

# Analysis of the Need For Android-Based Assessment Based on Case Method and Team Based Project in the Introduction to Business Course at the Faculty of Economics, State University Of Medan

Dionisius Sihombing<sup>1</sup>, Boimin Sirait<sup>2</sup>, Ishak Matondang<sup>3</sup>, Albert Pauli Sirait<sup>4</sup>

{ Dions1977@gmail.com<sup>1</sup>, boimin\_boh@gmail.com<sup>2</sup>, ishaqmatondang707@gmail.com<sup>3</sup>, albertpaulis@gmail.com<sup>4</sup> }

State University of Medan, Willem Iskandar Street. Deli Serdang, North Sumatra. Indonesia<sup>1234</sup>

**Abstract.** This research aims to conduct a needs analysis for the development of Android-based Assessment for the Introduction to Business course. The Android-based Assessment will present questions designed using the case method and team-based project. In this needs analysis, researchers distributed a questionnaire regarding the need for an Android-based Assessment for the Introduction to Business course to 30 students majoring in Management and conducted interviews with two lecturers who taught the Introduction to Business course in the Department of Management, Faculty of Economics, Unimed. In this research, an analysis was also carried out on the Introduction to Business curriculum based on the Outcome-based Education curriculum.

**Keywords:** Android, Assessment, Introduction to Business, OBE.

## 1 Introduction

In the rapidly developing digital era, the world of higher education, including the Management Department of the Faculty of Economics, State University of Medan (UNIMED), faces a major challenge to adapt and prepare students to face the increasingly complex demands of the job market. Integration of technology into the learning process is no longer an option, but rather a necessity to increase the effectiveness and relevance of education to the needs of the world of work [1]. The Introduction to Business course, as an important foundation for UNIMED Management Department students, is at the forefront of adopting innovative and technology-based learning approaches.

State University of Medan, one of the leading higher education institutions in North Sumatra, has a strategic role in preparing competent graduates ready to compete in the global job market. The Management Department of the Faculty of Economics, UNIMED, is responsible for producing graduates with strong theoretical knowledge, practical skills, and the ability to adapt to rapid technological changes. The development of mobile technology, especially smartphones,

has changed the landscape of social interaction and learning among UNIMED students. According to the latest data from Statistika Indonesia [2], smartphone usage in Indonesia has reached 70.7% in 2023, with a significant increase projected in the coming years. This phenomenon creates a great opportunity for the Management Department of UNIMED to develop more flexible and personalized learning and assessment methods through mobile platforms.

Mobile learning, or m-learning, has emerged as a new paradigm in education that utilizes mobile devices to support the teaching and learning process. Research conducted by Suartama et al. shows that m-learning can increase flexibility, accessibility, and personalization in the learning process [3]. This paves the way for the development of android-based assessment as an effective and efficient evaluation tool in the Introduction to Business course at the UNIMED Management Department.

However, developing an android-based assessment is not a simple matter. A comprehensive needs analysis is needed to ensure that the system developed truly meets the needs of all stakeholders, including students, lecturers, and industry in North Sumatra. Needs analysis is a crucial step in developing a technology-based learning system [4]. This process involves identifying gaps between current conditions in the UNIMED Management Department and desired conditions, as well as an in-depth understanding of user characteristics and preferences. In the context of the Introduction to Business course at the UNIMED Management Department, needs analysis must consider various aspects, including learning objectives set by the department, characteristics of UNIMED students, industry needs in North Sumatra and its surroundings, and technological capabilities available on campus. Prastyo et al highlighted the importance of alignment between learning design, technology, and job market needs in developing an innovative education system [5].

In addition to the development of android-based assessment, the learning model used in the UNIMED Management Department also needs to be adjusted to the demands of the increasingly complex business world. Case method and team-based project emerge as two very relevant approaches in this context. Case method is effective in developing critical analysis and problem-solving skills in the learning and work process [6].

Case method allows UNIMED Management students to analyze real business situations, especially those relevant to the context of North Sumatra and Indonesia. Recent research by Gulati et al revealed that the case method approach not only improves students' critical thinking skills, but also helps them develop strong intuition [7]. Through in-depth case discussions and analysis, UNIMED students can learn to deal with the ambiguity and complexity that characterize the modern business world in Indonesia.

On the other hand, team-based projects offer opportunities for UNIMED Management Department students to develop soft skills that are highly valued by employers in North Sumatra and its surroundings. Kavanagh et al. (2021) found that team projects can improve students' communication, collaboration, and project management skills. Teamwork experience in academics can prepare students to face team dynamics in the real workplace [8]. The integration of android-based assessment with case method learning models and team-based projects has the potential to create a dynamic and interactive learning environment in UNIMED Management Department. However, effective implementation requires careful planning and a deep understanding of the needs of all stakeholders. Chung and Khor emphasized that alignment between technology, pedagogy, and stakeholder needs is the key to the success of educational innovation [9].

