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Interdisciplinary collaboration: Addressing global challenges through innovative learning strategies

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ABSTRACT

In this era of globalization, students in Indonesia face increasingly complex challenges in understanding, addressing, and contributing to global issues. However, the existing curriculum must often provide adequate perspectives and skills to tackle these global problems. Therefore, this research aims to provide students with a holistic, practical, and relevant learning experience to address global challenges through a Team-Based Project strategy that integrates compulsory courses in higher education with a global citizenship education approach. Cross-curricular collaboration helps students see the interconnectedness of various disciplines, essential in addressing complex global issues. Survey results indicate a variation of views among student groups regarding their understanding of global issues. This innovative learning strategy utilizes principles of behaviorist theory, such as stimulus-response, positive reinforcement, and social interaction, to create an engaging, relevant, and responsive learning environment tailored to students' needs. Through involvement in joint projects focused on global issues, students are stimulated to contribute and take concrete actions in seeking solutions and bringing about positive change on a larger scale. Thus, this learning strategy is expected to enhance students' understanding, skills, and commitment to addressing global challenges in the contemporary era.

ABSTRAK

Dalam era globalisasi ini, mahasiswa di Indonesia dihadapkan pada tantangan yang semakin kompleks dalam memahami, menghadapi, dan berkontribusi terhadap isu-isu global. Namun, mata kuliah yang ada seringkali tidak mampu memberikan perspektif dan keterampilan yang memadai dalam mengatasi masalah global. Oleh karena itu, penelitian ini bertujuan untuk membuat mahasiswa untuk memberikan pengalaman belajar yang holistik, praktis, dan relevan dalam menghadapi tantangan global dengan strategi pembelajaran Team-Based Project yang menggabungkan mata kuliah wajib kurikulum di Perguruan Tinggi melalui pendekatan pendidikan kewarganegaraan global. Kolaborasi lintas mata kuliah membantu mahasiswa melihat keterkaitan antar disiplin ilmu, yang esensial dalam menghadapi masalah global yang kompleks. Hasil survei menunjukkan variasi pandangan dalam kelompok mahasiswa terkait pemahaman mereka tentang isu-isu global. Strategi pembelajaran inovatif ini memanfaatkan prinsip-prinsip teori behavioristik, seperti stimulus-respons, penguatan positif, dan interaksi sosial, untuk menciptakan lingkungan pembelajaran yang menarik, relevan, dan responsif terhadap kebutuhan mahasiswa. Melalui keterlibatan dalam proyek bersama yang berfokus pada isu-isu global, mahasiswa distimulus untuk memberikan kontribusi dan aksi nyata dalam mencari solusi dan membawa perubahan positif dalam skala yang lebih besar. Dengan demikian, strategi pembelajaran ini diharapkan dapat meningkatkan pemahaman, keterampilan, dan komitmen mahasiswa terhadap tantangan global di era kontemporer.

Kata Kunci: *mata kuliah wajib kurikulum; pembelajaran proyek; pendidikan kewarganegaraan global; strategi pembelajaran.*

INTRODUCTION

In the current era of globalization, Indonesian students face increasingly complex challenges in understanding, addressing, and contributing to global issues (Muliadi & Nasri, 2023; Ammar, 2023). However, courses like Pancasila Education, Civic Education, Indonesian Language Education, and Religious Education hold significant intrinsic value (Fuadin & Fauziya, 2022). Unfortunately, these curricula often lack the perspectives and skills to tackle global problems. This highlights the necessity to develop effective learning strategies that integrate general courses (Hidayah et al., 2019; Halimi, 2022) with a Global Citizenship Education approach, aiming to enhance students' understanding, skills, and commitment to contemporary global challenges (Bahrudin, 2020).

