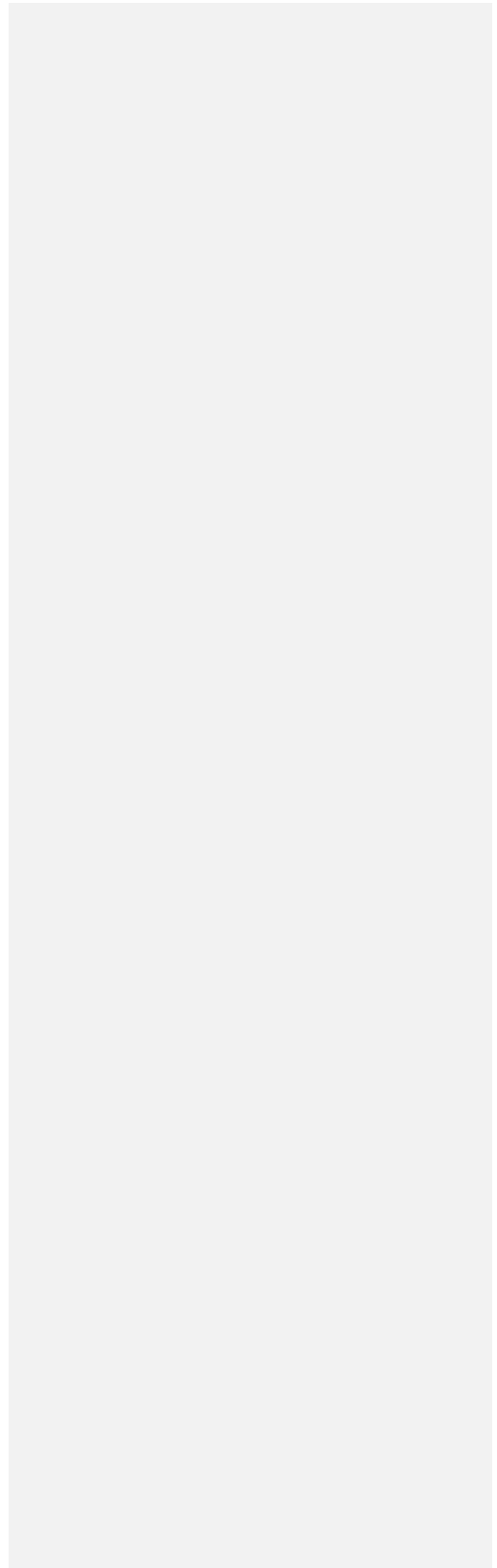
Section Editor's Comments to Author:

Section Editor: 1
Confidential Comments to the Author:
Please edit and revise based on the commentation and suggestions from the peer.

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3. Bukti konfirmasi revisi pertama artikel dan resubmit artikel revisi (5 Mei 2021)



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Review's Comment & Response Form on KJSS: KJSS-2021-0060

Reviewer	Reviewer's Comment	Respond to Reviewer
1	The title is still too general, it does not describe the content of the research. Is this a case study, survey or something?	The title has been revised in accordance with reviewer comments. (page 1)
	Previously, explain the methods used, what instruments were used, whether the instruments for regular students and special needs were the same or different, how the data were analyzed. Explain before this part!	This section has been revised and highlighted on page 1, namely the instruments used and how to analyze them (page 1)
	Where did this fact come from? Is it from literature studies or case studies or where? If from a literature study, add references, and if from case studies, clarify when and where. Please explain this part!	This section has been revised by adding it based on the literature and sources used (pages 2-3)
	Reinforce this section with references, why instructional strategies should be an essential concern for lecturers!	This section has been revised by adding it based on the literature and sources used (page 2, paragraph 2)
	Where is the explanation for this? Please explain the meaning of Figure 1! And, does this have a reference?	This section has been revised by adding the definition from Figure 1 (pages 3-4)
	In this section, the instruments must be created in sub-sections. The contents must explain what instruments are	The instrument has been created with sub-sections. The content of the subsection consists of the instruments

	used for each data collection technique. Then what form were the 12 questions in this study and were used in what collection techniques? What instruments were used by the observer in this study?	used in observation and interviews. Revisions can be seen on page 7
	What types, there are many types of qualitative research.	This section has been added as part of the case study (page 4)
	Explain whether all the participants ended up being interviewed or what!	In this section, it was previously explained that all students were interviewed (page 7)
	What instrument does this observer use? Save this section in a new subsection containing research instruments	The instrument used by the observer has been added to a sub-section of the instruments menu (page 7)
	Make an explanation for each image presented!	All pictures consisting of the steps in figure 2 have been described (page 9)
	Explain in steps (Reading, Discussion, Summarize, Clarify, or Suggestion) and what actions ISM-RTM can develop emotional skills!	This explanation has been explained on page 10 in the second paragraph
	Explain in steps (Reading, Discussion, Summarize, Clarify, or Suggestion) and what actions ISM-RTM can develop cognitive skills!	This explanation has been explained on page 9 in the fourth paragraph
	Explain in steps (Reading, Discussion, Summarize, Clarify, or Suggestion) and what actions ISM-RTM can develop social skills!	This explanation has been explained on page 12 in the third paragraph
2	Keywords should not be the same as the title	We think that the keywords used are the most important keywords so that the paper can be read by readers in general
	Describe in detail how this increase occurred in the research results	This section has been described in the discussion section (page 10 paragraph 4), so that the conclusion section provides a synthesis in accordance with the results
	Please explain in detail on the research results how this increase occurred	This section has been described in the discussion section (page 12 paragraph 2), so that the conclusion section provides a synthesis in accordance with the results

1

2 **Other:**

3 We have revised the contents of the manuscript according to the comments of the two

4 reviewers. We have highlighted each change to make it easier for reviewers to re-examine the

1 revised results. We hope that this revision can make the manuscript more perfect so that it will
2 become a reference for other readers.

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8 **Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM): Case** 9 **Study in Inclusive Classrooms in Higher Education**

10

11 Instructional strategies in inclusive classrooms in higher education have not become an
12 essential concern for lecturers who teach in inclusive classrooms. During this time, instruction
13 has not accommodated all students' needs and competencies with various characteristics and
14 learning styles. This research aims to identify students' opinions about implementing the
15 instructional strategy model based on the reciprocal teaching model (ISM-RTM) in inclusive
16 classrooms in higher education. Data were collected using classroom observations, and face-
17 to-face interviews with 24 teacher students (22 females; 2 males), consisting of 22 regular
18 students (RS) and 2 students with special needs (SSNs). Data analysis used a qualitative
19 analysis model with three steps. The study results revealed that the ISM-RTM could achieve
20 competency, namely, develop emotional skills, cognitive skills, and social skills in all students.
21 In conclusion, the implementation of ISM-RTM was suitable for instruction in inclusive
22 classrooms with the different characteristics, learning styles, and specificity of students in
23 higher education

24 *Keywords:* instructional strategy,; reciprocal teaching,; inclusive classroom, ;higher education

25

26 **Introduction**

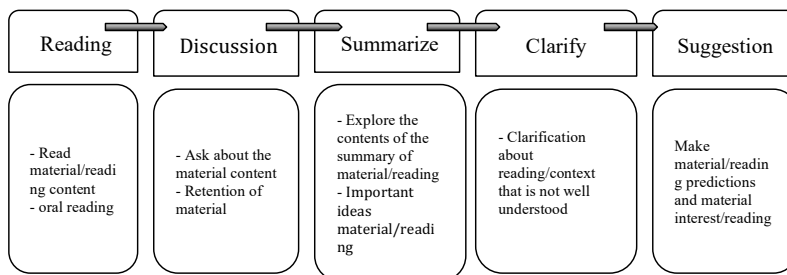
1 Instruction in inclusive classrooms in higher education determines the competencies
2 that all students will obtain, including special needs students (SSN). The competencies that all
3 students will possess will largely determine students' success when entering the workforce
4 (Patrick, Worthen, & Frost, 2018). Learning must involve communication, collaboration,
5 innovation, and critical thinking to fulfill all the competencies needed of worked properly.
6 Lecturers must design instruction that can accommodate all students' needs with different
7 characteristics, strengths, and different learning styles to fulfill all the skills students must
8 possess (Ungar, Margaliot, Grobgeld, & Leshem, 2018).

9 To achieve instructional objectives that can meet the needs and competencies, the
10 lecturer must design instructional strategies that can accommodate students' characteristics.
11 Lecturers must create instructional strategies that can involve activeness, collaboration, and
12 respect for all the limitations and weaknesses of all students (Sayeski, 2009; Buli-Holmberg &
13 Jeyaprabhan, 2016). For the instructional strategy to be compatible with inclusive classrooms'
14 characteristics, the lecturer must understand all students' characteristics, learning styles,
15 weaknesses, and strengths. This is so that we can achieve all student competencies following
16 instructional objectives (Gregory & Chapman, 2012).

17 But the fact is, there are still many lecturers who do not understand, plan and implement
18 learning or instructional strategies that are friendly and follow the characteristics of inclusive
19 classrooms. Various problems faced by lecturers in inclusive classrooms in higher education
20 are still limited to the fulfillment of subject matter, without regard to the real instructional
21 objectives (Molina et al., 2016; Ostrow Michel, 2020). Lecturers do not understand students'
22 characteristics, especially SSN, and continue using one-way instructional methods with the
23 lecturer as a learning center. The impact is that not all competencies that students should obtain
24 can be optimally accommodated. For this reason, instructional strategies should be an essential

1 concern for lecturers before carrying out learning to achieve instructional objectives following
2 predetermined (Ávila et al., 2019).

3 One instructional strategy that can develop student skills in inclusive classrooms is an
4 instructional strategy model based on the reciprocal teaching model (ISM-RTM) (Mitchell,
5 2008). The ISM-RTM is a model that can maximize student competency in learning activities
6 for all students, including students with special needs (Cárdenas & López-Pinzón, 2019;
7 Palincsar, 2012); Brown & Palincsar, 1987), a set of learning plans that involve students in
8 developing cognitive aspects influenced by interactions with people who have extensive
9 knowledge, such as experts, educators, parents, and peers who encourage students to have more
10 expertise be more competent (Clark, 2003; Rosenshine & Meister, 1994). Meanwhile, ISM-
11 RTM involves all class members learning from each other. Lecturers can facilitate learning by
12 grouping students in groups consisting of students with special needs and regular students, so



13 they teach one another. The purpose of the ISM-RTM is to provide reading or cognitive
14 understanding, provide learning experiences, and improve the affective aspects of mutual
15 respect and empathy between students to achieve learning targets following the lecturer's goals
16 (Mitchell, 2008).

17 **Figure 1** Reciprocal Teaching Model (Mitchell, 2008)

18 ISM-RTM is an instructional model with 5 stages with each stage consisting of specific
19 activities. First stage is reading that provides the opportunity for students to read material

1 (reading text) which is done by reading silently, or orally according to the student's abilities.
2 The second stage is discussion that carried out by asking a number of questions about the
3 reading content and providing opportunities for students to provide additional questions. This
4 discussion aims to provide an in-depth understanding of the reading content, through
5 interesting questions in order to obtain interesting information from the content / subject matter.
6 The third stage is summarize that make statement sentences related to points or conclusions
7 from the content/subject matter, through discussions that have been carried out. The fourth
8 stage is clarify or confirm the content/material that has been studied if there are still statements
9 that are doubtful or unclear. The fifth stage is suggestion that give suggestions and ask students
10 to make a "prediction" of the next content / material that involves previous knowledge through
11 symbols, pictures, graphics or issues that aim to make students have an interest in learning the
12 next lesson content (Mitchell, 2008).

13 The purpose of this study is to explore student opinions about the competencies of
14 implementation of the ISM-RTM in inclusive classrooms in higher education.

15 **Methods**

16 This study used a qualitative approach with a case study to identify student opinions
17 about the ISM-RTM in inclusive classrooms in higher educations. A qualitative approach
18 explores people's opinions or thoughts more deeply about the topic being studied (Khotari,
19 2004).

20 ***Participants***

21 Participants in this study came from one of the inclusive classrooms in the elementary
22 school curriculum development course at one of the private institutions of higher education in
23 West Java, Indonesia. The students involved were 5th-semester, with a total of twenty-four
24 (N=24) students consisting of twenty-two females and two males with an age range of 18-19

1 years old. The number of SSN (2 males) in this classroom was two in the cerebral palsy
2 category, and another was categorized as a slow learner.

3 Characteristics of a student with cerebral palsy in this class were an abnormality in one
4 of the arms and fingers that could not be moved, so there was a limited movement in the right-
5 hand area. While slow learner students with characteristics have low learning motivation, low
6 learning outcomes, and weak interaction and communication, such was the case with the slow
7 learner student in this study. Lecturers involved in learning were female lecturers with teaching
8 experience for seven years and had competence in inclusive classroom learning.

9 ***Material and Methods***

10 The research was conducted in one of the private universities that openly accept all
11 students' characteristics, both RS and SSN. Some types of SSNs who have been accepted are
12 slow learners, cerebral palsy, ADHD, learning difficulties, bipolar, limited vision (low vision).
13 This private university is one of the best universities in West Java's province with the
14 application of Islamic Tauhid (Monotheism), which provides opportunity and justice for every
15 student to get an education without exception.

16 Classrooms are set according to class categories that have SSNs. Arrangement of
17 physical facilities such as chairs, tables, or other learning tools illustrates the academic
18 atmosphere that provides comfort for all students to develop all their potential, including SSNs.
19 Instruction is carried out inside and outside the classroom with various instructional methods
20 such as observation, discussion, and practice.

21 During this study, the course used was the elementary school's curriculum
22 development, with five meetings, with each meeting consisting of 1.5 hours to 2 hours of face-
23 to-face learning. Instructional materials included the curriculum's basic concepts, curriculum
24 development foundation, curriculum components, curriculum design, and curriculum

1 development models. In addition to regular learning needs, for research needs, lecturers created

2 ISM-RTM. Table 1 below is an example of an ISM-RTM:

3 **Table 1** An example of Implementation of ISM-RTM

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No	Material / Topic of learning	RTM	Steps / Learning Sequence Learning	Method	Media	Materials	Assessment	Time allocation
1	The basic concept of curriculum							
Initial instructional activities								
		Reading	a. Lecturers provide reading material or references that students must read with their respective groups. b. Each group found a problem that occurred following the topic of the	Exercise Discussion	Infocus Powerpoint	e-book journal	Discussion rubric	20 minutes
Main Instructional Activities								
		Discussion	a. The lecturer asks each group to divide their group members between choosing one topic to focus on. b. Lecturers created small discussion groups with the same issue as other groups or expert groups. c. Every group member who has the same topic discusses the topic regarding a problem.	Jigsaw Discussion	Infocus Powerpoint	e-book journal	discussion rubric	20 minutes
		Summarize	a. Each group member returns to his homegroup. b. Each origin group explains each topic from the expert group. c. Each origin group presents the topics that are considered the most important to be displayed.	Jigsaw Discussion of	Infocus Powerpoint	Journal e-book	Rubric	35 minutes
		Clarify	a. Each group discusses, and the lecturer allows each group to argue with each other and give an opinion	Discussion	Infocus Powerpoint	Journal e-book	-	25 minutes
Closing Activities								
		Suggestion	a. The lecturer explains the topic that each group still debates. b. Lecturer makes a conclusion	Expository			-	15 minutes
<p>Lecturer Reflection on instruction:</p> <p>The advantages of today's learning are that all students, including SSN, actively discussed and gave opinions. Each group leader provided equal opportunity for group members to be able to give their opinions. Each group could already explain the purpose of the topic being studied.</p> <p>Weaknesses: There are still students who are not confident when presenting or speaking in front of the class, including SSN, so they must practice often.</p> <p>For future efforts, SSN must be given a "bigger" portion so that their self-confidence is higher and their motivation for learning will be better.</p>								

5 **Data Collection**

6 Data collection was done through several data sources, namely classroom observation,

7 interviews, and documentation. Observations were made on the learning process using the

8 ISM-RTM from the beginning of instruction to instruction. Observations were made to

1 document the instructional process between lecturers and students; students and students. The
2 instrument used in the observation was an observation guide related to instruction using the
3 ISM-RTM. The interview was conducted with a semi-structured face-to-face session, which
4 had been designed to identify SNSs opinions. The questions provided consisted of twelve open
5 questions to get more in-depth data. Two experts validated interview questions with
6 instructional design and inclusive education expertise, which upon revisions were made
7 according to the expert's direction.