Therefore, a comprehensive study is needed to analyze the needs of android-based assessment development and the implementation of case method and team-based project

learning models in the Introduction to Business course in the Management Department, Faculty of Economics, State University of Medan. The results of this need analysis will be the foundation for designing and developing an innovative, relevant, and effective learning system in preparing UNIMED Management Department students to face the challenges of the world of education and business in the ever-evolving digital era.

## 2 Method

This research is qualitative. To obtain research data, there are several data collection. This study adopted a qualitative approach to analyze the development needs of Android-based assessment in the Introduction to Business course. This method was chosen because of its ability to explore phenomena in depth and reveal complex nuances from the perspective of participants. Data collection was carried out through semi-structured interviews with lecturers, students, and educational technology experts, as well as direct observation of existing learning and assessment processes [10]. Data analysis used a thematic approach that began with the coding and categorization process to identify the main themes that emerged from the data. To increase the credibility of the research results, data triangulation was carried out by comparing the results of interviews, observations, and literature studies). The results of this analysis were then used to formulate functional and non-functional requirements specifications for the Android-based assessment to be developed.

## 3 Results

### A. Need Students and Lecturers on Android-Based Assessment

#### 1) Questionnaire Results Need Student

To obtain an overview of student responses to the need for using Android in evaluating learning outcomes in the Introduction to Business course, the author asked 30 students majoring in management to fill out a needs questionnaire. The results of the Student Needs Questionnaire for the availability of Android-based Assessments based on case methods and team-based Projects are shown in Table 1 below.

**Table 1.** Questionnaire Results Need Student

No	Item Statement	Student Percentage (Agree/Strongly Agree)
1.	Evaluation of learning outcomes through the Android platform will increase the efficiency of the assessment process.	89%
2.	Use of Android in evaluation will make it easier access to materials and assignments	95%
3.	Bait come back instant through Android application will increase understanding to material	90%
4.	Evaluation Android-based will create an assessment process more transparent	97%
5.	Use of Android in evaluation will increase students ' curiosity to forms of learning media digital-based	89%
6	Evaluation Android-based will increase objectivity in the evaluation	94%

7.	The use of learning models in presentation evaluation results Study can make evaluation become more diverse in accordance with outcome -based education curriculum	90%
8.	I am worried about problem technically possible arise moment using android for evaluation	87%
	Total Percentage	729
	Average	91%

Table 1 above shows the results of student responses to the need for developing Android-based Assessments based on case methodology and team-based projects. 89% of students think that using Android applications in the learning outcomes evaluation process can increase assessment efficiency. Furthermore, 95 students said that it was easier for students to access materials and assignments on an Android application. In the aspect of transparency of the assessment process, there are 97% of students think that the Android-based Assessment application can make the process of measuring learning outcomes more transparent. As many as 89% of students think that the availability of learning media that uses Android technology can increase their curiosity about the use of the latest technology in the learning and teaching process. There are as many as 94% of students who think that Android-based assessment can make the process of measuring learning outcomes more objective. Then as many as 90% of students stated that the Android-based assessment application could make the assessment process more objective. Even though students responded very well to the idea of making an Android-based Assessment, they were also worried about technical problems such as errors in the Android-Based Assessment application. There were 87% of students who were worried about errors in the application when implementing the learning assessment.

## 2) Interview Results with Lecturers Teaching Introduction to Business Courses

Based on interviews conducted by the research team with two lecturers in charge of the Introduction to Business course, several conclusions were obtained, namely that both lecturers stated an urgent need for the development of Android-based Assessment based on case methods and team-based projects for the Introduction to Business course. They acknowledged that the learning methods currently applied also need to be implemented in measuring student learning outcomes, furthermore the integration of mobile technology can facilitate the application of the case method more efficiently, allowing students to access and analyze case studies in real-time. Both lecturers also agreed that features such as real-time analysis, multimedia integration for case presentations, and team collaboration tools would be invaluable in the Android-based Assessment system. Furthermore, they argued that the implementation of Android-based Assessment would be able to explore problem-solving skills, critical thinking, and teamwork. In general overall, results interview show strong support and enthusiasm from second lecturer to Android-based Assessment development based on case method and team-based project. They see This as step important in modernization education business and improvement quality learning in the eyes studying Introduction Business.

