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Development Of Laps-Based Plant Physiology Anatomy Practicum Module - Heuristic To Improve Students' Problem-Solving Skills

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Abstract

This research aims to determine the feasibility of the LAPS-HEURISTIC-Based Plant Anatomy and Physiology practicum module, developed to improve students' problem-solving abilities. This research uses the research and development method adapted from Borg and Gall. The research subjects were students of the Biology Education Program at IKIP PGRI Pontianak taking Plant Anatomy and Physiology courses. The data collection tools were module validation sheets, tests, and response questionnaires. The results showed that the developed module was declared very valid by media experts with an average validation of 91% and material experts with an average validation of 95%, very practical with an average response of 80%, and effective in improving problem-solving abilities with an N-value Gain of 0.73 in the high category. In conclusion, this LAPS-HEURISTIC-Based Plant Anatomy and Physiology practicum module is adequately used.

1. INTRODUCTION

Biology is a science that studies living things and has a broad scientific study. One branch of biology is plant anatomy and physiology. Plant anatomy and physiology are related to understanding plant anatomy structure and physiological processes that occur in plants.

The teaching and learning process in the plant anatomy and physiology course not only discusses theories in the classroom but is integrated with practicum in the laboratory. Practicum is carried out to implement the theories learned in class and see student activities and skills in doing practicum. According to Ali (2017), the most prominent aspects of practicum preparation are the division of groups, the availability of guides or modules, and the completeness of attributes. Prastowo (2013) stated that modules are teaching materials arranged systematically with language easily understood by students, according to their age and level of knowledge, to learn independently with minimal guidance from educators. According to Hernawan et al. (2012), the module is one of the teaching materials in the form of printed materials that contains materials, methods, limitations, and ways of evaluating, designed systematically and interestingly to achieve the expected competencies by the level of complexity.

Based on the previous practicum implementation evaluation, the activity has been equipped with a comprehensive module containing practicum objectives, theoretical basis, experimental methods, tables of observations, and conclusions. However, the module cannot be used to obtain information about students' problem-solving abilities. Students need to understand each stage's purpose to carry out experiments based on predetermined stages. As a result, students cannot design their experiments with different variable variations for the same practicum topic and are still very dependent on lecturers and practicum assistants even though the ability to design a solution to solve problems is one of the learning achievements that graduates of the Biology Education Study Program IKIP PGRI Pontianak must possess.

According to Huznanizar (2020), the success of student learning is primarily determined by the variety of learning models used and their adjustment to learning conditions. One learning model that can help students solve problems according to scientific rules is the Logan Avenue Problem Solving – Heuristic (LAPS-Heuristic). LAPS- Heuristic is a learning model whose application facilitates the problem-solving process by guiding students in solving problems using the words ask what the problem is, is there an alternative solution, is it useful, is the solution, and how should you do it (Surat, 2021).

Based on research (Azwardi & Rani, 2019; Larasati & Dwidayati, 2021) the LAPS – Heuristic learning model is better than conventional learning models in helping students to solve problems. This practical model improves students' creative thinking, increases student activeness, and improves learning outcomes. The LAPS-Heuristic learning model has appropriate steps for students to solve problems in plant anatomy and physiology practicum activities. The steps of the LAPS-Heuristic learning model, according to (Rasyid, 2014), are (1) understanding the problem; (2) planning the solution; (3) resolving the problem as planned; (4) re-examine the results obtained (looking back).

The steps in the LAPS-Heuristic model align with indicators of problem-solving ability. Problem-solving ability is the ability to solve problems by paying attention to finding answers based on problem-solving steps (Nurdalilah and Armanto, 2013). Problem-solving ability is essential because students become skilled in selecting information, analyzing and researching the results, intellectual satisfaction will arise from within, students' intellectual potential increases, and students learn how to make discoveries by doing the process through discovery (Hudojo in Wahyuni 2015). According to Polya (in Zahriah and Jalil, 2016), there are four indicators of problem-solving, which are as follows: (1) understanding the problem, (2) planning problem-solving, (3) solving the problem according to plan, and (4) checking again.