8 **The interview stage was conducted for three days, with ten people of 24 students every**
9 **day, with an average of 3-4 hours.** Primary data was collected in the form of video and audio
10 recordings, especially the learning process based on ISM-RTM. All learning activities were
11 recorded using a video camera and voice message. One camera was always in front of the class,
12 while the other camera followed the lecturer and student activities when interacting. There were
13 fourteen observation activities with 1.5-2 hours of learning. Researchers only chose five
14 observations as data to be analyzed because the ISM-RTM had been implemented well. The
15 results of these recordings are transcripts to be used as a more detailed data analysis. Transcript
16 results and interview results were analyzed using qualitative data analysis to obtain further
17 results.

18 ***Instruments***

19 The instruments used consisted of two types, namely observation and interview.
20 The observation instrument consists of an observation guide based on the conceptual definition
21 of the ISM-RTM. The guide focuses on 5 steps that have been designed in the form of learning
22 content. Researchers must ensure that each step has been carried out by the lecturer (given a
23 checklist). Meanwhile, the interview instrument consisted of twelve open questions, which
24 were given to RSs and SSNs. The interview technique used was a semi-structured and open-
25 ended interview type. So that researchers can explore every question and answer from each

1 student. The interview instruments consist of three general parts, namely students'
 2 understanding of ISM-RTM, the benefits of using ISM-RTM, and obstacles in implementing
 3 ISM-RTM in an inclusive classroom. Both RSs and SSNs are given the same questions, so that
 4 researchers can explore each student's answer, although in the end there are answers that vary
 5 depending on student characteristics.

6 ***Data Analysis***

7 Data analysis was performed using a qualitative analysis model (Spradley, 2016;
 8 Jamaris & Hartati, 2017) consisting of three steps, namely: (1) thematic analysis of all
 9 participants, observing learning activities from the beginning of learning to the end of learning
 10 both between teacher and student, as well as students and students, making field notes, coding,
 11 and interviewing students; (2) within-participants thematic analysis, identifying common
 12 themes from each learning activity; (3) cross participant analysis, identifying common themes
 13 among participants. The final step in data analysis was to produce a cultural theme to
 14 implement the ISM-RTM in inclusive classrooms in higher educations. Table 2 describes the
 15 process used in the results of data analysis:

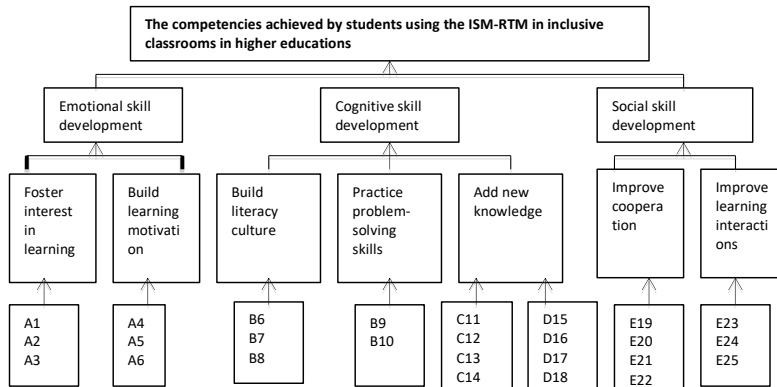
16 **Table 2** Qualitative data analysis

Included Term	Semantic Relation	Cover Term
-Increase the desire to learn -Increase learning motivation	Is part of	Emotional skill development
-Growing a culture of literacy problem-solving skills -Practicing-Adding new knowledge	Is part of	Cognitive skill development
-Improve collaboration -Improve learning interactions	Is part of	Social skill development

17

18 **Results and Discussion**

1 The results of data analysis are illustrated in Figure 2 below:



2 **Figure 2** Competencies achieved by students using the ISM-RTM model in inclusive
3 classrooms

4 Notes:

- 5 A1: Lecturer invites students to sing along
6 A2: Lecturer makes a game in class
7 A3: Lecturer presents an example case
8 A4: Lecturer explains the benefits of the lesson
9 A4: Lecturer explains the relevance of the lesson to daily life
10 A5: Lecturer asks about problems that are relevant to the topic
11 B6: Lecturer gives the topic of reading
12 B7: The lecturer provides a chance for each student to make important points from reading
13 B8: Students focus on reading material that is not yet understood or that is important to discuss
14 B9: Students look for reading material that is the same as the topic to be addressed
15 B10: Lecturer makes opening questions for a case
16 C11: Lecturer provides opportunities to each group member to discuss the topic according to the reading
17 C12: Each group member presents reading material that is the focus and topic according to their task
18 C13: Each group member exchanges reading material with other group members with the same topic
19 C14: Each group member with the same topic and focus has a discussion
20 D15: Each group member returns to his group early to discuss
21 D16: Each group member provides opinions and solutions to the topic in the form of a problem
22 D17: The lecturer allows each group to present the problem according to the topic
23 D18: The lecturer gives clarification and understanding to all students
24 E19: Students work and study together in a group
25 E20: Regular students discuss with SSNs
26 E21: Regular students listen to SSNs' opinions
27 E22: All students play together in a group
28 E23: Each student gives an opinion in groups
29 E24: SSNs give an opinion in the group
30 E25: Each student is involved in a presentation (question and answer)

32 At the lowest level (A1-E25) are activities carried out at each learning step, which is
33 obtained from observation activities (the thematic analytic process step). Furthermore, at the
34 second level, it produces categories resulting from observations and interviews (within

1 participants). The third level results in combining several categories to produce specific themes
2 (cross participants).

3 *Emotional skill development*

4 Emotional skills development is an ability that students will possess after undergoing
5 learning, especially using the ISM-RTM. Emotional skills development helps foster student
6 interest in learning and fosters a motivation to learn (Vongkulluksn, Matewos, Sinatra, &
7 Marsh, 2018; Foster, 2019). Students' positive and negative opinions towards emotional
8 development give more positive impacts than negative impacts to develop development
9 emotional competence better. The most challenging thing for a lecturer when teaching lecture
10 material is to foster student interest in learning so that students want to learn the subject matter.
11 This is related to the background of each different student. Not every student has the same
12 learning ability and academic achievement. In inclusive classrooms, with differences and
13 characteristics, a lecturer must invite all students to have a positive interest in learning (Pearson
14 et al., 2019; Van der Bij, Geijsel, Garst, & Ten Dam, 2016).

15 The use of ISM-RTM through 5 stages of activity provides free space for lecturers to
16 foster student interest in learning. Students are given activities that directly practice what will
17 be learned without dictating or explaining at length and without knowing the material's
18 substance. This is consistent with the opinion of SSN below:

19 "For me, it is challenging to start learning because of the limitations of my movements.
20 Sometimes I am shy and not open enough to begin studying. But when a lecturer starts learning
21 by giving an example of someone's success, I become interested in learning".

22 The use of methods adapted to students' ability, encouragingly, will increase student
23 interest in learning (Johnson, 2017). Besides, lecturers can explain learning by linking subject
24 matter with a person's success story to learn the material. Moreover, such is the case with the
25 characteristics of students who have different backgrounds, diversity, and learning styles. In

1 the ISM-RTM, it is hoped that an exciting and enjoyable learning atmosphere can give students
2 an idea of their learning goals and the benefits that will be achieved in the future.

3 All students are actively involved in every learning activity, including students with
4 special needs. For RS, the use of the ISM-RTM can foster motivation to learn, such as the
5 opinion below:

6 "It is important for me to have the motivation to learn so that I know what I am learning
7 and what the benefits of the lesson are. My lecturer has given a concrete example in a
8 game that can motivate me to complete the instructional objectives without me knowing
9 before".

10 Fostering motivation to learn for students aims to understand the subject matter's
11 purpose to be learned. Of course, this is related to the interest in learning, which also grows at
12 the beginning of learning. High motivation to learn will make it easier for students to achieve
13 the stated lesson objectives before learning (Billingsley, Thomas, & Webber, 2018).

14 ***Cognitive skills development***

15 Cognitive skills development is the ability to think from remembering to evaluation and
16 creation, which is done by combining several ideas and ideas to solve problems. Student's
17 opinions on developing cognitive skills provided consisted of more positive opinions than
18 negative opinions. The use of the ISM-RTM model provides an opportunity for students to
19 solve problems through reading activities, discussions, understanding the contents of the
20 material read, and classifying the reading contents to conclude a particular topic. This ISM-
21 RTM model's benefits can improve student literacy, problem-solving skills, and ability to gain
22 new knowledge, which has been an issue in previous lessons or even material that has never
23 been discussed at previous meetings.

24 The use of the ISM-RTM has provided opportunities for every student to be able to
25 practice problem-solving skills. Practicing problem-solving is very important for all students,

1 including students with special needs (Karatas & Baki, 2017). It is hoped that this exercise is a
2 positive step when they work at an institution after college. Students are expected to provide
3 solutions to problems that occur at work as part of problem-solving. This is related to SSN's
4 opinion:

5 "I am ashamed to express opinions in-group members, but now I am given the
6 opportunity even encouraged by friends to be able to give opinions and ideas so that I
7 feel the same as my friends when they express an opinion."

8 Both student opinions give an overview that the use of the ISM-RTM provides an
9 opportunity for every student to be active, express opinions and ideas related to problems or
10 questions that must be solved together. Equal opportunity without discrimination and fairness
11 for each group member in expressing opinions can practice problem-solving skills more clearly
12 (Siegel-Hawley & Frankenberg, 2012).

13 Each student can express opinions or ideas that are processed from various sources to
14 be discussed together in a group forum. Reading activities and expressing their opinions are
15 felt by students to provide many benefits (Rogers & Ardoin, 2018). Among other things, add
16 insight into knowledge, understand the renewability of the source of knowledge from books,
17 journals, and opinions. And can solve problems faced by students related to the subject matter.

18 This benefit can be illustrated by one of the following regular students:

19 "I am lazy to read, but with the learning process of this RTM model, I have to read, and
20 it helps me to be diligent in reading. This greatly affects my reading activity. "

21 The ISM-RTM provides new knowledge from the subject matter being studied and
22 trains problem solving and critical thinking. Through reading activities at the beginning of
23 instruction, students must understand the material, process, and produce opinions following the
24 theory and dynamics of the development of developing science (Molotja & Themane, 2018).

25 ***Social skills development***

1 Social skills describe social interaction both between lecturers and students and
2 between students and students. Student's opinions about developing social skills provided
3 consisted of more positive opinions than negative opinions. Social skills describe social
4 interaction both between lecturers and students and between students and students. Besides,
5 good cooperation between lecturers and students and students and students will improve social
6 skills (Doyle, 2012).

7 The ISM-RTM provides opportunities for each student to understand the topic being
8 studied through discussion, question and answer, and debate activities. Through the ISM-RTM,
9 starting from the beginning of learning, lecturers have designed learning so that activities are
10 carried out in groups. The information obtained by each group member varies and complements
11 each other.

12 Some positive opinions of this collaboration, according to students, can hone one
13 another's empathy, mutual respect for opinions and increase learning activity (Elfrida Yanti
14 Siregar et al., 2019). In-group activities, selfishness can usually be reduced because there is
15 mutual respect. Even such, selfish feelings of acceptance of opinions are often seen in
16 discussion activities, especially for regular students. In addition to positive opinions, there are
17 negative opinions from collaborative activities carried out by students, such as if they do not
18 agree or disagree with SSNs; it is not uncommon for SSNs to get bullied, especially in the form
19 of verbal expression. This feeling of getting bullied remains when SSNs attend group
20 discussion forums. This opinion can be seen in the opinion of SSNs below:

21 "I was a bit worried when my discussion and opinion were not considered. I am afraid
22 of getting bullied by other students. This is because several times, I've felt it".

23 The ISM-RTM can train this sense of cooperation through the stages of the learning
24 model. Like the discussion stage, summarize and clarify stages, which provide equal
25 opportunities for each group member to express their opinions. Of course, supervision from

1 the lecturer is required to proceed according to the stages and achievements key in
2 implementing ISM-RTM.

3 Every step in the ISM-RTM provides opportunities between lecturers and students and
4 students and students in all directions of learning interactions. The interaction of learning in
5 inclusive classrooms is the key to success in learning. Without interaction, lecturers find it
6 difficult to know their achievement or understanding of the material being studied.

7 In inclusive classrooms where students have diverse characteristics, learning
8 interactions become unique (Rasmitadila, Samsudin, & Prasetyo, 2019). Especially the
9 interaction between regular students and special needs students. The interaction between the
10 two must often use different methods and requires patience for the interaction to take place.
11 For regular students, they should assume that SSNs also get the same opportunities in learning,
12 expressing opinions so that they still get equal rights as other students. The RS must understand
13 the limitations and weaknesses of every SSN so that the attendance and opinions of SSNs are
14 as important as the presence and opinions of the RS.

15 Differences in characteristics and the diversity of learning styles in inclusive classrooms
16 should be a concern for lecturers. This greatly affects the achievement of all students and the
17 class to understand the material being studied. Interaction in learning is about teachers knowing
18 about the achievement of learning outcomes and understanding what difficulties students face
19 when studying (Harper, 2018).

20 **Conclusion and Recommendation**

21 Student opinions about the use of the ISM-RTM positively impacted emotional skills
22 development, cognitive skills, and social skills for all students, including SSNs. Emotional
23 skills development was evident by the growing interest in learning and increased motivation to
24 learn. The development of cognitive skills was shown by the growth of a literacy culture,
25 practice as a problem solver, and increased new knowledge for students related to the topic or

1 material being studied. The development of social skills is shown by the formation of
2 cooperation between students and the occurrence of interactions in learning activities.

3 The use of the ISM-RTM is very suitable for inclusive classrooms in higher education.
4 The ISM-RTM can accommodate all the needs of students with various characteristics, learning
5 styles, and strengths and weaknesses when implementing learning.

6 **Acknowledgments**

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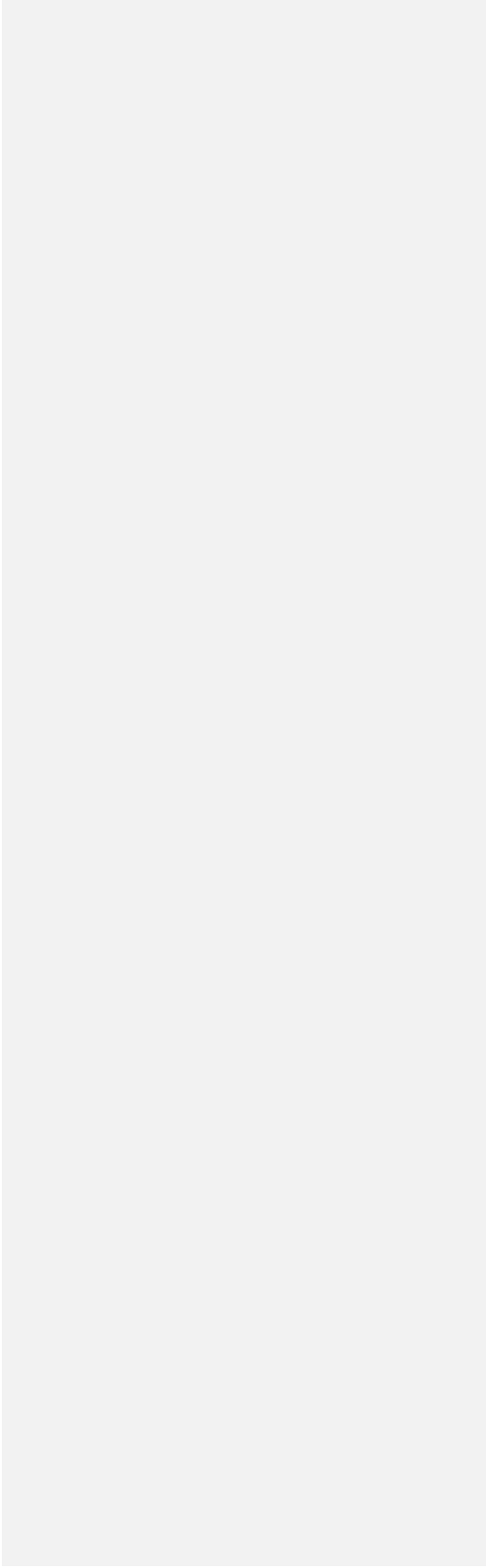
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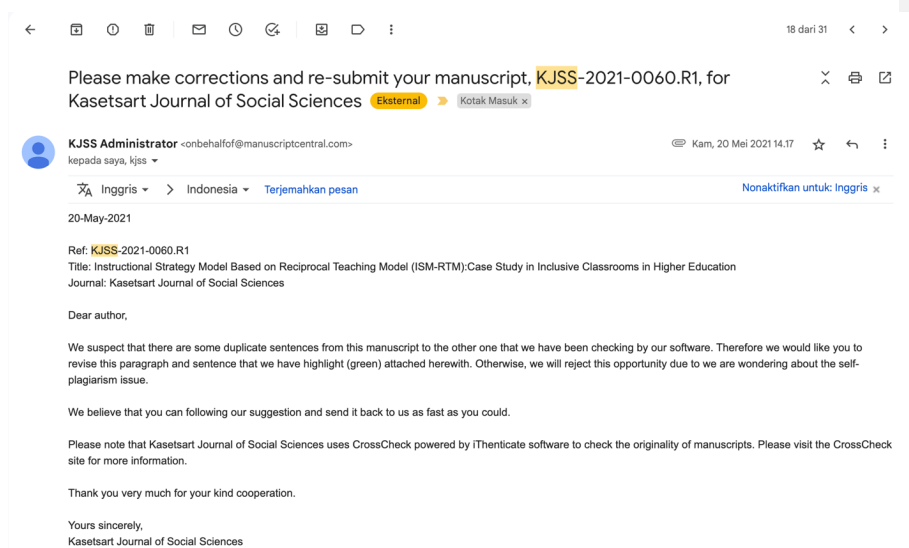
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**4. Bukti konfirmasi revisi kedua artikel dari Editor
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The screenshot shows an email interface with a toolbar at the top containing icons for back, forward, search, and other functions. The email subject is "Please make corrections and re-submit your manuscript, KJSS-2021-0060.R1, for Kasetsart Journal of Social Sciences". The sender is "KJSS Administrator" with the email address "onbehalf@manuscriptcentral.com". The email is dated "Kam, 20 Mei 2021 14.17". The language is set to "Inggris" and the message is in Indonesian. The body of the email contains the following text:

