



Pentahelix Collaboration in the Sainvisma Program in the Development of Impactful and Sustainable MSMEs

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ABSTRACT

This study discusses pentahelix collaboration as a project-based learning innovation (PjBL) of the visual communication design study program (DKV) of the Harapan Bersama Polytechnic in the Sainvisma (Brand Visual Design) program which is carried out in the third semester integrated with five courses, namely Advertising, Computer Graphics 3, Cinematography 1, Audio Visual and 3D Animation. The Sainvisma program in collaboration with MSMEs fostered by the Tegal SOE House brings together DKV students as a Content Creator team with actors MSMEs were selected to collaborate on pentahelix which consists of five elements of ABCGM, namely Academy, Business, Community, Government and Media with the aim of providing MSME assistance through the creation of MSME profiles and short videos of commercial advertisements for superior products for the needs of Instagram and TikTok social media promotion. This research method uses qualitative descriptive which focuses on the objects raised to solve existing problems. The stages of implementing the Project-Based Learning (PjBL) method are carried out by providing student knowledge and skills, project preparation, project implementation and exposure of project results. The results of pentahelix collaboration are the main key to synergy between elements to develop learning innovations that transform into benefits for MSMEs, improve the quality of learning and the quality of students in the link and match of the OBE-based curriculum (Outcome Based Education). As well as supporting the realization of the Sustainable Development Goals (SDGs), one of which is in achieving the acceleration of economic development and improving the community environment.

INTRODUCTION

Cross-sectoral collaboration is increasingly an urgent need to encourage sustainable social, economic, and educational development. The complexity of problems in society requires the involvement of various parties to synergize with each other and contribute according to their respective capacities and roles (Holiseh & Izzatusholekha, 2023). One of the strategic approaches that has proven to be able to bridge this synergy is the pentahelix collaboration model. This approach combines five main elements of development, namely academics, business people, communities, government, and the media (Ayu et al., 2023). Pentahelix is not just a form of cooperation, but an effort to unite visions, values, and resources that complement each other to achieve more significant results. This model is believed to be able to create a wider and more sustainable impact because it involves all elements that affect the dynamics of development in a region (Tanzil, 2023).

In improving its practices, pentahelix opens a more flexible and dynamic collaboration space, especially in the realm of developing local potential such as MSMEs. MSMEs have a strategic role as a driver of the people's economy that absorbs labor and strengthens the national economic structure from below (Reizha Ananda Setyara et al., 2024). However, MSME actors often face various challenges, ranging from limited market access, weak branding capabilities, to the lack of adoption of digital technology (Azmi et al., 2023). This is what makes multi-stakeholder collaboration through the pentahelix model important. Each element can support each other so that MSMEs not only survive, but are able to develop and transform to be more adaptive to changing times.

The Sainvisma (Brand Visual Design) program is present as a real example of the implementation of the pentahelix concept in the development of MSMEs based on educational and creative approaches. This program is the result of a collaboration between the DIII Visual Communication Design Study Program of the Harapan Bersama Polytechnic and the Tegal SOE House managed by Bank BNI KCU Tegal. The initiation of this program was motivated by the need for a new learning pattern that is not only theoretical, but also able to provide direct experience to students in dealing with real problems in society (Lake et al., 2022). Through this program, Visual Communication Design students not only learn in the classroom, but are also directly involved as a team of content creators who assist MSME actors in creating promotional videos, brand identities, and other visual materials.





This activity is part of the implementation of the Outcome Based Education (OBE)-based curriculum, which emphasizes competency-based learning outcomes. Students are not only required to understand the material, but also to be able to produce relevant and socially useful works. This approach strengthens the integration between the academic world and the industrial world, while bringing students closer to the real needs of the world of work. Experience working directly with MSMEs is an important provision for students to develop communication skills, creativity, and project management. They not only understand the theory of visual communication, but also learn to deal with the dynamics and challenges of direct clients.

The role of academics in this collaboration is not limited to educators, but also facilitators who bridge students and external partners (Syahrial, 2020). Lecturers function as project directors and supervisors, ensuring that every process carried out by students remains in accordance with learning objectives and provides real benefits for MSME partners (Ishak & Sholehah, 2021). On the other hand, businesses, namely MSME actors, also play an active role by opening themselves to collaboration and being part of the learning process. They provide information, needs, and inputs that are the basis for the development of creative content by students (Najmudin et al., 2023). This interaction creates a mutually beneficial relationship, where MSMEs get promotional materials for free and students get invaluable field experience.