Integrating interdisciplinary collaboration in higher education is increasingly recognized as a crucial strategy to address global challenges through innovative learning strategies. The literature indicates that combining compulsory courses with interdisciplinary approaches can enhance students' understanding of and engagement with complex global issues. The importance of behavioral communication strategies in public health education emphasizes that innovative models can facilitate multidirectional learning among students and professionals, thereby fostering a global learning environment. This model underscores the need to integrate diverse perspectives and expertise to address pressing global health challenges (Dickey et al., 2020). The concept of interdisciplinary collaboration can improve the quality of information and activate students in the educational process to obtain more effective learning outcomes. Their findings suggest that interdisciplinary approaches can stimulate student interest and engagement, which is crucial for addressing the multifaceted nature of global challenges (Stanke et al., 2019). The success of a student-centered learning approach by combining advanced technology and curriculum design aligned with 21st-century skills can prepare students to navigate the complexities of the global landscape (Syahriani et al., 2023). This indicates that innovative educational strategies must be adaptable and responsive to the demands of a globalized world.

There is a need for innovative strategies in higher education that present an Education 4.0 framework to promote sustainable entrepreneurship through transdisciplinary thinking. This framework highlights the importance of equipping students with the competencies necessary to respond to contemporary challenges, thereby strengthening the role of interdisciplinary collaboration in fostering innovative solutions (Torres-Sánchez, 2024). The potential of online global learning as a means to build public health capacity illustrates how collaborative learning environments can enhance the effectiveness of education in addressing global health disparities (Madhok et al., 2018). Therefore, existing literature affirms the significance of interdisciplinary collaboration in higher education to address global challenges through innovative learning strategies.

The United Nations Foundation has identified five major global issues that require urgent attention, including efforts to achieve Sustainable Development Goals, the escalation of the climate crisis, the long-term impacts of the COVID-19 pandemic, the provision of humanitarian aid due to armed conflicts and natural disasters, and the need to build a more inclusive international cooperation system (Paputungan, 2023; Mas et al., 2021). Meanwhile, in BPMI-Setwapres, the Vice President of the Republic of Indonesia has identified four other major global issues, namely the escalation of geopolitical tensions, the climate crisis, the use of artificial intelligence, and global population growth (link access: https://www.setneg.go.id/baca/index/di_hadapan_civitas_academica_unija_wapres_paparkan_empat_isu_global_yang_jadi_perhatian_dunia). All these issues demand careful reflection and policy formulation to address global challenges and achieve development targets. The global issues identified by the United Nations Foundation and the Vice President's Secretariat underscore the importance of higher education in enhancing understanding of these issues and making universities more effective in preparing students

to face global realities (Aji & Kartono, 2022). Through innovative curriculum approaches and applied research, universities can make significant contributions to solving these problems, and active engagement of academics and students in international discussions and projects is vital in strengthening global cooperation and promoting sustainable development.

Therefore, the solution proposed in this article is developing a Team-Based Project learning strategy that integrates general courses with a Global Citizenship Education approach. This approach provides a holistic, practical, and relevant learning experience for global challenges (Handayani et al., 2023; You, 2024). Cross-disciplinary collaboration within courses will help students understand the interconnectedness between fields, which is crucial in addressing complex global issues. Through collaborative projects focused on global issues, students can develop their global citizenship skills while making tangible contributions to solutions (Dewi, 2022; Susanti, 2024).

By integrating general courses into interdisciplinary projects focused on global issues, students are expected to understand better, appreciate, and actively participate in addressing global challenges in the contemporary era. This article has the potential to serve as a reference source in developing learning strategies and efforts to enhance the quality of higher education in Indonesia and prepare students to face an increasingly complex and global future.

LITERATURE REVIEW

Behaviorist Learning Theory

"Living is Learning," a simple phrase reflecting the idea that life is a learning process. This statement aligns with behaviorist theory, which emphasizes the influence of the environment and responses to stimuli in shaping individual behavior. This theory has its roots in the works of figures such as Ivan Pavlov, Edward Thorndike, and B.F. Skinner. In the early 20th century, Ivan Pavlov developed the theory of classical conditioning, which describes how reflex responses can be triggered by previously neutral stimuli (Shahbana & Satria, 2020). This approach highlights the importance of the relationship between stimuli and responses in learning (Amsari, 2018; Isnaini et al., 2023; Huda et al., 2023).

