



PLO ASSESMENT REPORT



**PHYSIC EDUCATION STUDY PROGRAM
FACULTY OF TEACHER TRAINING AND EDUCATION
MULAWARMAN UNIVERSITY**

Preface

Praise and gratitude to God Almighty for His will and grace, the Program Learning Outcomes (PLO) Assessment Report for the Academic Year 2020/2021 in the Physics Education Study Program can be completed. The purpose of preparing this report book is to realize the commitment to improving continuous learning quality.

The Physics Education Study Program has 10 PLO consisting of knowledge, general skills, and special skills. The PLO assessment process in this report is carried out in lectures during the 2020/2021 Academic Year. All courses programmed by students in the 2020/2021 Academic Year were further analyzed to produce this report. Through this report, it is hoped that it will become an evaluation material for related parties in achieving the goals and profiles of the expected graduates of the study program. This report book contains the achievements of each Graduate Learning Outcome in the Physics Education Study Program.

We want to thank all those involved in the preparation of this report. Hopefully, this report book can be a means to improve the quality of lecture services for physics education students. We are fully aware that some courses still need to be evaluated and enhanced learning approaches and models to improve student performance in the next academic year. Therefore, we hope that this brief report can trigger all components, both within the Physics Education Study Program and stakeholders, together in improving quality sustainably and focusing on achieving the Educational Goals of the Physics Education Study Program that has been set.

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A. Overview

Physics Education Study Program, Department of Mathematics and Natural Sciences Education (MIPA), Faculty of Teacher Training and Education at Mulawarman University (FKIP UNMUL), has implemented the Results-Based Education Curriculum (OBE). The Physics Education Study Program conducts an assessment of Graduate Learning Outcomes (PLO) for the 2020/2021 Academic Year. This process involves the Quality Assurance Unit, all lecturers and academic staff in the Physics Education Study Program. This report reflects the current PLO Achievements of the Physics Education Study Program as a result of the implementation of the OBE Curriculum.

PLO in the Physics Education Study Program is formulated to realize graduates' expected goals and profile, namely being able to enter the professional field according to expertise in the field of physics education. Therefore, it is essential to conduct an assessment of the achievement of PLO. The achievement of PLO can be analyzed through the successes of all programmed courses that are by the existing PLOs.

PLO assessment procedures, namely:

1. Performance indicators for each CLO and PLO are linked to the Assessment Components (Task, UTS, and UTS). Assessment components depend on the type of workload of the courses/modules according to the National Higher Education Standards;
2. Percentage of the weight of each component against CLO and PLO specified in the Courses and Curriculum;
3. The percentage of weight calculated based on the contribution of each Assessment Component for each CLO and PLO charged to the course. Weight formula: % Contribution x % performance indicators for each component of the assessment; and
4. Interpretation of student performance indicators in each PLO is divided into five categories of Letter Grades, namely:

Score	Grade
$80 \leq \text{Score} \leq 100$	A
$75 \leq \text{Score} < 80$	B
$70 \leq \text{Score} < 75$	
$65 \leq \text{Score} < 70$	C
$60 \leq \text{Score} < 65$	
$50 \leq \text{Score} < 60$	D
$40 \leq \text{Score} < 50$	
$0 \leq \text{Score} < 40$	E

B. PLO of Physics Education Study Program

The PLO of Physics Education Study Program, Faculty of Teacher Training and Education, Mulawarman University as shown on table 1.

Table 1 The PLO of Physics Education Study Program

Aspect	Code	Description
Knowledge	PLO1	Understanding the fundamental concepts, principles, theories and branches of classical physics and being familiar with the modern physics
	PLO2	Applying technology, pedagogy, content, knowledge in the field of physics education
	PLO3	Applying the physics concepts in problem-solving
	PLO4	Understanding the connection among science-technology-engineering-mathematics and other related subjects
General Skills	PLO5	Extending the knowledge acquired in the Undergraduate's degree programme
	PLO6	Having communication skills in Indonesia language and being familiar with English
	PLO7	Considering the scientific ethics and professional principle as well as skills of responsibility and teamwork
Specifics Skills	PLO8	Having the skills to plan, implement and evaluate physics teaching and learning
	PLO9	Having the skills to plan, carry out and report the result of a physics experiment
	PLO10	Having the skills to design learning media for physics learning and physics experiment

C. Assessment Result of Each PLO

1. PLO1 Assessment Result

The result of the PLO1 Assessment Result explained in Table 2, Figure 1, Table 3, and Figure 2.

Table 2 Descriptive Statistics of the PLO1

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Basic Physics 1	73,7	75,8	74,7	75	86	0	13,8	75
2	Basic Physics Practicum 1	62,8	61,8	62,3	70	84	0	18,2	70
3	Basic Physics 2	74,5	68,8	71,6	71	85	47	6,5	70

4	Basic Physics Practicum 2	67,5	62,3	64,9	64	82	0	12,5	60
5	Mechanical	73,7	73,9	73,8	73	80	70	2,4	73
6	Mechanical Practicum	79,3	70,7	75,0	78	84	0	13,1	80
7	History of Physics	79,1	73,9	76,5	78	88	0	11,9	80
8	Basic Physics 3	71,3	66,1	68,7	70	78	60	4,7	70
9	Basic Physics Practicum 3	74,9	72,1	73,5	75	85	29	10,2	80
10	Thermodynamics	67,1	59,5	63,3	70	89	0	17,4	40
11	Electronics	76,5	68,7	72,6	73,5	85	62	5,7	75
12	Electronics Practicum	73,2	73,8	73,5	75	90	60	7,8	82
13	Physics for Senior High School	71,9	64,6	68,2	70	80	30	9,1	70
14	Vibration and Waves	76,2	74,8	75,5	75	90,5	60	6,4	70
15	Practice on Vibrations and Waves	79,0	75,2	77,1	78	91	65	6,8	81
16	Electricity and Magnetism	78,6	68,9	73,7	75	90	53	9,1	80
17	Modern Physics	77,6	74,6	76,1	77,65	86	60,5	5,6	81
18	Optics	72,2	67,4	69,8	68,5	92	50	12,4	60
19	Laboratory Research	79	76,6	77,8	78	82	40	5,4	80
20	Education of Core Physics	71,3	67,5	69,4	75	85	0	20,3	75
21	Education of Quantum Physics	74,4	68,1	71,3	69,5	95	54	10,5	68
22	Introduction to Solid State Physics	66	64,8	65,4	65,75	83,25	51,5	8,0	68,25
23	Laboratory Management	75,1	71,6	73,3	75	80	70	3,3	75
PLO1				71,65	75	95	0	4,77	70

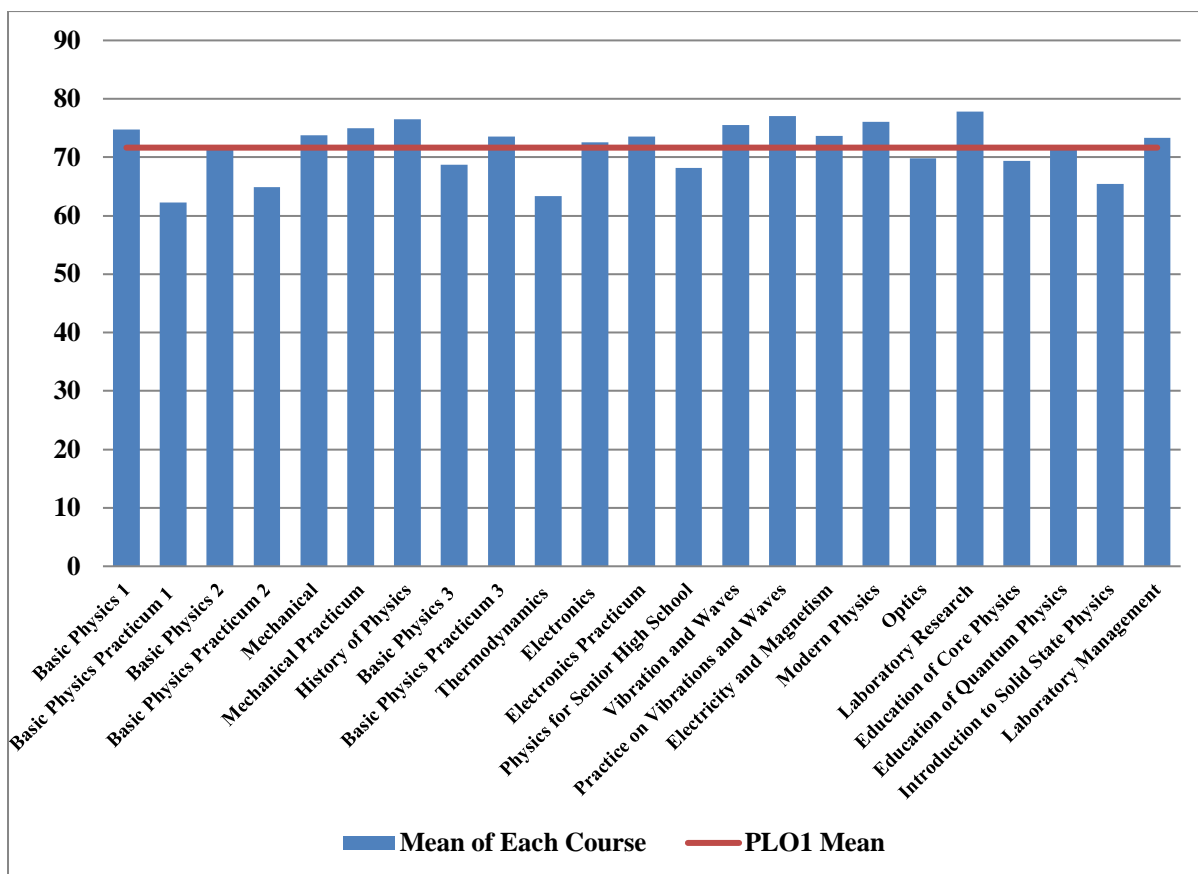


Figure 1 Mean Score of the PLO1

The distribution of the interpretation of students performance indicators on each course attached to the PLO1 reported in Table 3 and Figure 2.

