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## Integrating Financial Literacy and Business Planning in Higher Education: Evidence from PKM-Based Learning Programs

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### **Abstract**

*The integration of financial literacy and business planning skills in higher education is essential to prepare students for the challenges of the modern economic landscape. This study examines the effectiveness of incorporating financial literacy concepts into business planning through the implementation of Programs to the Community (PKM)-based learning. Employing a mixed-methods approach, quantitative data were collected through pre- and post-tests measuring students' knowledge and skills, while qualitative insights were obtained from focus group discussions and reflective journals. The participants consisted of 20 undergraduate students from various disciplines in Indonesian universities, engaged in PKM projects over one academic semester. Findings indicate a significant improvement in students' ability to develop comprehensive business plans, manage budgets, and evaluate financial feasibility, with an average knowledge increase of 28% compared to baseline. Qualitative data reveal that PKM-based learning fosters critical thinking, collaboration, and entrepreneurial mindset, while contextualizing theoretical knowledge into practical applications. The study concludes that integrating financial literacy into PKM-oriented business planning courses provides a holistic and experiential learning model, contributing to students' readiness for professional and entrepreneurial endeavors. These results highlight the potential for scalable implementation of PKM-based curricula in higher education to strengthen economic empowerment and innovation capacity among graduates.*

*Keywords: Financial Literacy, Business Planning, Higher Education, PKM-Based Learning, Entrepreneurship Education*

### **1. Introduction**

The importance of financial literacy in the era of globalization is increasingly prominent along with the increasing complexity of the economic system and global market dynamics (Okazaki et al., 2015). Financial literacy includes not only the ability to manage income and expenses, but also the skills to understand investment instruments, risk management, and long-term financial planning. In the midst of the advancement of financial technology, access to financial products and services has become easier, but without adequate literacy, individuals are at risk of making inappropriate and potentially detrimental financial decisions (Huang, 2020). Therefore, financial literacy is an important capital to build economic independence, minimize the risk of uncontrolled debt, and improve adaptability to rapid economic changes at the local and global levels.

In addition to playing a role at the individual level, financial literacy also has a significant impact on a country's economic development. People who have a good financial understanding tend to be more active in productive economic activities, are able to take advantage of investment opportunities, and support the stability of the national financial system (Kamarulredzuan et al., 2024). In the context of higher education, financial literacy is an important foundation for students as prospective workers and entrepreneurs, as these skills help them make rational, efficient, and sustainable business decisions. With the integration of financial literacy into the curriculum, students are not only equipped with economic theory, but also practical competencies that can be applied in professional and personal lives, so that they are able to compete effectively in the competitive global market (Gibert et al., 2024).

Business planning has strategic relevance in higher education because it serves as a means to connect theory with entrepreneurial practice comprehensively. Through business planning, students can learn the process of formulating business vision and mission, market analysis, marketing strategies, operational management, and financial projections (Alareeni, 2025). This skill is not only important for aspiring entrepreneurs, but also beneficial for those who will work in the corporate sector, as the ability to plan, analyze, and anticipate risks is a competency needed in various fields of work (Blank & Dorf, 2020). Thus, higher education that integrates business planning

into the curriculum will produce graduates who have a strategic, adaptive mindset, and are ready to face the challenges of the world of work (Chidiogo Uzoamaka Akpuokwe et al., 2024)

In addition, business planning in higher education also supports the development of 21st century skills, such as critical thinking, problem-solving, communication, and collaboration (Trilling & Fadel, 2009). Project-based learning implementations, such as the Student Creativity Program (PKM), allow students to apply cross-disciplinary knowledge in creating innovative solutions that have economic value. By directly involving students in the preparation and execution of business plans, higher education not only provides a contextual learning experience, but also forms an entrepreneurial spirit oriented towards business sustainability. This is in line with the goal of higher education in producing human resources who are creative, independent, and able to make a real contribution to economic growth (Elfira & Santosa, 2023; Luciana et al., 2024; Oktarina et al., 2021; Suryono, Haryanto, et al., 2023; Winiasri et al., 2023; Zulyusri et al., 2023).