The community is another important element in this collaboration, because the MSME community fostered by Tegal SOE House has a wide network and influence in the community. The existence of the SOE House as the center of MSME activities provides space for the exchange of ideas, training, and improvement of the quality of products and services. In the Sainvisma program, the SOE House facilitates meetings between students and MSMEs, providing venue support, data access, and information about the needs of business actors. The government is also present through infrastructure policies and support, such as the provision of co-working spaces, digitalization training, and promotional assistance (Tamara et al., 2021). This collaboration strengthens the MSME ecosystem while encouraging the government to continue to present regulations and policies that support the growth of the informal sector in a concrete manner.

The media plays a vital role in strengthening the echo of this program to the wider community. Student works such as promotional videos and brand visual designs are published through MSME social media and other digital channels that expand market reach. The role of the media is not only as a conveyor of information, but also as a booster of the image and competitiveness of local brands. The presence of the media also helps the program documentation process, shows the collaborative work process that is running, and encourages the involvement of other potential parties to join similar programs. Therefore, each element of the pentahelix does not run alone, but complements and reinforces each other.

The involvement of students as agents of change in this approach is also an important part of the transformation process of higher education (Hussein, 2021). Through the Student Centered Learning approach and the Project-Based Learning method, students are encouraged to be active, think critically, and make decisions in completing projects (Tanzil, 2023). This process creates a learning environment that is more adaptive, contextual, and directly connected to the needs of the community. The Sainvisma program is a learning space that is not only oriented to academic results, but also to strengthening social, collaborative, and leadership values. Students learn to become professionals who are not only competent, but also concerned about the social environment around them.

Analysis of the dynamics that occurred during the implementation of the Sainvisma program, the pentahelix approach has great potential in developing impactful and sustainable MSMEs. This program is not just an educational initiative, but part of a social movement to strengthen the network between the world of education, business actors, society, government, and the media. The impact of the program is not only felt by students, but also MSME actors who get improved promotion and branding quality, as well as people who enjoy the results of collaboration in the form of strengthening the local economy. This kind of collaboration pattern has the potential to be replicated in various other regions with similar characteristics and challenges.

This research departs from the belief that the success of a collaborative program does not only depend on goodwill, but also on the structure and pattern of partnerships that are systematically built. The Sainvisma program provides an idea that pentahelix collaboration can answer the challenges of MSME development through concrete cross-sector synergy. By making pentahelix the main framework, this program helps to realize a sustainable development vision that is inclusive, participatory, and long-term impact-oriented. This research aims to delve deeper into how the collaboration pattern built in the Sainvisma program can be a model of learning and development of partnership-based MSMEs that is in line with the goals of the SDGs, especially in improving the community's economy and the quality of vocational education in Indonesia.

THE PROPOSED METHOD/ALGORITHM

Pentahelix Collaboration

The concept of Pentahelix collaboration in the Sainvisma program was born from the realization that the development of vocational education and the empowerment of MSMEs cannot be done separately. The five main elements that are interconnected in Pentahelix are academics, business people, communities, governments, and the media, each of which has a unique contribution that reinforces each other (Vani et al., 2020). These five elements can be known as the five elements of ABCGM.





In this regard, collaboration is not only understood as temporary cooperation, but as a system that is integrated in one ecosystem of learning and empowerment. Academics act as curriculum designers, learning facilitators, and bridges of collaboration that connect students with the realities of the field. The DIII Visual Communication Design Study Program is the party that designs project-based activities that are relevant to the needs of the community, especially MSME actors fostered by the Tegal SOE House. Through the OBE curriculum approach, students are encouraged to produce real outputs in the form of MSME profiles and promotional content that can be directly utilized.

Business people, namely MSMEs, take on the role of clients in learning projects. They conveyed the need for promotion and brand identity strengthening to students who oversaw interpreting into design works and audiovisual content. The need for MSMEs is the main source in building a problem-based learning process, so that students not only learn theory, but also learn to solve real challenges (Wardana & Mulyaningtyas, 2014). The government through the Tegal SOE House plays a strategic role as a liaison between actors. The SOE House is not only a facilitator of physical space and information, but also a catalyst so that meetings between Pentahelix elements can run systematically and organized. The local government serves as a guarantor that this activity supports the regional creative economy development agenda and is in line with the community empowerment program (Lestari et al., 2023).