Table 3 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Basic Physics 1	23%	53%	0%	0%	2%
2	Basic Physics Practicum 1	24%	36%	32%	4%	4%
3	Basic Physics 2	16%	41%	17%	1%	0%
4	Basic Physics Practicum 2	10%	26%	56%	4%	4%
5	Mechanical	8%	90%	0%	0%	0%
6	Mechanical Practicum	44%	44%	6%	4%	2%
7	History of Physics	46%	52%	0%	0%	2%
8	Basic Physics 3	0%	45%	39%	0%	0%
9	Basic Physics Practicum 3	10%	26%	56%	4%	4%
10	Thermodynamics	3%	71%	5%	1%	3%
11	Electronics	11%	65%	22%	0%	0%
12	Electronics Practicum	28%	28%	33%	2%	9%
13	Physics for Senior High School	4%	69%	22%	2%	4%

No	Course Name	Student Grade Category				
		A	B	C	D	E
14	Vibration and Waves	30%	46%	6%	0%	0%
15	Practice on Vibrations and Waves	43%	41%	16%	0%	0%
16	Electricity and Magnetism	33%	38%	13%	6%	0%
17	Modern Physics	14%	49%	18%	8%	2%
18	Optics	17%	30%	32%	0%	3%
19	Laboratory Research	52%	32%	0%	2%	14%
20	Education of Core Physics	17%	68%	7%	0%	7%
21	Education of Quantum Physics	21%	28%	38%	10%	0%
22	Introduction to Solid State Physics	0%	58%	40%	0%	2%
23	Laboratory Management	0%	100%	0%	0%	0%

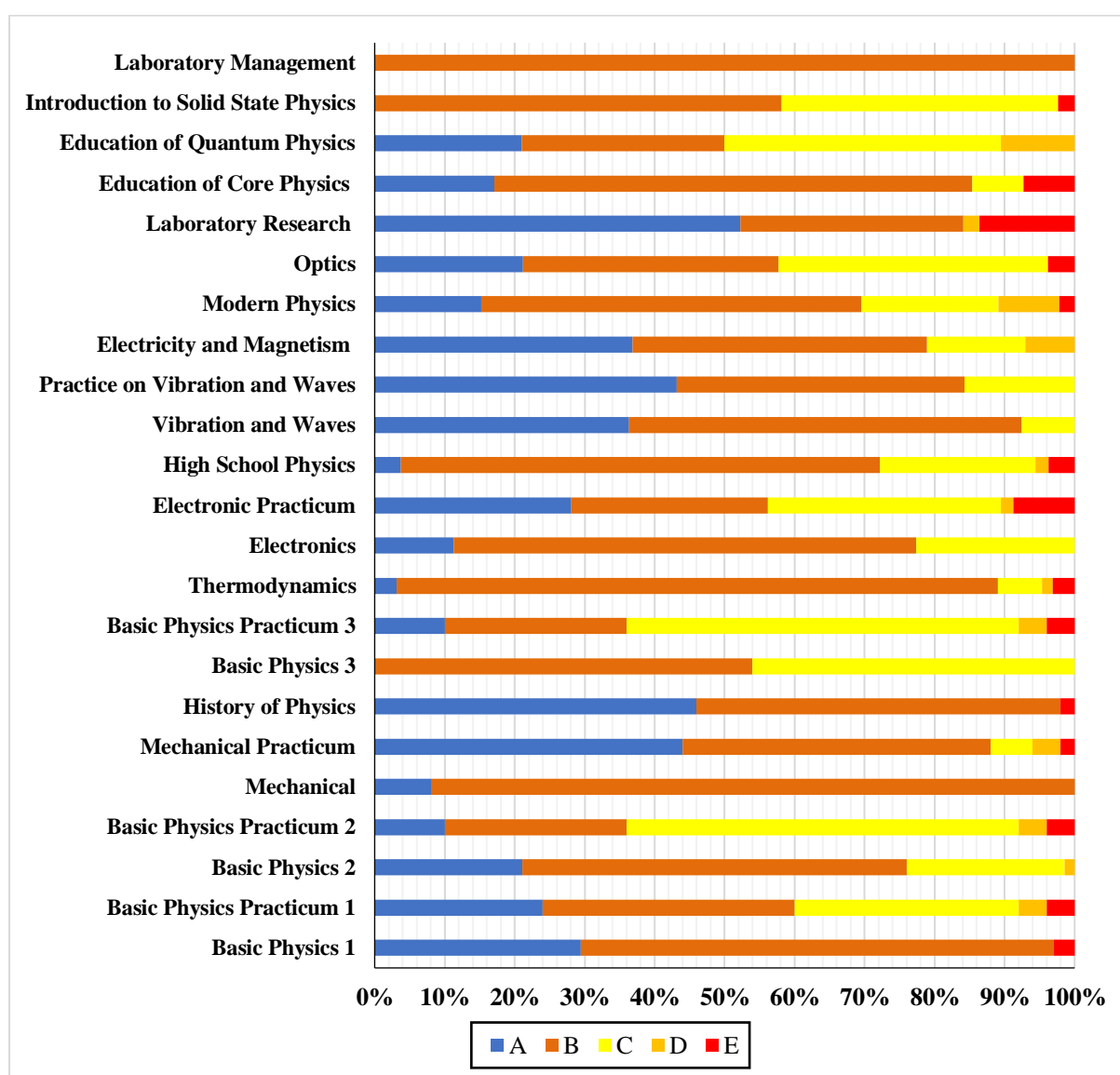


Figure 2 Achievement Report of the PLO1

2. PLO2 Assessment Result

The result of the PLO1 Assessment Result explained in Table 4, Figure 3. Table 5, and Figure 4.

Table 4 Descriptive Statistics of the PLO2

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Introduction to Educational Sciences	66,3	70,9	68,6	73	80,2	0	15,4	73
2	Learning and Instruction	72,9	72,1	72,5	74,5	76	0	10,2	76
3	Learners Development	73,9	74,0	73,9	73	75	73	1,0	73
4	Educational Profession	80,9	79,4	80,1	81	83	60	3,5	82
5	Field Orientation 1	88,7	78,5	83,6	89	99,4	0	20,9	90
6	Field Orientation 2	90,4	88,3	89,3	90	99,4	80	4,8	90
7	Computer Application	80,4	69,3	74,9	78	90	0	16,4	80
8	Junior High School Curriculum Studies	77,8	72,8	75,3	76,4	91,6	61	6,3	80
9	Senior High School Curriculum Studies	74,6	71,7	73,2	73	85	60	5,4	72
10	Assessment of Instructional in Physics	78,7	71,5	75,1	78,5	87,5	20,9	13,6	79,9
11	Instructional Media	74,7	70,4	72,6	74,85	87,2	42,4	8,93	74,7
12	Instructional in Physics 1	81,3	79,8	80,5	80,5	88	76,2	2,2	79
13	Instructional in Physics 2	75,4	66,5	71,0	70,3	89,2	5,63	16,2	70
14	Microteaching	83,3	66,7	75,0	83	87	0	21,6	83
15	Education Management	81,2	80,8	81	80,8	88,5	78	2,8	78
16	IT Applications in Learning Physics	82,1	76,9	79,5	80	90	40	7,8	80
PLO2				76,63	78,25	99,4	0	6,72	80

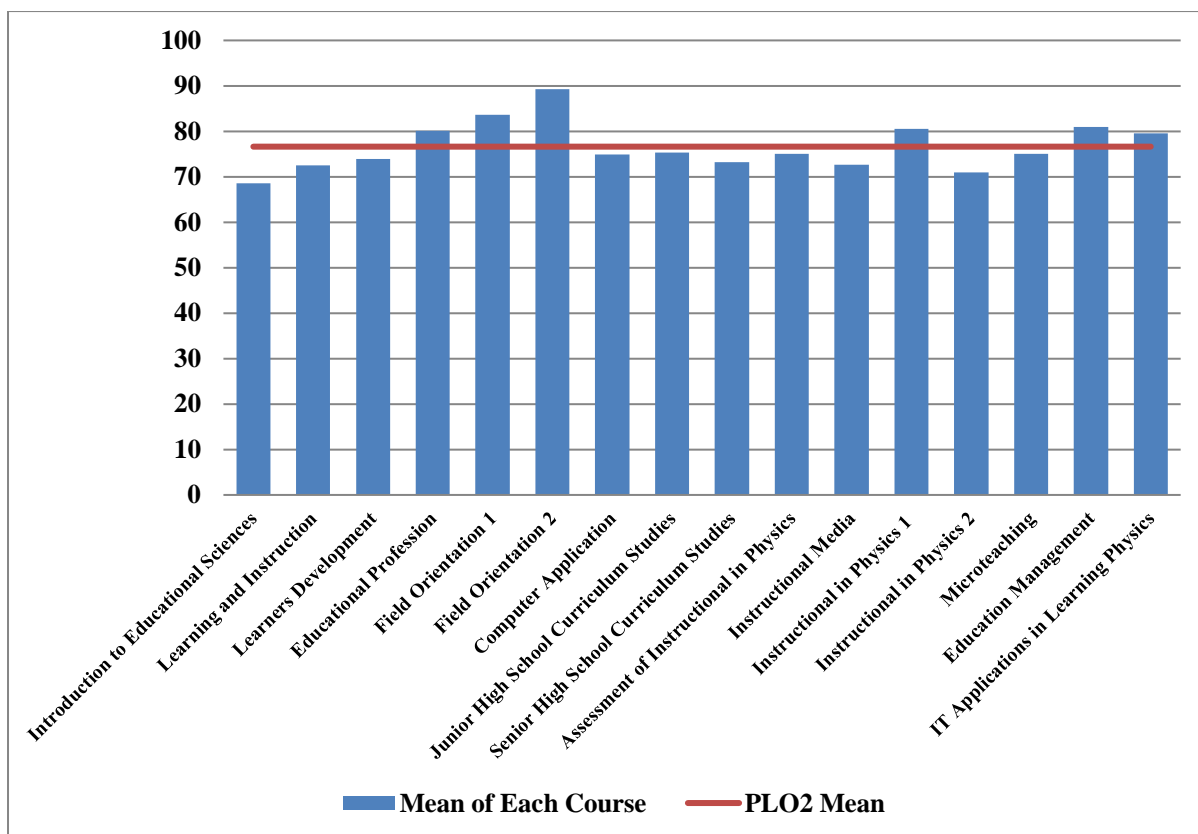


Figure 3 Mean Score of the PLO2

The distribution of the interpretation of students performance indicators on each course attached to the PLO2 reported in Table 5 and Figure 4.

Table 5 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Introduction to Educational Sciences	10%	77%	10%	0%	4%
2	Learning and Instruction	0%	98%	0%	0%	2%
3	Learners Development	0%	100%	0%	0%	0%
4	Educational Profession	77%	21%	2%	0%	0%
5	Field Orientation 1	100%	0%	0%	0%	0%
6	Field Orientation 2	100%	0%	0%	0%	0%
7	Computer Application	40%	54%	2%	0%	4%
8	Junior High School Curriculum Studies	0%	75%	24%	0%	2%
9	Senior High School Curriculum Studies	12%	73%	15%	0%	0%
10	Assessment of Instructional in Physics	39%	44%	12%	0%	5%

No	Course Name	Student Grade Category				
		A	B	C	D	E
11	Instructional Media	23%	51%	21%	4%	0%
12	Instructional in Physics 1	20%	49%	20%	12%	0%
13	Instructional in Physics 2	29%	44%	22%	0%	5%
14	Microteaching	71%	17%	0%	2%	10%
15	Education Management	0%	100%	0%	0%	0%
16	IT Applications in Learning Physics	68%	29%	0%	3%	0%

