

Integrated Learning Model Training (Blegur Model) as an Innovative Strategy to Strengthen Students' 21st-Century Learning

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ABSTRACT

The Integrated Learning Model (Blegur Model) is a new model that can be applied to improve students' 21st-century competencies because it organizes student learning experiences around objectives, analytical thinking, integrity, and transformation. However, students' understanding and skills in implementing this learning model are still limited because it is relatively new, so systematic intervention is needed. This community service program is designed to improve students' understanding and skills in applying the Blegur Model. This innovative alternative combines aspects of analysis, evaluation, and the implementation of learning. The activity involved 15 students, but only 13 students (86.67%) completed the pre-test and post-test. The materials provided included theoretical foundations, the significance of the Blegur Model for 21st-century competencies, comparisons with other learning models, and syntax and implementation strategies. The training was carried out through three main methods: lectures and discussions, model application exercises, and presentations and reflections. Evaluation was carried out using four open-ended questions with an assessment rubric, which participants collected through presentation videos in the pre-test and post-test. Data analysis using descriptive statistics and the Wilcoxon signed-rank test showed a significant increase in participants' understanding and skills ($Z = -3.395$; $p = 0.001$; $r = 0.94$). These training results confirm the effectiveness of the Blegur Model as an innovative learning strategy that can strengthen students' competencies and support the development of learning practices aligned with the demands of the 21st century.

Keywords: analytical thinking, Blegur learning model, integrated learning model, proactive students, problem-solving skills

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INTRODUCTION

One of the primary factors hindering the development of students' contemporary-era competencies, including analytical thinking, critical thinking, and self-directed learning, is the persistence of retrograde instructional practices (conventional and teacher-centered approaches), which position students as passive and receptive learners while reducing their engagement in higher-order thinking processes (Chiřiba, 2012; Martin-Alguacil et al., 2024; Sutherland et al., 2024). Furthermore, a gap in lecturers' capabilities to develop innovative instructional designs that comprehensively integrate 21st-century skills has been identified. For example, the implementation of project-based learning, the use of online assessment tools, and the involvement of communities of practitioners and professionals are reportedly unfamiliar. These obstacles are exacerbated by instructional and institutional constraints, such as a lack of technological infrastructure, curriculum rigidity, and limited access to professional development (Ho & Le, 2026). The complexity of these challenges is further intensified by students' limited habituation to autonomous learning, proactive-collaborative decision-making, and critical reflection. Such conditions contribute to resistance toward emerging learning paradigms. Therefore, lecturers need to implement adaptive learning models capable of fostering an independent, critical, open, and responsive learning culture aligned with contemporary educational developments.

Various initiatives have been implemented to elevate the quality of 21st-century pedagogy in higher education, particularly by reorienting innovative learning models for students. The application of active learning models, such as problem-based learning (Sulystiani et al., 2023), jigsaw-type cooperative learning (Sari et al., 2025), and variants of Numbered Heads Together (NHT) and Make a Match (Farida & Marsitin, 2018), is projected to stimulate critical thinking in problem-solving, synergistic collaboration, and increasingly articulate communication. Furthermore, these interventions include strengthening technological literacy, such as optimizing the Learning Management System (Felani et al., 2025; Imran et al., 2022), accelerating the development of digital skills (Gani & Pradilia, 2025), and standardizing the development of research instruments (Blegur, Rupidara, et al., 2025). Although various training programs have been implemented, the learning process continues to exhibit structural problems in developing students' competencies. Observational findings indicate that learning practices have not been explicitly oriented toward students' final competency outcomes but rather remain focused on content delivery. In addition, students' capacity to analyze competency-based assessment instruments remains limited, accompanied by restricted opportunities for academic dialogue regarding lecturers' instructional strategies and learning models. These conditions consequently weaken students' reflective engagement and hinder the systematic development of their competencies.

One solution for developing students' 21st-century competencies is the implementation of the Integrated Learning Model (Blegur Model) (Blegur et al., 2024). Although initially developed for "microteaching" courses, a review of its theoretical construction, significance, and syntactic structure demonstrates that the Blegur Model can be adapted to various pedagogical contexts. This is made possible through the multidimensional integration of active, collaborative, and reflective learning approaches within a systematic framework that has been proven effective in optimizing students' higher-order thinking skills, integrity, and transformational leadership (Blegur et al., 2024; Hardiansyah et al., 2025). This model builds a student-centered instructional ecosystem by fostering goal-oriented learning behavior, thereby accelerating the development of futuristic skills and analytical reasoning in the face of change. In addition, this model encourages constructive-transformative learning behavior by creating an atmosphere of integrative, functional, comprehensive, and collective learning experiences. This synergy empowers students' diverse potential, enabling

the realization of sustainable, shared transformation (Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024).

The originality of this intervention lies in a reorientation of instructional models' focus. First, the findings of Ismeirita et al. (2025) indicate that individual determinants contribute predominantly to students' 21st-century competencies (26%), surpassing learning environment factors (24%), instructors (23%), curriculum (11%), sociocultural context (9%), and affective aspects (7%). This data projection transforms the critical thinking framework; training that focuses exclusively on instructors is considered monochromatic and superficial, as it negates the student perspective as a key contributing variable. Consequently, students require comprehensive literacy regarding learning models to critically evaluate their validity in building 21st-century competencies in an integrated and longitudinal manner. Second, the Blegur Model initiates student engagement from the outset through an analysis of learning objectives, assessment instruments, and achievement strategies during the orientation phase, culminating in an evaluation of competency development during the recognition phase (Blegur et al., 2024a; Blegur et al., 2024b). This pedagogical trajectory fosters students' proficiency in proactive decision-making, problem identification, collaborative dialectics, creative problem-solving, and reflection on learning progress with integrity.

Therefore, the urgency of this community service activity lies in improving students' conceptual understanding and technical capabilities in internalizing the lecturer's integrated learning model. Through this intervention, an optimal, effective instructional ecosystem will be created to develop students' 21st-century competencies comprehensively.

METHODS

This community service program was designed using a capacity-building workshop approach with a one-group pre-test-post-test evaluation design. This approach was selected to assess the effectiveness of the training in enhancing participants' capacity and quality of understanding regarding the planned, comprehensive, and holistic implementation of the Integrated Learning Model in strengthening twenty-first-century learning practices among university students.

