

# The Contribution of Learning Journal in Botany Phanerogamae Course

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**Abstract**— Objective assessment tests are not able to describe students' abilities comprehensively, so alternative forms of assessment are needed. This study aims to reveal the contribution of alternative assessment forms of learning journals in the study of Botany Phanerogamae courses. This type of research is descriptive by asking students to make learning journals after each lecture session. The subjects of the study were 35 students who joint the Botany Phanerogamae course. Data collection techniques were carried out by collecting learning journals and objective tests. The collected data was analyzed by quantitative descriptive, and qualitative descriptive. The results showed that 94% of students had demonstrated accuracy, 83% were able to remember the learning process, 75% were able to identify concrete facts and reasons, 49% were able to find the benefits of lecture material, 93% were able to describe lecture material, 60% were able to formulate problems, 80% able to explain the explanation of the lecturer, 77% able to describe the way he studied, 91% were able to identify the way the lecturer motivated, and 89% were able to formulate lessons learned from the lecture. Although there are still some weaknesses, the learning journal is able to reveal many aspects of student competence.

**Keywords:** *journal of learning, assessment, Botany Phanerogamae*

## I. INTRODUCTION

One of the functions of the assessment [1] is to improve the competence of students. This will be realized if the assessment is used as an assessment for learning (assessment for learning) and assessment as learning (assessment as learning).

Morgan states that the assessment should be emphasized on assessing the ability of students in real-life situations. Assessment in the form of objective tests is less able to reveal the true abilities of students. Objective tests only provide closed questions, where the correct answer has been determined by the test maker. So this type of test does not accommodate students' thinking that is different from the predefined answer key. For this reason, an alternative form of assessment is needed in order to describe student learning progress comprehensively.

Assessment expert Linn & Gronlund states that alternative assessments are all forms of assessment used as alternatives to traditional assessments. Traditional assessments, in this case, include written tests of right and wrong, compound choice tests, tests completing answers, and short entry tests. This

traditional assessment is often also referred to as an objective test because of its objective scores.

One alternative form of assessment is a learning journal. Learning journals as written documents or notes made by students and contains reflections from the results of thinking and understanding after experiencing the learning process. The ability to reflect is needed for a student. This concerns the ability of students to evaluate themselves in order to act and think better than before. Learning journals can also be used to measure the achievement of students' understanding of concepts, processes, and attitudes. Learning journals aim at minimizing other activities of students, so the focus of students is only on learning [2]. The use of learning journals can cover student activities in the classroom.

Learning journals allow teachers to assess how deep students 'understanding of the material they have just learned, as well as correcting students' weaknesses and mistakes. Learning journals also train students' ways of thinking in improving their learning achievement [3].

Botany Phanerogamae is one of the compulsory courses in the Biology Education Study Program FKIP UNILA. The course examines the morphology and classification of plants. Learning methods are implemented by integrating practicum activities and theoretical studies. Students must carry out practicum before attending lecture activities, and the reverse order is not justified. This is based on the assumption that scientific understanding is formed through experience. Student experience gained through practical activities will be strengthened by the truth or even mistakes in lecturing activities.

The typical content of this course is the many unique terms to mention certain parts of the plant. These various terms must be understood by students in order to identify plants and then be classified into certain groups. The number of terms that must be understood, so the right method is needed to overcome them. One method applied is to create a learning journal.

Journal of learning integrated with strategy, learning models are known to contribute positively to the learning process [4], including effectively increasing students' critical thinking skills [5]; metacognitive skills [6]; scientific work ability [7]; and learning motivation [8]. Learning journals had a positive effect on students' concept mastery.[9].

II. METHOD

This research is a descriptive study with the aim to illustrate the contribution of the use of learning journals in the subject of Botany Phanerogamae. The research subjects were 70 PSPB FKIP UNILA students taking Botany Phanerogamae courses. Data collection techniques are journal writing assignments,

concept understanding tests. Journal contains about; (1) Journal identity, (2) introduction, (3) lecture notes, (4) problem identification, (5) lecturer review notes, and (6) self-reflection [10]. Data analysis was performed descriptively qualitatively to illustrate the contribution of the use of learning journals and quantitative descriptive through percentage calculations. The following is a research flowchart.