The media is an element that plays a role in expanding reach. Its main function is to convey the results of collaboration to the public at large, introduce MSME products, as well as promote student achievements. Social media channels such as Instagram are used as a forum for the dissemination of creative content from student and MSME collaborations (Nurmalia & Zaenuri, 2019). The role of the media makes this program not only have a local impact, but also be able to create a wider influence through the digital world. Pentahelix's collaboration in the Sainvisma program was developed as a strategic approach in uniting five important elements of social development and education that play an active role with each other. The academic element acts as the main initiator and facilitator, bringing an innovative pedagogic approach based on the Outcome Based Education (OBE) curriculum (Morin & Willox, 2024). The team of lecturers from the DIII Visual Communication Design Study Program not only plays a role in designing learning, but also creates bridges between students and external partners in the form of MSME actors fostered by the Tegal SOE House. Business people, in this case MSMEs, carry out their functions as project clients who convey real needs in the form of business profiles and product promotions. Students, as representatives of the academic community, work on the project directly as a team of content creators. The government through the Tegal SOE House acts as a regulator as well as a facilitator, providing space and logistical support to bring all parties together (Hafidzussalam et al., 2024). The media is present as an information expansion channel that supports the promotion of student works and MSME products through digital channels such as Instagram and TikTok.

Pentahelix's Integrated Project-Based Learning Algorithm

The first step in the algorithm for implementing this program begins with identifying the needs of MSMEs fostered by Tegal SOE Houses. The curation process is carried out by lecturers and facilitators to determine partners who are in accordance with the focus of learning in the third semester. A total of 10 MSMEs were selected based on the criteria of superior products, digitalization potential, and collaborative readiness. Students are then divided into small groups to draw up a work plan that departs from the real needs of each partner. The next stage goes into the brainstorming and briefing phase of the client. Each group conducted an initial discussion with MSME actors to understand the characteristics of the brand and develop an initial profile. At this stage, the lecturer acts as an active facilitator who ensures that the process remains in line with the learning outcomes. The FGD between the student team and MSMEs resulted in an agreement on the visual concept and narrative of the promotional video.

Once the concept is approved, the student group enters the production phase. The activity was carried out directly with MSMEs, starting from the creation of visual identity designs, the preparation of content narratives, to video capture and editing. Content production follows the project guidelines that have been compiled in the brand guidelines. Lecturers provide periodic assistance during this process through classes and online discussion forums. The finalization stage is carried out after the work is revised based on input from clients and lecturers. The final content must be uploaded on MSME social media and then presented in an open evaluation forum. All works are documented and curated into a shared portfolio. At this stage, the media takes on the role of a tool for publication expansion through reposts, promotional campaign hashtags, and testimonials from MSME actors. This series of stages shows that the program's work algorithm is not only centered on learning tasks, but compiles an ecosystem that is able to answer field needs, build relationships between actors, and create real works. The implementation of project-based learning integrated with the Pentahelix model provides a strong methodological foundation for impactful educational innovation.

METHOD

Research Design and Data Collection Strategy

This research uses a descriptive qualitative approach because the focus lies in an in-depth understanding of the collaboration process of the five elements of Pentahelix in the Sainvisma program. The qualitative design was chosen to explore the dynamics, interactions, and meanings that emerge from project-based learning activities carried out with



MSMEs (Hidayatullah et al., 2022). The focus is not on numbers, but on the narratives, processes, and experiences of the participants involved.

Data collection was carried out through a combination of field observation methods, in-depth interviews, and documentation studies of all program activities. Observations were made directly on the implementation of the program for a full semester. The research team systematically recorded the brainstorming process, production, assistance, and final presentation. Every meeting between students and MSMEs, as well as discussions with lecturers, is the main data in seeing the dynamics of collaboration.

Interviews were conducted on five categories of actors, namely teaching lecturers, participating students, partner MSME actors, facilitators of the Tegal SOE House, and social media representatives of the program. The questions were arranged in a semi-structured manner to still provide room for exploration for the respondents. Interviews are recorded and transcribed to be analyzed based on themes of engagement and contribution.