Prior to the training, participants were administered a pretest to identify their initial level of understanding concerning (1) the theoretical basis for developing the integrated learning model, (2) the significance of the integrated learning model in strengthening 21st-century competencies, (3) comparison of the integrated learning model with other learning models, and (4) the syntax and implementation of the integrated learning model (see Table 2).

Time and Place

The implementation of the community service program took place on Friday, March 6, 2026, from 08.30 to 17.00 WITA, taking place in the Alfa Building Hall (Building O), Universitas Kristen Artha Wacana, located at Adisucipto Street, No. 147, Oesapa Village, Kelapa Lima District, Kupang City, with postal code 85228, East Nusa Tenggara Province. The training was opened directly by Dra. Anggreini D. N. Rupidara, M.Si., Ph.D., Dean of the Faculty of Teacher Training and Education (see Figure 1).

Participants

The training involved 15 sixth-semester students from the Physical Education, Health, and Recreation Study Program, Faculty of Teacher Training and Education, Universitas Kristen Artha Wacana. Out of these, 13 participants ($M \pm SD = 22.00 \pm 1.29$), consisting of 5 women and 8 men, completed the post-test.

Two participants were excluded from the final analysis because they did not complete the post-test within the predetermined time limit. Therefore, the analysis was conducted only on paired data obtained from participants who completed both the pre-test and post-test. This decision was made to maintain the consistency and validity of the analysis within the one-group pre-test-post-test design.



Figure 1. Group photo after the Dean opened the training program

Implementation Method

To achieve the objectives of the community service program, the implementation team used four main methods in stages, beginning with lectures and discussions and culminating in an evaluation of the program's achievements.

The first method employed in the community service program was lectures and discussions. At this stage, the team presented two main materials, each containing two discussion indicators (see [Table 1](#)). The first material discussed by the facilitator was titled "Exploring Integrated Learning Models," which aimed to deepen participants' understanding of the theoretical foundations for developing learning models and their relevance in contemporary educational contexts. This understanding is crucial because integrated learning models are not only positioned as an alternative learning approach in educational settings but also require analysis of their underlying theoretical frameworks. Through this activity, students are expected to critically analyze the theoretical foundations underlying the model's construction and evaluate its relevance in supporting skills development aligned with the demands of 21st-century education. Within this framework, the Blegur Model is expected to provide strategic implications for optimizing students' mastery of the core competencies necessary to meet the demands of the contemporary workplace. One essential competency that needs to be developed is the ability to solve problems effectively, a key factor in facing future professional challenges.

The second topic discussed was "Implementation of the Integrated Learning Model," in which the community service team guided students in developing critical reasoning through a comparative analysis of the Integrated Learning Model and other relevant learning models. This comparative approach enabled them to objectively evaluate the advantages and disadvantages of each model in the context of contemporary learning. This experience was invaluable for broadening students' understanding of existing methodologies and for providing new perspectives on implementing more holistic, context-based learning. Furthermore, the procedural reasoning explained regarding the syntax and implementation of the Integrated Learning Model was an integral part of this process, not only outlining the

technical steps but also encouraging participants to understand and design strategic steps for its classroom implementation. It is important to note that while this model has great potential to improve learning quality, challenges to its implementation in the field often stem from disparities in understanding among lecturers and students, as well as resistance to change. Therefore, this training is expected to mitigate these challenges by narrowing the understanding gap and encouraging more effective adoption of the model.

Table 1. Training material syllabus

No	Material	Material indicators	Facilitator/moderator
1	Exploring Integrated Learning Models	a. Theoretical basis for developing the Integrated Learning Model b. The significance of the Integrated Learning Model in strengthening 21st-century competencies	Zuvyati Aryani Tlonaen, S.S., M.Pd./Intan Christine Adriani Siki
2	Implementing Integrated Learning Models	a. Comparison of the Integrated Learning Model with other learning models b. Syntax and implementation of the Integrated Learning Model	Dr. Jusuf Blegur, S.Pd., M.Pd./Intan Christine Adriani Siki

The second method is the implementation of the Integrated Learning Model (Blegur Model). This stage was initiated to provide participants with hands-on experience in designing, implementing, and evaluating learning models. This activity aims to ensure students not only understand the theory behind the Blegur Model but also apply it practically in a real classroom context. Through this exercise, participants are guided to engage in critical reasoning to identify learning syntax and adapt implementation steps to suit learner characteristics. This exercise also serves as a means to hone 21st-century skills, including critical thinking, problem-solving, collaboration, and effective communication, which are core competencies highly sought after in contemporary education and the workplace. Thus, the Blegur Model implementation exercise not only strengthens students' conceptual understanding but also enhances their readiness to apply the integrated learning model effectively in the field.

The third method employed is presentation and reflection, which aims to strengthen participants' understanding through verbal expression of ideas and critical analysis of their learning experiences. During the presentation stage, participants may present the results of their Integrated Learning Model (Blegur Model) designs, compare the models used, and evaluate the successes and challenges encountered. The reflection phase then encourages participants to conduct self- and collective assessments, identifying strengths, weaknesses, and opportunities for improvement in applying the learning model. This learning experience not only improves participants' academic communication and logical argumentation skills but also deepens their metacognitive awareness, making the learning process more meaningful and sustainable. Following the completion of the intensive training, participants completed a post-test to evaluate the development of their final understanding of the Blegur Model training materials (see [Table 2](#)).

Program Evaluation

The evaluation of this training program aims to assess the extent to which the Integrated Learning Model training has improved participants' understanding, skills, and abilities in applying learning models that support the development of 21st-century competencies. The evaluation process was conducted through student oral presentations in the form of videos (uploaded to YouTube) and implemented in the pre-test and post-test stages. The evaluation focused on four core training materials, with questions designed to measure participants'

abilities in analysis, evaluation, comparison, and implementation (see Table 2). The results of these four open-ended questions are expected not only to provide an overview of the effectiveness of the current community service program but also to serve as a basis for planning and improving future community service programs.