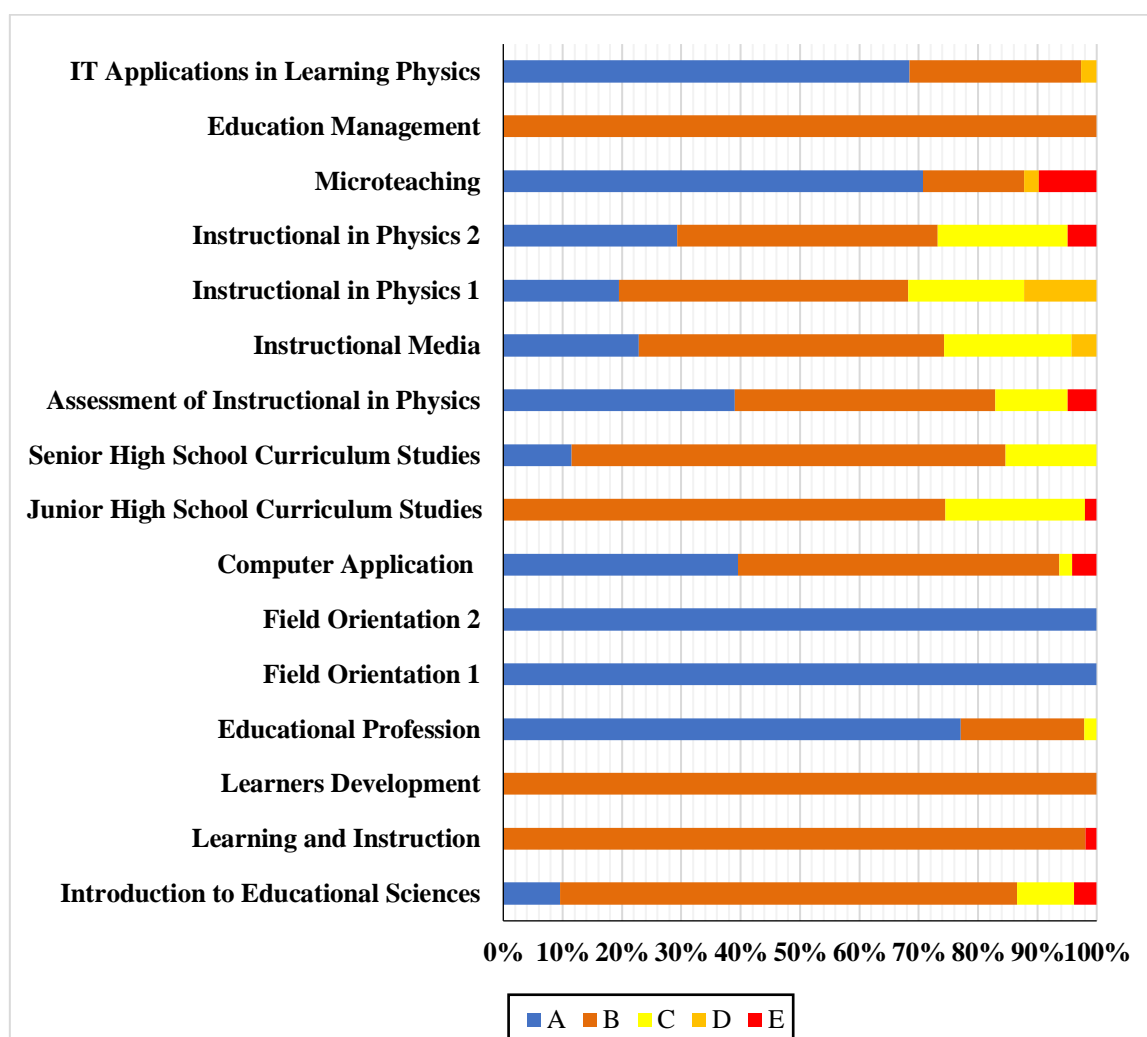


Figure 4 Achievement Report of the PLO2

3. PLO3 Assessment Result

The result of the PLO3 Assessment Result explained in Table 6, Figure 5, Table 7, and Figure 6.

Table 6 Descriptive Statistics of the PLO3

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Mathematical Physics 1	71,4	66,0	68,7	70	85	0	14,1	70
2	Environmental Physics	71,1	69,4	70,2	72,8	84,6	0	13,3	68,5
3	Mathematical Physics 2	75,5	72,5	74	73	92	65	6,9	70
4	Experimental Physics	75,3	73,3	74,3	81	85	0	21,8	83
5	Tropical Rainforest Environmental Sciences	77,1	71,9	74,5	76	87	0	12,5	76
6	Mathematical Physics 3	75,2	71,4	73,3	75	80	0	10,5	75
PLO3				72,5	74	92	0	4,94	70

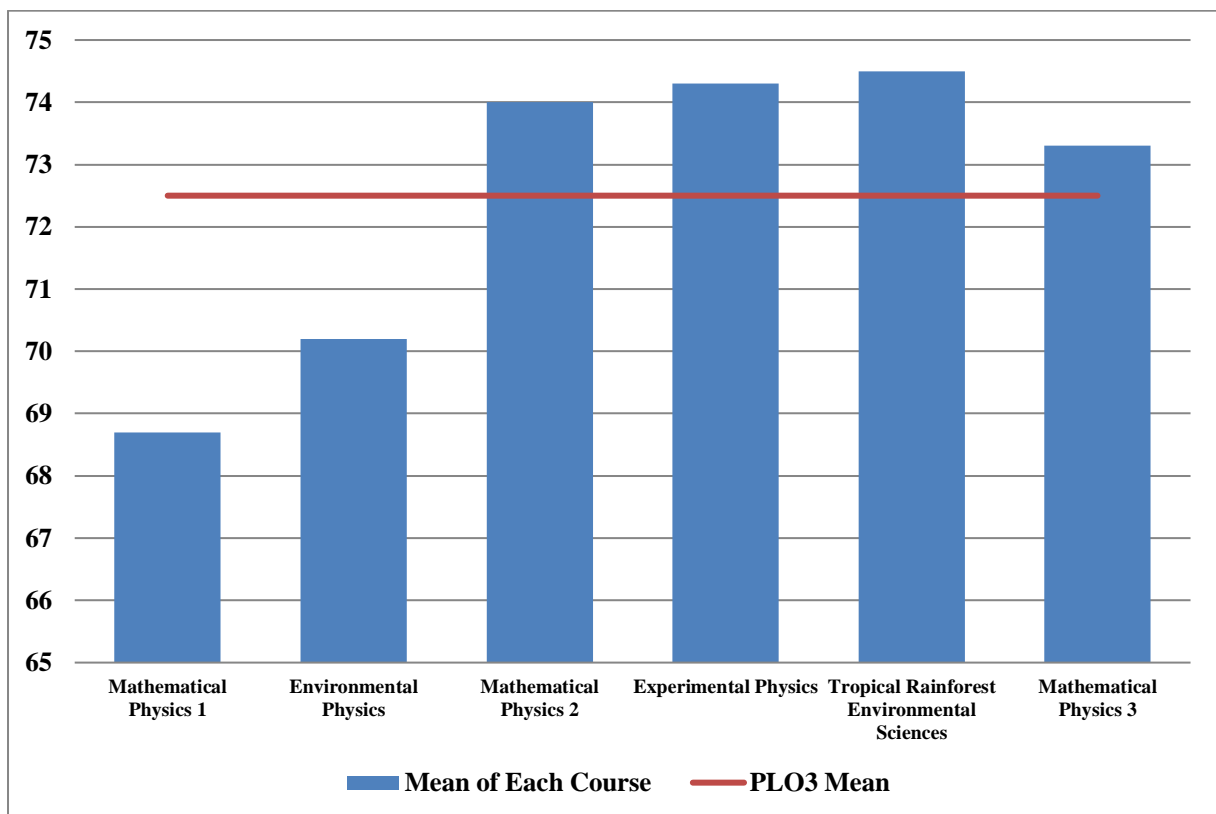


Figure 5 Mean Score of the PLO3

The distribution of the interpretation of students performance indicators on each course attached to the PLO3 reported in Table 7 and Figure 6.

Table 7 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Mathematical Physics 1	14%	47%	20%	0%	3%
2	Environmental Physics	31%	57%	12%	0%	0%
3	Mathematical Physics 2	6%	82%	10%	2%	0%
4	Experimental Physics	62%	31%	0%	0%	8%
5	Tropical Rainforest Environmental Sciences	34%	64%	0%	0%	2%
6	Mathematical Physics 3	4%	96%	0%	0%	0%

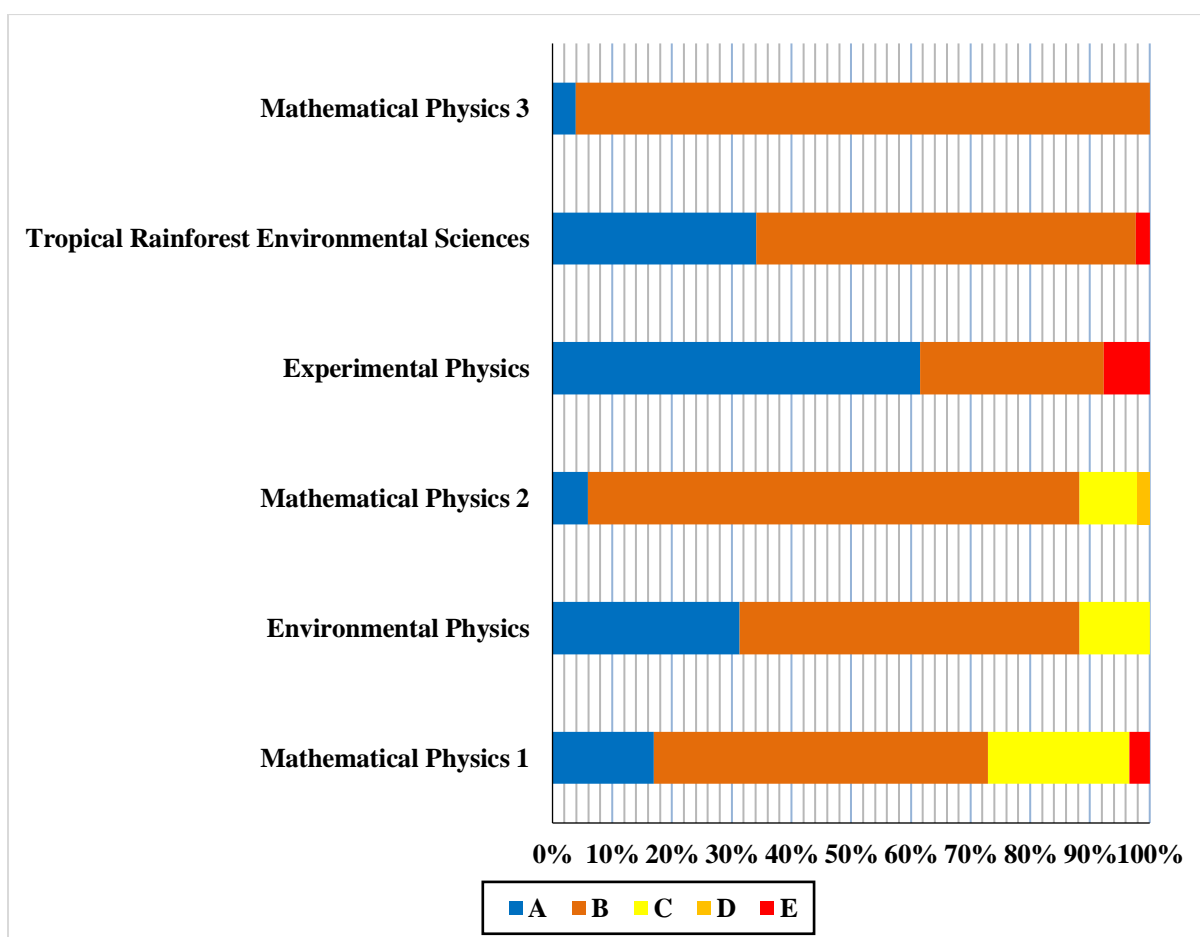


Figure 6 Achievement Report of the PLO3

4. PLO4

The result of the PLO4 Assessment Result explained in Table 8, Figure 7, Table 9, and Figure 8.