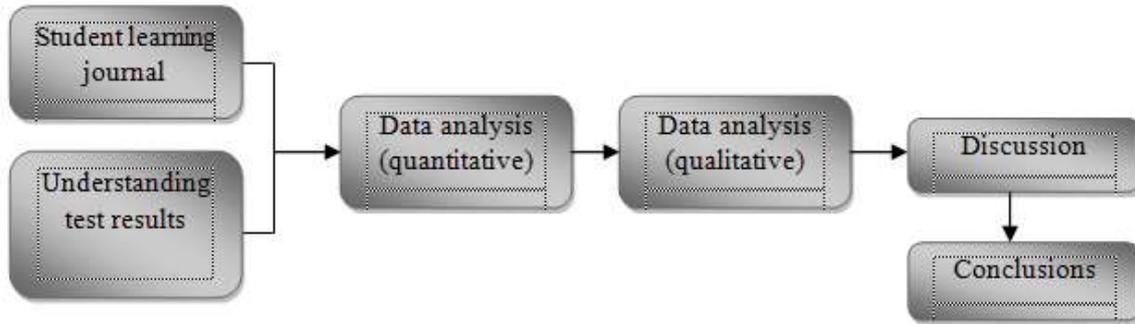


Fig. 1. Chart of research flow

III. RESULTS AND DISCUSSION

The abilities that will be explored are: 1) accuracy; 2) remembering the learning process, 3) identifying concrete facts and reasons, 4) finding the benefits of lecture material, 5) describing lecture material, 6) formulating the problem, 7)

describing the lecturer's explanation, 8) describing the way he studied, 9) identifying the way the lecturer motivating, and 10) formulating lessons learned from lectures. Based on the collection of student learning journals, the following results were found.

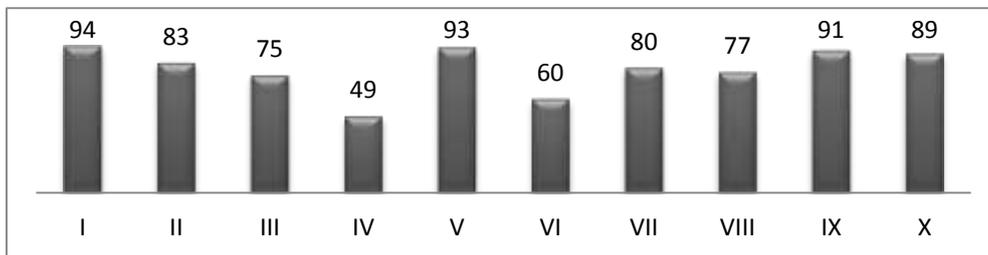


Fig. 2. A diagram of the average abilities of students

Other data collection is done by providing a content understanding test. Tests in the form of multiple-choice reasoned with scoring criteria 0, 1, 2. Number 0 indicates the wrong answer or no answer; number 1 indicates the choice of

answer is correct but the reason is wrong or not, and number 2 shows the answer and the right reason. The results of tests of students' understanding of course content are shown in the following bar diagram.

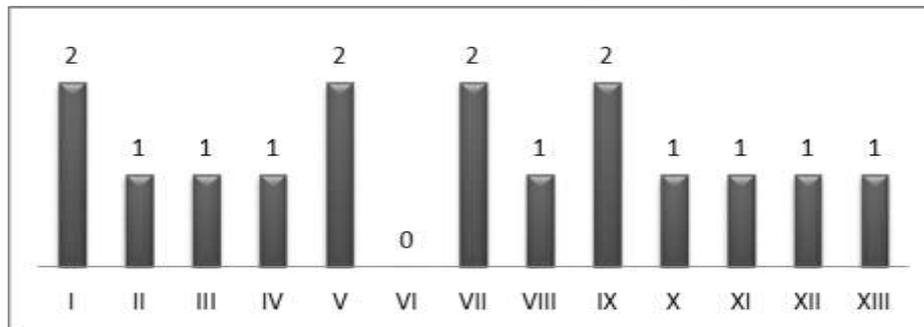


Fig. 3. Diagram of the average content understanding achievement

The diagram in Figure 2 shows that the lowest average is shown by indicator IV, which is the ability to find the benefits of lecture material. This ability trains students to connect the lecture material being studied with the tangible benefits that

humans and the environment can get. As for some students who are able to find the benefits of lecture material, tend to be normative benefits. Among the benefits that students are able to identify are: "adding insight," "enriching knowledge," and

"understanding deeper." While some other students did not find/write the benefits of lecture material in their study journals.