Table 2. Question design for evaluating community service programs

No	Material	Questions	Expected impacts
1	Theoretical basis for developing the Integrated Learning Model	Analyze how the learning theories underlying the Integrated Learning Model differentiate it from conventional learning models and explain their implications for learning effectiveness.	Participants are expected to develop a deeper understanding of the philosophical and pedagogical foundations of the Integrated Learning Model, enabling them to critically select instructional strategies that are effective, contextual, and responsive to twenty-first-century learning needs.
2	The significance of the Integrated Learning Model in strengthening 21st-century competencies	Evaluate the extent to which the Integrated Learning Model can strengthen students' 21st-century skills, such as critical thinking, collaboration, and problem-solving, by providing examples of its application in real-life classroom contexts.	Participants are expected to understand the contribution of the Integrated Learning Model to strengthening students' twenty-first-century competencies, thereby fostering more active, collaborative, creative, and problem-based learning experiences relevant to contemporary educational demands.
3	Comparison of the Integrated Learning Model with other learning models	Compare the integrated learning model with other learning models (e.g., problem-based learning). Which model is more effective for developing 21st-century competencies, and why?	Participants are expected to conduct objective and argumentative comparative analyses of various instructional models, enabling them to determine the most appropriate approaches based on learning objectives, assessment models, students' needs, and instructional materials, thereby enhancing the effectiveness and adaptability of learning implementation.
4	Syntax and implementation of the Integrated Learning Model	Design an implementation strategy for the Integrated Learning Model for a specific topic and explain how each step of the syntax supports the optimal achievement of 21st-century competencies.	Participants are expected to systematically implement the syntax of the Integrated Learning Model, thereby developing practical readiness to apply innovative learning practices that optimally promote critical thinking, communication, collaboration, creativity, and problem-solving skills.

To assess participants' responses to the four questions above, the team used analytical thinking concepts and indicators, complemented by a detailed assessment rubric (see Table 3). The first is differentiating, which is the ability to distinguish important/relevant parts from less important or irrelevant parts. The second is organizing, which is the ability to determine how elements are interrelated or function within a structure. The third is attributing, which is the ability to determine the perspective, bias, value, or intent underlying the material presented (Anderson et al., 2001; Blegur et al., 2023; Blegur, Rajagukguk, et al., 2023; Blegur, Yustiana, et al., 2023).

Before implementation, the instrument and scoring rubric underwent content validation by experts in instructional models and educational evaluation to ensure the alignment of the indicators with the training objectives. The rubric was also subjected to a limited readability

test to ensure clarity of score descriptions and consistency of interpretation among raters. Video presentations were assessed by two independent raters who had previously received training in the use of the analytic rubric. Subsequently, inter-rater reliability was examined through the level of score agreement prior to data analysis.

Table 3. Analytical assessment rubric (Integrated Learning Model)

No	Questions	Assessment scale			
		Very low	Low	Moderate	High
1	Analyze how the learning theories underlying the Integrated Learning Model...	Does not identify a relevant theory, makes no comparison with conventional models, and has no learning implications.	Mentions several theories, but their relationship to the model is unclear; comparisons and implications are very limited.	Identifies relevant theories and demonstrates differences from conventional models; explains their implications in general terms.	Critical and comprehensive theoretical analysis; differences from conventional models are clear and systematic; learning implications are analyzed in depth.
2	Evaluate the extent to which the Integrated Learning Model...	Does not identify 21st-century skills; evaluation is unclear; no examples.	Identifies some 21st-century skills; evaluation is limited; examples are lacking relevance.	Identifies some 21st-century skills; evaluation is quite logical; examples are limited.	Comprehensive evaluation of the model's contribution to 21st-century skills; strong arguments with contextual examples.
3	Compare the Integrated Learning Model with other learning models...	No clear comparisons; model characteristics are not explained.	Comparisons are very limited; only a few characteristics are mentioned; the rationale is unclear.	Comparisons are clear; some characteristics are distinguished; the rationale is quite logical.	Critical and systematic comparison; characteristics are thoroughly analyzed with strong arguments.
4	Design an implementation strategy for the Integrated Learning Model for a specific topic...	Strategy is unstructured, syntax is inappropriate/not explained, and it is not related to 21st-century competencies.	The strategy is poorly structured; only part of the syntax is explained; the link to 21st-century competencies is weak.	The strategy is fairly structured; most of the syntax is relevant; and relationships to 21st-century competencies are generally explained.	The strategy is highly structured; the syntax throughout is clear and relevant; it demonstrates strong support for 21st-century competencies.

The data analysis in this study aimed to determine differences in participants' abilities before and after participation in the Integrated Learning Model (Blegur Model) training program. The first stage began by collecting pre-test and post-test scores from four analytical essay questions designed to measure participants' conceptual understanding and application skills of the learning model. Scores were then presented as mean values and standard deviations to provide an overview of the participants' ability levels at both measurement times. Next, to test whether there was a significant difference between the pre-test and post-test scores, the Wilcoxon signed-rank test was used. This test was chosen because the data consisted of two paired measurements on the same sample and did not assume normality.

RESULT AND DISCUSSION

Lectures and Discussions

1. Theoretical basis for developing the Integrated Learning Model

a. Constructivist learning theory

The first facilitator, Zuvyati Aryani Tlonaen, presented and discussed material entitled "Exploring Integrated Learning Models" (see [Figure 2](#)). Blegur's model is developed based on a constructivist paradigm that defines learning as an active process of constructing knowledge through empirical experience and critical reflection ([Blegur, Ma'mun, Berliana, & Mahendra, 2024](#); [Chuang, 2021](#); [Jemberie, 2021](#)). Based on this theoretical framework, its implementation positions students as epistemic subjects who consciously construct meaning, rather than as passive recipients of information. In practice, students engage in collaborative and reflective activities that require dialogue, meaning negotiation, and evaluation of learning experiences. This process enables them to process, interpret, and internalize knowledge through authentic social interactions and contexts. Conceptually and operationally, this approach produces learning that is contextual, relevant, and responsive to student needs, while also confirming the consistency of the Blegur Model with the constructivist principles of direct experience, active participation, and the formation of deep and sustainable understanding.