Previous studies have proven that the LAPS-Heuristic model positively impacts students' problem-solving abilities in classroom learning. This research aims to develop a practicum module based on the LAPS Heuristic with the hope that it can improve students' problem-solving abilities in practicum activities following scientific principles and does not rely on lecturers or practicum assistants. According to Nuroso & Siswanto (2010), the steps for preparing modules consist of determining the courses that are the object of development, analyzing module needs, preparing and developing module drafts, expert reviews, and trials based on research. The results of research by Setyowati et al. (2013) show that the development of learning modules is feasible and effective to be used in the learning process when viewed from student responses and students' classical completeness (Anggoro, 2015).

2. METHOD

The research was conducted using the Research and Development (RnD) method adapted from Borg and Gall and modified by Sugiyono (2012). The stages of the development and research design of Bord and Gall have ten stages, while the development chart of Borg and Gall is seen in the figure 1.

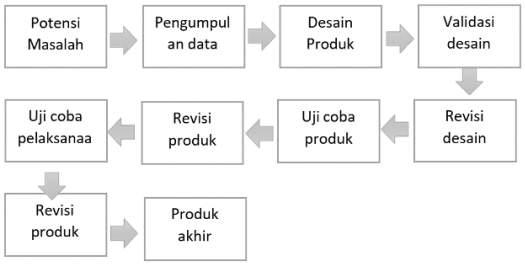

Figure 1. Borg & Gall Development Procedures

At the stage of potential problems, researchers identify problems through observation and instructional analysis. Furthermore, data collection and reference sources are carried out following the needs of the preparation of the module to be developed. After that, the product design of practicum modules is based on LAPS-Heuristic. The modules that have been designed are then validated by three media validators and material validators each. The validation results are then used as input in the design revision. Next, the revised product was tested on a limited basis on 20 students. Data is obtained through user responses at this stage, which are then used for product revisions. The revised product was tested on all research subjects, namely 49 students participating in the plant anatomy and physiology practicum. In this trial implementation stage, students are given pretests and posts to measure problem-solving skills before and after using the module. After using the module, students are also asked to fill out a questionnaire responding to the use of the module. The data obtained is then used for product revision until the final product is produced. The data collection techniques and tools used in the study are taken in Table 1.

Table 1. Data Collection Techniques and Tools

Data	Techniques	Tools
Potential and Problems	Observations,	Observation Sheets
Validity	Indirect	Validation Sheet
	Communication,	
Practicality	Indirect	Response
	Communication	Questionnaire
Effectiveness	Measurement,	Pretest and post description questions

Decision-making on the results of validation, practicality, and effectiveness of the modules developed is carried out based on the criteria in Table 2, Table 3, and Table 4.

Table 2. Module Validity Criteria (Sudijono, 2011)

Validation Score	Criteria
$81.25 < \times \leq 100$	Very valid
$62.50 < \times \leq 81.25$	Valid
$43.75 < \times \leq 62.50$	Less valid
$25 < \times \leq 43.75$	invalid

Table 3. Module Practicality Criteria(Akbar (2015)

Response Score	Criteria
75.01% - 100%	Very practical
50.01% - 75.00%	Practical
25.01% - 50.00%	Less Practical
00.00% - 25.00%	Impractical

Table 4. Module Effectiveness Criteria (Hake,1999)

N-Gain Score	Criteria
$g \geq 0.7$	Tall
$0.7\ g \geq 0.3$	Keep
$g \leq 0.3$	Low

3. RESULTS AND DISCUSSION

The study results are described according to the stages of development adapted from Borg and Gall. In this R&D method, there are ten stages, namely 1) Potential and problems; 2) Data collection; 3) Product design; 4) Design validation; 5) Design revision; 6) Product trials; 7) Product revision; 8) Implementation trials; 9) Product revision, and 10) Final product.

Potential and Problem Stages

The initial research stage is to identify potential problems through observation and instructional analysis. Observation is carried out during practicum implementation, while instructional analysis is needed to arrange the appropriate steps to determine the appropriate product to develop. Observations show that students' problem-solving abilities could be developed more. This can be seen from the inability of students to design experimental designs when changes are made to experimental variables even though they are still on the same material topic. From the instructional analysis, it was decided that to develop problem-solving skills, modifications are needed to the practicum module used by integrating the LAPS-Heuristic model into it.