20-May-2021

Ref: **KJSS-2021-0060.R1**
Title: Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM).Case Study in Inclusive Classrooms in Higher Education
Journal: Kasetsart Journal of Social Sciences

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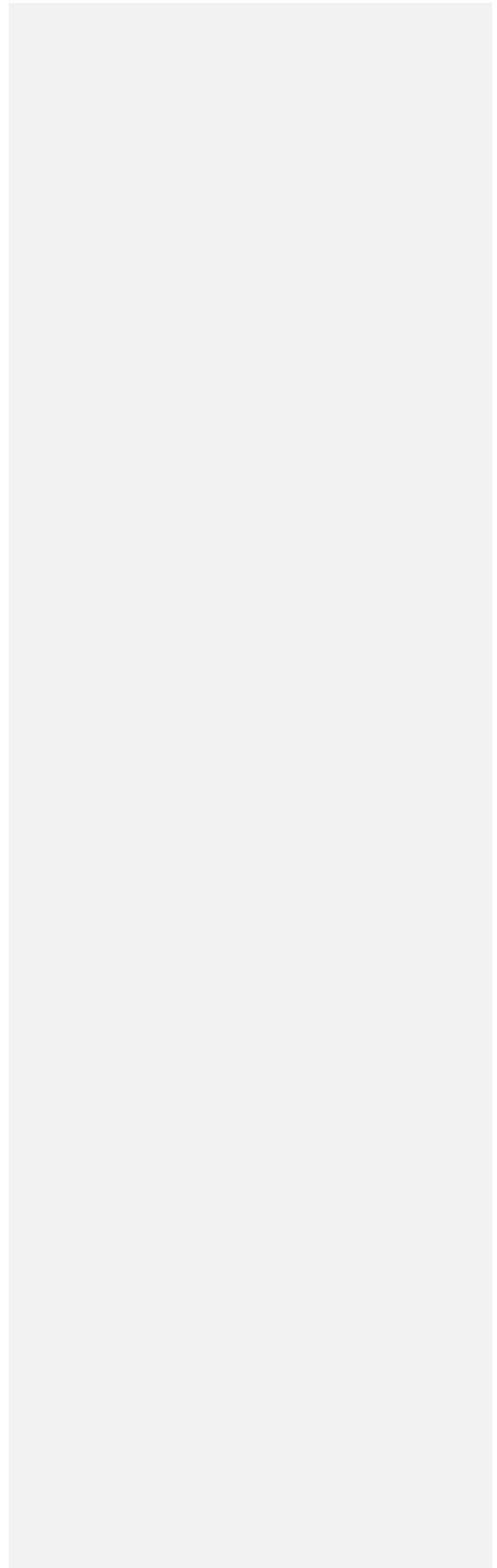
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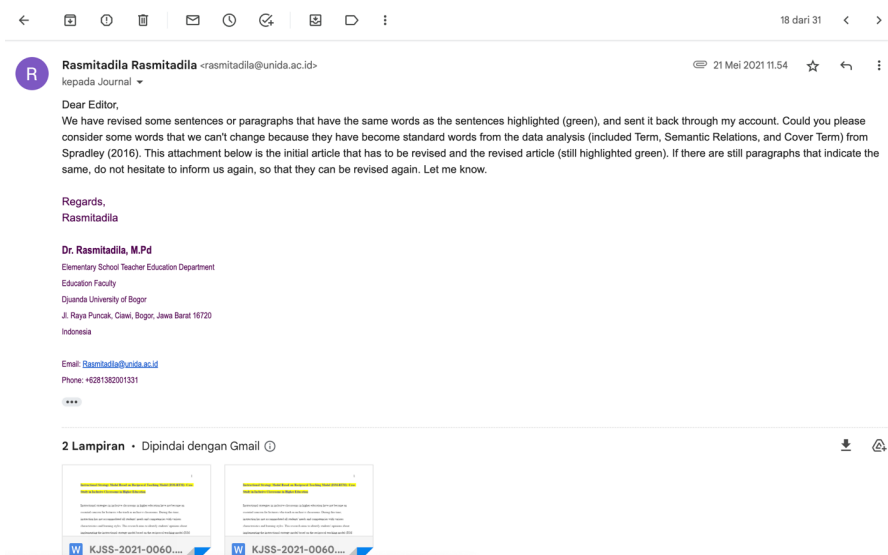
**5. Bukti konfirmasi revisi kedua artikel dan resubmit artikel revisi
(21 Mei 2021)**



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Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM): Case Study in Inclusive Classrooms in Higher Education

Instructional strategies in inclusive classrooms in higher education have not become an essential concern for lecturers who teach in inclusive classrooms. During this time, instruction has not accommodated all students' needs and competencies with various characteristics and learning styles. This research aims to identify students' opinions about implementing the instructional strategy model based on the reciprocal teaching model (ISM-RTM) in inclusive classrooms in higher education. Data were collected using classroom observations, and face-to-face interviews with 24 teacher students (22 females; 2 males), consisting of 22 regular students (RS) and 2 students with special needs (SSNs). Data analysis used a qualitative analysis model with three steps. The study results revealed that the ISM-RTM could achieve competency, namely, develop emotional skills, cognitive skills, and social skills in all students. In conclusion, the implementation of ISM-RTM was suitable for instruction in inclusive classrooms with the different characteristics, learning styles, and specificity of students in higher education

Keywords: instructional strategy,; reciprocal teaching,; inclusive classroom, ;higher education

Introduction

Instruction in inclusive classrooms in higher education determines the competencies that all students will obtain, including special needs students (SSN). The competencies that all students will possess will largely determine students' success when entering the workforce

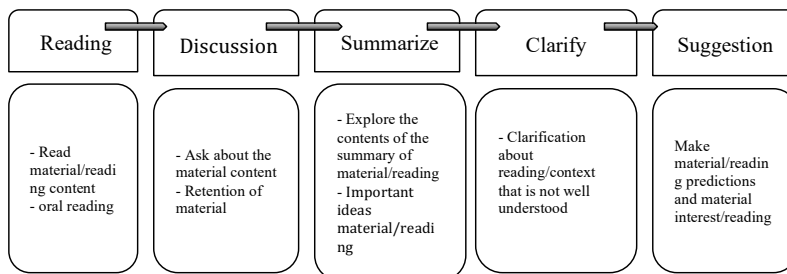
1 (Patrick, Worthen, & Frost, 2018). Learning must involve communication, collaboration,
2 innovation, and critical thinking to fulfill all the competencies needed of worked properly.
3 Lecturers must design instruction that can accommodate all students' needs with different
4 characteristics, strengths, and different learning styles to fulfill all the skills students must
5 possess (Ungar, Margaliot, Grobgeld, & Leshem, 2018).

6 To achieve instructional objectives that can meet the needs and competencies, the
7 lecturer must design instructional strategies that can accommodate students' characteristics.
8 Lecturers must create instructional strategies that can involve activeness, collaboration, and
9 respect for all the limitations and weaknesses of all students (Sayeski, 2009; Buli-Holmberg &
10 Jeyaprabhan, 2016). For the instructional strategy to be compatible with inclusive classrooms'
11 characteristics, the lecturer must understand all students' characteristics, learning styles,
12 weaknesses, and strengths. This is so that we can achieve all student competencies following
13 instructional objectives (Gregory & Chapman, 2012).

14 But the fact is, there are still many lecturers who do not understand, plan and implement
15 learning or instructional strategies that are friendly and follow the characteristics of inclusive
16 classrooms. Various problems faced by lecturers in inclusive classrooms in higher education
17 are still limited to the fulfillment of subject matter, without regard to the real instructional
18 objectives (Molina et al., 2016; Ostrow Michel, 2020). Lecturers do not understand students'
19 characteristics, especially SSN, and continue using one-way instructional methods with the
20 lecturer as a learning center. The impact is that not all competencies that students should obtain
21 can be optimally accommodated. For this reason, instructional strategies should be an essential
22 concern for lecturers before carrying out learning to achieve instructional objectives following
23 predetermined (Ávila et al., 2019).

24 One instructional strategy that can develop student skills in inclusive classrooms is an
25 instructional strategy model based on the reciprocal teaching model (ISM-RTM) (Mitchell,

2008). The ISM-RTM is a model that can maximize student competency in learning activities for all students, including students with special needs (Cárdenas & López-Pinzón, 2019; Palincsar, 2012); Brown & Palincsar, 1987), a set of learning plans that involve students in developing cognitive aspects influenced by interactions with people who have extensive knowledge, such as experts, educators, parents, and peers who encourage students to have more expertise be more competent (Clark, 2003; Rosenshine & Meister, 1994). Meanwhile, ISM-RTM involves all class members learning from each other. Lecturers can facilitate learning by grouping students in groups consisting of students with special needs and regular students, so they teach one another. The purpose of the ISM-RTM is to provide reading or cognitive understanding, provide learning experiences, and improve the affective aspects of mutual



respect and empathy between students to achieve learning targets following the lecturer's goals (Mitchell, 2008).

Figure 1 Reciprocal Teaching Model (Mitchell, 2008)

ISM-RTM is an instructional model with 5 stages with each stage consisting of specific activities. First stage is reading that provides the opportunity for students to read material (reading text) which is done by reading silently, or orally according to the student's abilities. The second stage is discussion that carried out by asking a number of questions about the reading content and providing opportunities for students to provide additional questions. This discussion aims to provide an in-depth understanding of the reading content, through

1 interesting questions in order to obtain interesting information from the content / subject matter.
2 The third stage is summarize that make statement sentences related to points or conclusions
3 from the content/subject matter, through discussions that have been carried out. The fourth
4 stage is clarify or confirm the content/material that has been studied if there are still statements
5 that are doubtful or unclear. The fifth stage is suggestion that give suggestions and ask students
6 to make a "prediction" of the next content / material that involves previous knowledge through
7 symbols, pictures, graphics or issues that aim to make students have an interest in learning the
8 next lesson content (Mitchell, 2008).

9 The purpose of this study is to explore student opinions about the competencies of
10 implementation of the ISM-RTM in inclusive classrooms in higher education.

11 **Methods**

12 This study used a qualitative approach with a case study to identify student opinions
13 about the ISM-RTM in inclusive classrooms in higher educations. A qualitative approach
14 explores people's opinions or thoughts more deeply about the topic being studied (Khotari,
15 2004).

16 **Participants**

17 Participants in this study came from one of the inclusive classrooms in the elementary
18 school curriculum development course at one of the private institutions of higher education in
19 West Java, Indonesia. The students involved were 5th-semester, with a total of twenty-four
20 (N=24) students consisting of twenty-two females and two males with an age range of 18-19
21 years old. The number of SSN (2 males) in this classroom was two in the cerebral palsy
22 category, and another was categorized as a slow learner.

23 Characteristics of a student with cerebral palsy in this class were an abnormality in one
24 of the arms and fingers that could not be moved, so there was a limited movement in the right-
25 hand area. While slow learner students with characteristics have low learning motivation, low

1 learning outcomes, and weak interaction and communication, such was the case with the slow
 2 learner student in this study. Lecturers involved in learning were female lecturers with teaching
 3 experience for seven years and had competence in inclusive classroom learning.

4 *Material and Methods*

5 The research was conducted in one of the private universities that openly accept all
 6 students' characteristics, both RS and SSN. Some types of SSNs who have been accepted are
 7 slow learners, cerebral palsy, ADHD, learning difficulties, bipolar, limited vision (low vision).
 8 This private university is one of the best universities in West Java's province with the
 9 application of Islamic Tauhid (Monotheism), which provides opportunity and justice for every
 10 student to get an education without exception.

11 Classrooms are set according to class categories that have SSNs. Arrangement of
 12 physical facilities such as chairs, tables, or other learning tools illustrates the academic
 13 atmosphere that provides comfort for all students to develop all their potential, including SSNs.
 14 Instruction is carried out inside and outside the classroom with various instructional methods
 15 such as observation, discussion, and practice.

16 During this study, the course used was the elementary school's curriculum
 17 development, with five meetings, with each meeting consisting of 1.5 hours to 2 hours of face-
 18 to-face learning. Instructional materials included the curriculum's basic concepts, curriculum
 19 development foundation, curriculum components, curriculum design, and curriculum
 20 development models. In addition to regular learning needs, for research needs, lecturers created
 21 ISM-RTM. Table 1 below is an example of an ISM-RTM:

22 **Table 1** An example of Implementation of ISM-RTM

No	Material / Topic of learning	RTM	Steps / Learning Sequence Learning	Method	Media	Materials	Assessment	Time allocation
1	The basic concept of curriculum							

Initial instructional activities								
		Reading	a. Lecturers provide reading material or references that students must read with their respective groups. b. Each group found a problem that occurred following the topic of the	Exercise Discussion	Infocus Powerpoint	e-book journal	Discussion rubric	20 minutes
Main Instructional Activities								
		Discussion	a. The lecturer asks each group to divide their group members between choosing one topic to focus on. b. Lecturers created small discussion groups with the same issue as other groups or expert groups. c. Every group member who has the same topic discusses the topic regarding a problem.	Jigsaw Discussion	Infocus Powerpoint	e-book journal	discussion rubric	20 minutes
		Summarize	a. Each group member returns to his homegroup. b. Each origin group explains each topic from the expert group. c. Each origin group presents the topics that are considered the most important to be displayed.	Jigsaw Discussion of	Infocus Powerpoint	Journal e-book	Rubric	35 minutes
		Clarify	a. Each group discusses, and the lecturer allows each group to argue with each other and give an opinion	Discussion	Infocus Powerpoint	Journal e-book	-	25 minutes
Closing Activities								
		Suggestion	a. The lecturer explains the topic that each group still debates. b. Lecturer makes a conclusion	Expository			-	15 minutes
<p>Lecturer Reflection on instruction:</p> <p>The advantages of today's learning are that all students, including SSN, actively discussed and gave opinions. Each group leader provided equal opportunity for group members to be able to give their opinions. Each group could already explain the purpose of the topic being studied.</p> <p>Weaknesses: There are still students who are not confident when presenting or speaking in front of the class, including SSN, so they must practice often.</p> <p>For future efforts, SSN must be given a "bigger" portion so that their self-confidence is higher and their motivation for learning will be better.</p>								

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5 **Data Collection**

6 Data collection was done through several data sources, namely classroom observation,

7 interviews, and documentation. Observations were made on the learning process using the

8 ISM-RTM from the beginning of instruction to instruction. Observations were made to

9 document the instructional process between lecturers and students; students and students. The

10 instrument used in the observation was an observation guide related to instruction using the

1 ISM-RTM. The interview was conducted with a semi-structured face-to-face session, which
2 had been designed to identify SNSs opinions. The questions provided consisted of twelve open
3 questions to get more in-depth data. Two experts validated interview questions with
4 instructional design and inclusive education expertise, which upon revisions were made
5 according to the expert's direction.

6 The interview stage was conducted for three days, with ten people of 24 students every
7 day, with an average of 3-4 hours. Primary data was collected in the form of video and audio
8 recordings, especially the learning process based on ISM-RTM. All learning activities were
9 recorded using a video camera and voice message. One camera was always in front of the class,
10 while the other camera followed the lecturer and student activities when interacting. There were
11 fourteen observation activities with 1.5-2 hours of learning. Researchers only chose five
12 observations as data to be analyzed because the ISM-RTM had been implemented well. The
13 results of these recordings are transcripts to be used as a more detailed data analysis. Transcript
14 results and interview results were analyzed using qualitative data analysis to obtain further
15 results.

