

# Industries' Assessment of Student Learning Outcomes

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**Abstract**—Assessment of the achievement of learning outcomes and their suitability with industries needs is very important. Assessment of learning outcomes by industries is a good feedback for higher education institutions in making improvements to learning content standards, improve learning process standards, learning assessment standards, lecturer standards and education personnel, learning facilities and infrastructure standard, learning management standards, and learning financing standards. This study is intended to describe the results of industries assessment of student learning outcomes, analyzes the components of learning outcomes that have been and have not been achieved by students, and suitability of learning outcomes with industries expectations. This study evaluated achievement of student learning outcomes. The main steps of study are: 1) assessment of student learning outcomes by industries; 2) analyzes the components of learning outcomes that have been and have not been achieved by students; and 3) analyze the suitability of learning outcomes with industries expectations. This study evaluated achievement of student learning outcomes. This study is carried out in companies where students have done work practices. Students carry out practical work on public accounting offices, tax consultant offices, hotels and restaurants, travel, financial institutions, or other places that meet the requirements. The instrument uses 4 Likert scale, from 1 (very dissatisfied) to 4 (very satisfied). Data were analyzed using percentage analysis by comparing the number of answers within one (1) item by the number of ideal answer within one (1) item, and cartesius diagram to describe the suitability of learning outcomes with industries expectations. The results of research are: 1) the achievement of student learning outcomes is good except components student learning outcomes number 7 (Diploma III), and number 10 (Diploma IV) are not good. These mean that according to industries, students already have the ability as stated in student learning outcomes, but have not been able to compile a company accounting system and conduct an examination of financial statements in accordance with auditing standards, and have not been able to apply information technology in accounting processes that are routine or contingent; 2) student learning outcomes are in line with industries expectations.

**Keywords**— *industries, assessment, student, learning outcomes*

## I. INTRODUCTION

Higher educational institutions must establish good relations with industries so that higher educational institutions can provide qualifications that are appropriate to industry's

needs. Relations can be done through student work practices, research collaboration, and other educational cooperation [1]. Collaboration, cooperation and feedback between industrial and higher education institutions are mutually beneficial relationship [2]. Collaboration and cooperation will be able to achieve the dual goals [3]. Through student work practices, students have the opportunity and experience involved in industrial projects [4]. At the same time the industries have the opportunity to realize its social responsibility towards improving the quality of education.

Learning assessment is related to learning processes and outcomes [5] Higher education institutions have established learning outcomes that students must achieve. Educational institutions assess student achievement learning outcomes that have been determined in various ways. The way to evaluate it is aligned with learning outcomes. Higher education institutions have also established processes for achieving learning outcomes [6, 7, 8].

Learning outcomes are the minimum criteria regarding qualifications of graduates' abilities which include attitudes, knowledge, and skills. Learning outcomes are used as the main reference for the development of learning content standards, learning process standards, learning assessment standards, lecturer standards and education personnel, standard learning facilities and infrastructure, learning management standards, and learning financing standards. Evaluation of achievement and suitability of learning outcomes needs to be carried out systematically [9, 10, 11].

Assessment of the achievement of learning outcomes and their suitability with industries needs is very important. Assessment of learning outcomes by industries is a good feedback for higher education institutions in making improvements to learning content standards, improve learning process standards, learning assessment standards, lecturer standards and education personnel, standard learning facilities and infrastructure, learning management standards, and learning financing standards [12, 13, 14, 15].

This study focuses on assessment of student learning outcomes by industries. This study is intended to describe the industries assessment of student learning outcomes, analyze the achievement of learning outcomes, and analyze the suitability of learning outcomes with industries expectations.