### B Material Needs

To obtain an overview of the assessment material that will be developed in this research, the researcher conducted an FGD with the KDBK Introduction to Business Lecturer and carried out an analysis of the Semester Learning Plan (RPS) in the Introduction to Business course and also identified the learning outcomes that must be mastered by students in accordance with the

Curriculum OBE. Based on the FGD with KDBK lecturers and RPS Analysis and the OBE Curriculum, the researchers determined 8 materials, namely as follows:

**1) Business and Environment Business .**

Indicator Achievements results Study material Business and Environment The business that will be measured using Android-based Assessment is :

- a) Concepts and major components of the business environment .
- b) Ownership and its characteristics
- c) Internal and external business environment factors
- d) Principles of business ethics and corporate social responsibility
- e) The influence of business environmental factors on company operations
- f) A SWOT analysis to evaluate the company's strategic position .
- g) Policies and regulations regarding business practices
- h) Trends and changes in consumer behavior.

**2) Ethics and Social Responsibility in Business .**

Indicator Achievements results Study Ethics and Social Responsibility in Business material that will be measured using Android-based Assessment is :

- a) The goals of business ethics and corporate social responsibility (CSR)
- b) Theories relevant to business practice
- c) Components of CSR and business sustainability .
- d) Regulations and standards regarding business ethics and CSR
- e) The potential ethical impact of business decisions on stakeholders
- f) Framework in resolving business dilemmas
- g) A comprehensive code of business ethics
- h) Ethics in organizations.

**3) Form Ownership and Combination Business.**

Indicator achievement results Study For material Form Ownership and Combination Suitable business with Outcome Based Education (OBE) principles :

- a) Form ownership business ( company) individual , partnership , corporation limited , cooperative , etc. )
- b) Characteristics main from every form ownership business
- c) Combination business , including mergers, acquisitions , and alliances strategic
- d) Framework laws and regulations governing various form ownership and combination business
- e) Benefits and risks from various type combination business
- f) Document establishment For form ownership business certain
- g) Post -merger integration or acquisition

**4) Aspect Management in Business .**

Indicator achievement results Study For material Aspect Management in Suitable business with Outcome Based Education (OBE) principles :

- a) Functions management ( planning , organizing , directing ,
- b) Theory management and its evolution
- c) Roles and responsibilities answer managers in various level organization .
- d) vision , mission and goals organization
- e) Analysis environment business (internal and external )
- f) Managing conflict and negotiation in teams
- g) Optimizing production processes or provision service

- h) Total quality management techniques
- i) Skills Communication Managerial :

#### **5) The Role of Marketing in Business**

Indicators of learning outcomes for material on the role of marketing in business by the principles of Outcome Based Education (OBE) :

- a) Draft marketing and its role in business
- b) Evolution of the marketing concept from production orientation
- c) Components mix marketing (4P: Product, Price, Place, Promotion)
- d) Analysis environment marketing ( micro and macro )
- e) Product positioning strategy or effective branding
- f) Strategy communication comprehensive marketing

#### **6) Management product in Business .**

- a) Draft products and their classification in context business
- b) Management role product in business strategy
- c) Components in management product ( design , development , and positioning)
- d) Product Life Cycle :
- e) The new product development process from idea to launch
- f) Product Line Management
- g) Branding and Packaging
- h) Positioning and Differentiation Product.

#### **7) Management Human Resources**

Following is indicator achievement results Study For material Management Appropriate Human Resources (HR) with Outcome Based Education (OBE) principles :

- a) Concept and function management source Power man
- b) Strategic HR in success organization
- c) Latest trends in human resources management
- d) Performance Management :
- e) Compensation and Benefits
- f) Employment law and its implications
- g) Occupational Health and Safety

### **4 Discussion**

The rapid development of digital technology has changed the learning landscape in higher education, including in the Management Department of the Faculty of Economics, State University of Medan (UNIMED). Integration of technology in the learning process, especially in the Introduction to Business course, has become a necessity to increase the effectiveness and relevance of education to the demands of the world of work [5]. The development of android-based assessment based on case methods and team-based projects is considered a potential solution to modernize the process of evaluating the learning outcomes of students at the Management Department of UNIMED.

Needs analysis is considered important to ensure that the system to be developed truly meets the needs of all stakeholders. This study uses a qualitative approach to explore the need for android-based assessment in the UNIMED Management Department. Data collection was conducted through semi-structured interviews with lecturers, students, and educational technology experts, as well as direct observation of existing learning and assessment processes.

Data analysis used a thematic approach to identify key themes emerging from the data, with triangulation to increase the credibility of the research results [11].