16 **Instruments**

17 The instruments used consisted of two types, namely observation and interview.
18 The observation instrument consists of an observation guide based on the conceptual definition
19 of the ISM-RTM. The guide focuses on 5 steps that have been designed in the form of learning
20 content. Researchers must ensure that each step has been carried out by the lecturer (given a
21 checklist). Meanwhile, the interview instrument consisted of twelve open questions, which
22 were given to RSs and SSNs. The interview technique used was a semi-structured and open-
23 ended interview type. So that researchers can explore every question and answer from each
24 student. The interview instruments consist of three general parts, namely students'
25 understanding of ISM-RTM, the benefits of using ISM-RTM, and obstacles in implementing

1 ISM-RTM in an inclusive classroom. Both RSs and SSNs are given the same questions, so that
 2 researchers can explore each student's answer, although in the end there are answers that vary
 3 depending on student characteristics.

4 *Data Analysis*

5 Data analysis was performed using a qualitative analysis model (Spradley, 2016;
 6 Jamaris & Hartati, 2017) consisting of three steps, namely: (1) thematic analysis of all
 7 participants, observing learning activities from the beginning of learning to the end of learning
 8 both between teacher and student, as well as students and students, making field notes, coding,
 9 and interviewing students; (2) within-participants thematic analysis, identifying common
 10 themes from each learning activity; (3) cross participant analysis, identifying common themes
 11 among participants. The final step in data analysis was to produce a cultural theme to
 12 implement the ISM-RTM in inclusive classrooms in higher educations. Table 2 describes the
 13 process used in the results of data analysis:

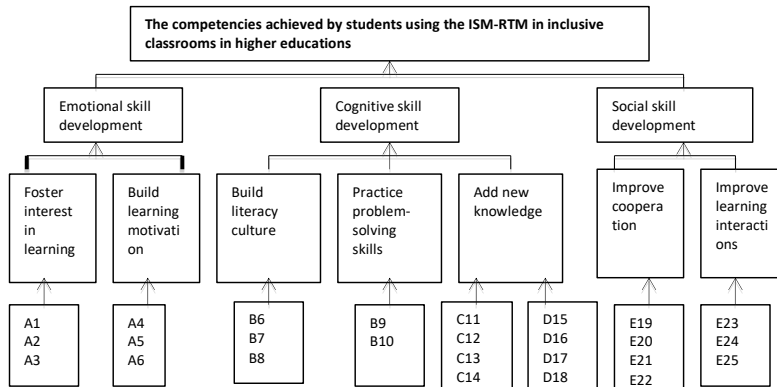
14 **Table 2** Qualitative data analysis

Included Term	Semantic Relation	Cover Term
-Increase the desire to learn -Increase learning motivation	Is part of	Emotional skill development
-Growing a culture of literacy problem-solving skills -Practicing-Adding new knowledge	Is part of	Cognitive skill development
-Improve collaboration -Improve learning interactions	Is part of	Social skill development

15

16 **Results and Discussion**

1 The results of data analysis are illustrated in Figure 2 below:



2 **Figure 2** Competencies achieved by students using the ISM-RTM model in inclusive
3 classrooms

4 Notes:

- 5 A1: Lecturer invites students to sing along
6 A2: Lecturer makes a game in class
7 A3: Lecturer presents an example case
8 A4: Lecturer explains the benefits of the lesson
9 A4: Lecturer explains the relevance of the lesson to daily life
10 A5: Lecturer asks about problems that are relevant to the topic
11 B6: Lecturer gives the topic of reading
12 B7: The lecturer provides a chance for each student to make important points from reading
13 B8: Students focus on reading material that is not yet understood or that is important to discuss
14 B9: Students look for reading material that is the same as the topic to be addressed
15 B10: Lecturer makes opening questions for a case
16 C11: Lecturer provides opportunities to each group member to discuss the topic according to the reading
17 C12: Each group member presents reading material that is the focus and topic according to their task
18 C13: Each group member exchanges reading material with other group members with the same topic
19 C14: Each group member with the same topic and focus has a discussion
20 D15: Each group member returns to his group early to discuss
21 D16: Each group member provides opinions and solutions to the topic in the form of a problem
22 D17: The lecturer allows each group to present the problem according to the topic
23 D18: The lecturer gives clarification and understanding to all students
24 E19: Students work and study together in a group
25 E20: Regular students discuss with SSNs
26 E21: Regular students listen to SSNs' opinions
27 E22: All students play together in a group
28 E23: Each student gives an opinion in groups
29 E24: SSNs give an opinion in the group
30 E25: Each student is involved in a presentation (question and answer)

32 At the lowest level (A1-E25) are activities carried out at each learning step, which is
33 obtained from observation activities (the thematic analytic process step). Furthermore, at the
34 second level, it produces categories resulting from observations and interviews (within

1 participants). The third level results in combining several categories to produce specific themes
2 (cross participants).

3 *Emotional skill development*

4 Emotional skills development is an ability that students will possess after undergoing
5 learning, especially using the ISM-RTM. Emotional skills development helps foster student
6 interest in learning and fosters a motivation to learn (Vongkulluksn, Matewos, Sinatra, &
7 Marsh, 2018; Foster, 2019). Students' positive and negative opinions towards emotional
8 development give more positive impacts than negative impacts to develop development
9 emotional competence better. The most challenging thing for a lecturer when teaching lecture
10 material is to foster student interest in learning so that students want to learn the subject matter.
11 This is related to the background of each different student. Not every student has the same
12 learning ability and academic achievement. In inclusive classrooms, with differences and
13 characteristics, a lecturer must invite all students to have a positive interest in learning (Pearson
14 et al., 2019; Van der Bij, Geijsel, Garst, & Ten Dam, 2016).

15 The use of ISM-RTM through 5 stages of activity provides free space for lecturers to
16 foster student interest in learning. Students are given activities that directly practice what will
17 be learned without dictating or explaining at length and without knowing the material's
18 substance. This is consistent with the opinion of SSN below:

19 "For me, it is challenging to start learning because of the limitations of my movements.
20 Sometimes I am shy and not open enough to begin studying. But when a lecturer starts learning
21 by giving an example of someone's success, I become interested in learning".

22 The use of methods adapted to students' ability, encouragingly, will increase student
23 interest in learning (Johnson, 2017). Besides, lecturers can explain learning by linking subject
24 matter with a person's success story to learn the material. Moreover, such is the case with the
25 characteristics of students who have different backgrounds, diversity, and learning styles. In

1 the ISM-RTM, it is hoped that an exciting and enjoyable learning atmosphere can give students
2 an idea of their learning goals and the benefits that will be achieved in the future.

3 All students are actively involved in every learning activity, including students with
4 special needs. For RS, the use of the ISM-RTM can foster motivation to learn, such as the
5 opinion below:

6 "It is important for me to have the motivation to learn so that I know what I am learning
7 and what the benefits of the lesson are. My lecturer has given a concrete example in a
8 game that can motivate me to complete the instructional objectives without me knowing
9 before".

10 Fostering motivation to learn for students aims to understand the subject matter's
11 purpose to be learned. Of course, this is related to the interest in learning, which also grows at
12 the beginning of learning. High motivation to learn will make it easier for students to achieve
13 the stated lesson objectives before learning (Billingsley, Thomas, & Webber, 2018).

14 ***Cognitive skills development***

15 Cognitive skills development is the ability to think from remembering to evaluation and
16 creation, which is done by combining several ideas and ideas to solve problems. Student's
17 opinions on developing cognitive skills provided consisted of more positive opinions than
18 negative opinions. The use of the ISM-RTM model provides an opportunity for students to
19 solve problems through reading activities, discussions, understanding the contents of the
20 material read, and classifying the reading contents to conclude a particular topic. This ISM-
21 RTM model's benefits can improve student literacy, problem-solving skills, and ability to gain
22 new knowledge, which has been an issue in previous lessons or even material that has never
23 been discussed at previous meetings.

24 The use of the ISM-RTM has provided opportunities for every student to be able to
25 practice problem-solving skills. Practicing problem-solving is very important for all students,

1 including students with special needs (Karatas & Baki, 2017). It is hoped that this exercise is a
2 positive step when they work at an institution after college. Students are expected to provide
3 solutions to problems that occur at work as part of problem-solving. This is related to SSN's
4 opinion:

5 "I am ashamed to express opinions in-group members, but now I am given the
6 opportunity even encouraged by friends to be able to give opinions and ideas so that I
7 feel the same as my friends when they express an opinion."

8 Both student opinions give an overview that the use of the ISM-RTM provides an
9 opportunity for every student to be active, express opinions and ideas related to problems or
10 questions that must be solved together. Equal opportunity without discrimination and fairness
11 for each group member in expressing opinions can practice problem-solving skills more clearly
12 (Siegel-Hawley & Frankenberg, 2012).

13 Each student can express opinions or ideas that are processed from various sources to
14 be discussed together in a group forum. Reading activities and expressing their opinions are
15 felt by students to provide many benefits (Rogers & Ardoin, 2018). Among other things, add
16 insight into knowledge, understand the renewability of the source of knowledge from books,
17 journals, and opinions. And can solve problems faced by students related to the subject matter.

18 This benefit can be illustrated by one of the following regular students:

19 "I am lazy to read, but with the learning process of this RTM model, I have to read, and
20 it helps me to be diligent in reading. This greatly affects my reading activity. "

21 The ISM-RTM provides new knowledge from the subject matter being studied and
22 trains problem solving and critical thinking. Through reading activities at the beginning of
23 instruction, students must understand the material, process, and produce opinions following the
24 theory and dynamics of the development of developing science (Molotja & Themane, 2018).

25 ***Social skills development***

1 Social skills describe social interaction both between lecturers and students and
2 between students and students. Student's opinions about developing social skills provided
3 consisted of more positive opinions than negative opinions. Social skills describe social
4 interaction both between lecturers and students and between students and students. Besides,
5 good cooperation between lecturers and students and students and students will improve social
6 skills (Doyle, 2012).

7 The ISM-RTM provides opportunities for each student to understand the topic being
8 studied through discussion, question and answer, and debate activities. Through the ISM-RTM,
9 starting from the beginning of learning, lecturers have designed learning so that activities are
10 carried out in groups. The information obtained by each group member varies and complements
11 each other.

12 Some positive opinions of this collaboration, according to students, can hone one
13 another's empathy, mutual respect for opinions and increase learning activity (Elfrida Yanti
14 Siregar et al., 2019). In-group activities, selfishness can usually be reduced because there is
15 mutual respect. Even such, selfish feelings of acceptance of opinions are often seen in
16 discussion activities, especially for regular students. In addition to positive opinions, there are
17 negative opinions from collaborative activities carried out by students, such as if they do not
18 agree or disagree with SSNs; it is not uncommon for SSNs to get bullied, especially in the form
19 of verbal expression. This feeling of getting bullied remains when SSNs attend group
20 discussion forums. This opinion can be seen in the opinion of SSNs below:

21 "I was a bit worried when my discussion and opinion were not considered. I am afraid
22 of getting bullied by other students. This is because several times, I've felt it".

23 The ISM-RTM can train this sense of cooperation through the stages of the learning
24 model. Like the discussion stage, summarize and clarify stages, which provide equal
25 opportunities for each group member to express their opinions. Of course, supervision from

1 the lecturer is required to proceed according to the stages and achievements key in
2 implementing ISM-RTM.

3 Every step in the ISM-RTM provides opportunities between lecturers and students and
4 students and students in all directions of learning interactions. The interaction of learning in
5 inclusive classrooms is the key to success in learning. Without interaction, lecturers find it
6 difficult to know their achievement or understanding of the material being studied.

7 In inclusive classrooms where students have diverse characteristics, learning
8 interactions become unique (Rasmitadila, Samsudin, & Prasetyo, 2019). Especially the
9 interaction between regular students and special needs students. The interaction between the
10 two must often use different methods and requires patience for the interaction to take place.
11 For regular students, they should assume that SSNs also get the same opportunities in learning,
12 expressing opinions so that they still get equal rights as other students. The RS must understand
13 the limitations and weaknesses of every SSN so that the attendance and opinions of SSNs are
14 as important as the presence and opinions of the RS.

15 Differences in characteristics and the diversity of learning styles in inclusive classrooms
16 should be a concern for lecturers. This greatly affects the achievement of all students and the
17 class to understand the material being studied. Interaction in learning is about teachers knowing
18 about the achievement of learning outcomes and understanding what difficulties students face
19 when studying (Harper, 2018).

20 **Conclusion and Recommendation**

21 Student opinions about the use of the ISM-RTM positively impacted emotional skills
22 development, cognitive skills, and social skills for all students, including SSNs. Emotional
23 skills development was evident by the growing interest in learning and increased motivation to
24 learn. The development of cognitive skills was shown by the growth of a literacy culture,
25 practice as a problem solver, and increased new knowledge for students related to the topic or

1 material being studied. The development of social skills is shown by the formation of
 2 cooperation between students and the occurrence of interactions in learning activities.

3 The use of the ISM-RTM is very suitable for inclusive classrooms in higher education.
 4 The ISM-RTM can accommodate all the needs of students with various characteristics, learning
 5 styles, and strengths and weaknesses when implementing learning.

6 **Acknowledgments**

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 8 Education of the Republic of Indonesia through Grant the Assistance with Special Learning
 9 Innovations in Higher Education, 2019.

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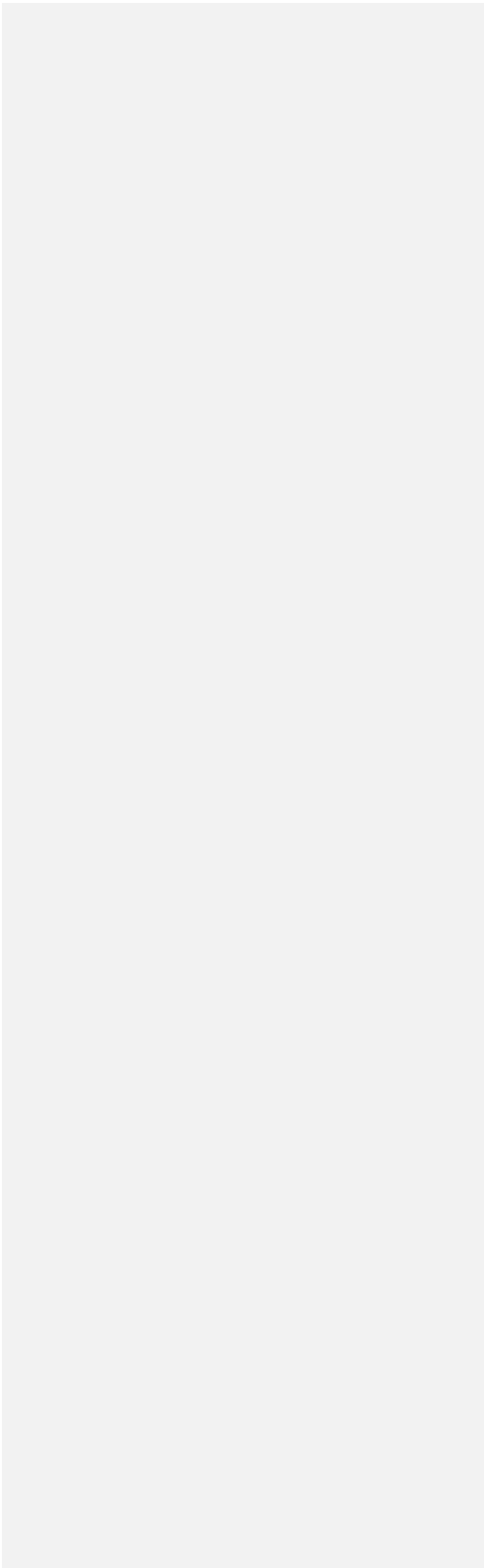
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**6. Bukti konfirmasi revisi ketiga artikel dari Editor
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02-Jun-2021

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 Title: Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM):Case Study in Inclusive Classrooms in Higher Education
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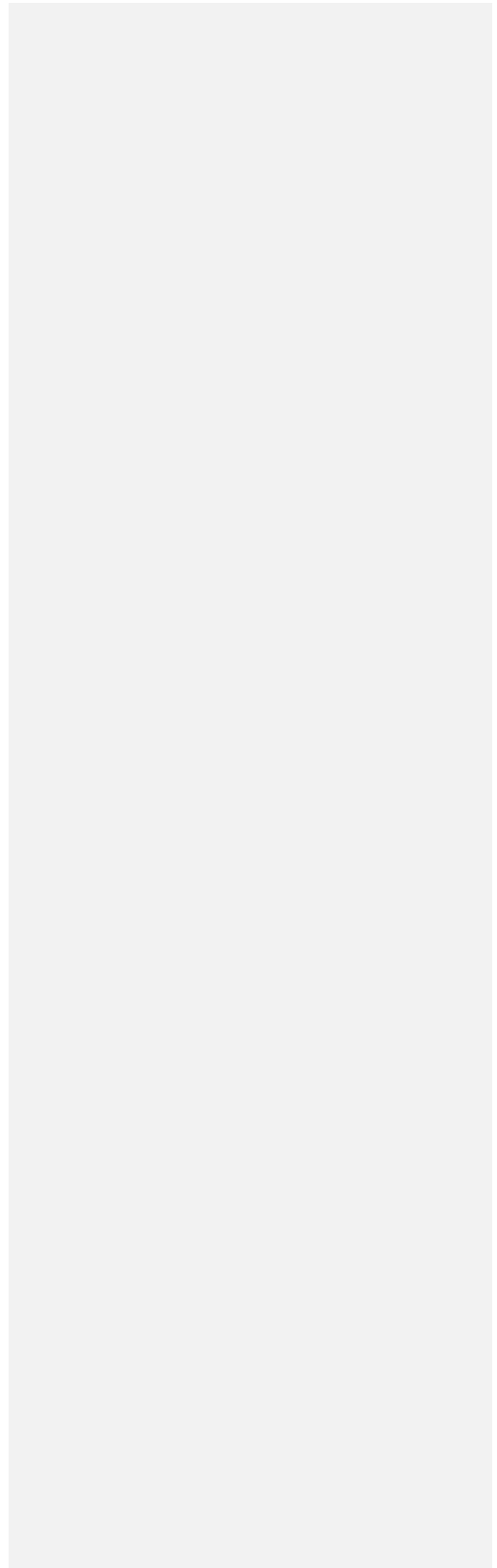
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**7. Bukti konformasi revisi ketiga artikel dan resubmit artikel revisi
(3 Juni 2021)**



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R **Rasmitadila Rasmitadila** <rasmitadila@unida.ac.id>
Kepada Journal

3 Jun 2021 20:10 ☆ ↶ ⋮

Dear Editor,

I have re-submitted the revised manuscript according to the Editor instructions (highlighted green) that have the similar words with others. We used the highlighted green too, and gave the comments that the paragraph was revised from the previous manuscript. Please let me know if the process was wrong or maybe the other things that I have to do related to the manuscript.