## II. RESEARCH METHODS

This study evaluated achievement of student learning outcomes. The main steps of study are: 1) assessment of student learning outcomes by industries; 2) analyzes the components of learning outcomes that have been and have not been achieved by students; and 3) analyze the suitability of learning outcomes with industries expectations. This study is carried out in companies where students have done work practices. Students who take part in industrial work practices are 74 people from Diploma III Financial Accounting, and 101 people from Diploma IV Managerial Accounting, but only 69 Diploma III students, and 80 Diploma IV students who returned the questionnaire completely. Students carry out practical work on 21 people in public accounting offices, 27 people in tax consultant offices, 80 people hotels and restaurants, travel, 2 people in financial institutions, and 19 in people other places that meet the requirements. Instruments used in this evaluation is the industries perception of student learning outcomes. The instrument uses 4 Likert scale, from 1 (very dissatisfied) to 4 (very satisfied). Data were analyzed using percentage analysis by comparing the number of answers within one (1) item by the number of ideal answer within one (1) item, and cartesius diagram to describe the suitability of learning outcomes with industries expectations.

## III. RESULTS AND DISCUSSIONS

### A. Description of Student Learning Outcomes

Learning outcomes are the minimum criteria regarding qualifications of graduates' abilities which include attitudes, knowledge, and skills. Learning outcomes of the Diploma III Financial Accounting are as follows: 1) able to record transactions and compile financial statements of service, trade, manufacturing companies in accordance with the accounting cycle; 2) able to handle balance sheet accounts with estimates in Indonesian and English; 3) able to record and communicate public sector accounting and financial transactions; 4) able to calculate the cost of goods, make planning, control and decisions management; 5) able to compile and analyze company budgets; 6) able to calculate tax payable; 7) able to compile a company accounting system and conduct an examination of financial statements in accordance with auditing standards; 8) understand the principles and practices of computers for support in providing computer accounting services related to teaching, research and community service; 9) able to analyze financial statements in English language and be able to apply to hotel companies and foreign companies; 10) able to conduct analysis in the public accounting sector, the stock exchange, Village Unit Cooperatives, and Village Financial Institutions.

Learning outcomes of the Diploma IV Managerial Accounting are as follows: 1) able to present financial statements by applying generally accepted accounting standards and principles; 2) able to analyze financial reporting and provide information about the condition and performance of the company as a material for decision making; 3) able to present information on the company's product cost as a material for decision making in determining managerial

policies; 4) able to present tax reports by applying a tax management system (tax planning); 5) able to present and analyze management accounting information for decision making by management; 6) able to audit financial statements covering planning, implementation and reporting in accordance with auditing standards; 7) able to prepare the company's budget; 8) able to design and implement an accounting information system in the completion of work in accounting; 9) able to compile financial statements for specific accounting problems, such as branch office and head office accounting, subsidiaries' accounting and parent company (consolidation), business merger accounting and other specific problems; 10) able to apply information technology in accounting processes that are routine or contingent.

### B. The Achievement of Learning Outcomes

The results of industries assessment of student learning outcomes are presented in Table I and II.

TABLE I ASSESSMENT OF STUDENT LO DIPLOMA III

| Learning Outcomes (LO) | Expectation | Reality   |
|------------------------|-------------|-----------|
|                        | score (%)   | score (%) |
| LO 1                   | 83.00       | 77.75     |
| LO 2                   | 83.00       | 78.25     |
| LO 3                   | 81.50       | 77.00     |
| LO 4                   | 82.25       | 77.50     |
| LO 5                   | 81.25       | 77.50     |
| LO 6                   | 80.75       | 76.25     |
| LO 7                   | 82.50       | 74.75     |
| LO 8                   | 85.50       | 78.25     |
| LO 9                   | 83.25       | 76.50     |
| LO 10                  | 80.75       | 80.25     |
| <b>Average</b>         | 82.38       | 77.40     |

Based on Table I, it is known that components of student learning outcomes get a score more than 75%, except student learning outcome component number 7 is 74.75%. The assessment by industries of the achievement of student learning outcomes is good, except student learning outcomes component number 7 is not good. These mean that according to industries, students already have the ability as stated in student learning outcomes, but have not been able to compile a company accounting system and conduct an examination of financial statements in accordance with auditing standards.