The ability that is one level higher than indicator IV is shown in indicator VI, namely the ability to formulate problems. The ability to formulate problems is one of the capabilities of the science process [11]. The ability to formulate problems can also be improved by practicum methods [12]. Some things that were identified to be a factor in the low ability to formulate problems include a misconception of the indicator. Most students assume that the problem is a question that is given by students to lecturers related to material that is not yet understood during lectures.

Indicators III and VIII are a description of the ability of students in the range of scores of 70. Each of these abilities illustrates the ability of students to identify concrete facts and their reasons and describe how to learn. The ability of the first requires students to find facts on the topic being discussed. Facts are things, circumstances, or events that are reality or something that actually happened. In this ability, students must find, identify the object of study through practicum, then compare the results of practicum with the theory put forward by experts relating to the object of study. The comparing activity is intended so that students are truly able to distinguish between facts and opinions related to the object of study. The next ability is a place for students to practice metacognition skills. This ability is very important to be developed because it relates to the ability to evaluate how to learn. Metacognitive skills are a simple strategy but are very powerful for improving students' thinking abilities and learning abilities. There was an increase in metacognition skills by 9% through the application of learning journals. [13]

The average range of 80 is shown in indicators II, VII, and X. Indicator II requires students to remember the chronology of lectures. This ability, besides being proof of attendance, can also train students' ability to create narratives. One of the weaknesses of lecturers to ensure the presence of students in large classes is to remember the names of students. Making a journal can be an alternative to overcome them. Ability VII relates to how students capture and conclude the lecturer's presentation. This ability is related to the ability of students to catch a lecture or conversation. This ability is needed in communicating in small or large groups, as a speaker or listener. The last ability in this range is shown in indicator X. The ability developed in indicator X is how students are able to make generalizations from the discussion and find benefits for self-development. There are still students who only conclude the lecture topic without explaining what self-development is obtained.

The final range is an indicator that reaches a mean value of 90, as shown by the indicators I, V, and IX. The indicator I require accuracy of students in writing journal identity. Found students who wrote the wrong journal number, lecturer name, and did not write identity number. The impressed indicator I is a simple thing, but it requires patience and accuracy and consistency of writing, not just relying on the "copy-paste" method. The score on indicator I is 94 and is the highest score. Indicator V reaches a score of 93 with demands being able to

decipher lecture material. Almost all students were able to pass the indicator score standard because the material displayed was obtained through the internet. Next is the IX indicator, which requires students to be able to find ways lecturers motivate learning. Almost all students write the same thing in every journal. The alleged cause is because the teaching method used by the lecturer is always the same in every meeting. Another suspected cause is that students form their own understanding of how lecturers motivate through teaching.

Content understanding test results show (Fig. 3) that the average student's ability to be able to choose the correct alternative answers with the wrong reasons or not write down. The amount reaches 60%, while students who reach the upper level are 31%. At this level, students are able to find the right reasons for alternative answers. Meanwhile, it was found that no one student was able to reach the standard on indicator 6. As the purpose of this study, researchers only described the ability of students during the learning process with a specific approach and did not compare. Regarding the influence of the use of learning journals on content understanding, [14] concluded that there was no difference in the mastery of concepts learned using guided inquiry learning assisted with learning journals with students who were taught with guided inquiry. Meanwhile, [15] concluded a different matter. Based on the results of his research, he concluded that learning journals affect cognitive learning outcomes. The conclusion that learning journals give a positive meaning to the learning process. Learning journals basically can improve students' understanding of content. Not only that, but other abilities can also be explored through the application of learning journal form assessments. Its application can be combined with other learning methods.

#### IV. CONCLUSION

Learning journal form assessments can hone the ability of students in addition to only understanding the content. Based on the results of the study it can be seen that the abilities that can be explored include 1) accuracy; 2) remembering the learning process, 3) identifying concrete facts and reasons, 4) finding the benefits of lecture material, 5) describing lecture material, 6) formulating the problem, 7) describing the lecturer's explanation, 8) describing the way he studied, 9) identifying the way the lecturer motivating, and 10) formulating lessons learned from lectures. Although not yet prominent in increasing mastery of content, improvements to journal indicators, manufacturing techniques, and strategies combined with learning models will greatly play a role in increasing the role of learning journals in improving student ability.