The results of the study showed that most students (91%) stated the need for the availability of android-based assessment in the Introduction to Business course. The results of interviews with lecturers in charge of the course revealed their strong support and enthusiasm for the development of android-based assessment based on case method and team-based project. Both lecturers interviewed by the researcher believed that the integration of mobile technology could facilitate the implementation of case method and team-based project more effectively, as well as assist in the development of important skills such as problem solving, critical thinking, and teamwork. Based on the analysis of the Semester Learning Plan (RPS) and Learning Outcome-Based Curriculum (OBE), the research team identified 8 main topics that would be the focus of the development of android-based assessment.

The development of an android-based assessment in the Introduction to Business course in Management Department of UNIMED is seen as an important step in modernizing education and improving the quality of learning. The integration of mobile technology, case method, and team-based project has the potential to create a more dynamic and interactive learning environment [12]. The results of the need analysis are an important foundation for designing and developing an android-based assessment system that is in line with the needs of stakeholders in Management Department of UNIMED.

## **5 Conclusions**

The development of digital technology has created a need to integrate technology into the learning and assessment process in the Management Department, Faculty of Economics, State University of Medan (UNIMED), especially in the Introduction to Business course. The development of android-based assessment based on case method and team-based project is considered a potential solution to modernize the evaluation process of student learning outcomes. The needs analysis conducted showed that most students (91%) stated the need for the availability of android-based assessment, while the lecturers in charge of the course also provided strong support and enthusiasm for the development of this system. Lecturers believe that the integration of mobile technology, case method, and team-based project can facilitate a more effective learning process and assist in the development of important skills such as problem solving, critical thinking, and teamwork. The results of the needs analysis are an important foundation for designing and developing an android-based assessment system that is in line with the needs of stakeholders in the Management Department of UNIMED. Based on the research findings, it can be concluded that it is necessary to immediately implement the development of Android-based Assessment in the Introduction to Business Course Based on Case Method and Team-Based Project to improve the quality of learning and prepare students to face the demands of the increasingly complex world of work in the digital era.

## **References**

- [1] Wahab, R., Ramli, MN, & Halim, HA (2023). Investigating the Influence of Personal Factors on Behavioral Intention to Use Mobile Technologies in Higher Education. *International Journal of Innovation and Learning*, 33(1), 1-15.
- [2] STATISTICS OF INDONESIA 2023. *Statistical Yearbook of Indonesia 2023* (Vol. 1101001). Jakarta: Central Bureau of Statistics.

- [3] Made Weda Angga, P., Komang Sudarma, I., & Kadek Suartama, I. (2020). Educational E-Comics to Form Character and Improve Learning Outcomes of Fifth Grade Students in Indonesian Language Subjects. In *Jurnal EDUTECH Universitas Pendidikan Ganesha* (Vol. 8, Issue 2). <https://ejournal.undiksha.ac.id/index.php/JEU>
- [4] Sari, D., & Wahyudin, A. (2019). Need Analysis in Developing Web-Based Learning Media for Vocational High School Students. *Journal of Vocational Education Studies*, 2(1), 14-21.
- [5] Prastyo, H., Nurdin, N., Hardianto, FT, & Ramadan, R. (2022). The Need Analysis of Web-Based Assessment Development in Vocational Education During the Covid-19 Pandemic. *Edukatif: Jurnal Ilmu Pendidikan*, 4(4), 2075-2086.
- [6] Feng, Y., Mahatma, M. K., Subramaniam, S., Tan, S., & Heng, CS (2022). Examining the Role of Case Method Teaching in Developing Students' Critical Thinking Skills. *The Asia-Pacific Education Researcher*, 31(2), 161-170.
- [7] Gulati, V., Mann, R., & Semple, A. (2023). Developing business intuition through case-based learning: The moderating role of student traits. *The International Journal of Management Education*, 21(1), 100733.
- [8] Hernández-de-Menéndez, M., Vallejo Guevara, A., & Capetillo Campos, C. (2020). Competencias del ingeniero mecatrónico en México: una visión desde la industria. *Revista Internacional de Educación en Ingeniería*, 3(1), 55-65.
- [9] Chung, P. J., & Khor, KA (2019). Challenges and Strategies in Implementing Innovative Education: A Case Study. *Procedia Computer Science*, 161, 154-162.
- [10] Leavy, P. (2020). *Methods meets art: Arts-based research practice*. Guilford Publications.
- [11] Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. *Handbook of Research Methods in Health Social Sciences*, 843-860.
- [12] Alfran RTYP, Tri Rijanto, I Wayan Susila. (2022). Development of WEB-Based Assessment in Motorcycle Engine Maintenance Lessons in Vocational High Schools. *Journal of Educational Sciences*, 4(4). DOI: <https://doi.org/10.31004/edukatif.v4i4.3072>