Regards,
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Editor's highlights & Response Form on KJSS: KJSS-2021-0060

Reviewer	Editor's highlight	Respond to Editor
1	in inclusive classrooms in higher education. Data were collected"	in inclusive classrooms in the university. Data were gathered" (page 1)
	inclusive classrooms in higher education are	inclusive classes related to instruction in higher education are (page 2)
	to the fulfillment of	still limited to complete (page 2)
	university is one of the best universities in West Java's	This university (page 5)
	academic atmosphere that provides comfort for all students to	academic conditions that can create a conducive learning environment for all students (page 5)
	addition to regular learning needs, for research needs, lecturers	Besides to fulfill regular instructional materials and major research, lecturers (page 5)
	the lecturer allows each group to argue with each other	the teacher asked all groups to argue with other groups (page 6, Table 1)
	from the beginning of instruction to instruction. Observations were made to document the instructional process between lecturers and students; students and students. The instrument	Observations were conducted to determine the instructional process for all the class members on the learning process using the ISM-RTM from the initial instruction to the end instruction. The observation instrument (page 6)
in the form of video and audio recordings, especially the learning process based on ISM-RTM. All learning activities were recorded using a video camera and voice message. One camera was always in front of the class, while the other camera followed the lecturer and student activities when interacting. There were fourteen observation activities with 1.5-2 hours of learning. Researchers only chose five observations as data to be	Primary data was collected from video audio recordings, particularly to the instructional process used in ISM-RTM. The recording done in the instructional process using video and voice messages by placing a camera in front of the class to facilitate all observations. Meanwhile, the researcher holds the other camera to participate in all lecturer and student activities during the instructional process. There are fourteen observations in instruction, with each observation	

	analyzed because the ISM-RTM had been implemented well. The results of these recordings are transcripts to be used as a more detailed data analysis. Transcript results and interview results were analyzed using qualitative data analysis to obtain further results.	duration of 1.5-2 hours. The researcher considers that only the application of the ISM-RTM that has been appropriately implemented will be selected. For that, the researcher chose five observational data from fourteen observations. Furthermore, the recordings were interpreted in several transcripts, which became the basis for making data analysis (page 7)
	Make an explanation for each image presented!	All pictures consisting of the steps in figure 2 have been described (page 9)
	thematic analysis of all participants, observing learning activities from the beginning of learning to the end of learning both between teacher and student, as well as students and students, making field notes, coding, and interviewing students; (2) within-participants thematic analysis, identifying common themes from each learning activity; (3) cross participant analysis, identifying common themes among participants. The final step in data analysis	: (1) thematic analysis of all participants, observing the instructional process from the initial instructional to the end of instruction to all class members, create field notes, and coding; (2) within-participants thematic analysis; making some categories to be specific themes; (3) cross participant analysis, determine common themes. Furthermore, determining a cultural theme is the final step in data analysis to implement the ISM-RTM in inclusive classrooms in higher educations. Table 2 describes the process used in the results of data analysis: (page 8)
	Table 2 Qualitative data analysis	Table 2 Qualitative analysis model (Spradley (2016; Jamaris & Hartati (2017) (page 8)
	Increase the desire to learn	Foster interest in learning (page 8)
2	Lecturer invites students to sing along	Lecturer sings together with the students (page 9)
	makes a game	creates a game (page 9)
	Lecturer explains the relevance of the	Lecturer explains the lesson's linkage to (page 9)

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Other:

We have revised paragraphs and statements according to the instructions from the Editor (highlighted in green) which are indicated to have similarities with other sentences. We marked it with green color and were given a comment that it had been revised from the last article that we had revised according to the reviewer's comments.

Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM): Case Study in Inclusive Classrooms in Higher Education

Instructional strategies in inclusive classrooms in higher education have not become an essential concern for lecturers who teach in inclusive classrooms. During this time, instruction has not accommodated all students' needs and competencies with various characteristics and learning styles. This research aims to identify students' opinions about implementing the instructional strategy model based on the reciprocal teaching model (ISM-RTM) in inclusive classrooms in the university. Data were gathered using classroom observations, and face-to-face interviews with 24 teacher students (22 females; 2 males), consisting of 22 regular students (RS) and 2 students with special needs (SSNs). Data analysis used a qualitative analysis model with three steps. The study results revealed that the ISM-RTM could achieve competency, namely, develop emotional skills, cognitive skills, and social skills in all students. In conclusion, the implementation of ISM-RTM was suitable for instruction in inclusive classrooms with the different characteristics, learning styles, and specificity of students in higher education

Keywords: instructional strategy,; reciprocal teaching,; inclusive classroom, ;higher education

Introduction

Instruction in inclusive classrooms in higher education determines the competencies that all students will obtain, including special needs students (SSN). The competencies that all students will possess will largely determine students' success when entering the workforce (Patrick, Worthen, & Frost, 2018). Learning must involve communication, collaboration, innovation, and critical thinking to fulfill all the competencies needed of worked properly.

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1 Lecturers must design instruction that can accommodate all students' needs with different
2 characteristics, strengths, and different learning styles to fulfill all the skills students must
3 possess (Ungar, Margaliot, Grobgeld, & Leshem, 2018).

4 To achieve instructional objectives that can meet the needs and competencies, the
5 lecturer must design instructional strategies that can accommodate students' characteristics.
6 Lecturers must create instructional strategies that can involve activeness, collaboration, and
7 respect for all the limitations and weaknesses of all students (Sayeski, 2009; Buli-Holmberg &
8 Jeyaprathaban, 2016). For the instructional strategy to be compatible with inclusive classrooms'
9 characteristics, the lecturer must understand all students' characteristics, learning styles,
10 weaknesses, and strengths. This is so that we can achieve all student competencies following
11 instructional objectives (Gregory & Chapman, 2012).

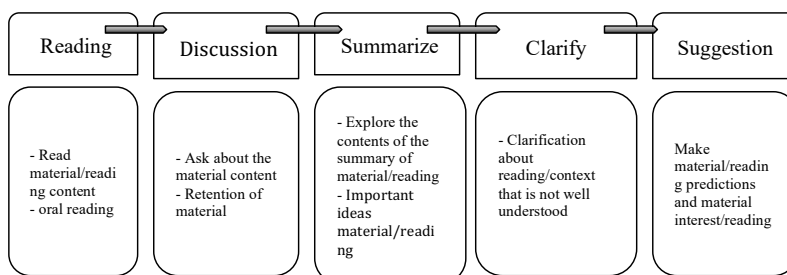
12 But the fact is, there are still many lecturers who do not understand, plan and implement
13 learning or instructional strategies that are friendly and follow the characteristics of inclusive
14 classrooms. Various problems faced by lecturers in inclusive classes related to instruction in
15 higher education are still limited to complete the obligation to deliver subject matter, without
16 regard to the real instructional objectives (Molina et al., 2016; Ostrow Michel, 2020). Lecturers
17 do not understand students' characteristics, especially SSN, and continue using one-way
18 instructional methods with the lecturer as a learning center. The impact is that not all
19 competencies that students should obtain can be optimally accommodated. For this reason,
20 instructional strategies should be an essential concern for lecturers before carrying out learning
21 to achieve instructional objectives following predetermined (Ávila et al., 2019).

22 One instructional strategy that can develop student skills in inclusive classrooms is an
23 instructional strategy model based on the reciprocal teaching model (ISM-RTM) (Mitchell,
24 2008). The ISM-RTM is a model that can maximize student competency in learning activities
25 for all students, including students with special needs (Cárdenas & López-Pinzón, 2019;

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1 Palincsar, 2012); Brown & Palincsar, 1987), a set of learning plans that involve students in
 2 developing cognitive aspects influenced by interactions with people who have extensive
 3 knowledge, such as experts, educators, parents, and peers who encourage students to have more
 4 expertise be more competent (Clark, 2003; Rosenshine & Meister, 1994). Meanwhile, ISM-
 5 RTM involves all class members learning from each other. Lecturers can facilitate learning by
 6 grouping students in groups consisting of students with special needs and regular students, so
 7 they teach one another. The purpose of the ISM-RTM is to provide reading or cognitive
 8 understanding, provide learning experiences, and improve the affective aspects of mutual
 9 respect and empathy between students to achieve learning targets following the lecturer's goals
 10 (Mitchell, 2008).



11 **Figure 1** Reciprocal Teaching Model (Mitchell, 2008)

12 ISM-RTM is an instructional model with 5 stages with each stage consisting of specific
 13 activities. First stage is reading that provides the opportunity for students to read material
 14 (reading text) which is done by reading silently, or orally according to the student's abilities.
 15 The second stage is discussion that carried out by asking a number of questions about the
 16 reading content and providing opportunities for students to provide additional questions. This
 17 discussion aims to provide an in-depth understanding of the reading content, through
 18 interesting questions in order to obtain interesting information from the content / subject matter.
 19 The third stage is summarize that make statement sentences related to points or conclusions

1 from the content/subject matter, through discussions that have been carried out. The fourth
2 stage is clarify or confirm the content/material that has been studied if there are still statements
3 that are doubtful or unclear. The fifth stage is suggestion that give suggestions and ask students
4 to make a "prediction" of the next content / material that involves previous knowledge through
5 symbols, pictures, graphics or issues that aim to make students have an interest in learning the
6 next lesson content (Mitchell, 2008).

7 The purpose of this study is to explore student opinions about the competencies of
8 implementation of the ISM-RTM in inclusive classrooms in higher education.

9 **Methods**

10 This study used a qualitative approach with a case study to identify student opinions
11 about the ISM-RTM in inclusive classrooms in higher educations. A qualitative approach
12 explores people's opinions or thoughts more deeply about the topic being studied (Khotari,
13 2004).

14 **Participants**

15 Participants in this study came from one of the inclusive classrooms in the elementary
16 school curriculum development course at one of the private institutions of higher education in
17 West Java, Indonesia. The students involved were 5th-semester, with a total of twenty-four
18 (N=24) students consisting of twenty-two females and two males with an age range of 18-19
19 years old. The number of SSN (2 males) in this classroom was two in the cerebral palsy
20 category, and another was categorized as a slow learner.

21 Characteristics of a student with cerebral palsy in this class were an abnormality in one
22 of the arms and fingers that could not be moved, so there was a limited movement in the right-
23 hand area. While slow learner students with characteristics have low learning motivation, low
24 learning outcomes, and weak interaction and communication, such was the case with the slow

1 learner student in this study. Lecturers involved in learning were female lecturers with teaching
2 experience for seven years and had competence in inclusive classroom learning.

3 *Material and Methods*

4 The research was conducted in one of the private universities that openly accept all
5 students' characteristics, both RS and SSN. Some types of SSNs who have been accepted are
6 slow learners, cerebral palsy, ADHD, learning difficulties, bipolar, limited vision (low vision).
7 **This university**-based on Islamic Tauhid (Monotheism) provides opportunity and justice for
8 every student to get an education without exception.

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9 Classrooms are set according to class categories that have SSNs. Arrangement of
10 physical facilities such as chairs, tables, or other learning tools illustrates the **academic**
11 **conditions that can create a conducive learning environment for all students** to develop all their
12 potential, including SSNs. Instruction is carried out inside and outside the classroom with
13 various instructional methods such as observation, discussion, and practice.

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14 During this study, the course used was the elementary school's curriculum
15 development, with five meetings, with each meeting consisting of 1.5 hours to 2 hours of face-
16 to-face learning. Instructional materials included the curriculum's basic concepts, curriculum
17 development foundation, curriculum components, curriculum design, and curriculum
18 development models. **Besides to fulfill regular instructional materials and major research,**
19 **lecturers** created ISM-RTM. Table 1 below is an example of an ISM-RTM:

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20 **Table 1** An example of Implementation of ISM-RTM

No	Material / Topic of learning	RTM	Steps / Learning Sequence Learning	Method	Media	Materials	Assessment	Time allocation
1	The basic concept of curriculum							
Initial instructional activities								
		Reading	a. Lecturers provide reading material or references that students must read with their respective groups.	Exercise Discussion	Infocus Powerpoint	e-book journal	Discussion rubric	20 minutes

			b. Each group found a problem that occurred following the topic of the					
Main Instructional Activities								
		Discussion	a. The lecturer asks each group to divide their group members between choosing one topic to focus on. b. Lecturers created small discussion groups with the same issue as other groups or expert groups. c. Every group member who has the same topic discusses the topic regarding a problem.	Jigsaw Discussion	Infocus Powerpoint	e-book journal	discussion rubric	20 minutes
		Summarize	a. Each group member returns to his homegroup. b. Each origin group explains each topic from the expert group. c. Each origin group presents the topics that are considered the most important to be displayed.	Jigsaw Discussion of	Infocus Powerpoint	Journal e-book	Rubric	35 minutes
		Clarify	a. Each group discusses, and the teacher asked all groups to argue with other groups and give an opinion	Discussion	Infocus Powerpoint	Journal e-book	-	25 minutes
Closing Activities								
		Suggestion	a. The lecturer explains the topic that each group still debates. b. Lecturer makes a conclusion	Expository			-	15 minutes
	<p>Lecturer Reflection on instruction:</p> <p>The advantages of today's learning are that all students, including SSN, actively discussed and gave opinions. Each group leader provided equal opportunity for group members to be able to give their opinions. Each group could already explain the purpose of the topic being studied.</p> <p>Weaknesses: There are still students who are not confident when presenting or speaking in front of the class, including SSN, so they must practice often.</p> <p>For future efforts, SSN must be given a "bigger" portion so that their self-confidence is higher and their motivation for learning will be better.</p>							

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2 **Data Collection**

3 Data collection was done through several data sources, namely classroom observation,
4 interviews, and documentation. Observations were conducted to determine the instructional
5 process for all the class members on the learning process using the ISM-RTM from the initial
6 instruction to the end instruction. The observation instrument was used an observation guide
7 related to instruction using the ISM-RTM. The interview was conducted with a semi-structured
8 face-to-face session, which had been designed to identify SNSs opinions. The questions
9 provided consisted of twelve open questions to get more in-depth data. Two experts validated
10 interview questions with instructional design and inclusive education expertise, which upon
11 revisions were made according to the expert's direction.

