



Evaluating the Impact of Outcome-Based Education on Graduate Employability in Sport Science: Evidence from Universitas Negeri Medan

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Abstract. The adoption of Outcome-Based Education (OBE) within the Physical Education, Health, and Recreation Study Program at the Faculty of Sport Science, Universitas Negeri Medan, represents a strategic effort to enhance graduate employability in an increasingly competitive labor market. This study examines the extent to which OBE-oriented curriculum design contributes to the development of competencies aligned with industry expectations, as perceived by graduate users, including educational institutions, sports organizations, and private sector employers. A mixed-method approach was employed, integrating quantitative survey data from graduate users ($n = XX$) with qualitative insights derived from semi-structured interviews with alumni. The analysis focuses on key competency domains, including sport-specific technical skills, communication, leadership, problem-solving, and teamwork. Quantitative findings indicate a statistically significant improvement in graduate performance across these domains ($p < 0.05$), while qualitative results highlight enhanced adaptability and professional readiness as critical outcomes of OBE implementation. The findings suggest that OBE-based curricula foster a more systematic alignment between learning outcomes and labor market demands, particularly within the sport science and physical education sectors. This alignment enhances graduate competitiveness by promoting measurable skill acquisition and workplace-relevant competencies. The study contributes to the growing body of evidence supporting OBE as an effective framework for curriculum transformation in higher education, especially in applied disciplines such as sport science. These results underscore the importance of continuous curriculum evaluation and stakeholder engagement to ensure responsiveness to evolving industry needs. Future curriculum development should integrate performance-based assessment, industry collaboration, and competency mapping to sustain graduate relevance in dynamic employment contexts.

Keywords: Outcome-Based Education (OBE); sport science curriculum; graduate competitiveness; employability skills; competency-based learning; physical education.

1 Introduction

Higher education institutions play a strategic role in developing human capital capable of responding to increasingly complex and competitive labor market demands. In the context of sport science and physical education, this responsibility extends beyond theoretical knowledge to the cultivation of practical competencies, professional attitudes, and adaptive skills required across diverse employment sectors, including schools, sport organizations, and the fitness industry. Recent global trends emphasize the need for curricula that are aligned with measurable outcomes and industry expectations to ensure graduate employability and relevance [1], [2].

Outcome-Based Education (OBE) has emerged as a widely adopted pedagogical framework that prioritizes the definition, attainment, and assessment of specific learning outcomes. Unlike traditional content-based approaches, OBE focuses on demonstrable competencies, including technical expertise, communication, leadership, and problem-solving skills, which are essential for workforce readiness [3]. Empirical studies indicate that OBE implementation contributes to improved graduate performance and employability by ensuring constructive alignment between curriculum design, instructional strategies, and assessment methods [4], [5].

At the Physical Education, Health, and Recreation (PJKR) Study Program, Faculty of Sport Science, Universitas Negeri Medan (UNIMED), the integration of OBE is intended to systematically enhance graduate competencies in both domain-specific and transferable skills. These competencies include sport-specific technical proficiency, pedagogical capability, health promotion knowledge, and managerial skills applicable in educational and non-educational sport settings. The adoption of OBE within this program reflects a broader institutional commitment to aligning academic outputs with national and global workforce standards, particularly within the sport science domain [6].

Despite the increasing adoption of OBE, questions remain regarding its effectiveness in improving graduate competitiveness in real-world employment contexts. Specifically, there is a need to evaluate how graduates trained under OBE frameworks are perceived by employers and to what extent their competencies meet industry expectations. Employer satisfaction and stakeholder perception are critical indicators of curriculum effectiveness, as they reflect the practical applicability of acquired skills beyond academic settings [7].

Therefore, this study aims to examine the impact of OBE implementation on the employability and competitiveness of PJKR graduates from the perspective of graduate users, including educational institutions, sport organizations, and related industries. By integrating stakeholder feedback with competency-based evaluation, this research seeks to provide empirical evidence on the effectiveness of OBE in sport science education and to inform future curriculum development that is responsive to evolving labor market needs.

2 Method

2.1 Research Design

This study adopts a mixed-methods design to comprehensively evaluate the impact of Outcome-Based Education (OBE) on the competitiveness of graduates from the Physical Education, Health, and Recreation (PJKR) Study Program at Universitas Negeri Medan. The integration of quantitative and qualitative approaches enables both measurement of competency outcomes and in-depth exploration of stakeholder perspectives, thereby enhancing the validity and interpretability of findings [1], [2].