In addition to observations and interviews, documentation data was obtained from student works, learning reports, visual documentation (photos, videos), and archives of social media publications. All these forms of documentation are supporting data in analyzing the results of collaboration and project-based learning achievements (Wang et al., 2022). Data triangulation is carried out to ensure the validity of the results and consistency between the various sources of information collected.

Data Analysis and Validation Techniques

The collected data was analyzed using the Miles and Huberman model approach which consisted of four stages, namely data collection, data reduction, data presentation, and conclusion drawn (Asipi et al., 2022). Data collection is carried out simultaneously during the program implementation process. Each observation record, interview results, and documentation is classified based on the actor's involvement in the five elements of Pentahelix.

Data reduction is carried out by sorting out the information that is most relevant to the focus of the research, namely the involvement, role, and contribution of each element in the collaboration process. The data that has been reduced is then presented in the form of thematic narratives and role matrices. The researcher develops themes based on project-based learning elements, such as planning, production, mentoring, publication, and evaluation.

The data presentation uses an analytical descriptive approach that emphasizes the interconnectedness between actors and the impact of collaboration results on two main things: improving the quality of student learning and strengthening the capacity of MSMEs. The narrative is developed based on the point of view of each contributing actor. The validation process is carried out through confirmation of results to the respondents to ensure that the researcher's interpretation does not deviate from reality.

The conclusion of the data analysis is a reference to make recommendations related to the replication of the Pentahelix collaboration model in a similar learning context. Validation of results was also obtained from the achievement of program outputs in the form of student portfolios, testimonials of MSME actors, and the impact of publications recorded from digital interactions through social media. This holistic approach ensures that each element observed has a strong empirical and conceptual basis.

RESULTS

Integration of the Role of Pentahelix in the Learning Process

The implementation of the Sainvisma program is proof that the involvement of the five elements of Pentahelix can produce functional collaboration that has a direct impact on MSME capacity development and the strengthening of project-based vocational learning (Yusrodi, 2023). Academics as an element of initiation and learning facilitators have a central position in shaping collaborative work architectures (Yusrodi, 2023). The lecturer team not only designs projects based on curriculum achievements, but is also responsible for ensuring that the implementation of the program provides space for student creativity while making a real contribution to MSME partners (Yusrodi, 2023). This role is reflected in the successful integration of five courses into one project unit that is relevant to the needs of field partners.

Business people who are members of MSME partners fostered by the Tegal SOE House are the recipients as well as determinants of the direction of output. Their existence is not only as an object in the learning process, but as an active client who determines the standards of promotional needs, brand identity, and visual communication narrative (Sholihah et al., 2024). MSMEs are a source of inspiration as well as a partner for student work. Regular meetings between business actors and student teams result in concrete understandings, accelerate the production process, and strengthen emotional closeness between academics and local industry players.

The student community acts as the driving force and technical implementer of the project. Students form working groups, develop production strategies, take pictures, edit videos, and prepare partner business profiles (Azmi et al., 2023). This role changes the position of students from passive recipients of material to active agents of learning who play a direct role in the economic development of the surrounding community. Student involvement does not stop at the technical level, but extends into the areas of communication, teamwork management, and field problem solving that are not available in conventional classrooms (Ahmed et al., 2022).





The government, which in this case is represented by the Tegal SOE House, carries out its function as a facilitator, provider of collaborative space, and a guarantor of the sustainability of the program. The SOE House provides partner data, curates MSME actors who will become student clients, and monitors the implementation of programs to be in accordance with the direction of institutional MSME development (Septadiani et al., 2022). Physical facilities such as presentation rooms, discussion rooms, and co-working spaces are used as centers for interaction between actors, accelerating the formation of efficient and productive communication between Pentahelix elements.