TABLE II ASSESSMENT OF STUDENT LO DIPLOMA III

| Learning Outcomes (LO) | Expectation | Reality   |
|------------------------|-------------|-----------|
|                        | score (%)   | score (%) |
| LO 1                   | 81.25       | 79.25     |
| LO 2                   | 79.75       | 78.50     |
| LO 3                   | 81.25       | 78.00     |
| LO 4                   | 78.50       | 78.00     |
| LO 5                   | 79.75       | 78.00     |
| LO 6                   | 79.00       | 76.00     |
| LO 7                   | 79.00       | 79.00     |
| LO 8                   | 80.25       | 82.50     |

|                |       |       |
|----------------|-------|-------|
| LO 9           | 79.00 | 77.50 |
| LO 10          | 81.25 | 74.25 |
| <b>Average</b> | 79.90 | 78.10 |

Based on Table II, it is known that all components of student learning outcomes get a score more than 75%, except student learning outcomes component number 10 is 74.25%. The assessment by industries of the achievement of student learning outcomes is good, except student learning outcomes component number 10 is not good. These mean that according to industries, students already have the ability as stated in student learning outcomes, but have not been able to apply information technology in accounting processes that are routine or contingent.

*C. The Suitability of learning outcomes*

The suitability of industrial expectations and realities towards the achievement of learning outcomes is analyzed using a cartesius diagram as presented in Fig. 1 and 2.

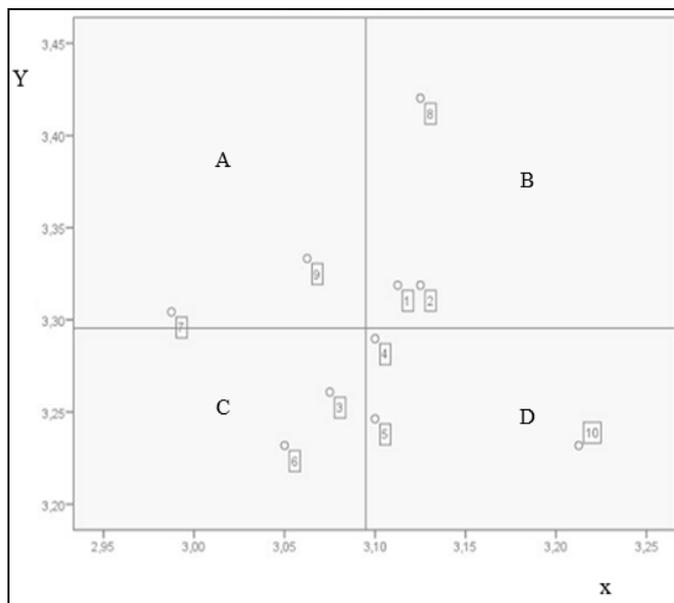


Fig. 1. Cartesius diagram of industries expectation and reality of LO DIII

Learning outcomes number 7 (able to compile a company accounting system and conduct an examination of financial statements in accordance with auditing standards), and 9 (able to analyze financial statements in English language and be able to apply to hotel and foreign companies) are at quadrant A. The learning outcomes are considered very important by industries, but students have not implemented it in accordance with industries expectations. These have caused industrial dissatisfaction.

Learning outcomes number 1 (able to record transactions and compile financial statements of service, trading, manufacturing companies in accordance with the accounting cycle), 2 (able to handle balance sheet accounts with estimates in Indonesian and English), and 8 (understand computer principles and practices for support in providing computer

accounting services related to teaching, research and community service) is on quadrant B. the achievement of learning outcomes are considered very important by industries, and students have implemented it in accordance with industries expectations. These raise industrial satisfaction.

Learning outcomes number 3 (able to record and communicate public sector accounting and financial transactions), and 6 (able to calculate tax payable) are at quadrant C. The learning outcomes are considered less important by the industries, and students have implemented it in mediocrity. This has caused industrial dissatisfaction.

Learning outcomes number 4 (able to calculate cost of goods, make planning, control and decision making management), 5 (able to compile and analyze company budget), and 10 (able to calculate tax payable) are on quadrant D. The learning outcomes are considered less important by the industries, but students have implemented it excessively. The learning outcomes are considered less important but the implementation is very satisfying.

Low assessment of ability to compile a company accounting system and conduct examination of financial statements in accordance with auditing standards of student diploma III occurs because most students work practice at hotels, restaurants, or travel (39 people), in public accounting offices (11 people), tax consultant offices (12 people), financial institutions (1 people), and others places that meet the requirements (6 people). Working practice at hotels, restaurants, or travel, not many opportunities to apply audit knowledge when compared to work practices in public accounting offices.