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1 The interview stage was conducted for three days, with ten people of 24 students every
2 day, with an average of 3-4 hours. Primary data was collected from video audio recordings,
3 particularly to the instructional process used in ISM-RTM. The recording done in the
4 instructional process using video and voice messages by placing a camera in front of the class
5 to facilitate all observations. Meanwhile, the researcher holds the other camera to participate
6 in all lecturer and student activities during the instructional process. There are fourteen
7 observations in instruction, with each observation duration of 1.5-2 hours. The researcher
8 considers that only the application of the ISM-RTM that has been appropriately implemented
9 will be selected. For that, the researcher chose five observational data from fourteen
10 observations. Furthermore, the recordings were interpreted in several transcripts, which
11 became the basis for making data analysis.

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12 **Instruments**

13 The instruments used consisted of two types, namely observation and interview.
14 The observation instrument consists of an observation guide based on the conceptual definition
15 of the ISM-RTM. The guide focuses on 5 steps that have been designed in the form of learning
16 content. Researchers must ensure that each step has been carried out by the lecturer (given a
17 checklist). Meanwhile, the interview instrument consisted of twelve open questions, which
18 were given to RSs and SSNs. The interview technique used was a semi-structured and open-
19 ended interview type. So that researchers can explore every question and answer from each
20 student. The interview instruments consist of three general parts, namely students'
21 understanding of ISM-RTM, the benefits of using ISM-RTM, and obstacles in implementing
22 ISM-RTM in an inclusive classroom. Both RSs and SSNs are given the same questions, so that
23 researchers can explore each student's answer, although in the end there are answers that vary
24 depending on student characteristics.

25 **Data Analysis**

1 Data analysis was performed using a qualitative analysis model (Spradley, 2016;
 2 Jamaris & Hartati, 2017) consisting of three steps, namely: (1) thematic analysis of all
 3 participants, observing the instructional process from the initial instructional to the end of
 4 instruction to all class members, create field notes, and coding; (2) within-participants thematic
 5 analysis; making some categories to be specific themes; (3) cross participant analysis,
 6 determine common themes. Furthermore, determining a cultural theme is the final step in data
 7 analysis to implement the ISM-RTM in inclusive classrooms in higher educations. Table 2
 8 describes the process used in the results of data analysis:

9 **Table 2** Qualitative analysis model (Spradley (2016; Jamaris & Hartati (2017))

Included Term	Semantic Relation	Cover Term
Foster interest in learning -Increase learning motivation	Is part of	Emotional skill development
-Growing a culture of literacy problem-solving skills -Practicing-Adding new knowledge	Is part of	Cognitive skill development
-Improve collaboration -Improve learning interactions	Is part of	Social skill development

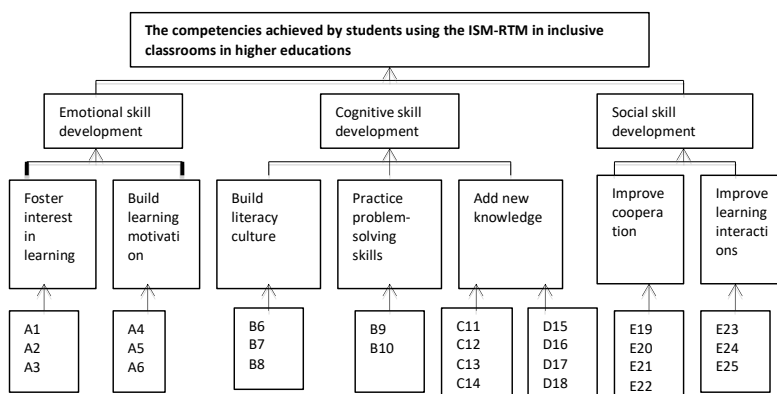
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11 Results and Discussion

12 The results of data analysis are illustrated in Figure 2 below:



13 **Figure 2** Competencies achieved by students using the ISM-RTM model in inclusive
 14 classrooms

1 Notes:

- 2 A1: Lecturer sings together with the students
 3 A2: Lecturer creates a game in class
 4 A3: Lecturer presents an example case
 5 A3: Lecturer explains the benefits of the lesson
 6 A4: Lecturer explains the lesson's linkage to daily life
 7 A5: Lecturer asks about problems that are relevant to the topic
 8 B6: Lecturer gives the topic of reading
 9 B7: The lecturer provides a chance for each student to make important points from reading
 10 B8: Students focus on reading material that is not yet understood or that is important to discuss
 11 B9: Students look for reading material that is the same as the topic to be addressed
 12 B10: Lecturer makes opening questions for a case
 13 C11: Lecturer provides opportunities to each group member to discuss the topic according to the reading
 14 C12: Each group member presents reading material that is the focus and topic according to their task
 15 C13: Each group member exchanges reading material with other group members with the same topic
 16 C14: Each group member with the same topic and focus has a discussion
 17 D15: Each group member returns to his group early to discuss
 18 D16: Each group member provides opinions and solutions to the topic in the form of a problem
 19 D17: The lecturer allows each group to present the problem according to the topic
 20 D18: The lecturer gives clarification and understanding to all students
 21 E19: Students work and study together in a group
 22 E20: Regular students discuss with SSNs
 23 E21: Regular students listen to SSNs' opinions
 24 E22: All students play together in a group
 25 E23: Each student gives an opinion in groups
 26 E24: SSNs give an opinion in the group
 27 E25: Each student is involved in a presentation (question and answer)
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29 At the lowest level (A1-E25) are activities carried out at each learning step, which is
 30 obtained from observation activities (the thematic analytic process step). Furthermore, at the
 31 second level, it produces categories resulting from observations and interviews (within
 32 participants). The third level results in combining several categories to produce specific themes
 33 (cross participants).

34 *Emotional skill development*

35 Emotional skills development is an ability that students will possess after undergoing
 36 learning, especially using the ISM-RTM. Emotional skills development helps foster student
 37 interest in learning and fosters a motivation to learn (Vongkulluksn, Matewos, Sinatra, &
 38 Marsh, 2018; Foster, 2019). Students' positive and negative opinions towards emotional
 39 development give more positive impacts than negative impacts to develop development
 40 emotional competence better. The most challenging thing for a lecturer when teaching lecture
 41 material is to foster student interest in learning so that students want to learn the subject matter.

1 This is related to the background of each different student. Not every student has the same
2 learning ability and academic achievement. In inclusive classrooms, with differences and
3 characteristics, a lecturer must invite all students to have a positive interest in learning (Pearson
4 et al., 2019; Van der Bij, Geijsel, Garst, & Ten Dam, 2016).

5 The use of ISM-RTM through 5 stages of activity provides free space for lecturers to
6 foster student interest in learning. Students are given activities that directly practice what will
7 be learned without dictating or explaining at length and without knowing the material's
8 substance. This is consistent with the opinion of SSN below:

9 "For me, it is challenging to start learning because of the limitations of my movements.
10 Sometimes I am shy and not open enough to begin studying. But when a lecturer starts learning
11 by giving an example of someone's success, I become interested in learning".

12 The use of methods adapted to students' ability, encouragingly, will increase student
13 interest in learning (Johnson, 2017). Besides, lecturers can explain learning by linking subject
14 matter with a person's success story to learn the material. Moreover, such is the case with the
15 characteristics of students who have different backgrounds, diversity, and learning styles. In
16 the ISM-RTM, it is hoped that an exciting and enjoyable learning atmosphere can give students
17 an idea of their learning goals and the benefits that will be achieved in the future.

18 All students are actively involved in every learning activity, including students with
19 special needs. For RS, the use of the ISM-RTM can foster motivation to learn, such as the
20 opinion below:

21 "It is important for me to have the motivation to learn so that I know what I am learning
22 and what the benefits of the lesson are. My lecturer has given a concrete example in a
23 game that can motivate me to complete the instructional objectives without me knowing
24 before".

1 Fostering motivation to learn for students aims to understand the subject matter's
2 purpose to be learned. Of course, this is related to the interest in learning, which also grows at
3 the beginning of learning. High motivation to learn will make it easier for students to achieve
4 the stated lesson objectives before learning (Billingsley, Thomas, & Webber, 2018).

5 ***Cognitive skills development***

6 Cognitive skills development is the ability to think from remembering to evaluation and
7 creation, which is done by combining several ideas and ideas to solve problems. Student's
8 opinions on developing cognitive skills provided consisted of more positive opinions than
9 negative opinions. The use of the ISM-RTM model provides an opportunity for students to
10 solve problems through reading activities, discussions, understanding the contents of the
11 material read, and classifying the reading contents to conclude a particular topic. This ISM-
12 RTM model's benefits can improve student literacy, problem-solving skills, and ability to gain
13 new knowledge, which has been an issue in previous lessons or even material that has never
14 been discussed at previous meetings.

15 The use of the ISM-RTM has provided opportunities for every student to be able to
16 practice problem-solving skills. Practicing problem-solving is very important for all students,
17 including students with special needs (Karatas & Baki, 2017). It is hoped that this exercise is a
18 positive step when they work at an institution after college. Students are expected to provide
19 solutions to problems that occur at work as part of problem-solving. This is related to SSN's
20 opinion:

21 "I am ashamed to express opinions in-group members, but now I am given the
22 opportunity even encouraged by friends to be able to give opinions and ideas so that I
23 feel the same as my friends when they express an opinion."

24 Both student opinions give an overview that the use of the ISM-RTM provides an
25 opportunity for every student to be active, express opinions and ideas related to problems or

1 questions that must be solved together. Equal opportunity without discrimination and fairness
2 for each group member in expressing opinions can practice problem-solving skills more clearly
3 (Siegel-Hawley & Frankenberg, 2012).

4 Each student can express opinions or ideas that are processed from various sources to
5 be discussed together in a group forum. Reading activities and expressing their opinions are
6 felt by students to provide many benefits (Rogers & Ardoin, 2018). Among other things, add
7 insight into knowledge, understand the renewability of the source of knowledge from books,
8 journals, and opinions. And can solve problems faced by students related to the subject matter.

9 This benefit can be illustrated by one of the following regular students:

10 "I am lazy to read, but with the learning process of this RTM model, I have to read, and
11 it helps me to be diligent in reading. This greatly affects my reading activity. "

12 The ISM-RTM provides new knowledge from the subject matter being studied and
13 trains problem solving and critical thinking. Through reading activities at the beginning of
14 instruction, students must understand the material, process, and produce opinions following the
15 theory and dynamics of the development of developing science (Molotja & Themane, 2018).

16 ***Social skills development***

17 Social skills describe social interaction both between lecturers and students and
18 between students and students. Student's opinions about developing social skills provided
19 consisted of more positive opinions than negative opinions. Social skills describe social
20 interaction both between lecturers and students and between students and students. Besides,
21 good cooperation between lecturers and students and students and students will improve social
22 skills (Doyle, 2012).

23 The ISM-RTM provides opportunities for each student to understand the topic being
24 studied through discussion, question and answer, and debate activities. Through the ISM-RTM,
25 starting from the beginning of learning, lecturers have designed learning so that activities are

1 carried out in groups. The information obtained by each group member varies and complements
2 each other.

3 Some positive opinions of this collaboration, according to students, can hone one
4 another's empathy, mutual respect for opinions and increase learning activity (Elfrida Yanti
5 Siregar et al., 2019). In-group activities, selfishness can usually be reduced because there is
6 mutual respect. Even such, selfish feelings of acceptance of opinions are often seen in
7 discussion activities, especially for regular students. In addition to positive opinions, there are
8 negative opinions from collaborative activities carried out by students, such as if they do not
9 agree or disagree with SSNs; it is not uncommon for SSNs to get bullied, especially in the form
10 of verbal expression. This feeling of getting bullied remains when SSNs attend group
11 discussion forums. This opinion can be seen in the opinion of SSNs below:

12 "I was a bit worried when my discussion and opinion were not considered. I am afraid
13 of getting bullied by other students. This is because several times, I've felt it".

14 The ISM-RTM can train this sense of cooperation through the stages of the learning
15 model. Like the discussion stage, summarize and clarify stages, which provide equal
16 opportunities for each group member to express their opinions. Of course, supervision from
17 the lecturer is required to proceed according to the stages and achievements key in
18 implementing ISM-RTM.

19 Every step in the ISM-RTM provides opportunities between lecturers and students and
20 students and students in all directions of learning interactions. The interaction of learning in
21 inclusive classrooms is the key to success in learning. Without interaction, lecturers find it
22 difficult to know their achievement or understanding of the material being studied.

23 In inclusive classrooms where students have diverse characteristics, learning
24 interactions become unique (Rasmitadila, Samsudin, & Prasetyo, 2019). Especially the
25 interaction between regular students and special needs students. The interaction between the

1 two must often use different methods and requires patience for the interaction to take place.
2 For regular students, they should assume that SSNs also get the same opportunities in learning,
3 expressing opinions so that they still get equal rights as other students. The RS must understand
4 the limitations and weaknesses of every SSN so that the attendance and opinions of SSNs are
5 as important as the presence and opinions of the RS.

6 Differences in characteristics and the diversity of learning styles in inclusive classrooms
7 should be a concern for lecturers. This greatly affects the achievement of all students and the
8 class to understand the material being studied. Interaction in learning is about teachers knowing
9 about the achievement of learning outcomes and understanding what difficulties students face
10 when studying (Harper, 2018).

11 **Conclusion and Recommendation**

12 Student opinions about the use of the ISM-RTM positively impacted emotional skills
13 development, cognitive skills, and social skills for all students, including SSNs. Emotional
14 skills development was evident by the growing interest in learning and increased motivation to
15 learn. The development of cognitive skills was shown by the growth of a literacy culture,
16 practice as a problem solver, and increased new knowledge for students related to the topic or
17 material being studied. The development of social skills is shown by the formation of
18 cooperation between students and the occurrence of interactions in learning activities.

19 The use of the ISM-RTM is very suitable for inclusive classrooms in higher education.
20 The ISM-RTM can accommodate all the needs of students with various characteristics, learning
21 styles, and strengths and weaknesses when implementing learning.

22 **Acknowledgments**

23 This work was supported by the Ministry of Research, Technology, and Higher
24 Education of the Republic of Indonesia through Grant the Assistance with Special Learning
25 Innovations in Higher Education, 2019.

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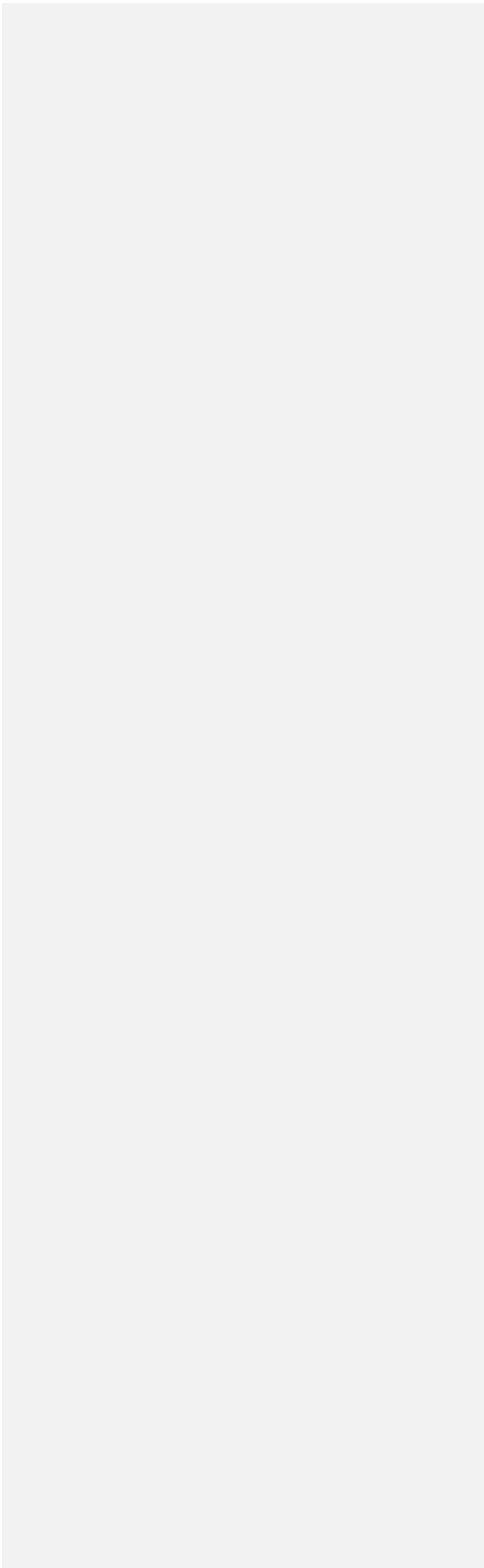
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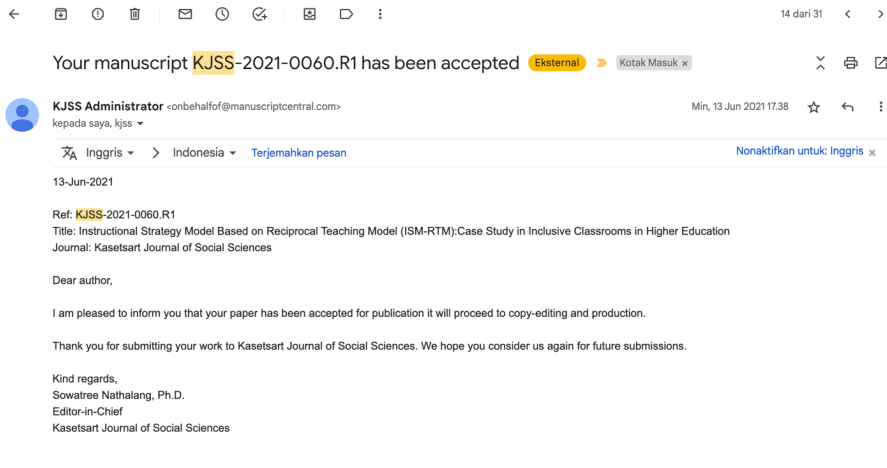
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**8. Bukti konfirmasi keputusan dari Editor (accepted)
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Author Dashboard

