LEMBAR REVIEW
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Prosiding : The Implementation of Reciprocal Teaching Model at Grade 7th of SMPN 7 Bulukumba

Penulis Prosiding : Asmaul Husna Rasyid, **Nurwati Djam'an** (Co.Author), Awi Dassa

Identitas Prosiding :
a. Judul Prosiding : Proceeding ICoESM
b. DOI : 10.2991/assehr.k.211211.002
c. Tahun Terbit : 2021
d. Penerbit : Atlantis Press
e. Terindeks di : Google Scholar

Kategori Publikasi Ilmiah :

(Beri √ pada kategori yang tepat)

- ☐ Prosiding Seminar Internasional Terindeks Scimagojr dan Scopus.
- ☐ Prosiding Seminar Internasional Terindeks pada Scopus, IEEE Explore, SPIE.
- ☑ Prosiding Seminar Internasional.
- ☐ Prosiding Nasional Terakreditasi.
- ☐ Prosiding Nasional tidak terakreditasi.

Hasil Penilaian Peer Review :

Komponen yang dinilai	Nilai Maksimal Prosiding = 15					Nilai Akhir Yang Diperoleh
	Internasional terindeks scimagojr dan Scopus	Internasional terindeks pada scopus, IEEE, Explore, SPIE	Internasional	Nasional Terakreditasi	Nasional Tidak Terakreditasi	
Kelengkapan Unsur Isi Prosiding (10%)			1,8			1,45
Ruang lingkup dan kedalaman pembahasan (30%)			4,5			4,35
Kecukupan dan kemutahiran data/informasi dan			4,8			4,45

metodologi (30%)						
Kelengkapan Unsur dan Kualitas Penerbit (30%)			4,6			4,125
Total = (100%)			15			14,15
Kontribusi Pengusul (Penulis Pertama/Anggota Utama 0,9 × 14,15 = 5,80						

Komentar/Ulasan Peer Review	
Kelengkapan dan Kesesuaian Unsur:	Unsur" tulisan lengkap dan sesuai dengan kaidah penulis internasional
Ruang Lingkup dan Kedalaman Pembahasan	Ruang lingkup pembahasan bagus
Kecukupan dan kemutakhiran Data & Metodologi	Data dan metodologi yang digunakan mutakhir
Kelengkapan Unsur dan Kualitas Penerbit	Kualitas penerbit baik
Indikasi Plagiasi	Indikasi plagiasi sangat rendah
Kesesuaian Bidang Ilmu	Sesuai dengan bidang ilmu penulis

Makassar, 12 Mei 2023

Reviewer 1

Prof. Dr. Nurdin Arsyad, M.Pd.
NIP. 196704241992031002
Unit kerja: Fakultas MIPA UNM

LEMBAR HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : Disajikan dalam seminar internasional/Nasional dan dimuat dalam *proceeding*

Judul Prosiding	:	The Implementation of Reciprocal Teaching Model at Grade 7th of SMPN 7 Bulukumba
Penulis Prosiding	:	Asmaul Husna Rasyid, **Nurwati Djam'an** (Co.Author), Awi Dassa
Identitas Prosiding	:	a. Judul Prosiding : Proceeding ICoESM b. DOI : 10.2991/assehr.k.211211.002 c. Tahun Terbit : 2021 d. Penerbit : Atlantis Press e. Terindeks di : Google Scholar

Kategori Proceeding (beri □pada kategori yang tepat) :

- ☐ Jurnal Ilmiah Internasional Bereputasi
- ☐ Jurnal Ilmiah Internasional
- ☐ Jurnal Ilmiah Nasional Terakreditasi
- ☐ Jurnal Ilmiah Nasional tidak Terakreditasi
- ☐ Jurnal Ilmiah Nasional Terindeks DOAJ dll.
- ☑ Prosiding Forum Ilmiah Internasional
- ☐ Prosiding Forum Ilmiah Nasional
- ☐ Laporan Penelitian

I. Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah/ (isikan di kolom yang sesuai)										Prosiding Forum IlmiahIlmiah				Laporan Penelitian		Nilai Akhir Yang Diperoleh	
	Internasional Bereputasi		Internasional		Nasional Terakreditasi		Nasional Tidak Terakreditasi		Nasional Terindeks DOAJ dll.		Internasional		Nasional					
	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2	P1	P2
Kelengkapan dan Kesesuaian unsur isi jurnal (10%)											1,45	1,4					1,425	
Ruang lingkup dan kedalaman pembahasan (30%)											4,35	4,4					4,375	

Kecukupan dan kemutahiran data/ informasi dan metodologi (30%)											4,45	4,4					4,425	
Kelengkapan unsur dan kualitas penerbit (30%)											4,5	4,4					4,45	
Total = (100%)											14,5	14,4					14,55	
Kontribusi Pengusul (Penulis Pertama/Anggota)															0,4 x		14,55 =	5,82

KOMENTAR/ULASAN PEER REVIEW	
•Kelengkapan dan Kesesuaian Unsur:	oke
•Ruang Lingkup dan Kedalaman Pembahasan :	oke
•Kecukupan & Kemutakhiran Data & Metodologi:	oke
•Kelengpan Unsur & Kualitas Penerbit	oke
•Indikasi Plagiasi	oke
•Kesesuaian Bidang Ilmu	oke

Makassar, 12 Mei 2023

Penilai 1

Prof. Dr. Nurdin Arsyad, M.Pd.
NIP 196704241992031002
Unit kerja : FMIPA UNM
Bidang Ilmu :Pendidikan Matematika
Jabatan/Pangkat : Guru Besar/ IV E

Penilai 2

Prof. Syafruddin Side, M.Si., Ph.D
NIP 197202021997021002
Unit kerja : FMIPA UNM
Bidang Ilmu : Matematika
Jabatan/Pangkat : Guru Besar/ IV D