Figure 2. Zuvyati Aryani Tlonaen while presenting and discussing the material

b. Transformative learning theory

Transformational learning theory also serves as the theoretical foundation for developing the Blegur Model because it places the transformation of the mindset as the primary goal of the higher education process. Based on the assumption that students are adult learners who bring a structured set of experiences, including associations, concepts, values, emotions, and responses formed through conditioning processes, which collectively form a frame of reference for interpreting reality ([Mezirow, 1997](#)), this model first acknowledges the existence of this initial perspective before systematic pedagogical interventions are implemented. Furthermore, through the stimulation of instrumental, dialogic, and reflective experiences ([Kitchenham, 2008](#)), students are encouraged not only to understand how, when, and why to learn, but also to test assumptions previously taken for granted. Gradually, this process leads students to critically evaluate the information obtained, reconstruct perspectives, and develop more analytical, open, and adaptive attitudes. Thus, the learning that occurs not only produces cognitive understanding but also has a

transformative impact on students' character development, leadership capacity, and personal integrity.

c. Goal-setting theory

Blegur's model was also developed based on goal-setting theory, which emphasizes the importance of clear objectives, commitment, and structured implementation to foster motivation and achieve learning outcomes (Locke & Latham, 1990, 2002). With a clear goal orientation, students are encouraged to develop future skills, be analytical about change, and take responsibility for their learning. Each learning experience is designed to be functional, measurable, and results-oriented while optimizing collective potential for shared progress. Goal setting also makes students more disciplined in completing assignments on time, more selective in using clear learning designs, and better able to use rubrics and feedback to improve performance (Blegur et al., 2021). Furthermore, this theory explains that goal clarity, supported by the fulfillment of psychological needs, such as autonomy, competence, and relationships, plays a crucial role in shaping adaptive, independent, and sustainable learning behavior.

2. The significance of the Integrated Learning Model in strengthening students' 21st-century competencies

The Integrated Learning Model, or Blegur Model, plays a strategic role in strengthening students' 21st-century competencies by systematically combining active, collaborative, and reflective learning approaches. In this instructional design, students are no longer passive recipients of information but rather learners directly involved in the knowledge-construction process. The Blegur Model encourages the development of higher-order thinking skills through learning experiences that require critical analysis, evaluation of various problem-solving alternatives, and synthesis of information both individually and in groups. Thus, the learning process does not stop at conceptual mastery but continues to develop applicative, critical, and contextual skills relevant to real-life dynamics.

In addition to strengthening cognitive aspects, the Blegur Model also contributes significantly to the development of students' social, emotional, and future-oriented competencies. Through structured collaborative activities, students are trained to communicate effectively, work in teams, and demonstrate adaptive and transformational leadership. Simultaneously, this model fosters metacognitive awareness, self-reflection, and readiness to adapt to global change and complexity. With this comprehensive approach, the Blegur Model not only transfers knowledge but also transforms character, integrity, and lifelong learning capacity so that students are ready to compete and contribute meaningfully in a dynamic and complex global era.

3. Comparison of Integrated Learning Model with other learning models

The second facilitator, Jusuf Blegur, presented and discussed the material entitled "Implementation of Integrated Learning Models," beginning with a comparative analysis of the Blegur Model with other learning models (see Figure 4). The three learning models being compared, the Blegur Model, Problem-based Learning (PBL), and Project-based Learning (PjBL), are all based on the student-centered learning paradigm (see Table 4), which positions students as active subjects in constructing knowledge through direct involvement in the learning process. Referring to Dolmans's ideas cited by Wijnia et al. (2024), student-centered and problem-based learning pedagogy is based on four main principles: contextual, constructive, collaborative, and independent. The contextual principle emphasizes that learning must take place in authentic situations and be relevant

to students' real-life and professional contexts so that the material is understood abstractly rather than meaningfully and is applicable.

Furthermore, the constructive principle emphasizes that students actively construct knowledge by drawing on their experiences and prior knowledge and by integrating various learning models, sources, and media. At the same time, the lecturer serves as a facilitator of the process. The collaborative principle emphasizes the importance of student interaction and group cooperation in analyzing and solving problems, fostering the exchange of ideas, and enriching perspectives. Meanwhile, the independent principle requires students to take responsibility for their learning process and outcomes, including managing learning strategies, overcoming obstacles, and reflecting to improve learning effectiveness and efficiency. These four principles serve as the conceptual foundation for explaining the paradigm similarities among the three models, although each has distinct implementation characteristics.

The Blegur Model demonstrates fundamental conceptual differences compared to problem-based learning (PBL), although both are based on a student-centered learning paradigm. Chronologically, the Blegur Model begins with a learning design that integrates a comprehensive, active, collaborative, reflective, and goal-oriented approach, focusing on developing 21st-century competencies within a single, integrated system. This framework goes beyond problem-solving but explicitly targets the development of higher-order thinking skills, particularly analytical abilities, as the primary foundation of cognitive processes. The emphasis on objectives and analysis is crucial, as the quality of problem identification, the accuracy of data interpretation, and the relevance of solutions are largely determined by the depth of students' analytical processes in relation to established objectives, while simultaneously positioning the problem as a stepping stone toward achieving those objectives. Therefore, without systematic and critical objectives and analysis, the problem-solving process risks being superficial, biased, or out of context for the complexity of the situation at hand.

In contrast, PBL starts with presenting authentic problems as learning triggers, in which all students independently identify information needs, explore sources, and formulate solutions, with the lecturer acting as a facilitator (Camp et al., 2014; Hidayatullah & Setiawan, 2024). This approach effectively fosters independence and critical thinking skills, but its focus is relatively narrow, focusing on solving specific problems. The Blegur Model ensures that the process of analysis, reflection on problem-solving, and value integration occurs in a structured manner under more strategic lecturer facilitation and guidance. Its orientation is holistic, encompassing cognitive, affective, and social dimensions, as well as transformational leadership. Therefore, compared to PBL, the Blegur Model offers a progressive and comprehensive framework because it not only pursues solutions but also builds analytical capacity as a key prerequisite for successful problem-solving and strengthening 21st-century competencies.