Table 8 Descriptive Statistics of the PLO4

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Civil Education	83,9	83,9	83,9	84	90	82	1,4	84
2	Basic Humanities	79,9	76,7	78,3	80	81,6	65	3,7	80
3	Religious Education	82,2	82,1	82,2	82,8	94	74,5	3,2	83,3
4	Pancasila Education	90,3	91,0	90,7	90	94	87	1,4	90
5	General Biology	77,4	74,9	76,2	76,5	81,2	67	3,1	80
6	Basic Chemistry	64,6	63,6	64,2	70,0	88,8	0,0	19,7	60,1
7	Basic Mathematics	66,4	74,5	70,5	75,8	88,7	0,0	18,6	72,5
8	Integrated Natural Sciences	80,8	83,3	81,7	82,5	98,0	0,0	12,3	76,5
9	Earth and Space	74,4	71,5	73,2	73,5	85,0	46,0	7,7	80,0
10	Entrepreneurship	82,6	81,1	82,0	82,2	85,5	78,2	1,9	82,2
11	Statistics 1	72,2	71,2	71,8	73,3	83,8	38,2	8,0	78,7
12	Tropical Rainforest Environmental Sciences	77,1	71,9	74,5	76	87	0	12,5	76
13	Research Methodology 1	75,2	65,6	70,0	72,0	83,5	40,0	11,1	81,0
14	Statistics 1	77,3	71,4	74,4	75,0	89,0	58,0	7,8	75,0
15	Research Methodology 2	71,1	65,1	68,1	73,0	90,0	0	16,5	75,0
PLO4				76,11	76	98	0	6,29	80

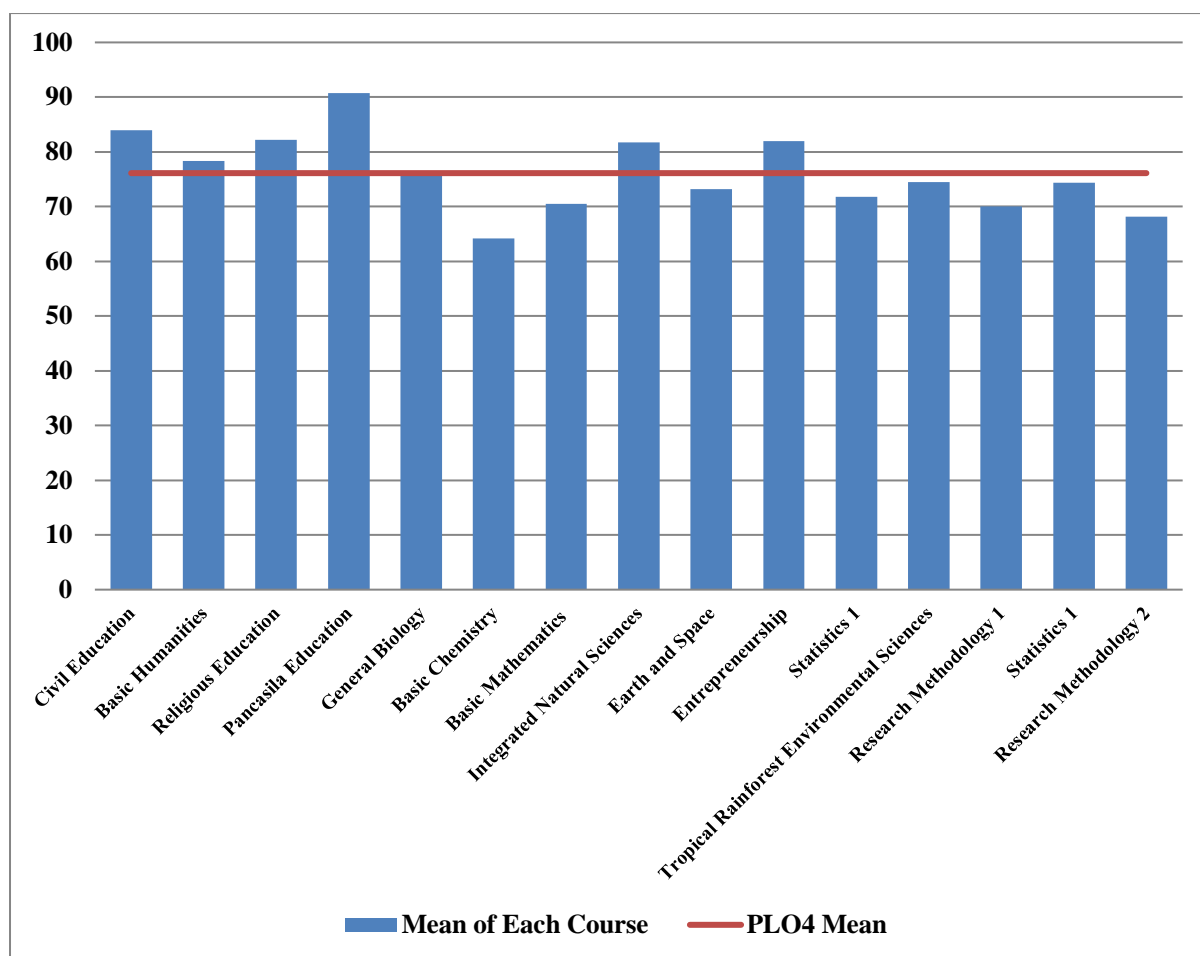


Figure 7 Mean Score of the PLO4

The distribution of the interpretation of students performance indicators on each course attached to the PLO4 reported in Table 9 and Figure 8.

Table 9 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Civil Education	100%	0%	0%	0%	0%
2	Basic Humanities	75%	21%	4%	0%	0%
3	Religious Education	100%	0%	0%	0%	0%
4	Pancasila Education	98%	0%	0%	2%	0%
5	General Biology	6%	92%	0%	0%	2%
6	Basic Chemistry	14%	72%	10%	2%	2%
7	Basic Mathematics	2%	52%	41%	0%	2%
8	Integrated Natural Sciences	0%	100%	0%	0%	0%
9	Earth and Space	23%	46%	27%	4%	0%
10	Entrepreneurship	100%	0%	0%	0%	0%
11	Statistics 1	41%	36%	9%	7%	7%

12	Tropical Rainforest Environmental Sciences	34%	64%	0%	0%	2%
13	Research Methodology 1	24%	34%	29%	12%	0%
14	Statistics 1	26%	47%	24%	3%	0%
15	Research Methodology 2	7%	64%	20%	5%	5%

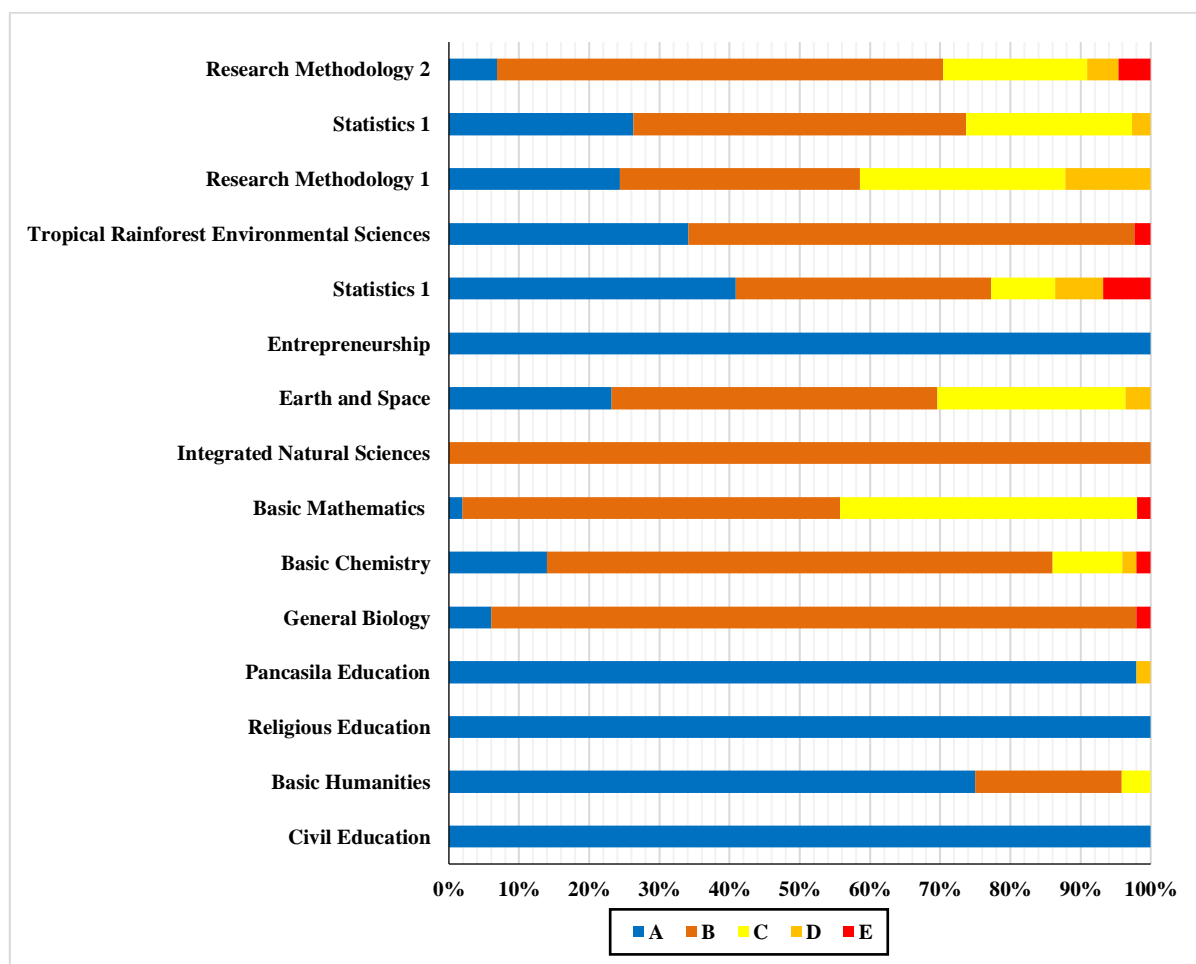


Figure 8 Achievement Report of the PLO4

5. PLO5 Assessment Result

The result of the PLO5 Assessment Result explained in Table 10, Figure 9, Table 11, and Figure 10.

Table 10 Descriptive Statistics of the PLO5

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Education of Core Physics	71,3	67,5	69,4	75	85	0	20,3	75

2	Education of Quantum Physics	74,4	68,1	71,3	69,5	95	54	10,5	68
3	Introduction to Solid State Physics	66	64,8	65,4	65,75	83,25	51,5	8,0	68,25
4	Research Methodology 1	75,2	65,6	70,0	72,0	83,5	40,0	11,1	81,0
PLO5			69,03	70,75	95	0	5,39	68	