LEMBAR REVIEW
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING

Judul Prosiding : The Implementation of Reciprocal Teaching Model at Grade 7th of SMPN 7 Bulukumba

Penulis Prosiding : Asmaul Husna Rasyid, **Nurwati Djam'an** (Co.Author), Awi Dassa

Identitas Prosiding :
a. Judul Prosiding : Proceeding ICoESM
b. DOI : 10.2991/assehr.k.211211.002
c. Tahun Terbit : 2021
d. Penerbit : Atlantis Press
e. Terindeks di : Google Scholar

Kategori Publikasi Ilmiah :

(Beri √ pada kategori yang tepat)

- ☐ Prosiding Seminar Internasional Terindeks Scimagojr dan Scopus.
- ☐ Prosiding Seminar Internasional Terindeks pada Scopus, IEEE Explore, SPIE.
- ☑ Prosiding Seminar Internasional.
- ☐ Prosiding Nasional Terakreditasi
- ☐ Prosiding Nasional tidak terakreditasi.

Hasil Penilaian Peer Review :

Komponen yang dinilai	Nilai Maksimal Prosiding = 15					Nilai Akhir Yang Diperoleh
	Internasional terindeks scimagojr dan Scopus	Internasional terindeks pada scopus, IEEE, Explore, SPIE	Internasional	Nasional Terakreditasi	Nasional Tidak Terakredi . tasi	
Kelengkapan Unsur Isi Prosiding (10%)			1,5			1,4
Ruang lingkup dan kedalaman pembahasan (30%)			4,5			4,4
Kecukupan dan						

kemutahiran data/informasi dan metodologi (30%)			4,5			4,4
Kelengkapan Unsur dan Kualitas Penerbit (30%)			4,5			4,4
Total = (100%)			15			14,6
Kontribusi Pengusul (~~Penulis Pertama~~/Anggota) = 0,4 x 14,6 = 15,84						

Komentar/Ulasan Peer Review	
Kelengkapan dan Kesesuaian Unsur:	Unsur ⓦ prosiding internasional terpenuhi dan sesuai dengan ~~t~~emplate
Ruang Lingkup dan Kedalaman Pembahasan	Ruang lingkup dan kedalaman kajian cukup baik
Kecukupan dn kemutakhiran Data & Metodologi	Data dan metodologi yang digunakan cukup baik
Kelengkapan Unsur dan Kualitas Penerbit	Unsur dan kualitas penerbit dengan open-access journal sistem sangat baik
Indikasi Plagiasi	Indikasi plagiasi sangat rendah
Kesesuaian Bidang Ilmu	Kajian dalam artikel ini sesuai dengan bidang ilmu pengusul

Makassar, 10 Mei 2023

Reviewer 2

Prof. Syafruddin Side, M. Si., Ph.D
NIP 197202021997021002
Unit kerja: Fakultas MIPA UNM

ATLANTIS PRESS

Advances in Social Science, Education and Humanities Research, volume 611
International Conference on Educational Studies in Mathematics (ICoESM 2021)

The Implementation of Reciprocal Teaching Model at Grade 7th of SMPN 7 Bulukumba

*Asmaul Husna Rasyid[1], Nurwati Djam'an[2], Awi Dassa[3]

[1] *Mathematics Education, Postgraduate Program, Universitas Negeri Makassar*
[2] *Department of Mathematics, Universitas Negeri Makassar, Makassar, Indonesia*
[3] *Department of Mathematics, Universitas Negeri Makassar, Makassar, Indonesia*
Email: a.husna.rasyid@gmail.com

ABSTRACT

This classroom action research aimed to improve mathematics learning outcomes and students' responses by implementing the Reciprocal Teaching-Learning Model. There were 22 students of class VII B of SMPN 7 Bulukumba as participants. This research was conducted in two cycles, namely, cycle I and cycle II. Throughout the action research cycles, data was collected using learning outcomes tests, observation sheets, and students' response questionnaires. The result showed an increase in the average score of students' learning outcomes which at pre-action only reached an average of 52.95, and in cycle I, it reached an average of 70.5, and in cycle II, it reached 82.36 average scores. Based on the completeness category of learning outcomes on pre-action, it did not reach the minimum limit of 75, whereas in cycle I, it was obtained 54.55% and met the KKM, and in the second cycle, 90.91% of students reached KKM. Students' responses to mathematics learning at the pre-action stage were still negative. Only a small number of students gave a positive response. Nevertheless, in cycle I of this classroom action research, 72.72% of students responded positively to mathematics learning with the reciprocal teaching model. It increased until cycle II, where 91.47% of students responded positively to reciprocal teaching-learning in mathematics learning.

Keywords: *Mathematics, Learning outcomes, Responses, Reciprocal Teaching Models.*

1. INTRODUCTION

Education is essential for human life because education is something that is needed anytime and anywhere. Education is a process to influence students to adapt as best they can to their environment. Besides that, education also needs special attention from families, governments, and communities to realize a good quality education and be able to compete both locally and globally.

Mathematics is one of the basic sciences that students need to succeed in education. Therefore, mathematics must be learned at every level of education and must be understood. Good learning outcomes indicate a good understanding of mathematics. However, student learning outcomes can be influenced by several factors, both internal and external. The internal factor includes students' abilities, interests and attention, attitudes, and perseverance in learning, while the external factors can be the environment and the quality of teaching. The problem is that most students think that mathematics is difficult to understand, scary and tedious. Besides that, most students respond negatively to learning mathematics, causing a lack of attention during the learning process. The learning model used is still less creative and innovative, which makes students bored.