Author Dashboard

- 2 Manuscripts with Decisions >
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- 5 Most Recent E-mails >

Manuscripts with Decisions

ACTION	STATUS	ID	TITLE	SUBMITTED	DECISIONED
	ADM: Administrator, KJSS	KJSS-2021-0060.R1	Instructional Strategy Model Based on Reciprocal Teaching Model (ISM-RTM):Case Study in Inclusive Classrooms in Higher Education View Submission	03-Jun-2021	13-Jun-2021
	<ul style="list-style-type: none"> • Accept (13-Jun-2021) • Awaiting Production Checklist 				
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9. Bukti konfirmasi revisi dari Copyeditor

1 **(30 Agustus 2021)**

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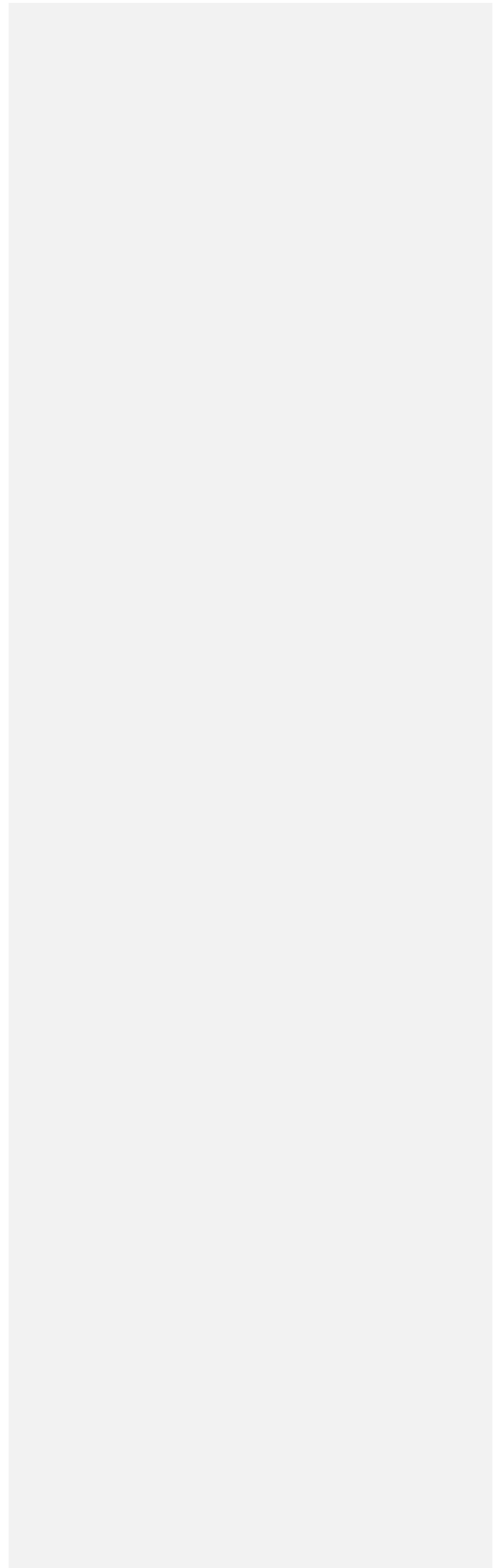
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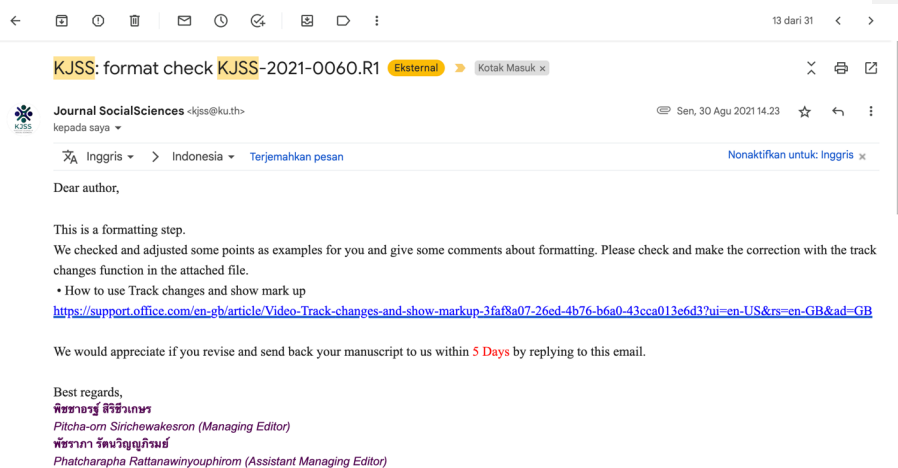
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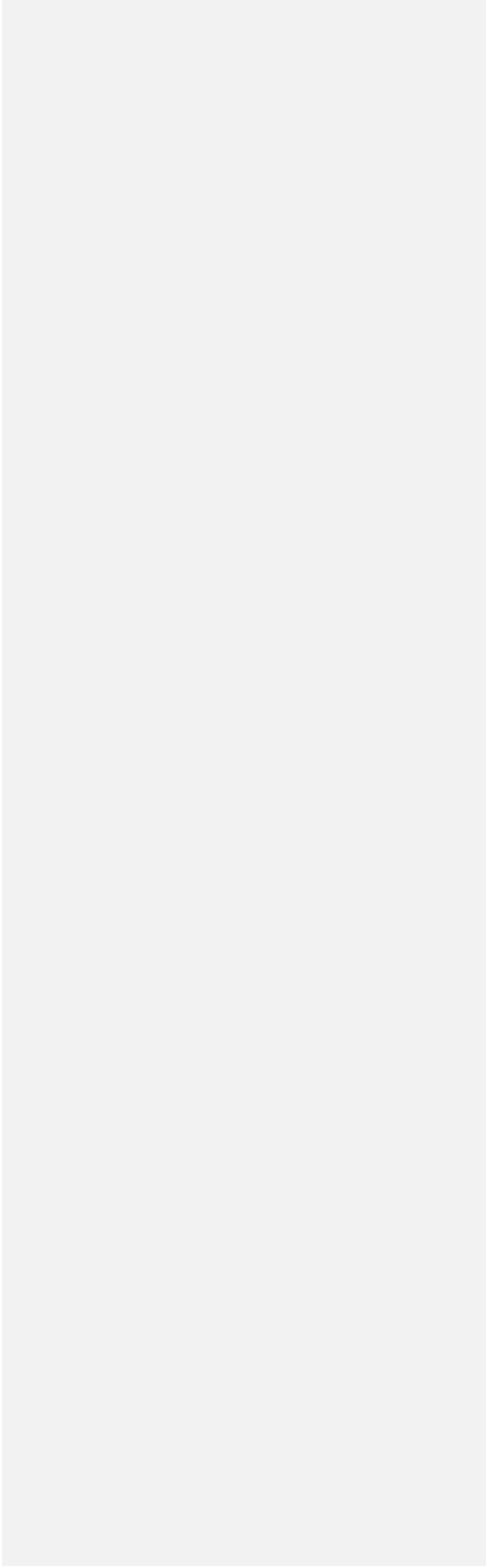
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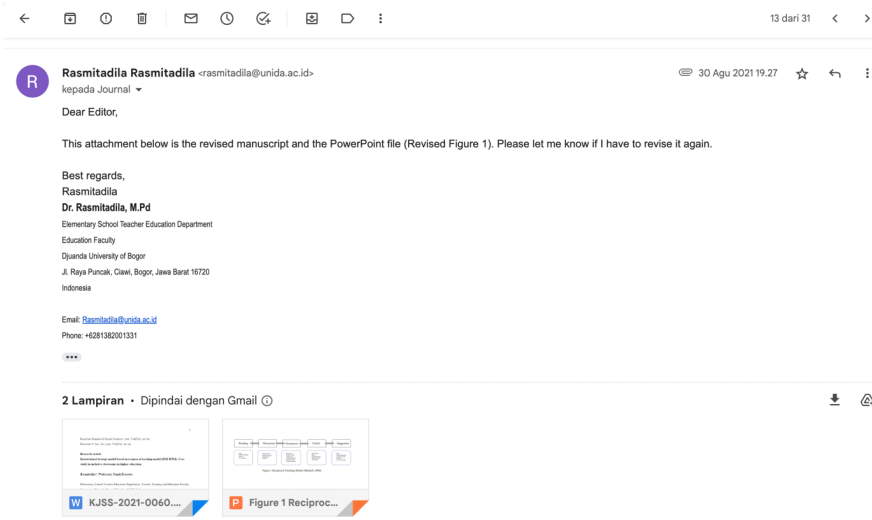


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**10. Konfirmasi bukti revisi artikel hasil copyeditor
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2 **Research Article**3 **Instructional strategy model based on reciprocal teaching model (ISM-RTM): Case study**
4 **in inclusive classrooms in higher education**

5

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7

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1 **Abstract**

2

3 Instructional strategies in inclusive classrooms in higher education have not become an
4 essential concern for lecturers who teach in inclusive classrooms. During this time, instruction
5 has not accommodated all students' needs and competencies with various characteristics and
6 learning styles. This research aims to identify students' opinions about implementing the
7 instructional strategy model based on the reciprocal teaching model (ISM-RTM) in inclusive
8 classrooms in the university. Data were gathered using classroom observations, and face-to-
9 face interviews with 24 teacher students (22 females; 2 males), consisting of 22 regular students
10 (RS) and 2 students with special needs (SSNs). Data analysis used a qualitative analysis model
11 with three steps. The study results revealed that the ISM-RTM could achieve competency,
12 namely, develop emotional skills, cognitive skills, and social skills in all students. In
13 conclusion, the implementation of ISM-RTM was suitable for instruction in inclusive
14 classrooms with the different characteristics, learning styles, and specificity of students in
15 higher education

16

17 **Introduction**

18

19 Instruction in inclusive classrooms in higher education determines the competencies
20 that all students will obtain, including special needs students (SSN). The competencies that all
21 students will possess will largely determine students' success when entering the workforce
22 (Patrick, Worthen, & Frost, 2018). Learning must involve communication, collaboration,
23 innovation, and critical thinking to fulfill all the competencies needed of worked properly.
24 Lecturers must design instruction that can accommodate all students' needs with different

1 characteristics, strengths, and different learning styles to fulfill all the skills students must
2 possess (Ungar, Margalio, Grobgeld, & Leshem, 2018).

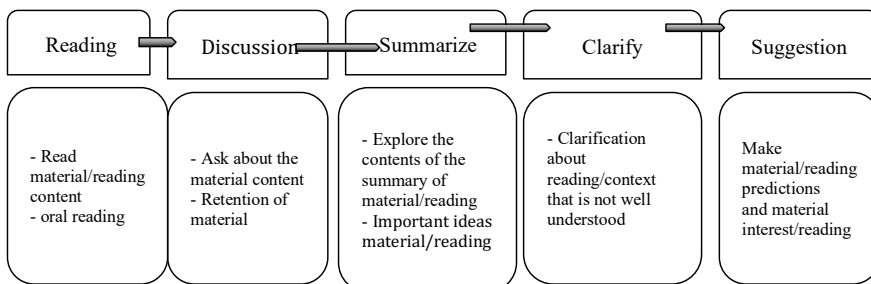
3 To achieve instructional objectives that can meet the needs and competencies, the
4 lecturer must design instructional strategies that can accommodate students' characteristics.
5 Lecturers must create instructional strategies that can involve activeness, collaboration, and
6 respect for all the limitations and weaknesses of all students (Sayeski, 2009; Buli-Holmberg &
7 Jeyaprabhan, 2016). For the instructional strategy to be compatible with inclusive classrooms'
8 characteristics, the lecturer must understand all students' characteristics, learning styles,
9 weaknesses, and strengths. This is so that we can achieve all student competencies following
10 instructional objectives (Gregory & Chapman, 2012).

11 But the fact is, there are still many lecturers who do not understand, plan and implement
12 learning or instructional strategies that are friendly and follow the characteristics of inclusive
13 classrooms. Various problems faced by lecturers in inclusive classes related to instruction in
14 higher education are still limited to complete the obligation to deliver subject matter, without
15 regard to the real instructional objectives (Molina, Perera Rodríguez, Melero Aguilar, Cotán
16 Fernández, & Moríña, 2016; Ostrow Michel, 2019). Lecturers do not understand students'
17 characteristics, especially SSN, and continue using one-way instructional methods with the
18 lecturer as a learning center. The impact is that not all competencies that students should obtain
19 can be optimally accommodated. For this reason, instructional strategies should be an essential
20 concern for lecturers before carrying out learning to achieve instructional objectives following
21 predetermined (Ávila et al., 2019).

22 One instructional strategy that can develop student skills in inclusive classrooms is an
23 instructional strategy model based on the reciprocal teaching model (ISM-RTM) (Mitchell,
24 2008). The ISM-RTM is a model that can maximize student competency in learning activities
25 for all students, including students with special needs (Cárdenas & López-Pinzón, 2019;

1 Palincsar, 2019; Brown & Palincsar, 1987), a set of learning plans that involve students in
 2 developing cognitive aspects influenced by interactions with people who have extensive
 3 knowledge, such as experts, educators, parents, and peers who encourage students to have more
 4 expertise be more competent (Clark, 2003; Rosenshine & Meister, 1994). Meanwhile, ISM-
 5 RTM involves all class members learning from each other. Lecturers can facilitate learning by
 6 grouping students in groups consisting of students with special needs and regular students, so
 7 they teach one another. The purpose of the ISM-RTM is to provide reading or cognitive
 8 understanding, provide learning experiences, and improve the affective aspects of mutual
 9 respect and empathy between students to achieve learning targets following the lecturer's goals
 10 (Mitchell, 2008).

11



12 **Figure 1** Reciprocal Teaching Model (Mitchell, 2008)

13

14 ISM-RTM is an instructional model with 5 stages with each stage consisting of specific
 15 activities. First stage is reading that provides the opportunity for students to read material
 16 (reading text) which is done by reading silently, or orally according to the student's abilities.
 17 The second stage is discussion that carried out by asking a number of questions about the
 18 reading content and providing opportunities for students to provide additional questions. This
 19 discussion aims to provide an in-depth understanding of the reading content, through
 20 interesting questions in order to obtain interesting information from the content / subject matter.

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1 The third stage is summarize that make statement sentences related to points or conclusions
2 from the content/subject matter, through discussions that have been carried out. The fourth
3 stage is clarify or confirm the content/material that has been studied if there are still statements
4 that are doubtful or unclear. The fifth stage is suggestion that give suggestions and ask students
5 to make a "prediction" of the next content / material that involves previous knowledge through
6 symbols, pictures, graphics or issues that aim to make students have an interest in learning the
7 next lesson content (Mitchell, 2008).

8 The purpose of this study is to explore student opinions about the competencies of
9 implementation of the ISM-RTM in inclusive classrooms in higher education.

10

11 **Methodology**

12

13 This study used a qualitative approach with a case study to identify student opinions
14 about the ISM-RTM in inclusive classrooms in higher educations. A qualitative approach
15 explores people's opinions or thoughts more deeply about the topic being studied (Khotari,
16 2004).

17

18 *Participants*

19

20 Participants in this study came from one of the inclusive classrooms in the elementary
21 school curriculum development course at one of the private institutions of higher education in
22 West Java, Indonesia. The students involved were 5th-semester, with a total of twenty-four
23 ($N = 24$) students consisting of twenty-two females and two males with an age range of 18–19
24 years old. The number of SSN (2 males) in this classroom was two in the cerebral palsy
25 category, and another was categorized as a slow learner.