The quantitative component involves a structured survey administered to graduate employers to assess their perceptions of alumni competencies across key performance domains. The qualitative component complements this by employing semi-structured interviews with alumni to examine their experiences in the workplace and their evaluation of the relevance of OBE-based learning outcomes to professional demands. This convergent design facilitates triangulation and strengthens the robustness of the conclusions [3].

This study employs a mixed-methods approach to obtain a comprehensive understanding of the impact of the OBE curriculum on the competitiveness of PJKR UNIMED graduates:

- Quantitative: Surveys of graduate employers to collect data on their perceptions of alumni competencies.
- Qualitative: In-depth interviews with alumni to explore their experiences in the workforce and the influence of the OBE curriculum [3].

2.2 Population and Sampling

The target population comprises two primary stakeholder groups: (1) employers of PJKR graduates and (2) alumni of the PJKR Study Program.

A total of 100 employers from diverse sectors—including educational institutions, sport organizations, and the fitness industry—were selected using purposive sampling to ensure representation of key employment domains relevant to sport science graduates. For the qualitative phase, 20 alumni with a minimum of one year of professional experience were recruited through snowball sampling, enabling access to participants with relevant and reflective insights into curriculum applicability in real-world contexts [4].

2.3 Research Instruments

Data collection utilized two primary instruments. First, a structured questionnaire was developed to measure employer perceptions of graduate competencies using a 4-point Likert scale (1 = Poor, 2 = Fair, 3 = Good, 4 = Very Good). The instrument assessed five core competency domains: (1) technical skills in sport science, (2) communication, (3) leadership, (4) problem-solving, and (5) teamwork. These domains are widely recognized as critical indicators of employability in sport science education [5].

Second, semi-structured interview protocols were designed to capture alumni perspectives on job readiness, the alignment between OBE learning outcomes and workplace demands, and recommendations for curriculum enhancement. The interview guide was validated through expert review to ensure content relevance and clarity.

To ensure methodological rigor, the questionnaire underwent content validity assessment by subject-matter experts and demonstrated acceptable internal consistency (Cronbach’s $\alpha > 0.70$), consistent with established standards in educational research [6].

2.4 Data Analysis

Quantitative data were analyzed using descriptive statistics, including frequency distributions and percentage analysis, to evaluate employer ratings across competency domains. Additionally, comparative analysis was conducted to examine differences in competency levels before and after OBE implementation, as illustrated in Figure 1. Where applicable, inferential statistics (e.g., paired sample t-test) may be employed to assess the significance of observed differences ($p < 0.05$).

Qualitative data were analyzed using thematic analysis, involving data coding, categorization, and interpretation to identify recurring patterns related to graduate readiness and curriculum effectiveness. The integration of qualitative and quantitative findings was conducted through data triangulation, enhancing the credibility and depth of interpretation [2], [3].

2.5 Summary of Employer Survey Results

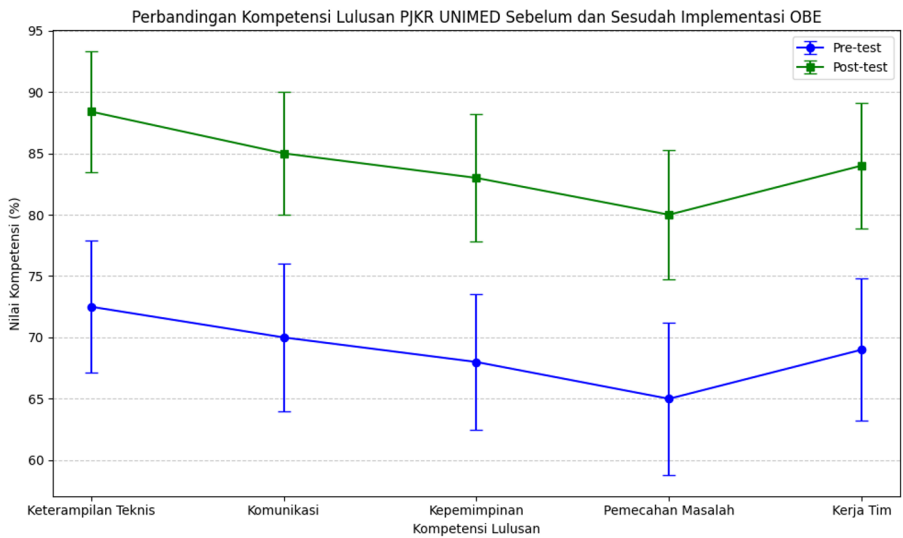
Table 1. Employer Evaluation of PJKR Graduate Competencies