Project-based learning (PjBL) is implemented through systematic, product-oriented stages. This process begins with preparing a project description, materials, and the conditioning of the learning environment (Guo et al., 2020; Hidayatullah & Setiawan, 2024). Next, students identify relevant problems, develop a work plan, and conduct observations to collect data and analyze it. These findings and analyses form the basis for designing and developing a prototype, which is then reviewed, evaluated, and revised based on peer and lecturer feedback before being presented for final evaluation. Conceptually, this approach emphasizes learning through the creation of a tangible product. However, the depth and quality of the analysis depend heavily on thorough project planning; without comprehensive analysis, the project risks becoming merely a technical exercise that does not substantively address the problem's root causes.

The Integrated Learning Model (Blegur Model) also incorporates a problem-solving process, but it is embedded within a more holistic and reflective framework that uses credible assessment instruments. Chronologically, learning begins with strengthening conceptual analysis, formulating integrated objectives, and analyzing performance assessment indicators so that students' progress to the problem-solving stage based on measurable indicators. The analysis process serves not only as a preliminary step but also as a foundation for all activities, including transformational reflection and evaluation. Unlike product-oriented PjBL, the Blegur model emphasizes integrating analysis, collaboration, character, and leadership. This approach argues that quality solutions or work can only be produced through an in-depth analytical process, ensuring that problem-solving is not merely procedural but transformative and iterative.

Ultimately, conceptually, all three learning models are rooted in active, problem-based learning. The differences lie in the breadth of the framework and the orientation of the final goal. Problem-based learning (PBL) emphasizes in-depth analysis and independent learning, while PjBL emphasizes project management and the creation of tangible products. Unlike both, the Blegur model integrates both approaches while adding a motivational dimension through competition and reward mechanisms to strengthen student competency transformation. A critical analysis shows that the Blegur Model has the most comprehensive learning syntax because it not only facilitates analysis and problem-solving but also addresses motivational aspects, character development, and leadership development. However, it should be emphasized that the choice of learning model must be tailored to the learning objectives. Hence, the selectivity of lecturers and students in determining the most relevant learning model to support the development of 21st-century competencies is crucial.

Table 4. Comparison of the Blegur, PBL, and PjBL models

Syntax	Blegur Model (Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024)	Problem-based Learning Model (Camp et al., 2014)	Project-based Learning Model (Novalia et al., 2025)
First	Orientation	Clarifying unfamiliar terms	Defining basic question
Second	Distribution	Problem definition	Designing project planning
Third	Experimental	Brainstorm	Scheduling
Fourth	Presentation	Analyzing the problem	Monitoring and evaluating the progress of project
Fifth	Analysis	Formulating learn goals	Testing the evaluation
Sixth	Problem Solving	Self-study	
Seventh	Competition	Reporting	
Eighth	Awards		

4. Syntax and implementation of the Integrated Learning Model

The Integrated Learning Model develops students' skills and knowledge through eight systematic phases: the orientation phase, where students observe and analyze learning objectives, followed by the distribution phase, which involves dividing groups into clear roles, and the experimentation phase, which involves trying out roles using departmental and holistic methods. The next phase is the presentation phase, during which students present their assessment results and provide clarification. It is followed by the analysis phase, which evaluates problems and their causes, and the problem-solving phase, which requires students to resolve issues and formulate follow-up actions. The competition phase serves as an evaluation of student performance, and the cycle concludes with the awards phase, which recognizes achievement and encourages reflection (see [Figure 3](#)).

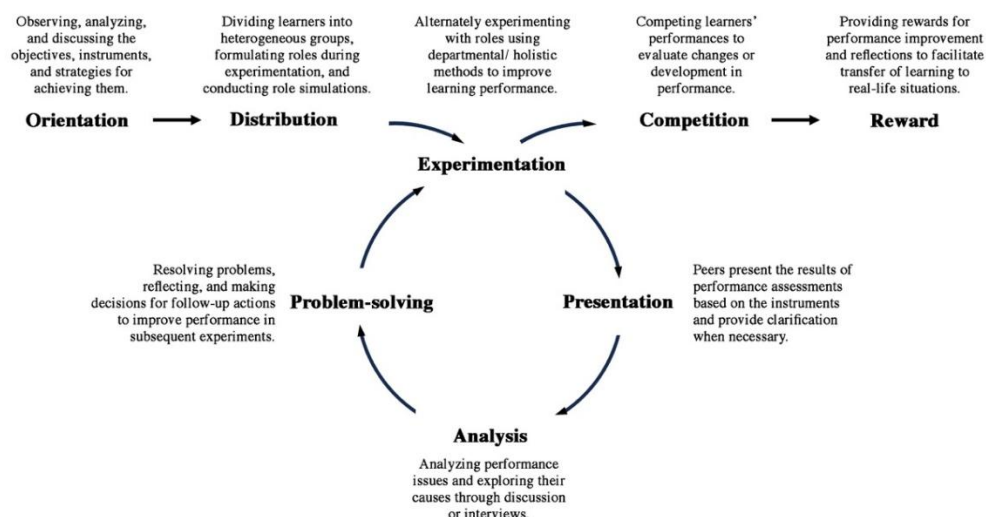


Figure 3. Syntax cycle of the Integrated Learning Model (Blegur Model)

This cyclical learning trajectory significantly and exponentially trains students' cognitive, psychological, and social skills in the contemporary era, helping them in their future professional lives. However, the most essential highlight in improving the quality of lecturer-student learning is that, through these eight syntaxes (which lecturers implement), students can also analyze, critique, and even rationally justify their own syntaxes to support the comprehensive and longitudinal development of their 21st-century competencies.

One crucial aspect of learning is student active engagement in class (Heilporn et al., 2024). Therefore, at the beginning of the integrated learning model, lecturers orient their students to clear (semester) learning objectives while simultaneously rationalizing their significance for their real-life and professional career development. The formulation of learning objectives uses high-level, specific action verbs that describe expected performance and implementation steps, avoiding confusing instructions for students. Furthermore, lecturers develop valid and consistent assessment instruments to measure student progress and performance against the formulated learning objectives, followed by the establishment of appropriate learning strategies and models to ensure the achievement of the expected performance. The synergy between objectives, instruments, and learning models aligns lecturers and students in the learning process, increasing learning engagement and fostering progressive learning interactions. With the right model, students can learn more productively and deeply (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). When students successfully identify clear goals, appropriate instruments, and a systematic learning model, they are encouraged to engage fully and proactively in learning.

