

Feasibility of Spreadsheet Based Financial Management Learning Materials

1st I Made Sura Ambara Jaya
Accounting Department
State Polytechnic of Bali
Badung, Indonesia
madesuraambarajaya@pnb.ac.id

2nd Ni Ketut Masih
Accounting Department
State Polytechnic of Bali
Badung, Indonesia
madeariana@pnb.ac.id

3rd Luh Mei Wahyuni
Accounting Department
State Polytechnic of Bali
Badung, Indonesia

4th I Made Ariana
Accounting Department
State Polytechnic of Bali
Badung, Indonesia

Abstract—The purpose of the study is to describe and test the feasibility of spreadsheet-based financial management learning materials. This descriptive study focused on the feasibility testing of spreadsheet-based financial management learning materials. The test subjects were expert and user groups. The data obtained in this study were quantitative and qualitative. Quantitative data obtained from the assessment questionnaire using a Likert scale. Qualitative data were suggestions on the questionnaire. The learning materials assessment by experts consisted of the feasibility of content, presentation, language, and graphics. The learning materials assessment by users consisted of the learning materials display, the learning indicators, the content of learning, the interest, and the help of the use of learning materials. The analysis used the percentage analysis technique that is by comparing the percentage of assessment and the percentage of the assessment scale. The results showed that spreadsheet-based financial management learning materials consisted of an introduction, financial ratio analysis, time value of money, cash, accounts receivable, inventory, investment, fixed assets, liabilities, and equity. Spreadsheet-based financial management learning materials are very feasible from aspects of content, presentation, graphics, and language. As a follow-up, the results of the study were suggested to lecturers and students to use spreadsheet-based financial management learning materials in learning because based on the results of the study, this learning material was very feasible to be used in learning.

Keywords—learning, management, financial, spreadsheet

I. INTRODUCTION

Financial management science develops dynamically in the globalization era. Discussion of management science is very interesting for various parties, especially financial managers. Financial management science can be signed to carry out financial managers duties. By using financial management science, financial managers will more easily carry out their duties. The task of financial managers is to find fund alternative sources and use the funds as well as possible.

Financial management learning important for students. By learning financial management, students will acquire knowledge and skills such as financial planning, acquisition of funds, utilization and allocating the funds, making financial decisions, improving the profitability, and so on. Knowledge

and skill of financial management open up many diverse career opportunities in the private or public sector.

Spreadsheet-based financial management learning materials are needed to improve the learning process. The use of spreadsheets as learning tools can improve understanding of a concept. [1]. Therefore, lecturers and students need to learn about the use of spreadsheets in learning [2]. The spreadsheet has an advantage over other tools in that is widely used in conjunction with other software in the business process, and relatively easy to use [3]. The results of previous studies also show that accounting and financial learning using a spreadsheet tool is preferred over traditional learning techniques [4].

Learning materials are a set of learning tools or tools that contain learning material, methods, boundaries, and ways of evaluating systematically. Its interestingly designed to achieve the expected goals, namely achieving competence or sub-competence [5]. Learning materials can take the form of printed material, audio-visual, audio, visual, and multi-media [6]. Learning material is one of the determinants of achieving learning effectiveness.

Spreadsheet-based financial management learning materials need to be tested for feasibility before being used in real learning. The feasibility test of learning materials consisted of the feasibility of content, presentation, graphics, and language. Appropriate learning materials will be expected to improve the effectiveness of financial management learning.

II. RESEARCH METHODS

This descriptive study focused on the feasibility testing of spreadsheet-based financial management learning materials. The test subjects were expert and user groups. The expert group consisted of material and media experts, amounting to 10 people, and user group consists of people consisting of students and lecturers, as well as practitioners, amounting to 103 people.

The data obtained in this study were quantitative and qualitative. Quantitative data obtained from the assessment questionnaire using a Likert scale. Qualitative data were suggestions on the questionnaire. The learning materials assessment by experts includes the feasibility of content,

presentation, language, and graphics. The learning materials assessment by users includes the learning materials display, learning indicators, the content of learning, interest, and the help of the use of learning materials. The analysis used the percentage analysis technique that is by comparing the percentage of assessment and the percentage of the assessment scale. The rating scale is presented in Table I.