Competency Domain	Very Good (%)	Good (%)	Fair (%)	Poor (%)
Technical Skills	40	45	10	5
Communication	35	50	10	5
Leadership	30	50	15	5
Problem Solving	25	55	15	5
Teamwork	38	45	12	5

The data indicate that most employers rated graduates as “Good” or “Very Good” across all competency domains, with particularly strong performance in technical skills and teamwork. These findings suggest that OBE implementation contributes positively to the development of competencies aligned with industry expectations in the sport science sector.

2.6 Visual Comparison of Competency Development

Figure 1. Comparison of Graduate Competencies Before and After OBE Implementation (tulisan di gambar masi bahasa Indonesia)



The figure illustrates a consistent upward trend in all competency domains following OBE implementation, with the most notable improvements observed in communication and teamwork skills. This trend supports the argument that OBE facilitates structured competency development through clearly defined learning outcomes and aligned assessment strategies.

3 Results and Discussion

The study results indicate that the OBE curriculum has a significant impact on the job readiness and competitiveness of PJKR UNIMED graduates:

Technical Skills: 85% of graduate employers rated graduates' technical skills as good to very good [2]. Graduates demonstrate proficiency in sports, health, and recreation skills according to competency standards, facilitating their adaptation in schools, sports clubs, or fitness centres.

Communication and Teamwork: Competencies in communication (85%) and teamwork (83%) indicate that OBE graduates are ready to collaborate, adapt to team dynamics, and build professional relationships [3]. This aligns with job requirements in schools and sports organizations, which demand cross-team cooperation.

Leadership and Problem-Solving: Although the proportion of "very good" ratings is lower (leadership 30%, problem-solving 25%), the majority of employers still rated these skills as satisfactory. This suggests that the OBE curriculum encourages graduates to think critically, make decisions, and effectively lead sports or physical education activities [3].

Employer Perception: Positive responses demonstrate the alignment of the OBE curriculum with industry and educational institution needs [4], consistent with the findings of Royani & Catur (2025). Ongoing collaboration with graduate employers will further enhance curriculum relevance and the quality of graduate competencies. Overall, this study confirms that the implementation of OBE significantly improves the competitiveness of PJKR UNIMED graduates, both in terms of technical competencies and soft skills.

4 Conclusion

This study provides empirical evidence that the implementation of Outcome-Based Education (OBE) within the Physical Education, Health, and Recreation (PJKR) Study Program at Universitas Negeri Medan contributes significantly to enhancing graduate employability and competitiveness in the sport science sector. The findings demonstrate that OBE facilitates the systematic development of both domain-specific competencies—such as sport technical skills and health-related knowledge—and transferable skills, including communication, leadership, problem-solving, and teamwork. These competencies are essential for effective performance across diverse professional contexts, including educational institutions, sport organizations, and the fitness industry.

The positive evaluations reported by graduate employers indicate a strong alignment between curriculum outcomes and labor market expectations, confirming that OBE serves as an effective framework for bridging academic preparation and professional practice. This alignment reflects the principles of constructive alignment and competency-based education, which emphasize measurable learning outcomes and their relevance to real-world applications [1]–[3].

However, the relatively lower ratings observed in leadership and problem-solving competencies suggest the need for further curriculum enhancement, particularly through the integration of experiential learning strategies, industry-based training, and authentic assessment models. Strengthening these components is critical to developing higher-order cognitive and managerial skills required in dynamic sport science environments [4].

From a practical perspective, higher education institutions should continuously engage with industry stakeholders to ensure the relevance and responsiveness of curriculum design. In addition, capacity building for academic staff in OBE implementation, along with the incorporation of work-integrated learning and competency mapping, is recommended to sustain and further improve graduate competitiveness.

In conclusion, this study reinforces the effectiveness of OBE as a transformative approach in sport science education, contributing not only to improved graduate outcomes but also to the broader goal of aligning higher education with evolving workforce demands.

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Disclosure of Interests. The authors declare that there are no competing interests associated with this study. The research was conducted independently, without any financial or commercial relationships that could be interpreted as a potential conflict of interest.

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