#### REFERENCES

- [1] A.R. Wulan, *Menggunakan Asesmen Kinerja untuk Pembelajaran Sains dan Penelitian*. Bandung: UPI Press, 2018.
- [2] C. Octovi, C., & Suciati, *Perbedaan Pengaruh Penggunaan Jurnal Belajar Mind Mapping (JBMM) dan Jurnal Belajar Naratif terhadap Pemahaman Konsep Mahasiswa Calon Guru Biologi pada Mata Kuliah Profesi Kependidikan*. Tesis: Tidak diterbitkan, 2016.
- [3] E. Junaedi, *Penerapan Pembelajaran dengan Menggunakan Jurnal Belajar Untuk Meningkatkan Prestasi Belajar Bangun Ruang Pada Siswa SMP Negeri 10 Malang Kelas VIII-H*. Malang: UM, 2013.

- [4] F.D. Andriyani, Kontribusi Penggunaan Jurnal Belajar pada Pembelajaran Matakuliah Permainan Bolabasket. *Cakrawala Pendidikan*, (1), 140-147. 2017.
- [5] L. Munawaroh, Y. Pantiwati & A. Rofieq, Penggunaan jurnal belajar dalam pembelajaran class wide peer tutoring terhadap kemampuan berpikir kritis siswa. *Jurnal Pendidikan Biologi Indonesia*, 1(3).2016.
- [6] D. Setiawan, & H. Susilo, Peningkatan Keterampilan Metakognitif Mahasiswa Program Studi Biologi melalui Penerapan Jurnal Belajar dengan Strategi Jigsaw dipadu PBL Berbasis Lesson Study Pada Matakuliah Biologi Umum. Ini Disajikan dalam Seminar Nasional Pendidikan Biologi: Peran Biologi dan Pendidikan Biologi dalam Menyiapkan Generasi Unggul dan Berdaya Saing Global, Pusat Penelitian Universitas Muhammadiyah Malang, Malang (Vol. 21). 2015.
- [7] N. Hidayati, Pembelajaran Discovery Disertai Penulisan Jurnal Belajar Untuk Meningkatkan Kemampuan Kerja Ilmiah Siswa Kelas Viii. 1 Smp Negeri 1 Probolinggo. *Jurnal Penelitian Pendidikan IPA*, 1(2), 2017.
- [8] L. Lianto, A. Jufri, & I.W. Merta. Pemanfaatan Model Jurnal Belajar Kotak Berhias untuk Meningkatkan Motivasi dan Hasil Belajar. In *Prosiding Seminar Nasional Pendidikan Biologi* (Vol. 1, No. 1, pp. 500-504), 2018.
- [9] Budiarti, R. (2017). Pengaruh Model Pembelajaran Diskoveri Terbimbing dan Jurnal Belajar terhadap Hasil Belajar Kognitif Siswa Kelas X SMA Negeri 1 Lembar (Doctoral dissertation, Universitas Mataram).
- [10] N. Hasnunidah, H. Susilo, M.H. Irawati, & H. Sutomo, Argument-Driven Inquiry with Scaffolding as the Development Strategies of Argumentation and Critical Thinking Skills of Students in Lampung, Indonesia. *American Journal of Educational Research*, 3(9), 1185-1192, 2018.
- [11] Y. Supriyati, *Strategi Pembelajaran Fisika*. Jakarta: Universitas Terbuka.2017.
- [12] Liandari, Eka dkk, Upaya Meningkatkan Kemampuan Merumuskan dan Menguji Hipotesis Melalui Pendekatan Keterampilan Proses Sains dengan Metode Praktikum. *Jurnal Wahana Pendidikan Fisika*, (Online), Voi. 2, No.1, (<http://ejournal.upi.edu/index.php/WapFi/article/download/4904/pdf>, diakses 28 Desember 2018).
- [13] M. Sabilu, Pengaruh Penggunaan Jurnal Belajar dalam Pembelajaran Multistrategi terhadap Kemampuan Kognitif dan Metakognitif Siswa SMA Negeri 9 Malang. Tesis tidak diterbitkan. Malang: PPs UM, 2018.
- [14] A. Wati, H. Susilo, & S. Sutopo, Pengaruh Pembelajaran Inkuiri Terbimbing Berbantuan Jurnal Belajar terhadap Penguasaan Konsep IPA Siswa. *Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan*, 3(1), 129-133. 2018.
- [15] J. Setyanto, Penerapan Pembelajaran Kooperatif Tipe Numbered Head Together (NHT) dengan Tugas Menulis Jurnal Belajar untuk Meningkatkan Motivasi, Keterampilan Metakognitif dan Hasil Belajar IPA Siswa Kelas VIII C SMP Negeri 1 Blitar. Tesis tidak diterbitkan. Malang: PPs UM, 2011.