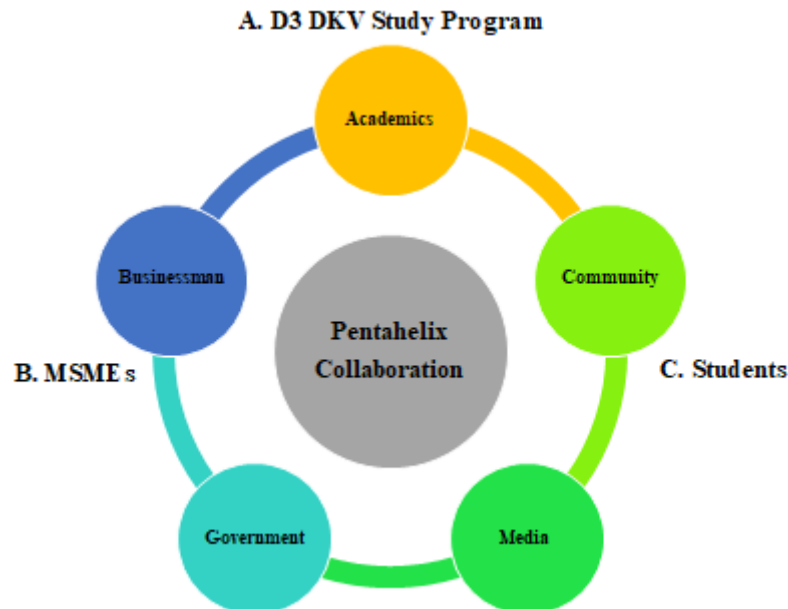


Fig. 1. Concept of Pentahelix

The media plays a final but strategic role in raising the results of collaboration to the public surface (Firdaus & Cahyani, 2023). All student works are uploaded through the official Instagram channel of MSMEs and the Sainvisma digital platform. The function of media here is not just a publication, but as an image forming tool and strengthening the visual identity of the brand (Sulistiono et al., 2023). The media is also a meeting point between collaborative work and the wider community, which indirectly expands the reach of the program while increasing public trust in the synergy of the education and business worlds (Beatrice & Hertati, 2023).

Dynamics of Program Implementation and Influence of Pentahelix

During the implementation of the program for one semester, the dynamics between the elements showed a collaborative work pattern that was quite stable and productive. The project stages starting from MSME selection, group formation, content training, video production, revision, and publication can run because communication between elements is effective. Each party has a clear role and a maintained commitment. Academics become the technical link between client needs and students' abilities, MSMEs become active partners in providing input, students play the role of content producers, SOE Houses become guardians of work rhythms and media become distributors of the visual values that have been produced.



Fig. 2. SME's Presentation and Brainstorming

The effectiveness of collaboration can be seen from the success of producing outputs in the form of advertising videos and business profiles that are directly tailored to the character and vision of MSME products. Not only focusing on technical results, this program also succeeds in creating an emotional relationship that is mutually respectful between parties. This is one of the added values of the program, because it creates a work climate that is not rigid but still professional. This success cannot be separated from the power of the Pentahelix system which provides an open space for all actors to convey each other's aspirations and needs.



Fig. 3. SME's Product

The role of social media as a representation of media elements gives its own color to the success of the program. Each student's work is massively published, encouraging wider exposure to local products. This not only brings new market potential for MSMEs, but also increases students' pride in their work. The media is an instrument that bridges the results of technical work with wider public appreciation.