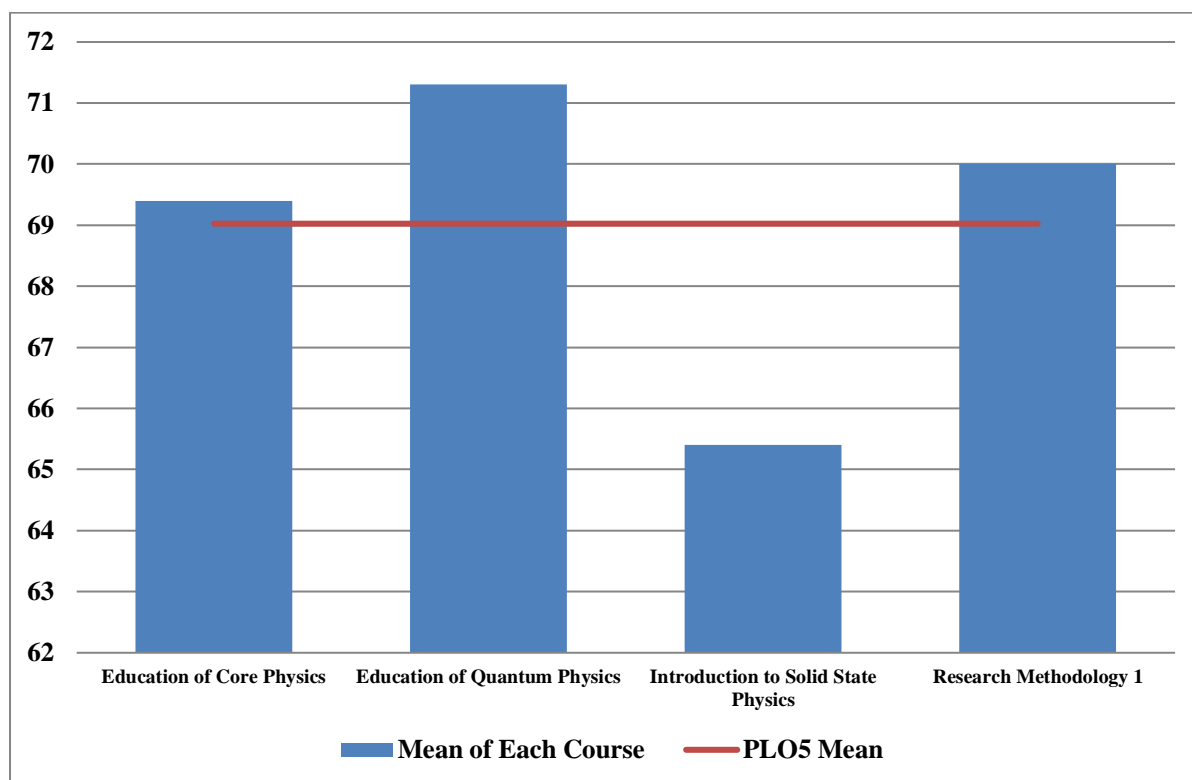


Figure 9 Mean Score of the PLO5

The distribution of the interpretation of students performance indicators on each course attached to the PLO5 reported in Table 11 and Figure 10.

Table 11 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Education of Core Physics	17%	68%	7%	0%	7%
2	Education of Quantum Physics	21%	28%	38%	10%	0%
3	Introduction to Solid State Physics	0%	58%	40%	0%	2%
4	Research Methodology 1	24%	34%	29%	12%	0%

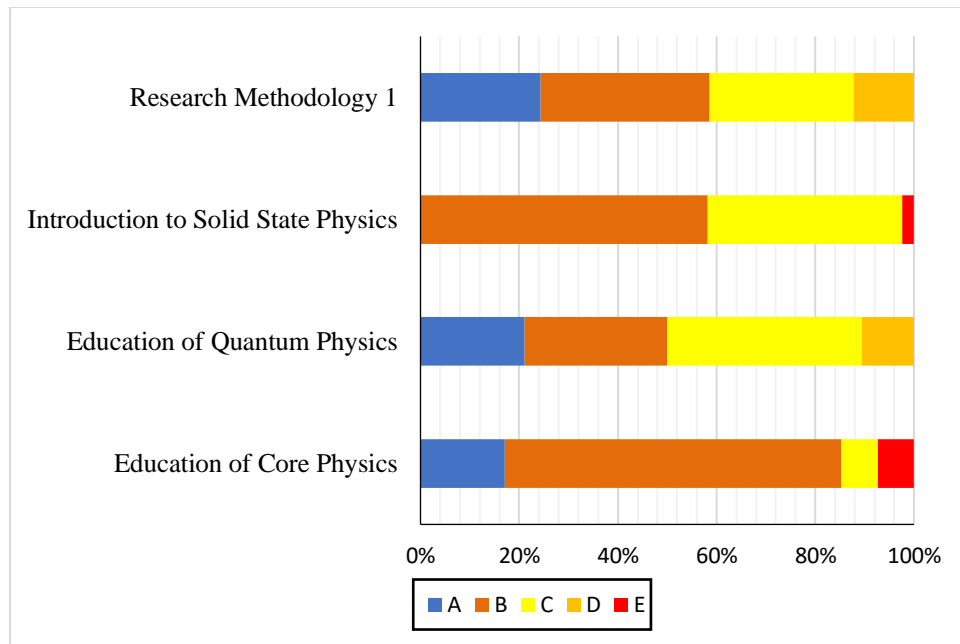


Figure 10 Achievement Report of the PLO5

6. PLO6 Assessment Result

The result of the PLO6 Assessment Result explained in Table 12, Figure 11, Table 13, and Figure 12.

Table 12 Descriptive Statistics of the PLO6

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Indonesian Language	78,6	78,6	78,6	78	80	75	1,1	78
2	Basic English	80,7	77,7	79,1	80,4	87,6	64,4	6,1	85,0
PLO6				78,85	79,2	87,6	64,4	3,53	-

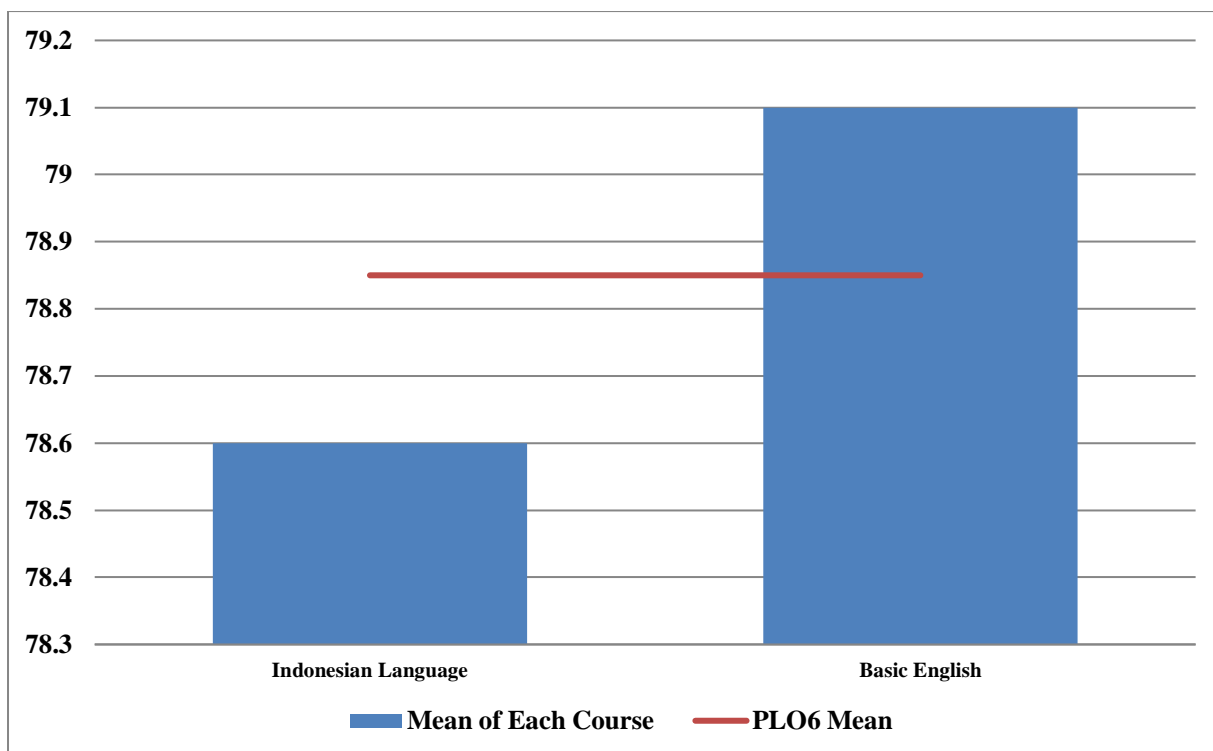


Figure 11 Mean Score of the PLO6

The distribution of the interpretation of students performance indicators on each course attached to the PLO6 reported in Table 13 and Figure 12.

Table 13 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Indonesian Language	50%	44%	4%	0%	2%
2	Basic English	55%	35%	10%	0%	0%

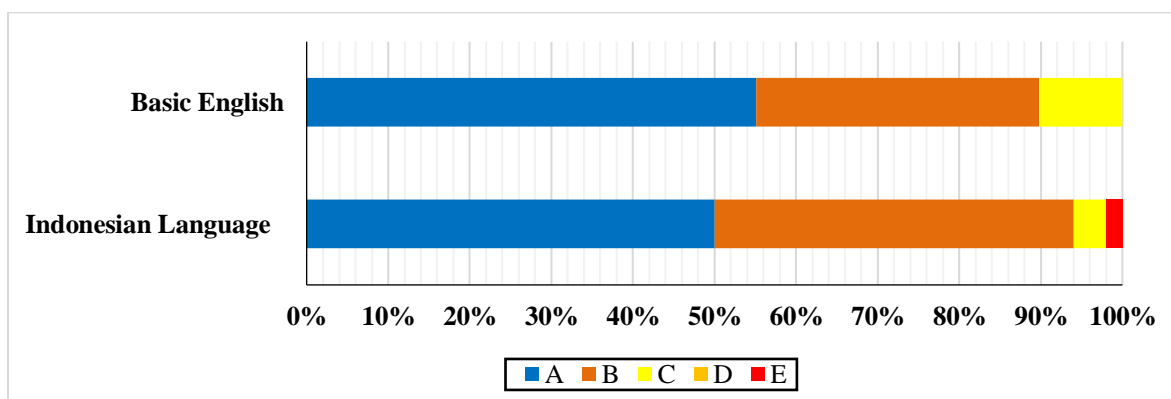


Figure 12 Achievement Report of the PLO6

7. PLO7 Assessment Result

The result of the PLO7 Assessment Result explained in Table 14, Figure 13, Table 15, and Figure 14.

Table 14 Descriptive Statistics of the PLO7

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Religious Education	82,2	82,1	82,2	82,8	94	74,5	3,2	83,3
2	Pancasila Education	90,3	91,0	90,7	90	94	87	1,4	90
3	Community Service Program			87,39	88	97	79,6	3,6	90
4	Educational Profession	80,9	79,4	80,1	81	83	60	3,5	82
5	Field Orientation 1	88,7	78,5	83,6	89	99,4	0	20,9	90
6	Field Orientation 2	90,4	88,3	89,3	90	99,4	80	4,8	90
7	Teacher Profession Ethics	-	-	79,1	81,0	88,0	61,0	7,8	-
PLO7				84,63	88	99,4	0	6,66	90

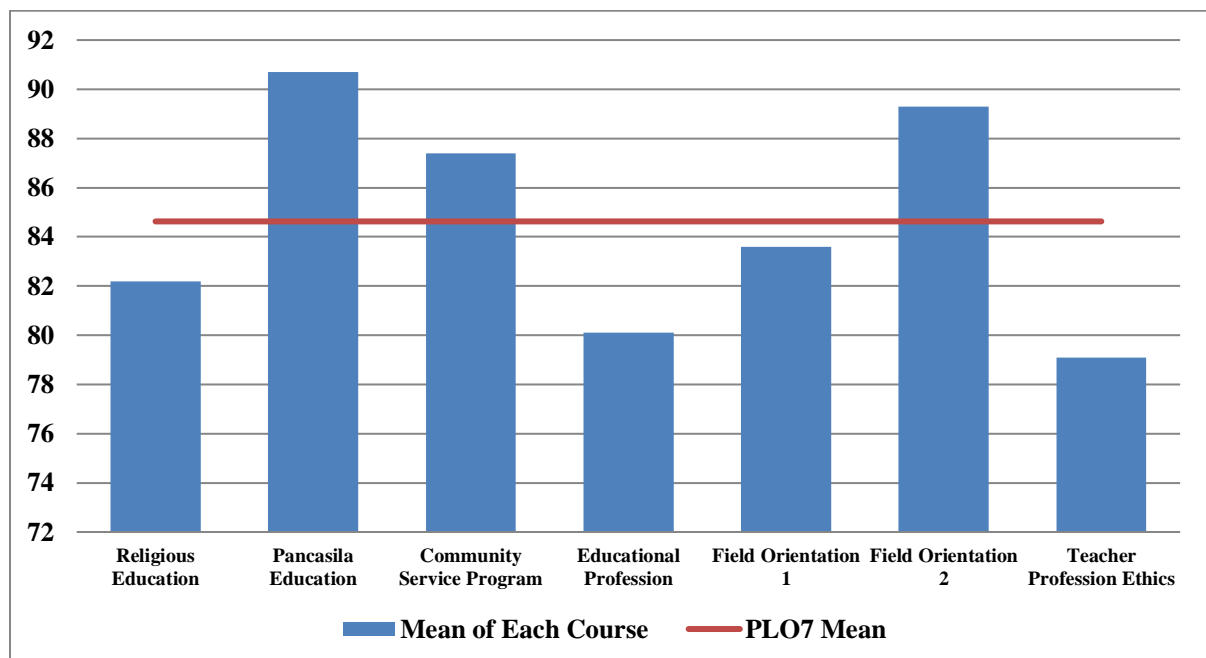


Figure 13 Mean Score of the PLO7

The distribution of the interpretation of students performance indicators on each course attached to the PLO7 reported in Table 15 and Figure 14.