Based on the results of observations and interviews with SMPN 7 Bulukumba, researchers found the problems: (1) lack of active learning from students in this case because the learning process was still teacher-centered and slightly involved students. As a result, in the learning process, the interaction between teachers and students was not good enough so that in situations like this, students feel bored, (2) the lack of self-confidence and the courage of students to express their opinions due to the lack of motivation given by the teacher to students, (3) lack of independence because the opportunity given by the teacher to students to explore knowledge was very limited, (4) the low mathematics learning outcomes of students obtained before giving the action, i.e., 52.95 which was still below the score of Minimum Completeness Criteria (MCC), i.e., 75.

The teacher should do something to overcome the existing problems. One way is the selection of learning models. The chosen model should allow students to develop their own opinions, make them bravely speak in class, develop self-confidence, and train students' independence in learning. As a consequence, it was expected that students' learning

achievement would improve. One model that could be used was the Reciprocal Teaching model.

The reciprocal teaching-learning model is a learning model in the form of activities to teach the learning material to friends. In this learning model, students act as "teachers" to convey material to their friends. Meanwhile, the teacher acts more like a model who becomes a facilitator and mentor who does scaffolding. According to Palinscar in [1], there are four strategies, namely, question generating, clarifying, predicting, and summarizing. Through this learning model, students can develop their creativity in learning. This learning has the advantage of improving the courage to think and speak in front of the class, learn independently, and foster cooperation between students since students learn by understanding which makes them not easily forget what they have learned. This study aims to determine whether mathematics learning outcomes and student responses can be improved through reciprocal teaching.

2. METHODS

This type of research is classroom action research using reciprocal teaching. This research was carried out in two cycles. "Each cycle consisted of four stages, namely 1) Planning, 2) Implementation, 3) Observation, 4) Reflection" [2]. The research instruments used were: a) test of learning outcome carried out at the end of each cycle to determine the success and completeness of learning mathematics using the reciprocal teaching; b) Teacher activity observation sheet and student activity observation sheet to see teacher activities or teacher performance and student activity during the learning process using reciprocal teaching; c) Student response questionnaire given at the end of each cycle to determine students' learning responses to mathematics by using the reciprocal teaching.

The results of the learning outcome test were analyzed quantitatively using descriptive statistics consisting of mean, median, mode, standard deviation, variance, maximum and minimum values obtained by students. The data from teacher and student observations were analyzed qualitatively using observation sheets of teacher and student activities in the teaching and learning process and data on student responses carried out by providing student response questionnaires.

2.1. Learning Achievement

For quantitative purposes, a categorization technique was used to classify the score of learning outcomes into 4 categories based on the Minimum Completeness Criteria (MCC) set by [3], as follows:

Table 1. Categorization of Achievement Score

Scores	Categories
91-100	Very high
83-90	High
75-82	Medium
<75	Low

2. 2. Learning Activities

Data obtained from teacher and student activity observations were processed by percentages (%), namely the number of frequencies for each activity divided by all activities multiplied by 100, with the following formula:

$$P = \frac{A}{B} x\ 100\%$$

where:

P = Student response percentage

A = Number of selecting students

B = Total number of students (respondents) (Trianto, [4])

The categories of learning activities adapted from Supriyadi (2013: 120) are as follows:

Table 2. Categorization of Learning Activities

Percentages of student activity (%)	Categories
85 – 100	Very good
70 – 84	Good
55 – 69	Sufficient
50 – 54	Low
0 – 49	Very Low

2.3. Student Responses

Data about student responses were obtained from student response questionnaires. Student responses were analyzed by counting the number of students

who responded to the questions and then calculating the percentage.

The categories of student learning responses adapted from Supriyadi [5] are as follows:

Table 3. Categorization of Student Responses

Percentages of student responses (%)	Categories
85 – 100	Very positive
70 – 84	Positive
55 – 69	Neutral
50 – 54	Negative
0 – 49	Very negative

3. RESULTS AND DISCUSSION

This study was conducted to analyze students' mathematics learning outcomes. This research was carried out in class VIIB of Junior High School 7 Bulukumba with two cycles, i.e., cycle 1 and cycle 2. Each cycle was carried out in 3 meetings and consisted of planning, implementation, observation, and reflection stages.

3.1. Results

3.1. 1. Student Learning Outcomes

3.1.1.1 Cycle 1

Data on students' mathematics learning outcomes in cycle 1 were obtained by giving the written test in an essay after presenting the material for 3 meetings. The descriptive analysis of the scores of mathematics learning outcomes after applying the reciprocal teaching is as follows:

Table 4. Statistics of Student Learning Outcomes Scores in Cycle 1

Statistik	Nilai Statistik
Student number	22
Ideal score	100
Maximum	84
Minimum	46
Score range	38
Mean	70,5
Median	75
Mode	69, 75 and 76
Variance	115,30952
Standard deviation	10,73822

The description of students' complete mathematics learning outcomes after applying the reciprocal teaching in cycle 1 can be seen in the following table.

3.1.1.2 Cycle 2

Data on students' mathematics learning outcomes in cycle 2 were obtained by giving the written test in an essay after presenting the material for 3 meetings. The

Table 5. Description of Students' Mathematics Learning Completeness in Cycle 1

Scores	Criteria	f	Percentages (%)
< 75	Incomplete	10	45,45
75-100	Complete	12	54,55
Total		**22**	**100**

descriptive analysis of the scores of mathematics learning outcomes after applying the reciprocal teaching is as follows:

Table 6. Statistics of Student Learning Outcomes Scores in Cycle 2

Statistik	Nilai Statistik
Student number	22
Ideal score	100
Maximum	93
Minimum	65
Score range	28
Mean	82,36
Median	84
Mode	79
Variance	47,099567
Standard deviation	6,862

The description of students' complete mathematics learning outcomes after applying the reciprocal teaching in cycle 2 can be seen in the following table.