Data Collection Phase

At this stage, researchers collect data or reference sources that follow the needs in preparing LAPS-Heuristic-based practicum modules in plant anatomy and physiology practicum. Reference sources come from relevant sources in the form of books and research articles.

Product Design Stage

This stage begins with designing and packaging the product to be effective and provide newness to a product. In general, the stages that need to be considered in making modules include 1) Cover Module, 2) Instructions for using modules, 3) KD desired, 4) Supporting Materials, 5) Questions, 6) LKS, and 7) Assessment (Ministry of Education, 2008). Based on the stages of preparing the Ministry of National Education module above, the design of the LAPS-Heuristic-based practicum module to be developed consists of 1) Cover; 2) Preface; 3) Practicum instructions; 4) Practicum Chart; 5) Table of Contents; 6) Material Content, including Practicum Objectives, Theoretical Basis, Tools and Materials, Work Procedures, Practicum Evaluation, and Interim Report Sheets; 7) Bibliography.

Design Validation Phase

Validation is the first step in the data collection process. Before being used as a collection tool, product designs and research instruments are first validated. Media experts and material experts validate the LAPS-Heuristic-based practicum module. Media validation is carried out to determine whether the designed module follows standards in size, cover design, content design, and typography. Material validation is carried out to see the suitability between the module content and the material in terms of content feasibility, presentation, and language. In addition to modules, validation is also carried out on research instruments such as observation sheets, response questionnaires, and tests. Validation was carried out by three media experts and three material experts. The validation results are shown in Table 5.

Table 5. Recapitulation of Validation of LAPS-Heuristic-Based Plant Anatomy and Physiology Practicum Module.

Validation	Aspect	Average aspect	Criteria
Material	Content	88	Very valid
	Presentation	97	
	Language	88	
Average		**91**	
Media	Size	96	Very valid
	Cover	94	
	Content	96	
	Typography	94	
Average		**95**	

The results of module validation by material experts are 91%, while practicum module validation based on media experts is 95%. The validation results are divided into quantitative data and qualitative data. Quantitative data in the form of assessment sheets to determine the feasibility of modules. Based on the results of the expert assessment, this module is on the criteria for very valid use in practicum activities. Qualitative data in the form of suggestions and input provided by validators is used as a first step for improvement. Material validation has three aspects of assessment, namely aspects of content

feasibility, presentation, and language. Regarding the feasibility of material content, the percentage given by validators is 88%. The material in the practicum module is short material related to practicum activities and follows the Syllabus, RPS, and learning outcomes of plant anatomy and physiology courses.

The results of the validator assessment based on the presentation aspect are 97%. The modules developed have different characteristics from the previous practicum modules. The design of the LAPS-Heuristic-based plant anatomy and physiology practicum module has several parts, including the cover, foreword, laboratory rules, writing procedures and format for making practicum reports, and practicum activity charts. In addition, the module has a practicum activity sheet by applying an assessment of problem-solving ability. Students are asked to complete practicum activities and fill out practicum worksheets in the module.

In the linguistic aspect, the percentage given by validators is 88%. The language used in the practicum module has a language that is easy to understand and convey communicatively. The language and instruction in the module use terms that do not have multiple meanings. According to Paramita et al. (2018), using clear sentences that do not cause double interpretation will make it easier for students to use the module.

Media validation is assessed on module size, cover design, content design, and typography. The specification of the practicum module has an A5 print size that is easy for students to carry, and the design cover has an image illustration that matches the module's contents. In addition to assessing the four aspects, validators provide inputs and suggestions for improving the module, such as adding an answer column to the observation sheet.

Design Revision Phase

The results of module design validation and input and suggestions from validators are used as the basis for improvements to the modules developed. Some points of concern to validators include a less attractive cover design, as well as adjustments to the contents of the module, especially in the basic parts of theory and how to work to better reflect the LAPS-Heuristic and problem-solving process.