Table 15 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Religious Education	100%	0%	0%	0%	0%
2	Pancasila Education	98%	0%	0%	2%	0%
3	Community Service Program	100%	0%	0%	0%	0%
4	Educational Profession	77%	21%	2%	0%	0%
5	Field Orientation 1	100%	0%	0%	0%	0%
6	Field Orientation 2	100%	0%	0%	0%	0%
7	Teacher Profession Ethics	67%	22%	11%	0%	0%

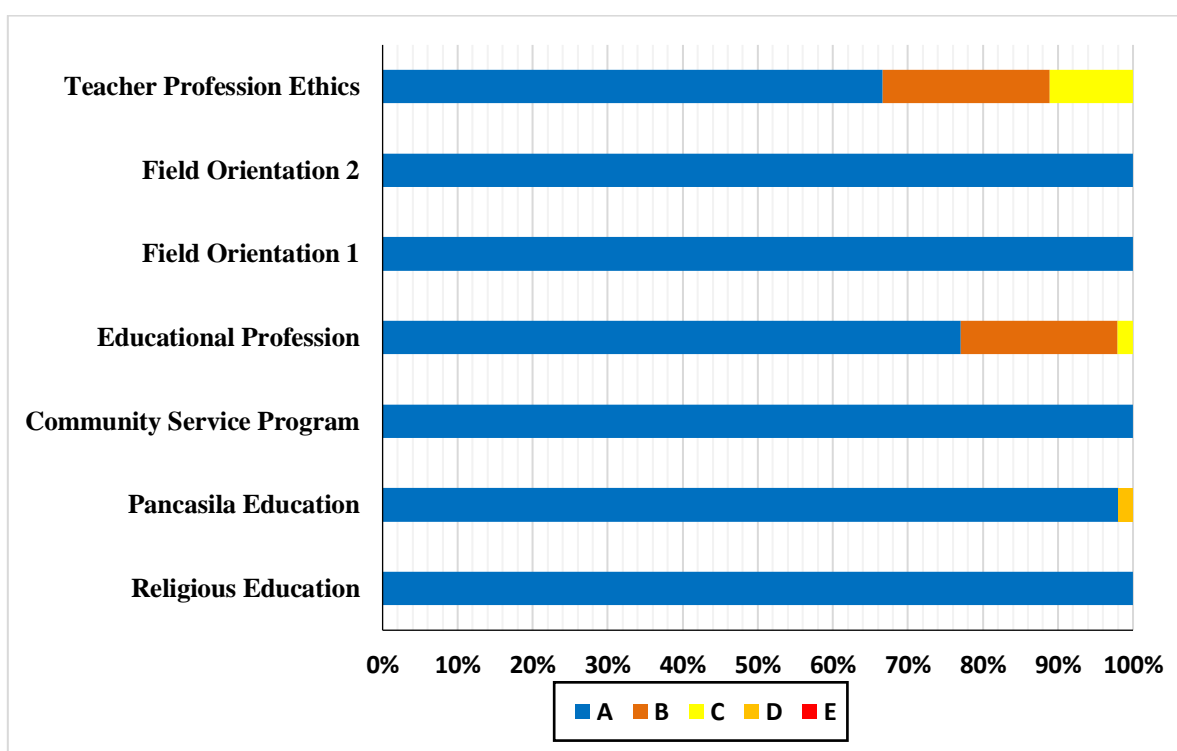


Figure 14 Achievement Report of the PLO7

8. PLO8 Assessment Result

The result of the PLO8 Assessment Result explained in Table 16, Figure 15, Table 17, and Figure 16.

Table 16 Descriptive Statistics of the PLO8

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Assessment of Instructional in Physics	78,7	71,5	75,1	78,5	87,5	20,9	13,6	79,9
2	Instructional in Physics 1	81,3	79,8	80,5	80,5	88	76,2	2,2	79
3	Instructional in Physics 2	75,4	66,5	71,0	70,3	89,2	5,63	16,2	70
4	Microteaching	83,3	66,7	75,0	83	87	0	21,6	83
PLO8				75,4	79,5	89,2	0	8,18	79

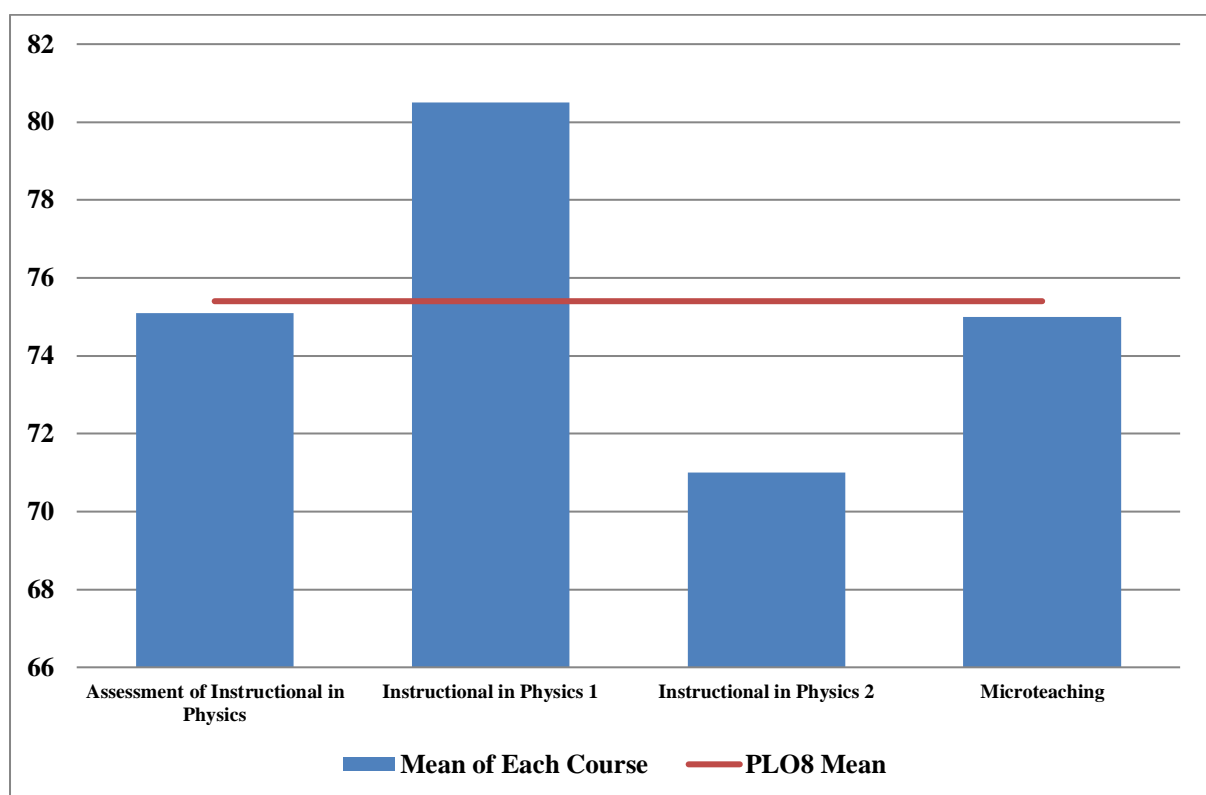


Figure 15 Mean Score of the PLO8

The distribution of the interpretation of students performance indicators on each course attached to the PLO8 reported in Table 17 and Figure 16.

Table 17 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Assessment of Instructional in Physics	39%	44%	12%	0%	5%
2	Instructional in Physics 1	20%	49%	20%	12%	0%

3	Instructional in Physics 2	29%	44%	22%	0%	5%
4	Microteaching	71%	17%	0%	2%	10%

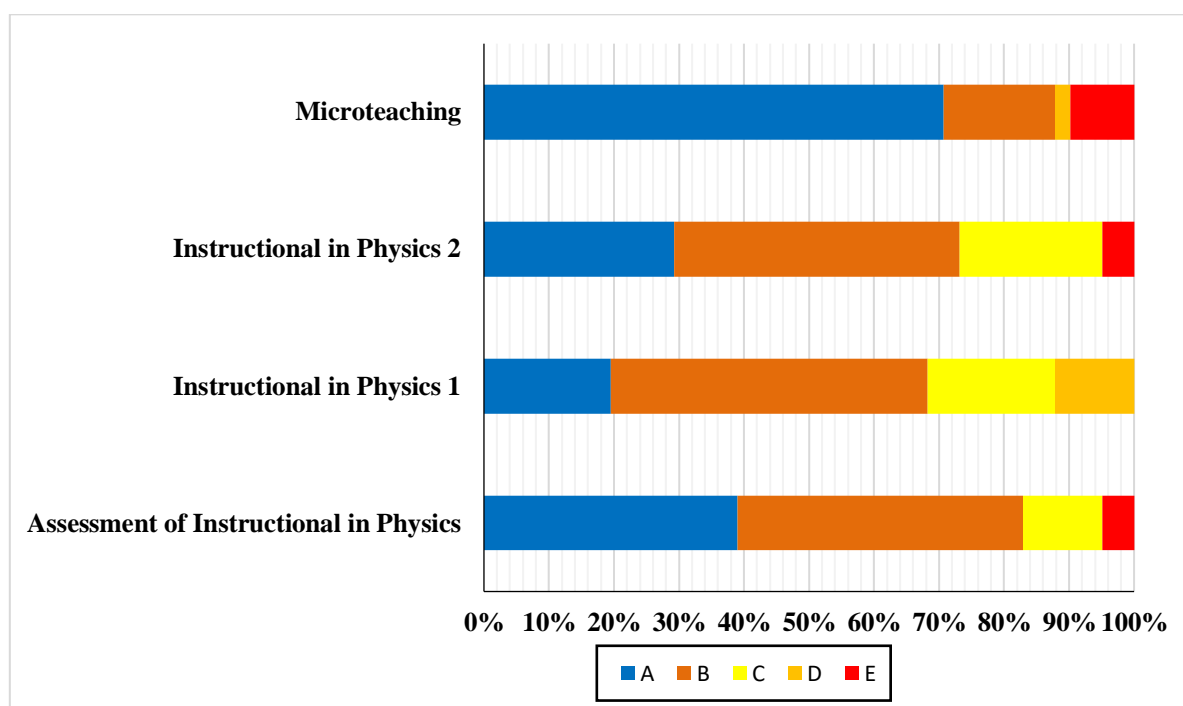


Figure 16 Achievement Report of the PLO8

9. PLO9 Assessment Result

The result of the PLO9 Assessment Result explained in Table 18, Figure 17, Table 19, and Figure 18.