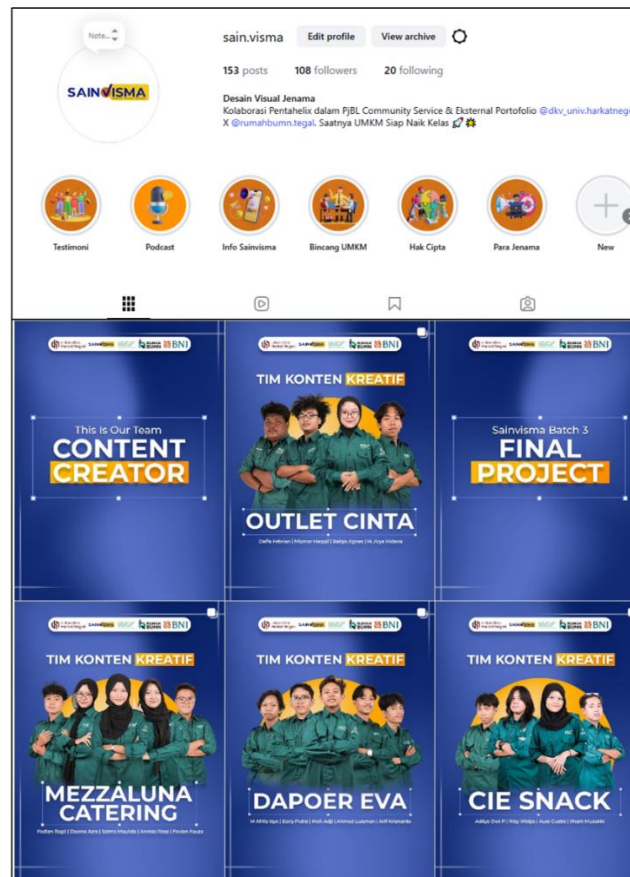


Fig. 4. Sainvisma Project on Social Media

DISCUSSION

Collaborative Performance Evaluation and Practical Recommendations

Evaluation of the implementation of the Sainvisma program shows that the Pentahelix collaboration model has succeeded in presenting a dynamic and productive learning and development ecosystem for MSMEs. The five elements involved show complementary work capacity. Academics can design an integrated curriculum that not only contains conceptual material, but also provides hands-on practical experience to students (Ginting et al., 2024). The curriculum is prepared based on competency-based learning outcomes, then carried out through a real project approach that is relevant to the needs of field partners. This shows that there is a compatibility between academic planning and external needs (Satriyo et al., 2024). The role of business people, namely MSMEs fostered by the Tegal SOE House, is very crucial in providing direction to the content of the project that will be done by students. MSME partners are not only beneficiaries, but also provide direct feedback on the work developed by students. Open communication between students and MSME actors allows the process of revision and improvement of work to take place intensively and iteratively. This kind of work pattern provides a professional feel in the learning process, because students are used to facing the actual industry work standards.