TABLE I. FEASIBILITY AND REVISION CRITERIA

Value Range	Feasibility Level
81.26-100	Very feasible, no need to be revised
62.51-81.25	Feasible, it doesn't need to be revised
43.76-62.50	Less feasible, it needs to be revised
25.00-43.75	Very infeasible, it really needs to be revised

III. RESULTS AND DISCUSSIONS

The following will be described in a row about the description and testing of spreadsheet-based financial management learning material. Testing of learning materials includes expert and user testing.

A. *Spreadsheet-Based Financial Management Learning Materials*

The purpose of writing learning materials is to clarify and facilitate the presentation of messages, overcome the limitations of time, space, and senses of students and learning resources, increase motivation and passion for learning, develop the ability of students to interact directly with the environment and other learning resources, and provide opportunities to students for independent learning

Spreadsheet-based financial management learning materials are financial management learning materials that are supported by spreadsheet-based applications. Spreadsheet-based financial management learning materials consist of the time value of money, management of cash, accounts receivable, inventories, long-term investments, fixed assets, liabilities, equity, and financial ratios. Time value of money consists of future value and present value. The cash budget includes data, operational transactions, and financial transactions. Accounts management includes the age of accounts receivable and the accounts receivable management scenario. Inventory management includes economic order quantity (EOQ) and reorders point (ROP). Fixed asset management consists of depreciation of fixed assets and analysis of investments in fixed assets. Liabilities and equity consist of the straight-line and effective interest method of amortization, and cost of capital (COC). Financial ratios include liquidity, solvability, activity, system du Pont and common-size ratios [7].

B. *Feasibility of Learning Materials*

1) *Expert test of learning materials feasibility*

Spreadsheet applications are widely used in accounting, finance, statistics, and others. Previous research shows that spreadsheet-based accounting applications are technically and operationally feasible for use in learning [8]. The use of a spreadsheet application in the accounting learning process can improve the effectiveness of accounting learning [9].

Spreadsheet applications are declared valid for use as learning aids [10].

The feasibility test for content consisted of (1) conformity with competency standards and basic competencies; (2) conformity with learning characteristics; (3) conformity with learning needs; (4) the truth of the substance of the learning material; (5) benefits for additional insight; and (6) conformity with social moral values. Based on the test of the learning materials content can be known that several aspects of the content of learning materials are feasible, namely the conformity with the learning characteristics, the conformity with learning needs and benefits for additional insight. Several aspects of the learning materials content are also very feasible, namely the conformity with competency standards and basic competencies, the truth of the learning material substance, and the conformity with social and moral values. The average percentage of the content aspect assessment is 84.58%. It means that the learning materials are very feasibly from the content aspect. The results of the content feasibility test are presented in Table II.

Needs analysis is an important stage in the development of learning materials. The results of the analysis have an impact on the feasibility of learning materials [11]. The sharpness of the analysis of the characteristics and needs of learning needed to improve the suitability of learning materials with the characteristics and needs of learning [12].

TABLE II. RESULTS OF THE CONTENT FEASIBILITY TEST

No.	Content Aspects	Score (%)	Feasibility
1	Conformity with Standard and Basic Competencies	90.00	Very Feasible
2	Conformity with the characteristics of the learning	80.00	Feasible
3	Conformity with the needs of learning materials	80.00	Feasible
4	The truth of the substance of learning material	92.50	Very Feasible
5	Benefits for additional insight	80.00	Feasible
6	Conformity with moral values, and social values	85.00	Very Feasible
	Average	84.58	Very Feasible

The feasibility test of the presentation consisted of (1) clarity of objectives (indicators) to be achieved; (2) order presentation; (3) giving motivation; (4) attraction; (5) interactions (giving stimulus and response); and (6) complete information. Based on the test of the learning materials content can be known that all aspects of the content of learning materials are very feasible, namely the clarity of objectives to be achieved, the order of presentation, the giving motivation, the attractiveness, interaction (giving stimulus and respond), and completeness of the information. The average percentage of the presentation aspect assessment is 85.00%. It means that the learning materials are very feasibly from the presentation aspect. Presentation of learning materials provides a positive perception of learning materials [13]. The results of the presentation feasibility test are presented in Table III.