Table 7. Description of Students' Mathematics Learning Completeness in Cycle 2

Scores	Criteria	Frequency	Percentages (%)
< 75	Incomplete	2	9,09
75-100	Complete	20	90,91
Total		**22**	**100**

cycle 2. Therefore, the increase in students' mathematics learning completeness from cycle 1 to cycle 2 is 36.36%. This follows from the increased activity of students and teachers as well as student responses, where the percentage of student responses also increased by 18.75% from cycle 1 to cycle 2.

Relevantly, According to [6], research on reciprocal teaching has shown that there are improved comprehension results and transfer of skills to other curriculum areas

4. CONCLUSION AND SUGGESTION

4. 1. Conclusion

Based on the research results, it can be concluded that reciprocal teaching can improve the learning outcomes of class VIIB students of SMPN 7 Bulukumba on the topic of integer and fractions. It can be seen from the average learning outcome scores, which were 70.5 categorized in a low category in cycle 1 and 82.36 categorized in a medium category in cycle 2. This can also be seen from the increase in student activity and teacher activity. Student responses in the first cycle were in the average percentage of 72.72% categorized in a positive category and 91.47% in the very positive category in cycle 2.

4. 2. Suggestion

Based on the results of research that has been carried out in two cycles, there are many benefits and results obtained by researchers. However, there were also some obstacles faced during this research. Therefore, to anticipate these obstacles happen in future applications or research, the researcher provides the following recommendation as follow:

4.2.1. Mathematics teachers should be more creative in using learning models appropriate to learning material so that students are not bored in participating in learning.

4.2.2. For further research, the researcher should pay more attention to students who are less active in their groups and less confident to convey opinions in front of the class by guiding students more and providing motivation.

REFERENCES

[1] Shoimin, Aris. 2014. *68 Model Pembelajaran Inovatif Dalam Kurikulum 2013*. Yogyakarta: AR-Ruzz Media.

[2] Iskandar. 2012. *Penelitian Tindakan Kelas*. Jakarta: Referensi (GP Press Group).

[3] Direktorat Pembinaan Sekolah Menengah Atas. 2017. *Panduan Penilaian Oleh Pendidik dan Satuan Pendidikan Sekolah Menengah Atas*. Jakarta: Kementrian Pendidikan dan Kebudayaan Tahun 2017

[4] Trianto. 2012. *Panduan Lengkap Penelitian Tindakan Kelas (Classroom Action Research)*. Jakarta: Prestasi Pustakaraya.

[5] Supriyadi. 2013. *Strategi Belajar & Mengajar*. Yogyakarta: Dua Satria Offset.

[6] Ruth McAllum. Reciprocal Teaching: Critical Reflection on. Weaving educational threads. Weaving educational practice. Kairaranga – Volume 15, Issue 1: 2014

Lampiran B

KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET, DAN TEKNOLOGI
UNIVERSITAS NEGERI MAKASSAR (UNM)
FAKULTAS MATEMATIKA DAN ILMU PENGETAHUAN ALAM

Jalan Daeng Tata Kampus UNM Parangtambung, Makassar KP. 90222
Laman: http://fmipa.unm.ac.id, E-mail: mipa@unm.ac.id

SURAT PERNYATAAN
MELAKSANAKAN PENELITIAN

Yang bertanda tangan di bawah ini :

Nama	: Dr. Asdar, M.Pd.
NIP	: 197101282002121001/0028017109
Pangkat/Golongan Ruang/TMT	: Penata Tk I, Gol. III/d
Jabatan	: Ketua Jurusan Matematika
Unit Kerja	: FMIPA Universitas Negeri Makassar / Pendidikan Matematika

Menyatakan bahwa :

Nama	: Nurwati Djam'an, S.Pd.,M.Pd.,Ph.D.
NIP	: 198404032008122003/0003048401
Pangkat/Golongan Ruang/TMT	: Penata Tk I/ Gol. III/d, 1 Oktober 2020
Jabatan	: Lektor/ 1 Juli 2018
Unit Kerja	: Fakultas MIPA UNM / Pendidikan Matematika

Telah melaksanakan penelitian sebagai berikut :

No.	Uraian Kegiatan	Tanggal	Satuan Hasil	Jumlah Volume Kegiatan	Angka Kredit	Jumlah Angka Kredit	Keterangan/ Bukti Fisik
1.	2	3	4	5	6	7	8
III	**PELAKSANAAN PENELITIAN**						
III.A	**Menghasilkan Karya Ilmiah**						
A	**Hasil penelitian atau hasil pemikiran yg dipublikasikan dalam bentuk:**						
1	**Monograf, tiap monograf**						
1							
	Total						
2	**Buku referensi, tiap buku**						
1	Multiple Intelligences dalam Pembelajaran Matematika (Pengusul merupakan penulis anggota dengan 3 anggota;(40% x 40 = 16)/3 = 5.3)	2021	1 Buku Pertahun	1	40		https://1drv.ms/b/s!Ag4wx2xqlb0I3kjzlkgDl1Mmv7P6?e=Eqqndl
2	Problem Based Learning dalam Pembelajaran Matematika (Pengusul merupakan penulis anggota dengan 5 anggota;(40% x 40 = 16)/5 = 3.2)	2022	1 Buku Pertahun	1	40		https://1drv.ms/b/s!Ag4wx2xqlb0I49cExPRJan9B7J-Y?e=14jI5P
	Total					8,5	
3	**Hasil penelitian atau hasil pemikiran dalam buku yang dipublikasikan dan berisi berbagai tulisan dari berbagai penulis (book chapter):**						
A	**Internasional**						
1	Asian Research in Mathematics Education , Chapter 8: Trends In Mathematics Education Research In Indonesia (Pengusul Merupakan Penulis Utama dengan Jumlah Penulis 3= 60%x15=9)	2023	1 Buku Pertahun	1	15		https://1drv.ms/f/s!Ag4wx2xqlb0I6AokZ4tyAFtwUPcv?e=9EvTAz
B	**Nasional**						
	Total					9	
B	**Hasil penelitian atau hasil pemikiran yang dipublikasikan:**						
1	**Jurnal internasional bereputasi (terindeks pada database internasional bereputasi dan berfaktor dampak)**						
1							
	Total						
2	**Jurnal internasional terindek pada database internasional bereputasi**						
1							
	Total						
3	**Jurnal internasional terindeks pada database internasional di luar kategori 2**						
	Total						
4	**Dalam Jurnal Nasional Terakreditasi kemenristek dikti**						
1	Penerapan Model Pembelajaran Discovery Learning Terhadap Hasil Belajar Matematika ditinjau dari Minat Belajar Siswa SMP Negeri di Kota Rantepao (Pengusul merupakan penulis pendamping dari 4 anggota = (20x40%)/4= 2) ***Journal of Medives Journal of Mathematics Education IKIP Veteran Semarang***	2018	Setiap jurnal		20		Journal of Medives: Journal of Mathematics Education IKIP Veteran Semarang, Sinta 3, e-ISSN: 2549-5070, Volume 2, No. 2, 2018, pp. 253-266 https://doi.org/10.31331/medives.v2i2.597 (1 Baso Intang Sappaile (Co.Author), 2 Yusem Ba'ra, 3.Nurwati Djam'an, 4.Kadir, 5.Muhammad Darwis). Link: [illegible]