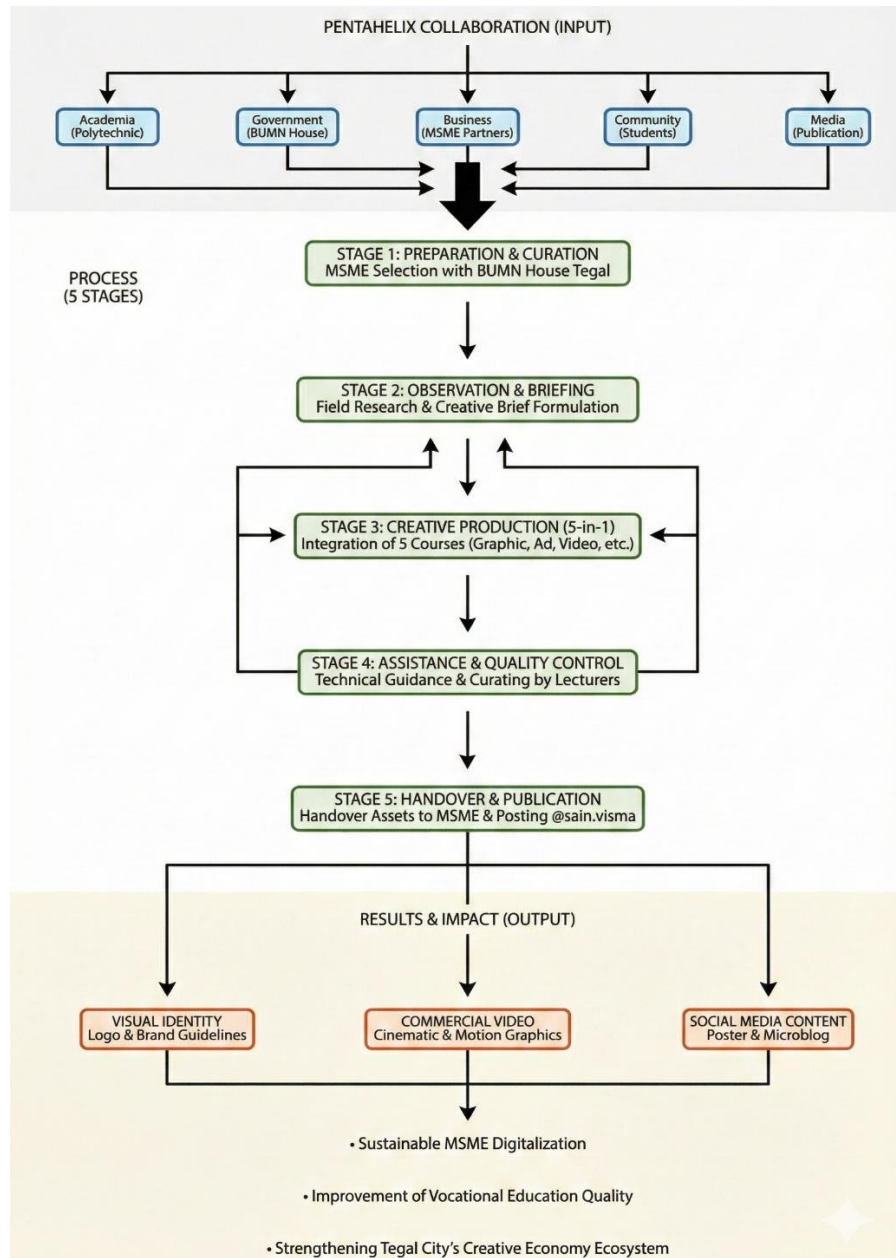


Fig. 5. Sainvisma Integratet Pentahelix & PJBL Model

The student community, which acts as the main implementing team, shows a high level of adaptation and creativity. The process of working in groups encourages students to learn to collaborate, manage conflicts, manage time, and complete projects independently (Mutanga, 2024). However, the results of the evaluation also noted that there are several groups that have difficulty in dividing roles in a balanced way, especially when facing production deadlines and revision processes. This is an important note to strengthen project management and teamwork training in the early stages of the program. Students need more systematic debriefing related to the management of creative projects so that the results are more optimal. The performance of the government, in this case the Tegal SOE House, shows consistency in carrying out the function of facilitation and liaison between actors. The SOE House has successfully carried out its duties as a curator of MSMEs, a project implementation scheduler, and a provider of discussion spaces between students and business actors. Facilitators from the SOE House are also active in monitoring the development of the project and bridging the needs of students related to field technicalities. However, cross-time coordination between academics and local governments sometimes still encounters challenges, especially in adjusting flexible schedules and utilizing physical facilities optimally.

The role of the media in this program has great potential that has not been fully explored. Although the students' work has been published on the MSME Instagram platform and Sainvisma's social media channels, not all content has been systematically documented in the form of digital catalogs or long-term online archives. This is a challenge, because



without a neat documentation system, the long-term impact of this collaboration is difficult to trace or be used as material for evaluation and replication (Siregar et al., 2023). It is necessary to strengthen the internal media team in charge of managing all digital assets so that publications are not only temporary, but can also become a creative repository for the program. The strategic recommendations that emerged from the results of this evaluation include the preparation of a standard operational document (SOP) for the implementation of the Pentahelix-based Sainvisma program. This document is important to maintain the continuity of the program and serve as a reference for future implementers. In addition, it is necessary to prepare a learning tool that integrates learning outcomes, project evaluation indicators, and a map of the involvement of each element of Pentahelix in the form of a rubric or work guide. The preparation of this document will also facilitate the assessment and monitoring process and facilitate other educational institutions that want to adopt a similar model.

In addition, regular forums between actors are needed to evaluate the results of the work and build a follow-up network. Activities such as exhibitions, collaborative seminars, or advanced training can be a bridge to expand the benefits of the program. The participation of professional media and local journalists can also be increased to strengthen the dissemination of the program's impact. In the future, the Sainvisma program is not only worthy of being used as a good practice for vocational education, but can also be transformed into a social innovation model based on the Pentahelix partnership that encourages sustainable local economic growth.

CONCLUSION

The Sainvisma program has shown that the Pentahelix collaboration is not just a conceptual approach, but can be implemented in real terms as a foundation for learning and empowerment that go hand in hand. The five elements, namely academics, business, community, government, and media, carry out their roles integrally and complement each other. Academics successfully integrate project-based curriculum into a real learning experience. Business people are actively involved in conveying real needs that are the basis for content development. Students can carry out their role as a creative team that produces works based on field demand. The government through the Tegal SOE House provides space and full support. The media distributes the results of the collaboration to a wider audience.

This synergy has a significant impact on two main aspects. First, improving the quality of learning through Student-Centered Learning and Project-Based Learning methods that are integrated into the OBE curriculum. Second, strengthening the capacity and competitiveness of MSMEs through the promotion of visual content-based products. This program proves that the vocational education system can become an agent of social change when it can build strategic partnerships and place students as the main actors of change.

Pentahelix's collaboration model in the Sainvisma program should be considered as a reference for similar programs, both on a local and national scale. This approach not only supports the achievement of the Sustainable Development Goals (SDGs) in the fields of education and the economy, but also creates a structural transformation in the way educational institutions think about their role in society. Multistakeholder collaboration is no longer an option, but a key need in shaping an impactful, contextual, and sustainable future of higher education.

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