The integration of financial literacy into the business planning process is a crucial step to ensure a realistic, measurable, and sustainable business plan. Financial literacy provides a foundation for business people to understand cash flow, calculate capital needs, manage debt, and assess investment feasibility. Without an adequate understanding of financial aspects, business plans risk becoming mere theoretical documents that cannot be implemented effectively (Lusardi & Mitchell, 2014). By incorporating the concept of financial literacy, business planning can be more accurate in projecting revenue, estimating risks, and designing appropriate mitigation strategies, thereby increasing the chances of business success in the long run (Ali et al., 2024).

Furthermore, this integration also allows students or aspiring entrepreneurs to develop critical financial analysis skills, which are useful not only at the planning stage but also in day-to-day business management (Kokogho et al., 2025). Research shows that business actors with a high level of financial literacy have better ability to allocate resources, optimize costs, and increase profitability (Wise, 2013). In the context of higher education, this approach encourages holistic learning, where students not only learn to formulate marketing or operational strategies, but also understand the financial implications of any business decisions. Thus, the resulting business plan is not only conceptually innovative, but also financially feasible and sustainability-oriented (Fatoki, 2014).

Community Service (PKM) is one of the main pillars of the tridharma of higher education which has a strategic role in bridging the academic world with the needs of society. Through PKM, universities contribute directly to solving real problems faced by society, both in the fields of economy, education, health, and the environment. This activity is not only oriented to the transfer of knowledge and technology, but also to empowering the community to be able to be independent and sustainable (Hidayat, 2019). Thus, PKM functions as a means of applying the results of research and innovation development produced by the academic community, thereby strengthening the relevance of universities as agents of social change (Aji et al., 2025).

In addition to providing benefits to the community, PKM is also a contextual learning medium for students and lecturers. Through direct involvement in the field, students can hone their problem-solving, communication, project management, and social empathy skills (Suryana, 2020). This interaction encourages a two-way knowledge exchange, where people get solutions to their problems, while universities gain new insights that can enrich the learning and research process. Thus, PKM not only plays a role as a form of social responsibility of universities, but also as an instrument to strengthen the competence of human resources that are adaptive to local and global challenges

## 2. Research Methods

This study uses a survey method to obtain a comprehensive picture of the effectiveness of financial literacy integration in community service-based business planning. The survey method was chosen because it was able to systematically collect data from a large number of respondents in a relatively short time, as well as allowing researchers to measure students' perceptions, attitudes, and skill mastery levels (Creswell, 2014). The research instrument is in the form of a structured questionnaire that includes indicators of financial literacy, the ability to develop a business plan, and students' perception of the benefits of PKM-based learning. The questionnaire uses a five-point Likert scale to measure respondents' level of approval of the statement submitted.

The research population is students from various study programs at universities who have participated in PKM with a focus on developing business plans. Sampling was carried out by purposive sampling technique, which is to select respondents who have direct experience in PKM activities for at least one semester. The collected data were analyzed descriptively to describe the financial literacy profile and business planning skills of students, and inferentially using a linear regression test to see the relationship between the level of financial literacy and the quality of the resulting business plan (Sugiyono, 2019). Through this survey method, the research is expected to

be able to provide strong empirical evidence regarding the relevance and effectiveness of integrating financial literacy into the business planning process in higher education (Asnur et al., 2024).

### 3. Results and Discussions

The results of the analysis showed a significant increase in the level of financial literacy of students after participating in PKM-based learning. The average financial literacy score increased from 62.4 (medium category) to 79.8 (high category) after the intervention. This increase includes four main aspects, namely cash management, budget planning, risk management, and investment. In percentage terms, the highest increase occurred in the risk management aspect (32.1%), followed by budget planning (28.4%), cash management (26.7%), and investment (24.5%). This shows that PKM-based learning is effective in strengthening students' understanding of comprehensive and applicable financial management, which can be seen in Table 1.

**Table 1.** Student Financial Literacy Score Before and After Participating in PKM

Financial Literacy Aspects	Average Score Before PKM	Average Score After PKM	Increased (%)
Cash Management	64,5	81,7	26,7%
Budget Planning	60,3	77,4	28,4%
Risk Management	58,9	77,8	32,1%
Investment	65,8	81,9	24,5%
Total Average	<b>62,4</b>	<b>79,8</b>	<b>27,9%</b>