TABLE III. RESULTS OF THE PRESENTATION FEASIBILITY TEST

No.	Presentation Aspects	Score (%)	Feasibility
1	Clarity of objectives to be achieved	85.00	Very Feasible
2	Order of presentation	82.50	Very Feasible
3	Giving motivation	85.00	Very Feasible
4	Attractiveness	87.50	Very Feasible
5	Interaction (giving stimulus and respond)	82.50	Very Feasible
6	Completeness of information	87.50	Very Feasible
	Average	85.00	Very Feasible

Testing the feasibility of graphics consisted of (1) the use of type and font size (font); (2) layout; (3) illustrations; (4) pictures; (5) photos; and (6) display design. Based on the test of the learning materials content can be known that several aspects of the graphics of learning materials are feasible, namely the picture, photo, and display design. Several aspects of the learning materials graphics are also very feasible, namely the use of font type and size, layout, and illustration. The average percentage of the graphics aspect assessment is 81.67%. It means that the learning materials are very feasibly from the graphics aspect. In this learning material, there are fewer images and photos. The use of images and text contributes to the effects of emotions [14]. The use of display design can enhance readers' understanding [15]. The results of the graphics feasibility test are presented in Table IV.

TABLE IV. RESULTS OF THE GRAPHICS FEASIBILITY TEST

No.	Graphic Aspects	Score (%)	Feasibility
1	Use font type and size	90.00	Very Feasible
2	Layout	82.50	Very Feasible
3	Illustration	85.00	Very Feasible
4	Picture	75.00	Feasible
5	Photo	77.50	Feasible
6	Display design	80.00	Feasible
	Average	81.67	Very Feasible

Language feasibility testing consisted of (1) readability; (2) information clarity; (3) conformity with language rules; (4) the use of good and correct language; (5) the use of language effectively and efficiently. Based on the test of the language aspects of learning materials can be known that several language aspects of the learning materials are feasible, namely the good and correct language, and the use of language effectively and efficiently. Several language aspects of the learning materials are also very feasible, namely the readability, the information clarity, and the conformity with the rules. The average percentage of the language aspect assessment is 85.00%. It means that the learning materials are very feasibly from the language aspect. the feasibility of language aspects needs to be improved because of the use of standard language important in learning [16]. The results of the language feasibility test are presented in Table V.

TABLE V. RESULTS OF THE LANGUAGE FEASIBILITY TEST

No.	Language Aspects	Score (%)	Feasibility
1	Readability	95.00	Very Feasible
2	Information clarity	87.50	Very Feasible
3	Conformity with rules	82.50	Very Feasible
4	Good and correct language	80.00	Feasible
5	Use of language effectively and efficiently	80.00	Feasible
	Average	85.00	Very Feasible

2) *User test of learning materials feasibility*

Student assessment of learning materials consisted of (1) display learning materials; (2) learning indicators; (3) content of learning material; (4) interest in the use of learning material; and (5) the help with learning materials. Based on the test of the learning materials content can be known that all aspects of learning materials are very feasible, namely the display of learning materials, the learning indicator, the content of learning materials, the interest in learning materials, and the help with learning materials. The average percentage of the aspect assessment is 88.30%. It means that the learning materials are very feasibly. The results of the presentation feasibility test are presented in Table VI.

TABLE VI. USER PERCEPTIONS OF AUDIO-VISUAL MEDIA

No.	Assessment Aspects	Score (%)	Feasibility
1	Display of learning materials	81,31	Very Feasible
2	Learning indicator	88,59	Very Feasible
3	Content of learning materials	91,75	Very Feasible
4	Interest in learning materials	89,56	Very Feasible
5	Help with learning materials	90,29	Very Feasible
	Average	88,30	Very Feasible

Users, especially lecturers and students are interested and feel helped by the use of spreadsheet-based financial management learning materials. Usefulness and perceived ease of use are the advantages of spreadsheet-based applications. Perceived usefulness and ease of use are important determinants [17], and strongest predictors of intention to use technology[18]. Perceived usefulness and ease of use were associated with a positive attitude [19] and used as consideration on the adoption of technology [20].

IV. CONCLUSION

The purpose of the research is to describe and test the feasibility of spreadsheet-based financial management learning materials. The results showed that spreadsheet-based financial management learning materials consisted of an introduction, financial ratio analysis, time value of money, cash, accounts receivable, inventory, investment, fixed assets, liabilities, and equity. Spreadsheet-based financial management learning materials are very feasible from aspects of content, presentation, graphics, and language. As a follow-up, the

results of the study were suggested to lecturers and students to use spreadsheet-based financial management learning materials in learning because based on the results of the study, this learning material was very feasible to be used in learning.

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