Second, distribution. At this stage, students are divided into small, heterogeneous groups, with roles taken into account throughout the learning process, allowing each member to broaden their learning experience through role rotation. These roles include peer reviewers with integrity, transformational leaders, discussion facilitators, or liaisons between students and faculty in analysis and problem-solving. A clear role definition encourages active engagement and collective learning (Adesina et al., 2023), thereby improving academic performance, critical thinking, self-confidence, and clinical decision-making (Eskiyurt & Özkan, 2024). This distribution provides opportunities for students to learn from each other, transfer and transform knowledge and skills, and foster commitment to supporting the development of their own and their peers' competencies. Through communication, negotiation, and problem-solving, students develop social and cognitive skills. To avoid the

dominance of certain roles, rotation is carried out at each meeting so that all members gain different experiences and strengthen group commitment (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). Again, the focus of this stage ensures inclusiveness of competencies, gender, and culture, as well as students' understanding of each role and its implementation during learning.

Third, experimentation. At this stage, students take turns playing different roles using departmental and/or holistic methods, allowing them to try out different perspectives, deepen their understanding, and develop their skills holistically (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). An effective learning experience, according to Rink (2014), should enhance performance, provide maximum practice time, be appropriate to the students' ability levels, and integrate psychomotor, affective, and cognitive objectives. Using holistic methods, students learn through training on subtasks before undertaking the overall task. This experience helps them develop an understanding of the content at various levels of performance. In addition, students also play roles such as peer reviewers, coordinators, teachers, and participants. Peer reviewers are responsible for practicing analytical thinking and academic integrity by assessing their peers using established instruments. This experience supports the development of transformational leadership, analysis, and academic integrity, given that academic integrity is a critical issue in universities. By integrating these experiences, students can develop skills and analytical thinking and lead with integrity through role-playing and confrontational yet constructive feedback.

Fourth, presentations. In this stage, students present the results of their peer performance assessments from the experimental phase using predetermined instruments and provide clarification when there are questions or objections from the observed students or members of the learning community. This experience aims to develop students' self-confidence, communication skills, and logical argumentation as observers. Furthermore, this familiarization also trains students to always be objective and responsible in making performance assessment decisions, without being influenced by personal closeness or even confrontational differences of opinion. Thus, they are expected to demonstrate a spirit of scientific and constructive collegiality by disclosing the strengths and weaknesses of their peers' performance based on the principles of fairness, transparency, and accountability (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). The presentation phase also teaches students to design effective written and oral presentations, which can support their future career success and prepare them for further academic careers (Tsang et al., 2017; Živković, 2014). Students acting as peer assessors are expected to present their assessment results in an integrated manner, with integrity, and provide necessary clarifications in a professional manner (Blegur, Subarjah, et al., 2024).

Fifth, analysis. This stage is an investigative process into students' failure to meet performance indicators. Students analyze their peers' performance through interviews and instrument-based Focus Group Discussions (FGDs), using three main indicators: differentiating, organizing, and attributing. These three indicators help students identify skills that have not been optimized during learning or training (Anderson et al., 2001; Blegur, Ma'mun, et al., 2023; Blegur, Rajagukguk, et al., 2023; Blegur, Yustiana, et al., 2023). Students differentiate the data that is the focus of the analysis, organize it to assess its relevance and contribution to performance, and attribute it to understand others' meanings and perspectives comprehensively. This analytical process helps students build a logical thinking structure, making problem-solving simpler, faster, and more accurate. In addition, students and lecturers map skill mastery from the easiest to the most challenging so that the solutions provided are more focused and systematic. Because this stage is diagnostic-oriented, exploring the causes and impacts of negligence during practice, including

psychosocial aspects, is crucial for collecting objective and comprehensive data (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024).

Sixth, problem-solving. In this stage, students seek solutions, reflect on their benefits, and determine follow-up actions based on the analysis. This stage emphasizes reflective learning and evidence-based decision-making skills (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). In the problem-solving process, students use rationality to analyze and plan solutions, critically evaluate solutions, generate or evaluate alternatives, prioritize, and review alternatives (Facione, 2013; Ventura-León et al., 2025). Students systematically identify goals and available alternatives, explore and process relevant information, utilize decision radar as a basis for consideration, take initiative in making choices, and continuously make improvements to enhance the quality of the resulting decisions (Blegur, et al., 2025; Siebert et al., 2021, 2023). Ensure comprehensive, clinically relevant solutions that can be tested to improve performance during subsequent exercises. The lecturer serves as a facilitator and mentor, clarifying solutions, guiding skill development, and addressing student performance issues.

Seventh, competitions. At this stage, students compete through healthy, motivating competitions. Competitions serve as evaluation tools to assess students' development and to encourage them to continuously improve the quality of their learning and performance. Through competitions, students can develop scientific literacy, active learning, critical thinking, and collaborative communication (Ruan et al., 2025). Furthermore, competitions allow students to compare their preparation and progress with their peers, thus gaining broader insights into their own and their peers' achievements. Competitions also provide opportunities for lecturers to assess improvements in student performance and the success of collaboration and peer evaluation (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). Competitions can be held in various formats, both offline and online, so students can record and upload their practice for evaluation. Furthermore, this process fosters academic integrity and prepares students for the ever-evolving, competitive world of education. By participating in competitions, students are encouraged to improve their skills, creativity, and innovation, while strengthening their self-confidence and self-esteem related to their performance achievements.

The last is rewards. Reward systems have both positive and negative impacts on individual development. Positive impacts include increased interest and motivation to learn, the formation of good study habits, and the creation of a positive learning atmosphere. While negative risks include the development of addiction, increased sensitivity to punishment, and decreased intrinsic motivation (Blegur, Ma'mun, Berliana, & Mahendra, 2024; Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024). Therefore, lecturers need to maximize the benefits of reward systems while minimizing the disadvantages so that learning orientation is maintained, as a history of rewards is significantly related to motivational orientation and student performance. At this stage, students who have successfully improved their performance are given awards while reflecting on the transfer of learning. Awards are given as a form of appreciation for students' efforts and performance achievements, for example, through certificates, academic books, or other forms, without forcing learning. This stage emphasizes appreciation, motivation, resilience, and the strengthening of learning experiences that can be applied to other real-life situations (Fatima et al., 2025; Zainoodin et al., 2021), enabling learning strategies and behaviors to be applied not only in the classroom but also in academic and non-academic contexts. Therefore, the award is given for cumulative performance improvement at the end of the course, based on class consensus.