Table 18 Descriptive Statistics of the PLO9

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Basic Physics Practicum 1	62,8	61,8	62,3	70	84	0	18,2	70
2	Basic Physics Practicum 2	67,5	62,3	64,9	64	82	0	12,5	60
3	Mechanical Practicum	79,3	70,7	75,0	78	84	0	13,1	80
4	Basic Physics Practicum 3	74,9	72,1	73,5	70	78	60	4,7	70
5	Electronics Practicum	73,2	73,8	73,5	75	90	60	7,8	82
6	Practice on Vibrations and Waves	79,0	75,2	77,1	78	91	65	6,8	81

7	Optics	72,2	67,4	69,8	68,5	92	50	12,4	60
8	Laboratory Research	79	76,6	77,8	78	82	40	5,4	80
9	Experimental Physics	75,3	73,3	74,3	81	85	0	21,8	83
10	Laboratory Management	75,1	71,6	73,3	75	80	70	3,3	75
PLO9				72,15	75	92	0	6,09	70

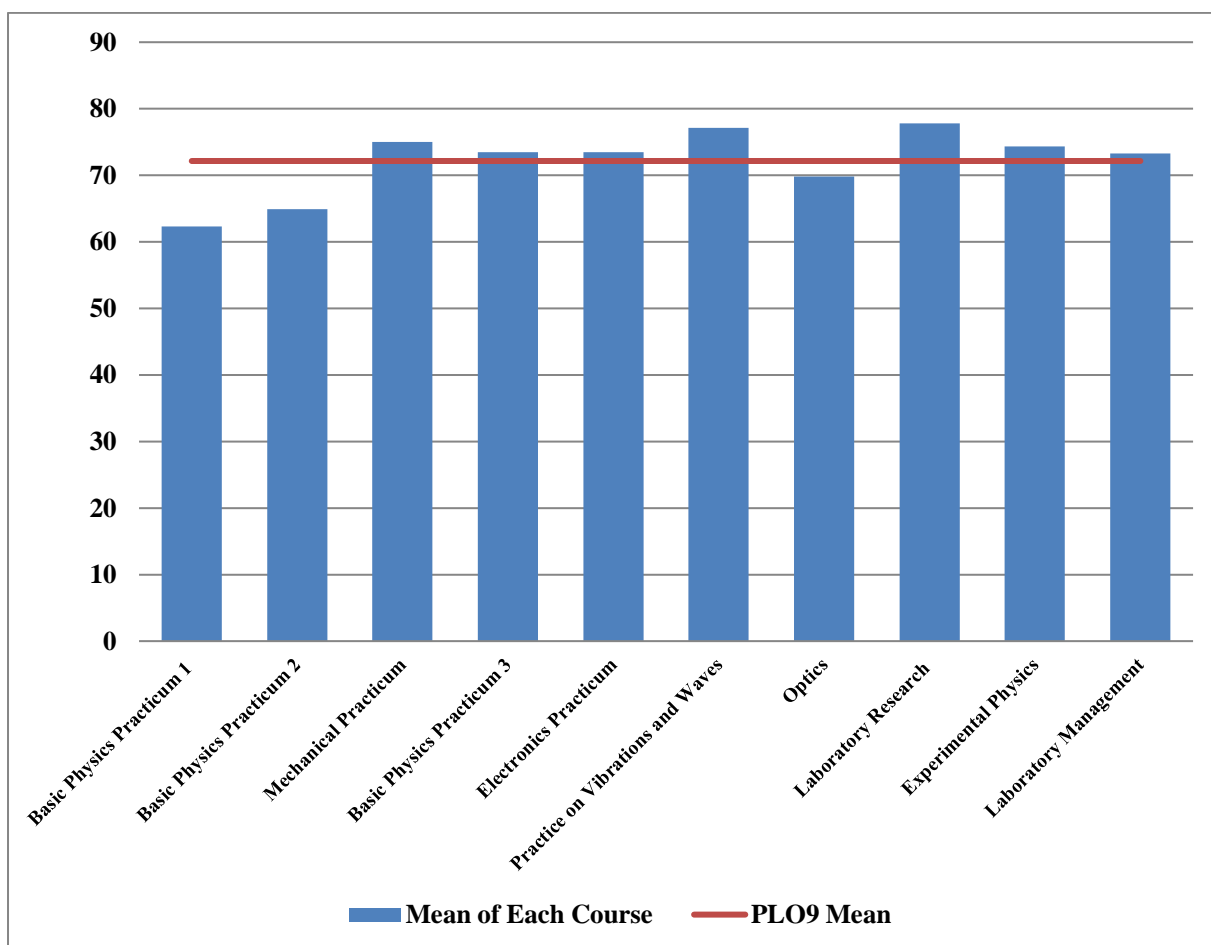


Figure 17 Mean Score of the PLO9

The distribution of the interpretation of students performance indicators on each course attached to the PLO8 reported in Table 17 and Figure 16.

Table 19 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Basic Physics Practicum 1	24%	36%	32%	4%	4%
2	Basic Physics Practicum 2	10%	26%	56%	4%	4%
3	Mechanical Practicum	44%	44%	6%	4%	2%

No	Course Name	Student Grade Category				
		A	B	C	D	E
4	Basic Physics Practicum 3	45%	41%	14%	0%	0%
5	Electronics Practicum	28%	28%	33%	2%	9%
6	Practice on Vibrations and Waves	43%	41%	16%	0%	0%
7	Optics	17%	30%	32%	0%	3%
8	Laboratory Research	52%	32%	0%	2%	14%
9	Experimental Physics	62%	31%	0%	0%	8%
10	Laboratory Management	0%	100%	0%	0%	0%

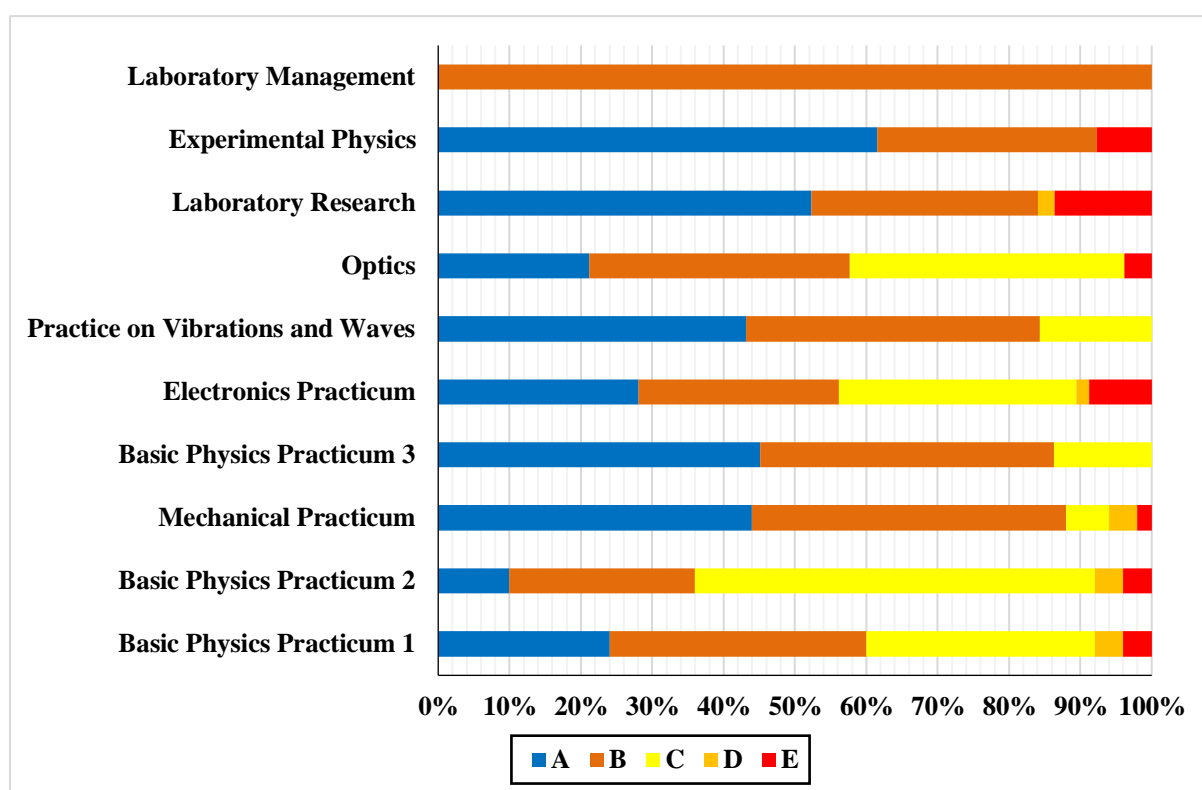


Figure 18 Achievement Report of the PLO9

10. PLO10 Assessment Result

The result of the PLO10 Assessment Result explained in Table 20, Figure 19, Table 21, and Figure 20.

Table 20 Descriptive Statistics of the PLO10

No.	Course Name	DPNA A Score	DPNA B Score	DPNA Score	Median	Max	Min	SD	Modus
1	Computer Application	80,4	69,3	74,9	78	90	0	16,4	80

2	Instructional Media	74,7	70,4	72,6	74,85	87,2	42,4	8,93	74,7
3	IT Applications in Learning Physics	82,1	76,9	79,5	80	90	40	7,8	80
PLO10				75,67	78	90	0	4,67	80

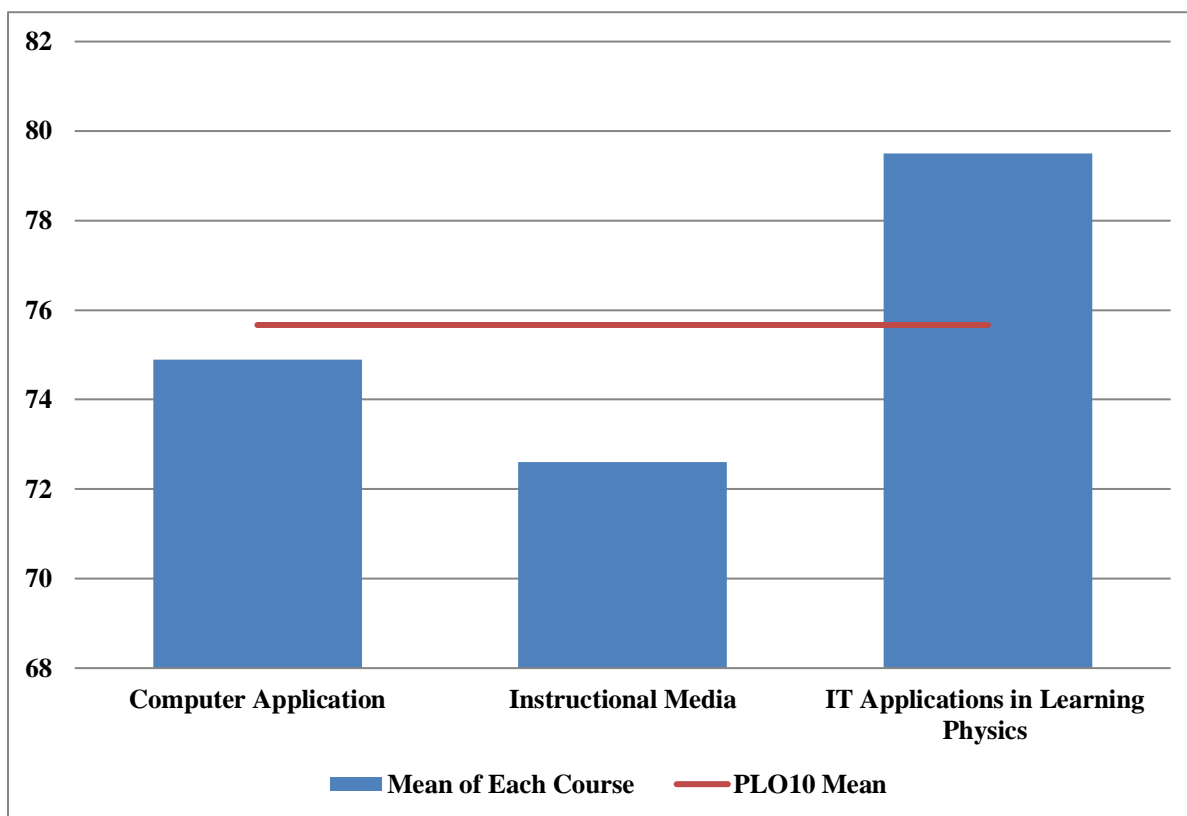


Figure 19 Mean Score of the PLO10

The distribution of the interpretation of students performance indicators on each course attached to the PLO8 reported in Table 17 and Figure 16.