Product Trial Phase

The revised module based on validator suggestions was then tested on a limited basis on 20 students who had attended practicum in plant anatomy and physiology. At this stage, a response questionnaire was also distributed to determine the module's practicality.

Product Revision Stage

Questionnaire data on the response to modules from the product trial stage is then used for improvement. Some improved aspects based on the response questionnaire included using language that is more communicative and easy to understand based on theory and work procedure instructions and module layouts that added free space to accommodate experimental designs that practitioners will design.

Implementation Trial Phase

The revised product was then tested on research subjects consisting of 49 students who participated in plant anatomy and physiology practicum. Before using the module, practitioners are first given a pretest to measure problem-solving skills before using the module. After using the practical module, posttest and response questionnaires are given. The results of the response questionnaire are used to assess the practicality of the modules used. The assessment of student responses to the practicality of the product is shown in Table 6.

Table 6. Recapitulation of Student Responses to The Practicality of Practicum Modules In Each Aspect

Aspects	Percentage
Ease of understanding	82
Learning independence	80
Effectiveness	78
Interest in learning	78
Use	82
Serving	80
Average	80

Table 6. The above shows that for each aspect assessed, the percentage of responses was above 75%, with an average response of 80%. This shows that the modules used are based on very practical criteria. This is in line with the research of Amalia et al., 2019 Suprihatiningsih & Annurwanda, 2019 Nurmeidina et al., 2021 that learning modules that have an average value of practicality >80% and have positive responses are practically used in learning. Based on the results of Nieveen's research (2013), the results of development are said to be practical if: 1) respondents state theoretically that the development product can be used in the field, and 2) the level of product implementation is included in the "good" category. The aspect that had a high response from students was the ease of understanding and use of the practicum module, which was 82%. Students can read the module's content easily before the practicum starts. Students can learn first so that they already understand the practicum activities when the practicum takes place.

Based on the response, the practicum module on plant anatomy and physiology developed has several advantages, including; 1) The practicum module has characteristics that can measure students' problem-solving abilities during practicum; 2) The practicum module can improve students' problem-solving skills as seen from the difference in pretest and postes scores after practicum; 3) Students can conduct independent evaluations, by answering questions in the practicum module; and 4) Generate student confidence in an experiment starting from finding problems, designing problem-solving, solving problems to concluding their experimental results. The values of pretests and posts were analyzed N-Gain to assess the effectiveness of the modules developed. Data on prices and postest are shown in Table 7.

Table 7. N-Gain Value of Problem-Solving Ability After Using The LAPS-Heuristic-Based Plant Anatomy and Physiology Practicum Module.

Data	Scores		*N-Gain*	Criteria
	Pre	*Post*		
Average	64	91	0,73	height
Max	67	95		
Min	50	88		
% complete		96%		
% incomplete		4%		

Table 7. The above shows that the N-Gain value 0.73 is on the high criteria. This shows that the modules used are effective in improving problem-solving capabilities. The effectiveness of the plant anatomy and physiology practicum module is also supported by the selection of learning models during the practicum. The LAPS-Heuristic learning model is used to help practicum activities because it can direct students to find problems to find the truth of experimental results so that they can support students' ability to solve problems. This is also in line with the research of Rahayu et al. (2019) and Novitasari and Shodikin (2020), which show that problem-solving skills using the LAPS-Heuristic learning model are better than those of conventional learning models.

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Product Revision Stage

In addition to being used to assess the modules' practicality, response questionnaires at the trial stage are also used as a source of information for product improvement. From the aspect shown in Table 6. The lowest score is found in the effectiveness of using modules and interest in learning. Improvements were made by considering the allocation of time for practicum implementation, reducing the burden of practicum, and adding practicum evaluation questions.

Final Product Stage

The results of the product revision are then printed into a final product in the form of a feasible LAPS-Heuristic-Based Plant Anatomy and Physiology practicum module. This product will be used in

the practicum of the next academic year. The practicum module developed as a practicum guide serves to assist in the implementation of practicum and also plays a role in improving problem-solving skills. In addition, implementing the plant physiology anatomy practicum module can also impact other abilities, such as improving concept solving and student learning independence and increasing student creativity. This aligns with Dafrita Nurmaningsih's (2019) research, which found that using modules in individual practicum activities will encourage students to understand concepts individually without depending on others. In addition, according to Lahra (2017), learning by applying practicum modules can increase student creativity.