Figure 4. Jusuf Blegur when presenting and discussing the material

Integrated Learning Model Implementation Practice (Blegur Model)

This session is designed to train students to systematically implement the Blegur Model, deepening their conceptual understanding and practical experience. The activity begins with an orientation phase, during which the facilitator distributes Semester Learning Plans (SLP) equipped with performance assessment instruments and an integrated learning model for one of the courses under analysis. Students then identify and evaluate the relationship between learning objectives, government-set graduate competency standards, and 21st-century competency demands. This analysis includes examining the alignment of objectives with students' professional and social capacity development. Next, participants review the performance assessment instruments designed by the lecturer, assessing their validity, reliability, and functionality within the assessment context, including diagnostic, formative, and summative assessments, as well as self-assessment, peer assessment, and lecturer assessment. The next phase emphasizes evaluating the coherence between objectives, assessment instruments, learning strategies, and material content. Students assess whether the learning strategies or models used are logically and pedagogically sound and support the achievement of the formulated objectives. Thus, all learning components are analyzed holistically to ensure the consistency, rationality, and depth of the learning experience created by the lecturer.

After students confirm the clarity of the learning objectives, performance assessment instruments, and alignment of strategies, models, and course materials, the facilitator divides them into heterogeneous groups to identify roles and conduct a simulation. Each group then simulates their assigned roles to ensure procedural understanding and effective implementation. This simulation phase aims to minimize time spent on non-essential aspects, allowing the lecture process to focus on academic substance during the performance experimentation phase, which is the primary focus of the course objectives. Next, the groups enter the presentation phase, reporting on each member's performance development based on the agreed-upon assessment instruments. Through peer assessment mechanisms (and lecturer assessments), students obtain diagnostic data to identify performance strengths and weaknesses objectively. This data is analyzed to identify the underlying causes of problems, then serves as the basis for follow-up, reflective problem-solving, and decision-making for improvements at the next meeting. This cycle continues until the end of the semester, culminating in a competition and awards presentation, for example, at meetings 14 and 16. Throughout the Blegur Model simulation series, the facilitator maintains objectivity and

accuracy in implementing each stage of the model to ensure consistency with its conceptual design.

Presentation and Reflection

After completing the entire series of Integrated Learning Model (Blegur Model) implementation exercises, each group presented the results of their systematic analysis and simulations to the facilitator and other participants (see [Figure 5](#)). This presentation not only outlined the implementation procedures but also explained the rationale for decision-making at each stage, from analyzing the relationship between learning objectives and graduate competency standards and 21st-century competencies to evaluating the coherence between performance assessment instruments, strategies, models, and course materials. Students presented evidence of their findings by identifying the strengths and weaknesses of the Blegur Model implementation, assessing its effectiveness, and analyzing the mechanisms for presentation, analysis, problem-solving, competitions, and awarding. This presentation forum fostered conceptual clarification as other participants raised critical questions, offered constructive feedback, and compared the approaches of each group, creating a deep and focused academic dialogue.



Figure 5. One of the participants during a presentation and reflection

The activity continued with a structured reflection to confirm participants' understanding of the Blegur Model's comprehensive implementation. Reflection was conducted through an analysis of learning experiences, identification of challenges that emerged during the simulation, and a review of the alignment between planning and implementation. Students evaluated their ability to maintain consistency across objectives, strategies, assessments, and content despite group dynamics and time constraints. This reflective process also encouraged participants to develop a more mature conceptual understanding of the essence of integrating learning components as a systemic whole. With the guidance of a facilitator, the reflection results were synthesized into a shared conclusion on the key principles of the Blegur model so that participants understood not only the procedural steps but also the theoretical and pedagogical foundations underlying each stage of its implementation comprehensively and sustainably.

Training Program Evaluation

The Integrated Learning Model (Blegur Model) training has been shown to significantly improve students' understanding and skills in implementing learning models that support 21st-century competencies. Wilcoxon signed-rank analysis showed an increase in scores from pre-test to post-test across all evaluation aspects, including understanding of the Blegur Model learning theory, the ability to strengthen 21st-century skills, the ability to compare learning models, and the ability to design implementation strategies. The total score increased from 1.40 ± 0.53 to 2.71 ± 0.72 ($Z = -3.395$; $p = 0.001$; $r = 0.94$), confirming the training's effectiveness as an innovative strategy in supporting 21st-century learning (see Table 5).

These findings indicate that the training approach, which included lectures, discussions, implementation exercises, presentations, and reflections, not only improved conceptual understanding but also strengthened students' practical skills in systematically designing and implementing the Blegur Model. These results provide a strong foundation for further development of training and community service programs, confirming that the Blegur Model can be an innovative strategy for strengthening students' pedagogical competencies and supporting the implementation of learning relevant to 21st-century demands.

Table 5. Evaluation of training programs

No	Questions	Description		Wilcoxon signed-rank		
		Pre-test	Post-test	Z (n=13)	p-value	Effect size
1	Analyze how the learning theories underlying the Integrated Learning Model...	1.69 ± 0.48	3.00 ± 0.71	-3.314 ^a	<0.001	0.92
2	Evaluate the extent to which the Integrated Learning Model...	1.54 ± 0.66	2.92 ± 0.76	-3.286 ^a	0.001	0.91
3	Compare the Integrated Learning Model with other learning models...	1.23 ± 0.44	2.54 ± 0.78	-3.153 ^a	0.002	0.87
4	Design an implementation strategy for the Integrated Learning Model for a specific topic...	1.15 ± 0.48	2.38 ± 0.51	-3.358 ^a	<0.001	0.93
Total		1.40 ± 0.53	2.71 ± 0.72	-3.395 ^a	0.001	0.94

a. Based on negative ranks.