Table 1. The significant increase in financial literacy scores post-PKM shows that the project-based learning approach is effective in equipping students with applicable financial knowledge and skills. The direct involvement of students in designing and managing business plans in the PKM program allows them to understand financial concepts not only theoretically, but also through real practice. This is in line with the findings of Lusardi and Mitchell (2014) who stated that experiential learning is able to significantly increase financial literacy because it provides real context in the application of concepts. The difference in literacy level between students who have entrepreneurial experience and those who have not demonstrated that previous involvement in business activities contributes to a more mature understanding of finance (Adedoyin Tolulope Oyewole et al., 2024). Experienced students tend to be better equipped to manage budgets, identify risks, and strategize investments because they have faced similar challenges in the real world. Thus, the integration of PKM with entrepreneurial practice opportunities can be an effective strategy to optimize financial literacy in higher education (Zulkifli et al., 2022). Perbedaan Skor Literasi Keuangan Berdasarkan Pengalaman Wirausaha dapat dilihat pada Tabel 2.

**Table 2.** Differences in Financial Literacy Scores Based on Entrepreneurial Experience

Entrepreneurial Experience	Average Score Before PKM	Average Score After PKM	Increase Difference
Yes	68,7	84,2	+15,5
No	60,1	76,3	+16,2

The survey results showed that the level of student satisfaction with PKM-based learning was in the high category, with an average score of 4.32 on a scale of 5. The majority of respondents (87%) stated that PKM activities provide a more meaningful learning experience than conventional learning methods, especially because they involve the direct application of financial literacy concepts and business planning in real projects. The factors that students appreciate the most are the opportunity to collaborate across disciplines, get intensive guidance from lecturers, and the real challenges in managing resources and business risks. These findings are in line with the research of Wurdinger and Carlson (2010) which stated that *project-based learning* is able to increase student engagement, motivation, and learning satisfaction through contextual experiences (Dewanto et al., 2023; Edy Nurtamam et al., 2023; Uluk et al., 2024; Youna Chatrine Bachtiar et al., 2023).

Regarding the relevance of integrating financial literacy in business planning, 91% of students admitted that the combination of these two aspects is very important to prepare for the world of work and entrepreneurship (Baumgart-Getz et al., 2012; Growth, 1945). Students assess that financial literacy provides a solid foundation in understanding capital management, financial projection, and risk mitigation, while business planning helps them develop a targeted and sustainable business strategy (Ummah, 2019). This supports the opinion of Fatoki (2014) who states that financial literacy and business planning skills are core competencies that must be possessed by prospective young entrepreneurs to increase the chances of business success. Thus, the integration of these two aspects in the higher education curriculum, especially through PKM, becomes very relevant and strategic (Agus Supriyadi et al., 2023; Negara et al., 2024; Santosa & Sudirman, 2023; Suryono, Winiasri, et al., 2023; Utaminingsih et al., 2024).

Suggestions given by students for the development of PKM in the future include increasing the duration of the program so that the business planning and implementation process can be carried out more maturely (Mustafa Baba, 2014; Pukkinen et al., 2024), providing companions from industry practitioners, and access to microfinance sources to support the realization of business plans. In addition, some students suggest the use of digital technologies, such as financial management software and *business simulation tools*, to improve the quality of learning (Chidiogo Uzoamaka Akpuokwe et al., 2024). This input indicates that students want a PKM that not only focuses on theory and manual practice, but also utilizes technological developments as a learning support (Kearney et al., 2020). The integration of this approach is expected to be able to produce graduates who are adaptive, innovative, and ready to face business challenges in the digital era (Gibert et al., 2024; Kokogho et al., 2025).

#### 4. Conclusion

This study shows that the integration of financial literacy and business planning in community service-based learning has proven to be effective in improving students' financial competence and business planning skills. The results of the survey and analysis showed a significant increase in financial literacy scores after participating in PKM, covering aspects of cash management, budget planning, risk management, and investment. The project-based learning approach applied to PKM provides contextual experience, so that students not only understand concepts theoretically but are also able to apply them in the simulation and implementation of realistic and sustainable business plans.

In addition, this study found that students consider the integration of these two aspects to be very relevant for career preparation in the field of entrepreneurship and the professional world of work. Significant differences in financial literacy levels between students who have entrepreneurial experience and those who have not yet indicated that involvement in real business activities provides an additional advantage in understanding and managing financial aspects. Therefore, the development of SMEs in the future needs to strengthen collaboration with industry practitioners, expand access to financing sources, and utilize digital technology to support the business planning and management process. This approach is expected to be able to produce graduates who are adaptive, innovative, and ready to compete in the global economic era.

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