	2	Deskripsi Kemampuan Pemecahan Masalah Matematika Berdasarkan Langkah Polya Ditinjau dari Gaya Berpikir Siswa pada Kelas VIII SMP Negeri 24 Makassar (Pengusul merupakan penulis pendamping dan penulis koresponden = (15x40%)= 6) **Issues in Mathematics Education (IMED)**	2018	Setiap jurnal	1	15	6	Issues in Mathematics Education. **Sinta 5**. Vol. 2 , No. 2 (hal. 169 – 175), http://www.ojs.unm.ac.id/imed (Awi Dassa1, Nurwati Djam'an (co.auhtor), dan Andi Irda Iriana) Link: Deskripsi Kemampuan Pemecahan Masalah.pdf
	3	Deskripsi Kesulitan Pemecahan Masalah Matematika Siswa Ditinjau dari Adversity Quotient (Pengusul merupakan penulis pendamping dari 2 anggota = (15x40%)/2= 6/2 =3 **Issues in Mathematics Education (IMED)**	2019	Setiap jurnal	1	15	3	Issues in Mathematics Education. **Sinta 5.** Vol. 3 No. 1, Maret 2019 (hal. 22–29), http://www.ojs.unm.ac.id/imed (1.Amirullah (Co.Author),2.Usman Mulbar,**3.Nurwati Djam'an**) Link: Deskripsi Kesulitan Pemecahan Masalah Matematika Siswa Ditinjau.pdf
	4	Pengaruh Kecerdasan Interpersonal, Regulasi Diri, dan Kemampuan Berpikir Logis terhadap Prestasi Belajar Matematika Siswa Kelas XII SMA Negeri 2 Sengkang (Pengusul merupakan penulis pendamping dari 2 anggota = (15x40%)/2= 3) **Jurnal Nalar Pendidikan**	2019	Setiap jurnal	1	15	3	Jurnal Nalar Pendidikan. **Sinta 5**. DOI: 10.26858/jnp.v7i1.9390. ISSN: 2477-0515. Volume 7, Nomor 1, 2019. (1.Dian Kharisma(Co.Author),2.Darwing Paduppai,**3.Nurwati Djam'an**) Link: https://ojs.unm.ac.id/nalar/article/view/9390
	5	Pengembangan Buku Digital Matematika Saintifik pada Materi Persamaan Kuadrat (Pengusul merupakan penulis pendamping dari 2 anggota = (15x40%)/2= 3) **Issues in Mathematics Education (IMED)**	2021	Setiap jurnal	1	15	3	Issues in Mathematics Education. **Sinta 5.** Vol. 5 No. 2, September 2021. (hal. 172–179), http://www.ojs.unm.ac.id/imed (1.Nur Islah Asyhar (Co.Author),2.Asdar,**3. Nurwati Djam'an**) Link: https://ojs.unm.ac.id/imed/article/view/23850
	6	Analisis Kesalahan Siswa dalam Menyelesaikan Soal Statistika Ditinjau dari Kemampuan Matematika (Pengusul merupakan penulis pertama dan koresponden = (10x60%)= 6) **SAINSMAT: Journal of Applied Sciences, Mathematics, and Its Education**	2022	Setiap jurnal	1	10	6	SAINSMAT: Journal of Applied Sciences, Mathematics, and Its Education.Jurnal Nasional. ISSN: 2776-3641 (online) Vol. 11, No. 2(2022) https://doi.org/10.35877/. **(1.Nurwati Djam'an(Co.Author)**,2.Sahid,3.Fitrah Auliyah) link: https://jscimath.win/index.php/sainsmat/article/view/452
	7	Analysis of Productive Pedagogies of Pre-Service Teachers in Teaching Mathematics at School (Pengusul merupakan penulis pertama dan koresponden = (25x60%)= 15) **Jurnal Didaktik Matematika**	2022	Setiap jurnal	1	25,0	15,0	Jurnal Didaktik Matematika. **Sinta 2**. ISSN 2355-4185(p), 2548-8546(e) DOI: 10.24815/jdm.v9i2.25212 **(1.Nurwati Djam'an (Co.Author)**,2.Bernard,3.Sahid,4.Sultoni Syukri) Link: https://jurnal.usk.ac.id/DM/article/view/25212
	8	Analisis Kesalahan Siswa dalam Menyelesaikan Soal Cerita Matematika Ditinjau dari Tingkat Efikasi Diri di Kelas VII SMP Negeri 20 Makassar (Pengusul merupakan penulis pendamping dari 2 anggota = (10x40%)/2= 2) **Jurnal Profesi Pendidik dan Tenaga Kependidikan**	2022	Setiap jurnal	1	10,0	2,0	Jurnal Profesi Pendidik dan Tenaga Kependidikan. **Jurnal Nasional**. ISSN: 2476-9835. Volume7, Nomor 2, hlm. 151-290. (1.Rininta Dwi Sani(Co.Author),2.Baso Intang Sappaile,**3. Nurwati Djam'an**) Link: Analisis kesalahan siswa dalam menyelesaikan soal cerita .pdf
		Total					**40**	
	5	**Jurnal Nasional berbahasa Indonesia terindek pada DOAJ**						
	1							
		Total						
	6	**Jurnal Nasional berbahasa Inggris atau bahasa resmi (PBB) terindek pada DOAJ**						
	1							
		Total						
	7	**Dalam Jurnal Nasional tidak Terakreditasi**						
	1							
		Total						
C.	**Hasil penelitian atau hasil pemikiran yang didesiminasikan**							
	1	**Dipresentasikan secara oral dan dimuat dalam prosiding yang dipublikasikan (ber ISSN/ISBN):**						
	1.1	**International Terindeks pada Scimagojr dan Scopus**						
	1	IOP Conf. Series: Journal of Physics, 1752 (2021) 012004, dengan Judul "The Effectiveness of the Pipek Model (Concept Map-Based Interactive Learning) in Learning Modern Algebra" (Pengusul merupakan penulis pendamping dan penulis koresponden dari 1 anggota = (30x50%)= 15)	2021	Setiap jurnal	1	30	15	Journal of Physics: Conference Series, **Q4**, (1.Suradi,**2.Nurwati Djam'an(Co.Author)**) link: https://iopscience.iop.org/article/10.1088/1742-6596/1899/1/012139