4. CONCLUSION

Based on the study results, the LAPS-Heuristic-based anatomy and physiology practicum module developed is feasible. This conclusion is drawn based on: 1) The results of material expert validation showing a validation score of 91% and media expert validation with a validation score of 95%, both on very valid criteria; 2) Response questionnaire analysis showed average practicality of 80% on very practical criteria; and 3) N-Gain analysis of 0.73 on high criteria showed that the module effectively improved problem-solving ability.

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REFERENCES

Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: PT Remaja Rosdakarya.

Ali, Ahmad. 2017. Analysis of the Implementation of Plant Physiology Anatomy Practicum Department of Biology Education Even Semester of the 2016/2017 Academic Year. *Jurnal Biotek*, Vol. 5 (1), 144-154. https://doi.org/10.24252/jb.v5i1.3454

Amalia, R., Tayeb, T., dan Abrar, A. I. P. 2019. Problem-Based Model Development To Improve Mathematical Problem-Solving Ability For Seventh Grade SMP Student. *Al-Asma: Journal of Islamic Education.* Vol.1(2):136-147. https://doi.org/10.24252/asma.v1i2.11255

Anggoro, Bambang Sri. 2015. Development Of Mathematics Modules With Problem-Solving Strategies To Measure Students' Level Of Mathematical Creative Thinking Ability, *Al-Jabar: Jurnal Pendidikan Matematika*, Vol. 6(2): 122 – 129. https://doi.org/10.24042/ajpm.v6i2.25

Azwardi, Gilang dan Rani Sugiarni. 2019. Improved mathematical problem-solving ability through the LAPS-Heuristic learning model, *Pi: Jurnal Pendidikan Matematika*. Vol. 2(2):62-68. https://doi.org/10.21067/pmej.v2i2.3335

Dafrita, I. E, dan Nurmaningsih. 2019. Development of Integral Calculus Practicum Module Based on Wxmaxima Application towards Understanding Mathematical Concepts, *Jurnal Pendidikan Matematika Dan Ipa*, Vol 10(2): 224-234. http://dx.doi.org/10.26418/jpmipa.v10i2.28421

Depdiknas. (2008). *Module Writing*. Jakarta: Kemendiknas

Hake, R. (1999). *Analyzing Change/Gain Score*. United States of America: Indiana University.

Hernawan, A. H., Permasih, H & Dewi, L. (2012). *Development of Teaching Materials*. Bandung: Direktorat UPI.

Husnanizar. 2020. *Development of guided inquiry-based physics practicum modules for senior high schools.* Banda Aceh: Fakultas Tarbiyah Dan Keguruan Universitas Islam Negeri Ar-Raniry Darussalam.

Lahra, A. S., Hasan, M., dan Mursal. 2017. Development of practicum modules based on an open-ended approach to increase student creativity. *Jurnal Pendidikan Sains Indonesia*, Vol. 05(01): 36-43, https://jurnal.unsyiah.ac.id/JPSI/article/view/8405

Larasati, M.A dan Dwidayati, N. K. 2021. The Mathematical Creative Thinking Ability of Class VII Students in Heuristic Logan Avenue Problem Solving (LAPS) Learning is Reviewed from Student Activity. *Prisma,Prosiding Seminar Nasional Matematika*, Vol 4: 310-319. https://journal.unnes.ac.id/sju/index.php/prisma/article/view/45046

Nieveen, N. 2013. *Formative Evaluation in Educational Design Research. In T. Plom & N. Nieveen (Eds.), An Introduction to Educational Design Research*. Netherlands: Netzodruk, Enschede.

