

## The Exploration of APOS-based PBL Model to Improve the Students' Mathematics Problem-Solving Skills

<b>Title</b>	The Exploration of APOS-based PBL Model to Improve the Students' Mathematics Problem-Solving Skills
<b>Author Order</b>	2 of 3
<b>Accreditation</b>	2
<b>Abstract</b>	<p>Math majors must be excellent problem solvers because problem-solving is the foundation of teaching mathematics. Their problem-solving skills will help them create service initiatives as math teachers. This research investigated how well the APOS-based PBL model enhances students' skills in solving mathematical problems. This quasi-experimental design used a non-equivalent post-test-only control group, which is quantitative. Students at a university in Central Java, Indonesia, participated in the study. Tests of problem-solving skills were useful to collect the data. The results of the study showed that (1) students' problem-solving skills lead to learning completion (71); (2) students taught using a modified PBL model based on APOS theory have a different proportion of learning completeness than students taught using an average class using a direct learning model; (3) students' average problem-solving skills taught using the modified PBL model based on APOS theory are superior to those taught in the average class using a direct learning model; (4) increasing students' problem-solving skills taught using a modified PBL model based on APOS theory is preferable to improving students' skills taught using a direct learning model. This study offers insightful insights into the PBL model's implementation, incorporating APOS theory at every stage. These results suggest that to maximize students' problem-solving skills, consideration of the theory of thinking processes must be given when putting the learning model into practice.</p> <p><b>Keywords:</b> APOS, mathematics, PBL, problem-solving skills.</p> <p>DOI: <a href="http://dx.doi.org/10.23960/jpmipa/v25i3.pp1577-1592">http://dx.doi.org/10.23960/jpmipa/v25i3.pp1577-1592</a></p>
<b>Publisher Name</b>	FKIP Universitas Lampung
<b>Publish Date</b>	2024-01-01
<b>Publish Year</b>	2024
<b>Doi</b>	
<b>Citation</b>	
<b>Source</b>	Jurnal Pendidikan MIPA
<b>Source Issue</b>	Vol 25, No 3 (2024): Jurnal Pendidikan MIPA
<b>Source Page</b>	1577-1592
<b>Url</b>	<a href="https://jpmipa.fkip.unila.ac.id/index.php/jpmipa/article/view/136/113">https://jpmipa.fkip.unila.ac.id/index.php/jpmipa/article/view/136/113</a>
<b>Author</b>	Dr. KARTONO, S.H., M.H