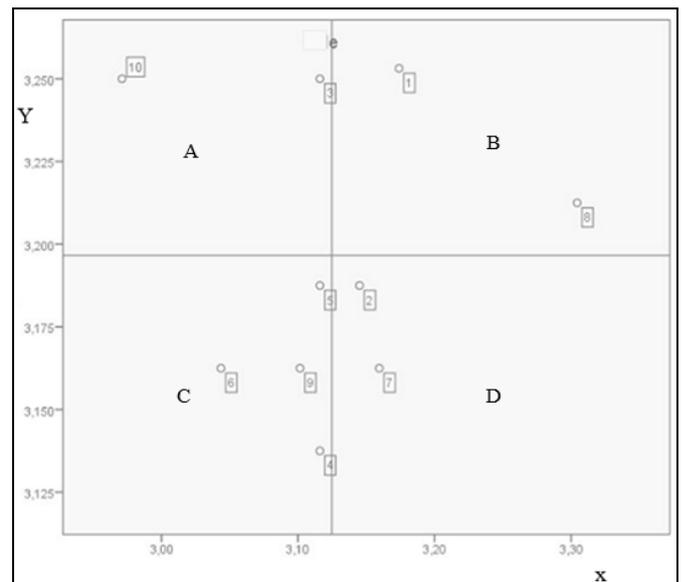


Fig. 2. Cartesius diagram of industries expectation and reality of LO DIV

Learning outcomes number 3 (able to present information on the company's product cost as a material for making decisions in establishing managerial policies), and 10 (able to implementing information technology in a routine accounting

process and contingent) are at quadrant A. The learning outcomes are considered very important by the industries, but students have not implemented it in accordance with industries expectations. These have caused industrial dissatisfaction.

Learning outcomes number 1 (able to present financial statements consisting by applying generally accepted accounting standards and principles), and 8 (able to design and implement an accounting information system in the completion of accounting work) are at quadrant B. The learning outcomes are considered very important by the industries, and students have implemented it in accordance with industries expectations. This raises industrial satisfaction.

Learning outcomes number 4 (able to present tax management system/tax planning), 5 (able to present and analyze management accounting information needed for decision making by management), 6 (able to audit financial statements covering planning, implementation and reporting in accordance with auditing standards), and (able to compile financial reports for specific accounting problems, among others branch office and head office accounting, accounting for subsidiaries and holding companies (consolidation), accounting for business mergers and other specific problems) are at quadrant C. The learning outcomes are considered insignificant by the industries, and students have carried it out on an ordinary basis. These have caused industrial dissatisfaction.

Learning outcomes number 2 (able to analyze financial reporting and provide information about the condition and performance of the company as decision making material), and 7 (able to prepare the company's budget is on quadrant D. The learning outcomes are considered less important by the industries, but students have implemented it excessively. The learning outcomes are considered less important but the implementation is very satisfying

Low assessment of ability to implementing information technology in a routine accounting process and contingent of student diploma IV occurs because most students work practice at hotels, restaurants, or travel (41 people), in public accounting offices (10 people), tax consultant offices (15 people), financial institutions (1 people), and others places that meet the requirements (13 people). Working practice at hotels, restaurants, or travel, not many opportunities to implementing information technology in a routine accounting process and contingent because hotels, restaurants, or travel already have their own system. In addition, students did not obtain knowledge and practices about special information systems for hotels, restaurants, or travel

#### IV. CONCLUSIONS

The results of research are: 1) the achievement of student learning outcomes is good except. Student learning outcomes components number 7 (Diploma III), and number 10 (Diploma IV) are not good. These mean that according to industries, students already have the ability as stated in student learning outcomes, but have not been able to compile a company accounting system and conduct an examination of financial

statements in accordance with auditing standards, and have not been able to apply information technology in accounting processes that are routine or contingent; 2) student learning outcomes are in line with industries expectations, but there are differences level of importance for each industry towards the learning outcomes.

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