DISCUSSION

This community service program demonstrates that the Integrated Learning Model (Blegur Model) has a strong theoretical foundation, integrating constructivism, transformational learning, and goal-setting theory into a single, systematic pedagogical framework. The integration of these three perspectives provides conceptual legitimacy to a learning design that is not only oriented towards knowledge acquisition but also towards developing students' analytical and reflective thinking. The constructivist approach is clearly evident through the placement of students as learning subjects who actively construct knowledge through empirical experience, academic dialogue, and their own critical reflection (Do et al., 2023; Gogus, 2012; Jemberie, 2021; Nurhuda et al., 2023). Meanwhile, transformational learning theory broadens the learning orientation towards changing students' mindsets through a process of critical evaluation of previously unreflectively accepted assumptions (Mezirow, 1997, 2018). On the other hand, goal-setting theory provides an important motivational dimension by encouraging students to understand the direction, standards, and expected performance indicators clearly in the learning process (Locke & Latham, 1990, 1991, 2006). However, it is critical to note that the conceptual strength of this model still requires more systematic empirical evidence to demonstrate a direct relationship between integrating this theory and measurable, consistent improvements in student learning outcomes.

In addition to its comprehensive theoretical foundation, this community service program demonstrates the Blegur Model's significant potential to foster students' 21st-century competencies. Through active, collaborative, and reflective learning designs, students are encouraged to develop higher-order thinking skills such as analysis, evaluation, and synthesis of information for problem-solving in contextual learning situations (Blegur, Ma'mun, Berliana, Mahendra, Alif, et al., 2024; Blegur, Ma'mun, Berliana, Mahendra, Bakhri, et al., 2024). Activities such as peer assessment, group discussions, and performance analysis provide students with opportunities to practice critical thinking skills while enhancing metacognitive awareness and academic integrity in their learning process. Furthermore, the distribution of roles within groups fosters the development of social skills, academic communication, and collaborative leadership, all of which are essential in the professional world. This model also strengthens the integration of cognitive, social, and affective dimensions in the learning process, resulting in a more holistic learning experience. Although research has demonstrated the significant impact of the Integrated Learning Model on improving analytical thinking, academic integrity, transformational leadership (Blegur, Ma'mun, Berliana, Mahendra, Bakhri, et al., 2024), and higher-order thinking skills (Hardiansyah et al., 2025), further testing is needed to confirm the strengthening of 21st-century competencies, such as lateral thinking, problem-solving, and other skills based on empirical testing.

Compared with other learning models, the Blegur Model occupies a relatively new and unique position by integrating the advantages of problem-based learning and project-based learning within a broader learning framework. Problem-based learning emphasizes the problem-solving process as a learning trigger (Hidayatullah & Setiawan, 2024; Wijnia et al., 2024), while PjBL emphasizes product or project development as a learning outcome (Guo et al., 2020; Novalia et al., 2025). The Blegur Model enriches both approaches by emphasizing goal analysis, critical reflection, and value integration as essential components of the learning process. With its eight systematic (and cyclical) syntaxes, this model not only encourages students to solve problems and develop learning products but also builds analytical capacity and transformational leadership. These advantages demonstrate the Blegur Model's potential as a comprehensive pedagogical framework for developing student competencies. However, the relatively complex syntax can also pose implementation challenges, particularly in lectures with limited time or large student numbers. Therefore, the success of this model depends heavily on the lecturer's ability to manage learning dynamics effectively throughout the semester.

The implementation of the Blegur Model training within the community service program demonstrates a fairly systematic training approach, as participants not only learn the model's concepts but also analyze learning materials (such as lesson plans), engage in role-playing simulations, present results, and engage in collective reflection. This process enables students to understand better the relationships among learning objectives, learning strategies, and assessment instruments. Simulation activities and group discussions provide hands-on experience in implementing each model's syntax, ensuring that participants' understanding extends beyond the theoretical aspects and develops through practice and reflection on the learning experience. Furthermore, the presentation and feedback forums between groups create a space for academic dialogue, allowing for conceptual clarification and a constructive exchange of perspectives. However, the effectiveness of this training still needs to be supported by a more systematic evaluation of the program's impact on participant competency (e.g., for training durations exceeding one day), given that none of the four assessment indicators has a mean score above 3.00 (see Table 5). The use of evaluation designs, such as pre- and post-tests or performance analysis before and after the training,

could provide a clearer picture of the community service program's contribution to the tangible, sustainable improvement of participants' pedagogical capacity.

This training has also been disseminated online by the team through the Victory News portal with the title: "*Pelatihan Model Pembelajaran Blegur, Tingkatkan Kepekaan Mahasiswa pada Strategi Mengajar Dosen*" (<https://www.victorynews.id/kupang/33116825789/pelatihan-model-pembelajaran-blegur-tingkatkan-kepekaan-mahasiswa-pada-strategi-mengajar-dosen>).

CONCLUSION

Overall, this community service program demonstrates that the Integrated Learning Model (Blegur Model) has strong pedagogical potential for strengthening students' 21st-century competencies by integrating constructivist, transformational, and goal-oriented approaches within a systematic learning framework. This model not only positions students as active subjects in the knowledge-construction process but also encourages the development of analytical thinking skills, integrity, collaboration, and transformative academic leadership through a structured, cyclical learning syntax (especially during the experimentation-problem-solving phase). Implementation exercises conducted in the community service program demonstrate that students can better understand the relationships among learning objectives, assessment instruments, and learning strategies and/or models through analysis, simulation, and reflection activities.

Nevertheless, greater emphasis on empirical evaluation remains necessary to more objectively measure the effectiveness of the model in improving students' competencies. Furthermore, the use of a one-group pre-test-post-test design is unable to adequately control several threats to internal validity, including practice effects, participant maturation, and external experiences occurring outside the training context. Consequently, the improvements observed cannot be exclusively attributed to the effectiveness of the Integrated Learning Model (Blegur Model) training. Therefore, the findings of this community service program should be interpreted and generalized with caution. Accordingly, further training development employing more rigorous evaluation designs, such as the inclusion of control groups, broader sample coverage, and implementation across diverse learning contexts, is necessary to more comprehensively examine the effectiveness and sustainability of the Blegur Model implementation in higher education institutions.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

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