Table 21 Student Grade Category

No	Course Name	Student Grade Category				
		A	B	C	D	E
1	Computer Application	40%	54%	2%	0%	4%
2	Instructional Media	23%	51%	21%	4%	0%
3	IT Applications in Learning Physics	68%	29%	0%	3%	0%

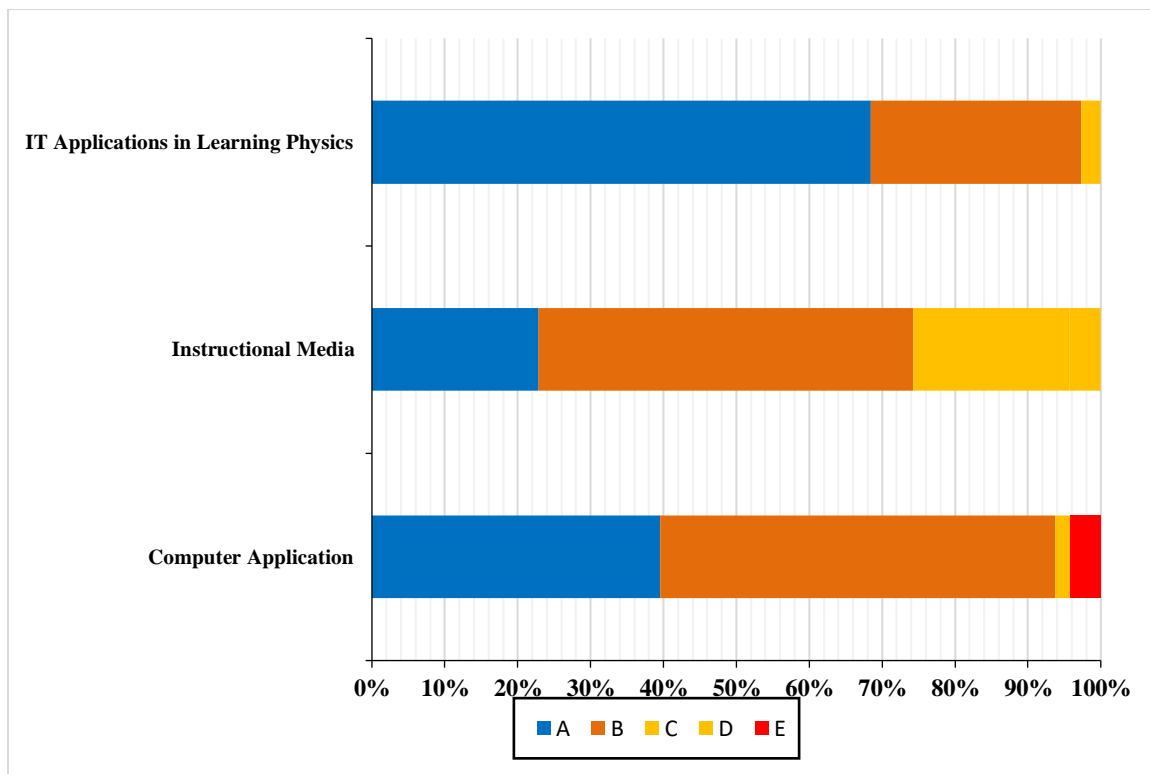


Figure 20 Achievement Report of the PLO10

D. Summary of the PLO of Physics Education Study Program Assessment

1. Average of Mean

The measurement of each PLO can be obtained from the mean value obtained based on the student learning outcomes. The mean score for all PLOs in the 2020/2021 Academic Year is 75,26. The comparison of the mean performance of each PLO with the overall mean is presented in figure 21.

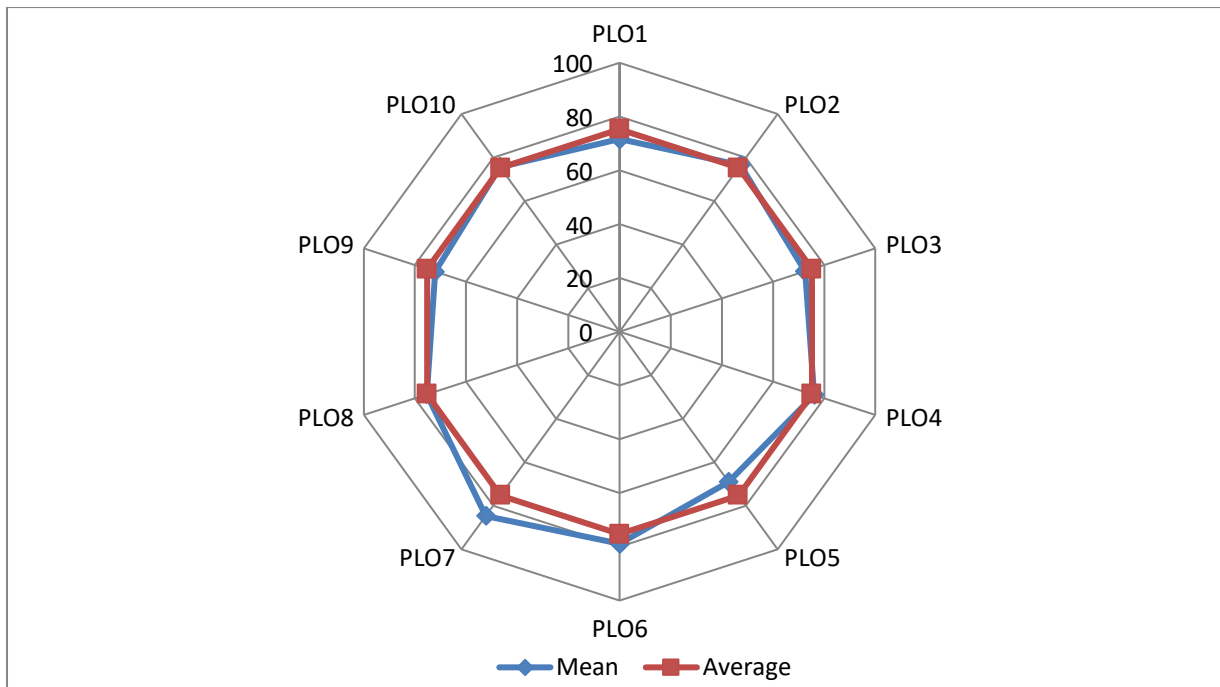


Figure 21 Comparison among Average of Mean and Mean of each PLO

Based on Figure 21, it can be seen that PLO 1, PLO 3, PLO 5, and PLO 9. This shows that all modules assigned to PLO 1, PLO 3, PLO 5, and PLO 9 must be evaluated and the learning process improved in the academic year.

2. PLO Assessment based on Students' Performance

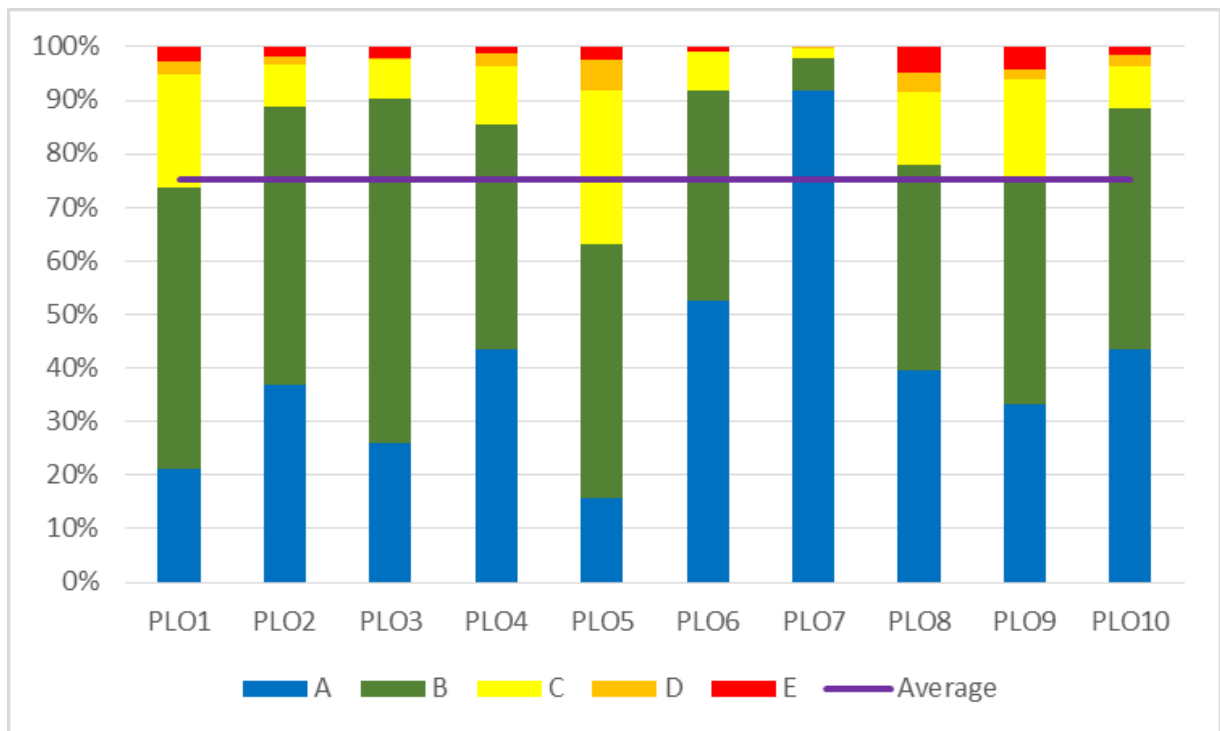


Figure 22 PLO Assessment in Physics Education Study Program

The results of the PLO assessment show that the performance of students who achieve category A is above the average line, namely PLO 7, category B is above the average, namely PLO 2, PLO 3, PLO 4, PLO 6, PLO, 8, and PLO 10. Category A and B are below the average; namely, at PLO 1 and PLO 5, this shows the need to evaluate all courses related to PLO 1 and PLO 5. The learning process in the 2020/2021 Academic Year can have been quite successful. This is shown by the small percentage of students whose achievements are in the Failed category (E).