	2	IOP Conf. Series: Journal of Physics, dengan judul "Developing Students' Creativity in Building City Mathematics through Project Based Learning" (Pengusul merupakan penulis pertama dan koresponden = (30x60%)= 18)	2021	Setiap jurnal	1	30	18	Journal of Physics: Conference Series, Q4, (1.**Nurwati (Co.Author)**,2 Bernard,3 Sahid) Link_ https://iopscience.iop.org/article/10.1088/1742-6596/1929/1/012147
	3	IOP Conf. Series: Journal of Physics, dengan Judul "Students' Error on Proof of The Group with "*Sotaly Axioms Proof*" based on Newman Error Analysis" " (Pengusul merupakan penulis kedua (anggota 1) dan penulis koresponden = (30x50%)= 15)	2021	Setiap jurnal	1	30	15	Journal of Physics: Conference Series, Q4, (1.Suradi,**2.Nurwati Djam'an (Co.Author)**) Link_ https://1drv.ms/b/s!Aq4wx2xqlb0l405OBuxmaUyDQGg?e=hOH1AJ
		Total					**48,00**	
	1.2	**Internasional Terindeks Pada Scopus, IEEE Explore, SPIE**						
		Total						
	1.3	**Internasional**						
4	1	Proceedings of the 1st International Conference on Advanced Multidisciplinary Research (ICAMR 2018). Atlantis Press, dengan judul "Development and Application of a Three-tier Test Diagnostic Instrument to Assess Junior High School Students' Misconceptions in Algebra" (Pengusul merupakan penulis pertama dan penulis koresponden = (15x60%)= 9)	2018	Setiap jurnal	1	15	9	Atlantis Press, (**1.Nurwati Djam'an(Co.Author)**. 2 Suradi, 3.Nurdin Arsyad) Link_ https://1drv.ms/b/s!Aq4wx2xqlb0l400hIqQQOIL18gSt?e=e2rrfW
	2	Proceedings of the 1st International Conference on Advanced Multidisciplinary Research (ICAMR 2018). Atlantis Press, dengan judul "Interactive Learning Based on Concept Maps in Learning Algebraic Structure" (Pengusul merupakan penulis anggota dengan jumlah anggota 1 = 15x40%= 6)	2018	Setiap jurnal	1	15	6	Atlantis Press, (1.Suradi(Co Author) **2.Nurwati Djam'an)** link: https://drive.google.com/file/d/1jl1hsVtweNHwTAFSr2sZqulbr3diiZrC/view?usp=share_link
	3	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021). Atlantis Press, dengan judul "Evaluation of Teachers Competencies and Its Effect on Mathematics Learning in 21st Century" (Pengusul merupakan penulis anggota (anggota 2) = (15x40%)/2= 3)	2021	Setiap jurnal	1	15	3	Atlantis Press, An open access article under the CC BY-NC license, (1.Mafidapuspadina,2 Djadir,**3.Nurwati Djam'an)** Link: https://1drv.ms/b/s!Aq4wx2xqlb0l41KPIbMDKXWt1LI?e=0c8KKn
	4	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021): Atlantis Press, dengan judul "The Effectiveness of Online Lectures at Mathematics Department of Universitas Negeri Makassar During the Covid-19 Pandemic Atlantis Press: Proceedings of the International Conference on Educational Studies in Mathematics " (Pengusul merupakan penulis pertama dan penulis koresponden = (15x60%)= 9)	2021	Setiap jurnal	1	15	9	Atlantis Press, (**1.Nurwati Djam'an(Co.Author)**. 2.Nurdin Arsyad,3 Rosidah) link: https://drive.google.com/file/d/1vUoPGQRAQFva-FcwLSy2daYFGCI6DPvM/view?usp=share_link
	5	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021): Atlantis Press, dengan judul "A Comparative Study of Students' Learning Achievement of Sigma Notation Number Sequences and Series Taught Through Discovery and Expository Method " (Pengusul merupakan penulis kedua (anggota 1) = (15x40%)= 6)	2021	Setiap jurnal	1	15	6	Atlantis Press, An open access article under the CC BY-NC license, (1.Andi Ratnawati (Co.Author),**2.Nurwati Djam'an)** Link: https://1drv.ms/b/s!Aq4wx2xqlb0l41HlwY8zey5481W?e=v5vkAA
	6	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021): Atlantis Press, dengan judul "Student Difficulties in Learning Mathematics Based on Learning Styles" (Pengusul merupakan penulis anggota (jumlah anggota: 2) = (15x40%)/2= 3)	2021	Setiap jurnal	1	15	3	Atlantis Press, An open access article under the CC BY-NC license (1.Nirmala Dewi(Co.Author),2.Ahmad Talib,**3.Nurwati Djam'an)** Link: Student Difficulties in Learning Mathematics.pdf
	7	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021): Atlantis Press, dengan judul "The Implementation of Reciprocal Teaching Model at Grade 7th of SMPN 7 Bulukumba" (Pengusul merupakan penulis anggota (jumlah anggota: 2) = (15x40%)/2= 3)	2021	Setiap jurnal	1	15	3	Atlantis Press, An open access article under the CC BY-NC license, (1.Asmaul Husna Rasyid (Co.Author),**2.Nurwati Djam'an**,3.Awi Dassa) Link: https://1drv.ms/b/s!Aq4wx2xqlb0l41RkAz5R5i2hlRlZ?e=eBh5qC
	8	Proceedings of the International Conference on Educational Studies in Mathematics (ICoESM 2021): Atlantis Press, dengan judul "The Effect of Online Learning Using Zoom on Students' Learning Outcomes Atlantis Press: Proceedings of the International Conference on Educational Studies in Mathematics" (Pengusul merupakan penulis utama sekaligus penulis korespondensi) = (15x60%=9)	2021	Setiap jurnal	1	15	9	Atlantis Press, An open access article under the CC BY-NC license, (**1.Nurwati Djam'an (Co.Author)**,2.Asdar,3.Nasrullah,4.Djadir,5.Miftah Fauzan) Link_ https://drive.google.com/file/d/1Yw90ytkQeRRHulpX4m5AlIOX3GRG1xSC/view?usp=share_link
	9	ICSAT Proceeding (Vol. 11, No 6 (2022)): UNM, dengan judul "Analysis of Students' Misconceptions by Using a Three-Tier Diagnostic Test on the Equations of a Line at 8th Grade" (Pengusul merupakan penulis pertama dan penulis koresponden = (15x60%)= 9)	2022	Setiap jurnal	1	15	9	Conference Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN: 978-623-7498-62-5. Vol, 11 Issue 6. **(1.Nurwati Djam'an(Co.Author)**,2 Muhammad Darwis,3 Putri Kharina Mahathir Hulinggi) Link_ https://ojs.unm.ac.id/icsat/article/view/40039