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1 Characteristics of a student with cerebral palsy in this class were an abnormality in one
2 of the arms and fingers that could not be moved, so there was a limited movement in the right-
3 hand area. While slow learner students with characteristics have low learning motivation, low
4 learning outcomes, and weak interaction and communication, such was the case with the slow
5 learner student in this study. Lecturers involved in learning were female lecturers with teaching
6 experience for seven years and had competence in inclusive classroom learning.

7

8 *Material and Methods*

9

10 The research was conducted in one of the private universities that openly accept all
11 students' characteristics, both RS and SSN. Some types of SSNs who have been accepted are
12 slow learners, cerebral palsy, ADHD, learning difficulties, bipolar, limited vision (low vision).
13 This university-based on Islamic Tauhid (Monotheism) provides opportunity and justice for
14 every student to get an education without exception.

15 Classrooms are set according to class categories that have SSNs. Arrangement of
16 physical facilities such as chairs, tables, or other learning tools illustrates the academic
17 conditions that can create a conducive learning environment for all students to develop all their
18 potential, including SSNs. Instruction is carried out inside and outside the classroom with
19 various instructional methods such as observation, discussion, and practice.

20 During this study, the course used was the elementary school's curriculum
21 development, with five meetings, with each meeting consisting of 1.5 hours to 2 hours of face-
22 to-face learning. Instructional materials included the curriculum's basic concepts, curriculum
23 development foundation, curriculum components, curriculum design, and curriculum
24 development models. Besides to fulfill regular instructional materials and major research,
25 lecturers created ISM-RTM. Table 1 below is an example of an ISM-RTM:

1 **Table 1** An example of Implementation of ISM-RTM

2

No	Material / Topic of learning	RTM	Steps / Learning Sequence Learning	Method	Media	Materials	Assessment	Time allocation
1	The basic concept of curriculum							
Initial instructional activities								
		Reading	a. Lecturers provide reading material or references that students must read with their respective groups. b. Each group found a problem that occurred following the topic of the	Exercise Discussion	Infocus Powerpoint	e-book journal	Discussion rubric	20 minutes
Main Instructional Activities								
		Discussion	a. The lecturer asks each group to divide their group members between choosing one topic to focus on. b. Lecturers created small discussion groups with the same issue as other groups or expert groups. c. Every group member who has the same topic discusses the topic regarding a problem.	Jigsaw Discussion	Infocus Powerpoint	e-book journal	discussion rubric	20 minutes
		Summarize	a. Each group member returns to his homegroup. b. Each origin group explains each topic from the expert group. c. Each origin group presents the topics that are considered the most important to be displayed.	Jigsaw Discussion of	Infocus Powerpoint	Journal e-book	Rubric	35 minutes
		Clarify	a. Each group discusses, and the teacher asked all groups to argue with other groups and give an opinion	Discussion on	Infocus Powerpoint	Journal e-book	-	25 minutes
Closing Activities								
		Suggestion	a. The lecturer explains the topic that each group still debates. b. Lecturer makes a conclusion	Expository			-	15 minutes

Lecturer Reflection on instruction:

The advantages of today's learning are that all students, including SSN, actively discussed and gave opinions. Each group leader provided equal opportunity for group members to be able to give their opinions. Each group could already explain the purpose of the topic being studied.

Weaknesses: There are still students who are not confident when presenting or speaking in front of the class, including SSN, so they must practice often.

For future efforts, SSN must be given a "bigger" portion so that their self-confidence is higher and their motivation for learning will be better.

Data Collection

Data collection was done through several data sources, namely classroom observation, interviews, and documentation. Observations were conducted to determine the instructional process for all the class members on the learning process using the ISM-RTM from the initial instruction to the end instruction. The observation instrument was used an observation guide related to instruction using the ISM-RTM. The interview was conducted with a semi-structured face-to-face session, which had been designed to identify SNSs opinions. The questions provided consisted of twelve open questions to get more in-depth data. Two experts validated interview questions with instructional design and inclusive education expertise, which upon revisions were made according to the expert's direction.

The interview stage was conducted for three days, with ten people of 24 students every day, with an average of 3–4 hours. Primary data was collected from video audio recordings, particularly to the instructional process used in ISM-RTM. The recording done in the instructional process using video and voice messages by placing a camera in front of the class to facilitate all observations. Meanwhile, the researcher holds the other camera to participate in all lecturer and student activities during the instructional process. There are fourteen observations in instruction, with each observation duration of 1.5–2 hours. The researcher considers that only the application of the ISM-RTM that has been appropriately implemented will be selected. For that, the researcher chose five observational data from fourteen observations. Furthermore, the recordings were interpreted in several transcripts, which became the basis for making data analysis.

Instruments

The instruments used consisted of two types, namely observation and interview.

The observation instrument consists of an observation guide based on the conceptual definition of the ISM-RTM. The guide focuses on 5 steps that have been designed in the form of learning content. Researchers must ensure that each step has been carried out by the lecturer (given a checklist). Meanwhile, the interview instrument consisted of twelve open questions, which were given to RSs and SSNs. The interview technique used was a semi-structured and open-ended interview type. So that researchers can explore every question and answer from each student. The interview instruments consist of three general parts, namely students' understanding of ISM-RTM, the benefits of using ISM-RTM, and obstacles in implementing ISM-RTM in an inclusive classroom. Both RSs and SSNs are given the same questions, so that researchers can explore each student's answer, although in the end there are answers that vary depending on student characteristics.

Data Analysis

Data analysis was performed using a qualitative analysis model (Spradley, 2016; Jamaris & Hartati, 2017) consisting of three steps, namely: (1) thematic analysis of all participants, observing the instructional process from the initial instructional to the end of instruction to all class members, create field notes, and coding; (2) within-participants thematic analysis; making some categories to be specific themes; and (3) cross participant analysis, determine common themes. Furthermore, determining a cultural theme is the final step in data analysis to implement the ISM-

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RTM in inclusive classrooms in higher educations. Table 2 describes the process used in the results of data analysis:

Table 2 Qualitative analysis model (Spradley (2016; Jamaris & Hartati (2017)

Included Term	Semantic Relation	Cover Term
- Foster interest in learning - Increase learning motivation	Is part of	Emotional skill development
- Growing a culture of literacy - problem-solving skills - Practicing-Adding new knowledge	Is part of	Cognitive skill development
- Improve collaboration - Improve learning interactions	Is part of	Social skill development

Results and Discussion

The results of data analysis are illustrated in Figure 2 below:

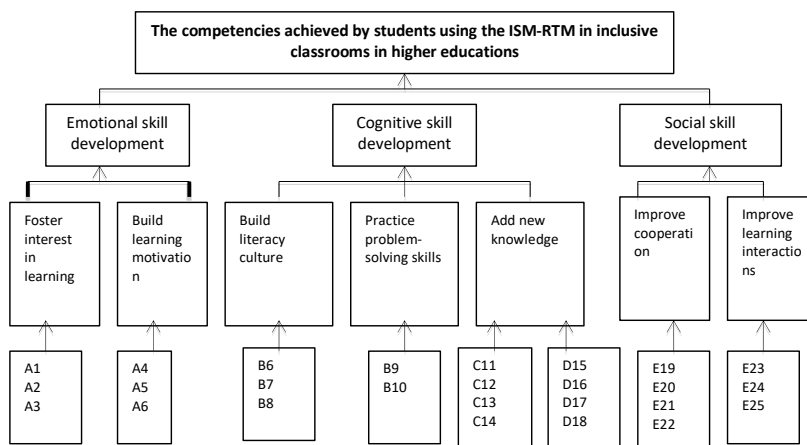


Figure 2 Competencies achieved by students using the ISM-RTM model in inclusive classrooms

*Notes:*A1 = Lecturer sings together with the students; A2 = Lecturer creates a game in class; A3 = Lecturer presents an example case; A4 = Lecturer explains the benefits of the lesson; A5 = Lecturer explains the lesson's linkage to daily life; A6 = Lecturer asks about problems that are relevant to the topic; B6 = Lecturer gives the topic of reading; B7 = The lecturer provides a chance for each student to make important points from reading; B8 = Students focus on reading material that is not yet understood or that is important to discuss; B9 = Students look for reading material that is the same as the topic to be addressed; B10 = Lecturer makes opening questions for a case; C11 = Lecturer provides opportunities to each group member to discuss the topic according to the reading; C12 = Each group member presents reading material that is the focus and topic according to their task; C13 = Each group member exchanges reading material with other group members with the same topic; C14 = Each group member with the same topic and focus has a discussion; D15 = Each group member returns to his group early to discuss ; D16 = Each group member provides opinions and solutions to the topic in the form of a problem; D17 = The lecturer allows each group to present the problem according to the topic; D18 = The lecturer gives clarification and understanding to all students ; E19 = Students work and study together in a group; E20 = Regular students discuss with SSNs; E21 = Regular students listen to SSNs' opinions; E22 = All students play together in a group; E23 = Each student gives an opinion in groups; E24 = SSNs give an opinion in the group; E25 = Each student is involved in a presentation (question and answer)

At the lowest level (A1-E25) are activities carried out at each learning step, which is obtained from observation activities (the thematic analytic process step). Furthermore, at the second level, it produces categories resulting from observations and interviews (within participants). The third level results in combining several categories to produce specific themes (cross participants).

Emotional Skill Development

Emotional skills development is an ability that students will possess after undergoing learning, especially using the ISM-RTM. Emotional skills development helps foster student interest in learning and fosters a motivation to learn (Vongkulluksn, Matewos, Sinatra, & Marsh, 2018; Foster, 2019). Students' positive and negative opinions towards emotional development give more positive impacts than negative impacts to develop development emotional competence

better. The most challenging thing for a lecturer when teaching lecture material is to foster student interest in learning so that students want to learn the subject matter. This is related to the background of each different student. Not every student has the same learning ability and academic achievement. In inclusive classrooms, with differences and characteristics, a lecturer must invite all students to have a positive interest in learning (Pearson et al., 2019; Van der Bij, Geijsel, Garst, & Ten Dam, 2016).

The use of ISM-RTM through 5 stages of activity provides free space for lecturers to foster student interest in learning. Students are given activities that directly practice what will be learned without dictating or explaining at length and without knowing the material's substance. This is consistent with the opinion of SSN below:

"For me, it is challenging to start learning because of the limitations of my movements. Sometimes I am shy and not open enough to begin studying. But when a lecturer starts learning by giving an example of someone's success, I become interested in learning".

The use of methods adapted to students' ability, encouragingly, will increase student interest in learning (Johnson, 2017). Besides, lecturers can explain learning by linking subject matter with a person's success story to learn the material. Moreover, such is the case with the characteristics of students who have different backgrounds, diversity, and learning styles. In the ISM-RTM, it is hoped that an exciting and enjoyable learning atmosphere can give students an idea of their learning goals and the benefits that will be achieved in the future.

All students are actively involved in every learning activity, including students with special needs. For RS, the use of the ISM-RTM can foster motivation to learn, such as the opinion below:

“It is important for me to have the motivation to learn so that I know what I am learning and what the benefits of the lesson are. My lecturer has given a concrete example in a game that can motivate me to complete the instructional objectives without me knowing before.”

Fostering motivation to learn for students aims to understand the subject matter's purpose to be learned. Of course, this is related to the interest in learning, which also grows at the beginning of learning. High motivation to learn will make it easier for students to achieve the stated lesson objectives before learning (Billingsley, Thomas, & Webber, 2018).

Cognitive Skills Development

Cognitive skills development is the ability to think from remembering to evaluation and creation, which is done by combining several ideas and ideas to solve problems. Student's opinions on developing cognitive skills provided consisted of more positive opinions than negative opinions. The use of the ISM-RTM model provides an opportunity for students to solve problems through reading activities, discussions, understanding the contents of the material read, and classifying the reading contents to conclude a particular topic. This ISM-RTM model's benefits can improve student literacy, problem-solving skills, and ability to gain new knowledge, which has been an issue in previous lessons or even material that has never been discussed at previous meetings.

The use of the ISM-RTM has provided opportunities for every student to be able to practice problem-solving skills. Practicing problem-solving is very important for all students, including students with special needs (Karatas & Baki, 2017). It is hoped that this exercise is a positive step

when they work at an institution after college. Students are expected to provide solutions to problems that occur at work as part of problem-solving. This is related to SSN's opinion:

“I am ashamed to express opinions in-group members, but now I am given the opportunity even encouraged by friends to be able to give opinions and ideas so that I feel the same as my friends when they express an opinion.”

Both student opinions give an overview that the use of the ISM-RTM provides an opportunity for every student to be active, express opinions and ideas related to problems or questions that must be solved together. Equal opportunity without discrimination and fairness for each group member in expressing opinions can practice problem-solving skills more clearly (Siegel-Hawley & Frankenberg, 2012).

Each student can express opinions or ideas that are processed from various sources to be discussed together in a group forum. Reading activities and expressing their opinions are felt by students to provide many benefits (Rogers & Ardoin, 2018). Among other things, add insight into knowledge, understand the renewability of the source of knowledge from books, journals, and opinions. And can solve problems faced by students related to the subject matter. This benefit can be illustrated by one of the following regular students:

“I am lazy to read, but with the learning process of this RTM model, I have to read, and it helps me to be diligent in reading. This greatly affects my reading activity.”

The ISM-RTM provides new knowledge from the subject matter being studied and trains problem solving and critical thinking. Through reading activities at the beginning of instruction, students must understand the material, process, and produce opinions following the theory and dynamics of the development of developing science (Molotja & Themane, 2018).

Social Skills Development

Social skills describe social interaction both between lecturers and students and between students and students. Student's opinions about developing social skills provided consisted of more positive opinions than negative opinions. Social skills describe social interaction both between lecturers and students and between students and students. Besides, good cooperation between lecturers and students and students and students will improve social skills (Doyle, 2012).

The ISM-RTM provides opportunities for each student to understand the topic being studied through discussion, question and answer, and debate activities. Through the ISM-RTM, starting from the beginning of learning, lecturers have designed learning so that activities are carried out in groups. The information obtained by each group member varies and complements each other.

Some positive opinions of this collaboration, according to students, can hone one another's empathy, mutual respect for opinions and increase learning activity (Yulia Elfrida Yanty Siregar, Rachmadtullah, Pohan, Rasmitadila, & Zulela 2019). In-group activities, selfishness can usually be reduced because there is mutual respect. Even such, selfish feelings of acceptance of opinions are often seen in discussion activities, especially for regular students. In addition to positive opinions, there are negative opinions from collaborative activities carried out by students, such as if they do not agree or disagree with SSNs; it is not uncommon for SSNs to get bullied, especially in the form of verbal expression. This feeling of getting bullied remains when SSNs attend group discussion forums. This opinion can be seen in the opinion of SSNs below:

"I was a bit worried when my discussion and opinion were not considered. I am afraid of getting bullied by other students. This is because several times, I've felt it."

The ISM-RTM can train this sense of cooperation through the stages of the learning model. Like the discussion stage, summarize and clarify stages, which provide equal opportunities for each group member to express their opinions. Of course, supervision from the lecturer is required to proceed according to the stages and achievements key in implementing ISM-RTM.

Every step in the ISM-RTM provides opportunities between lecturers and students and students and students in all directions of learning interactions. The interaction of learning in inclusive classrooms is the key to success in learning. Without interaction, lecturers find it difficult to know their achievement or understanding of the material being studied.

In inclusive classrooms where students have diverse characteristics, learning interactions become unique (Rasmitadila, Samsudin, & Prasetyo, 2019). Especially the interaction between regular students and special needs students. The interaction between the two must often use different methods and requires patience for the interaction to take place. For regular students, they should assume that SSNs also get the same opportunities in learning, expressing opinions so that they still get equal rights as other students. The RS must understand the limitations and weaknesses of every SSN so that the attendance and opinions of SSNs are as important as the presence and opinions of the RS.

Differences in characteristics and the diversity of learning styles in inclusive classrooms should be a concern for lecturers. This greatly affects the achievement of all students and the class to understand the material being studied. Interaction in learning is about teachers knowing about the achievement of learning outcomes and understanding what difficulties students face when studying (Harper, 2018).

Conclusion and Recommendation

Student opinions about the use of the ISM-RTM positively impacted emotional skills development, cognitive skills, and social skills for all students, including SSNs. Emotional skills development was evident by the growing interest in learning and increased motivation to learn. The development of cognitive skills was shown by the growth of a literacy culture, practice as a problem solver, and increased new knowledge for students related to the topic or material being studied. The development of social skills is shown by the formation of cooperation between students and the occurrence of interactions in learning activities.

The use of the ISM-RTM is very suitable for inclusive classrooms in higher education. The ISM-RTM can accommodate all the needs of students with various characteristics, learning styles, and strengths and weaknesses when implementing learning.

Conflict of Interest

There is no conflict of interest

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Acknowledgments

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