Novitasari, N. T., dan Shodikin. A. 2020. Application of the Logan Avenue Problem Solving (LAPS-Heuristic) Learning Model to Problem Solving Ability in Line Story Problems and Arithmetic Series. *Jurnal Tadris Matematika*. Vol. 3(2): 153-162, http://dx.doi.org/10.21274/jtm.2018.1.1

Nurdalilah, Edi Syahputra dan Armanto, Dian. 2013. Differences in Mathematical Reasoning and Problem-Solving Skills in Problem-Based and Conventional Learning at SMA Negeri 1 Kualuh Selatan. *Jurnal Pendidikan Matematika PARADIKMA*, Vol. 6 (2): 109-119, https://doi.org/10.24114/paradikma.v6i2.1056

Nurmeidina, Ratmatya, Lazwardi, Ahmad, dan Nugroho, A. G. 2021. Development of Trigonometry Modules to Develop Mathematical Problem-Solving Skills, *AKSIOMA: Jurnal Program Studi Pendidikan Matematika.* Vol.10(1): 15-27, https://doi.org/10.24127/ajpm.v10i1.3375

Nuroso, Harto dan Siswanto, Joko. 2010. Integrated Science Module Development Model Based on Student Cognitive Development. Jurnal Penelitian Pembelajaran Fisika. Vol. 1 (1), 35-46. https://doi.org/10.26877/jp2f.v1i1.106

Paramita, Ratna, Panjaitan, R. G. P., dan Ariyati, Eka. 2018. Development of Booklet Results of Inventory of Medicinal Plants as a Learning Media on the Material Benefits of Biodiversity, *Jurnal IPA dan Pembelajaran IPA*, Vol. 02 (02): 83-88, http://doi.org/10.24815/jipi.v2i2.12389

Prastowo, A. 2013. *Creative Guide to Creating Innovative Teaching Materials*. Jogjakarta: Diva Press.

Rahayu, N., Karso, dan Ramdhani, S. 2019. Improving Mathematical Problem Solving Ability and Student Learning Activity through the LAPS-Heuristic Learning Model. *Indomath: Indonesian Mathematics Education.* Vol. 2 (2): 83-94, http://doi.org/10.30738/indomath.v2i2.4536

Rasyid, Moch Ridha. 2014. *Thesis: Application of the LAPS-Heuristic Learning Model with an Open Ended Approach to Improve the Problem Solving and Mathematical Reasoning Ability of High School Students*. Bandung: Sps UPI.

Setyowati, Ratna, Parmin, Widiyatmoko, Arif. 2013. Development of Science Modules with Environmental Care Character on the Theme of Pollution as Teaching Material for Students of SMK N 11 Semarang. *USEJ*, Vol. 2 (2): 245-253, https://doi.org/10.15294/USEJ.V2I2.2031

Sudijono, A. (2011). *Pengantar Evaluasi Pendidikan*. Jakarta: Raja Grafindo Persada.

Sugiyono. 2012. *Educational Research Methods (Quantitative, Qualitative, and R&D Approaches).* Bandung: Alfabeta.

Suprihatiningsih, S., dan Annurwanda, P. 2019. Development of problem-based mathematics modules on two-variable linear equation system material. *Jurnal Karya Pendidikan Matematika* Vol 6(1): 57-63. https://doi.org/10.26714/jkpm.6.1.2019.57-63

Surat, I Made. 2021. Effects of Applying the Laps Learning Model (Logan Avenue Problem Solving) – Heuristic on the problem-solving ability and mathematical connection ability of grade VII students of Santo Joseph Junior High School Denpasar for the 2018/2019 academic year. *Jurnal Emasains: Jurnal Edukasi Matematika dan Sains.* Vol. 10 (1), 167-180. DOI: 10.5281/zenodo.4733018

Wahyuni, S. (2015). Development of Disciplinary Character and Problem-Solving Ability through the LAPS-Heuristic Model of Class VII Circle Material. *Unnes Journal of Mathematics Education*, *4*(2). https://doi.org/10.15294/ujme.v4i2.7594

Zahriah, M. Hasan, Zulkarnain Jalil, (2016). Application of Polya Model Problem Solving to Improve Analytical Skills and Learning Outcomes on Vector Material at SMAN 1 Darul Imarah. *Jurnal Pendidikan Sains Indonesia*, Vol.04,(01): 166-177. https://jurnal.unsyiah.ac.id/JPSI/article/view/6593