10	ICSAT Proceeding (Vol. 11, No 5 (2022)): UNM, dengan judul "Students' Creative Thinking Ability in Solving Mathematics Problems Based On Gender" (Pengusul merupakan penulis anggota (jumlah anggota 2) = (15x40%)/2= 3)	2022	Setiap jurnal	1	15	3	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5 Vol 11, Issue 5 (2022). (1.Nur Asrawati(Co Author), 2.Baso Intang, **3.Nurwati Djam'an**) Link: https://ojs.unm.ac.id/icsat/article/view/39705
11	ICSAT Proceeding (Vol. 11, No 5 (2022)): UNM, dengan judul "Description of Understanding Ability in Mathematics Concepts of Fraction in Second Grade Junior High School" (Pengusul merupakan penulis anggota (jumlah anggota: 2) = (15x40%)/2= 3)	2022	Setiap jurnal	1	15	3	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5. Vol. 11 Issue 5 (1.Nur Azizah Rezki Putri(Co Author), 2.Alimuddin, **3.Nurwati Djam'an**) Link: https://ojs.unm.ac.id/icsat/article/view/39715
12	ICSAT Proceeding (Vol. 11, No 4 (2022)): UNM, dengan judul "The Effect of Logico-Mathematical Intelligence on the Ability to Solve Mathematical Problems Based on the Minimum Competency Assessment (AKM) of Students" (Pengusul merupakan penulis pertama dan penulis koresponden = (15x60%)= 9)	2022	Setiap jurnal	1	15	9	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5. Vol. 11 Issue 5 (**1.Nurwati Djam'an(Co.Author)**, 2.Baso Intang, 3.Ahmad Talib, 4.Alimuddin, 5.Nurul Arianti) Link: https://ojs.unm.ac.id/icsat/article/view/39112/18419
13	ICSAT Proceeding (Vol. 11, No 3 (2022)): UNM, dengan judul "Constructivism Approach to Improve Students' Achievement and Motivation in Learning Mathematics" (Pengusul merupakan penulis anggota (jumlah anggota: 2) = (15x40%)/2= 3)	2022	Setiap jurnal	1	15	3	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5. Vol 11, No 3 (2022). (1.Heny Sri Astuti (Co Author), 2.Abdul Rahman, **3.Nurwati Djam'an**) Link: https://ojs.unm.ac.id/icsat/article/view/39078/18388
14	ICSAT Proceeding (Vol. 11, No 2 (2022)): UNM, dengan judul "Analysis of Students' Metacognitive Skills in Problem-Solving Based on Ethnomathematics" (Pengusul merupakan penulis anggota (jumlah anggota 2) = (15x40%)/2= 3)	2022	Setiap jurnal	1	15	3	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5. Vol 11, Issue 2 (2022). (1. Nuraiman Suharto (Co Author), 2.Suradi, **3.Nurwati Djam'an**) Link: https://ojs.unm.ac.id/icsat/article/view/39059/18368
15	ICSAT Proceeding (Vol. 11, No 1 (2022)): UNM, dengan judul "Description of Technological Pedagogical Content Knowledge Mathematics Teachers during the Covid-19 Pandemic" (Pengusul merupakan penulis anggota dan penulis koresponden = (15x40%)= 6)	2022	Setiap jurnal	1	15	6	Conference: Proceeding of The International Conference on Science and Advanced Technology (ICSAT) ISBN 978-623-7496-62-5. Vol 11, Issue 1 (2022). (1.Fitriana, **2.Nurwati Djam'an(Co.Author)**, 3.Bernard, 4.Rifka Mutawadia) Link_ https://ojs.unm.ac.id/icsat/article/view/39036/18347
	Total					**84**	
1.4	**Nasional**						
1	Artikel prosiding Desain Pembelajaran Think-Pair-Share (TPS) dalam Perkuliahan Teori Grup (Pengusul merupakan penulis kedua dengan jumlah penulis anggota 1, 10*40%= 4)	2022	Setiap jurnal	1	10	4	Seminar Nasional LP2M UNM 2022, prosiding edisi ke-2, (1.Suradi (Co.Author), **2. Nurwati**). link_ https://ojs.unm.ac.id/semnaslemlit/article/View/39419
	Total					**4**	
2	**Menyajikan hasil penelitian dalam bentuk poster dan dimuat dalam prosiding yang dipublikasikan:**						
2.1	**Internasional**						
	Total						
2.2	**Nasional**						
1							
	Total						
	D. Hasil penelitian pemikiran disajikan dalam Koran / majalah populer / umum						
1							
	Total						
C	**Hasil penelitian atau hasil pemikiran yang tidak dipublikasikan (tersimpan diperpustakaan perguruan tinggi)**						
1	Pengembangan Model Pembelajaran Interaktif Berbasis Peta Konsep dalam Pembelajaran Struktur Aljabar (Pengusul merupakan penulis pendamping dari 1 anggota = (2x40%)= 0.8)	2018	Laporan Penelitian	1	2,0	0,8	https://1drv.ms/b/s!Aq4wx2[illegible]
2	Pengembangan Three Tier Test untuk Mengidentifikasi Miskonsepsi Siswa Kelas VII tentang Topik Matematika Semester Ganjil (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2018	Laporan Penelitian	1	2,0	1,2	https://drive.google.com/file/d/1Aqu_[illegible]/view?usp=share_link
3	Pengembangan Model Pembelajaran Interaktif Berbasis Peta Konsep dalam Pembelajaran Struktur Aljabar (Penelitian Lanjutan Tahun 2) = (Pengusul merupakan anggota dari 2 anggota (2x40%)/2= 0.4)	2019	Laporan Penelitian	1	2,0	0,4	https://1drv.ms/f/s!Aq4wx2[illegible]
4	Efektivitas Penggunaan Video Online dalam Pembelajaran Kalkulus di Jurusan Matematika Universitas Negeri Makassar (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2019	Laporan Penelitian	1	2,0	1,2	https://1drv.ms/f/s!Aq[illegible]

	5	Pengembangan Perangkat Pembelajaran Matematika Berbasis Kewarganegaraan dengan Pendekatan Pembelajaran Matematika Realistik Indonesia (PMRI) (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2019	Laporan Penelitian	1	2,0	1,2	https://1drv.ms/b/s!Ag4wr2xqfb0J5E...
	6	Analisis Productive Pedagogies Mahasiswa Praktik Pengalaman Lapangan (PPL) Program Studi Pendidikan Matematika dalam Pembelajaran Matematika di Sekolah (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2020	Laporan Penelitian	1	2,0	1,2	https://1drv.ms/b/s!Ag4wr2xqfb0J4PY...
	7	Efektivitas Perkuliahan Daring di Jurusan Matematika FMIPA UNM selama Pandemi Covid 19 (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2021	Laporan Penelitian	1	2,0	1,2	https://1drv.ms/b/s!Ag4wr2xqfb0J5E...
	8	Pengembangan Desain Pembelajaran TPS (Think-Pair-Share) untuk Memfasilitasi Aktivitas Mahasiswa dalam Proses Perkuliahan Teori Grup (Pengusul merupakan penulis pendamping dari 1 anggota = (2x40%)= 0.8)	2022	Laporan Penelitian	1	2,0	0,8	https://1drv.ms/b/s!Ag4wr2xqfb0J3wQ2H...
	9	Pengembangan LKPD Berbasis Problem Based Learning (PBL) pada Materi SPLDV (Pengusul merupakan penulis pendamping dari 1 anggota = (2x40%)= 0.8)	2022	Laporan Penelitian	1	2,0	0,8	https://1drv.ms/b/s!Ag4wr2xqfb0J4RfrRcA...
	10	Analisis Kesiapan Siswa dalam Menghadapi Asesmen Nasional (Pengusul merupakan penulis utama = (2x60%)= 1.2)	2022	Laporan Penelitian	1	2,0	1,2	https://1drv.ms/b/s!Ag4wr2xqfb0JnwO8G...
		Total					**10,00**	
III.B	**Menerjemahkan/menyadur buku ilmiah (diterbitkan & diedarkan secara nasional)**							
	1							
		Total						
III.C	**Mengedit/menyunting karya ilmiah (diterbitkan & diedarkan secara nasional)**							
	1							
		Total						
III.D	**Membuat rancangan dan karya teknologi yg Dipatenkan atau seni yang terdaftar di HaKI secara nasional atau internasional**							
	1							
		Total						
III.E	**Membuat rancangan dan karya teknologi, rancangan dan karya seni monumental/seni pertunjukan/karya sastra**							
	A	**Internasional**						
	1							
		Total						
	B	**Nasional**						
	1							
		Total						
	C	**Lokal**						
		Total						
Jumlah Unsur Pelaksanaan Penelitian							**203,50**	

Makassar, 17 April 2023
Jurusan Matematika FMIPA UNM
Ketua

Dr. Asdar, M.Pd.
NIP:197101282002121001