Edward Thorndike continued by formulating the "law of effect," which states that behavior followed by favorable consequences tends to be reinforced and reoccur, while behavior followed by negative consequences tends to diminish (Hermansyah, 2020; Amsari, 2018; Majid & Suyadi, 2020; Budiyanti et al., 2023). Khadijah, in "*Belajar dan Pembelajaran*" states that one of the most prominent figures in behaviorist theory is B.F. Skinner. Skinner introduced the concept of operant conditioning, emphasizing how the consequences of behavior, both positive reinforcement and punishment, can shape and modify an individual's behavior (Andriani & Wiranata, 2022). For Skinner, learning is a progressive process of behavioral adaptation (Jasmine et al., 2024; Pratama, 2019).

Learning is "a process of progressive behavior adaptation." This view highlights that learning is a process in which individuals progressively adapt through changes in their behavior as a response to stimuli and the consequences of that behavior (Yaqin, 2023; Febriyanti, 2023). The behaviorist learning theory emphasizes that behavior formation is seen as a result of learning. In the behaviorist learning theory with the stimulus-response model, learners are portrayed as passive individuals. Nurdyansyah and Fahyuni, in "*Inovasi Model Pembelajaran Sesuai Kurikulum 2013*" state that assertive learner behavior emerges when reinforcement is provided and diminishes when punishment is applied because all behaviors, whether beneficial or harmful, are learned behaviors.

So, within the framework of behaviorist theory, learning is the outcome of active responses to the environment, where stimuli and consequences play a crucial role in shaping and directing individual behavior. With his perspective, Skinner reinforces the idea that learning is a dynamic and continuous process that can be measured through observable changes in behavior.

Project-Based Learning Model

In "*Belajar dan Membelajarkan*" Bell states that most of these theories focus on manipulating the environment in ways that can engage students, such as capturing students' attention, studying the role of stimuli, or making learning materials meaningful or appealing. Project-based learning has advantages and disadvantages that must be considered (Abidin, 2020; Sulistyorini & Anistyasari, 2020). Although it can be related to behaviorist learning theory in some aspects, this model incorporates elements from various learning theories (Fitriyah et al., 2021).

Winataputra and Budimansyah in "*Pendidikan Kewarganegaraan Dalam Perspektif Internasional: Konteks, Teori dan Profil Pembelajaran*" state that implementing the "portfolio-based learning" model or the "whole-learner experiential learning-based model" and "portfolio-assisted assessment" or "comprehensive learner assessment" designed in a learning design that synergistically combines models such as "problem-solving, social inquiry, social involvement, cooperative learning, simulated hearing, deep dialogue and critical thinking, value clarification, and democratic teaching". Therefore, Budimansyah in "*PAKEM: Pembelajaran Aktif, Kreatif, Efektif, dan Menyenangkan*" this model has the potential to produce "powerful learning" that is pedagogically characterized by the principles of being "meaningful, integrative, value-based, challenging, activating, and joyful".

Dewey, in "*Democracy and Education, An Introduction to The Philosophy of Education*" says that project-based learning integrates substantive content or ideas to address issues with a scientific approach. This learning model selects generic content or ideas, particularly problems requiring public policy development. CCE in "*We the People: Project Citizen, Teacher's Guide*" explains that the product packaging includes a Showcase Portfolio and Documentation Portfolio packaged using a systematic approach: Problem Identification, Problem Selection for Class Study, Reviewing Alternative Policies to Address Public Policy Issues in Class, and Action Plans. Meanwhile, the Showcase activity is designed as a public opinion forum (simulated public hearing).

The theories outlined indicate that Project-Based Learning (PBL) is not solely rooted in a single learning theory approach but rather represents a comprehensive and holistic model. PBL integrates various elements from behaviorist, constructivist, and experiential learning theories, all aimed at creating learning experiences that are meaningful, integrative, value-based, and enjoyable. The implementation of this model is reinforced by portfolio-based assessments that enable a comprehensive evaluation of students' cognitive, affective, and social development. The synergy between learning methods such as problem-solving, inquiry, critical dialogue, and democratic teaching supports creating a challenging yet supportive learning environment, ultimately leading to effective learning relevant to the needs of students in the modern era.

METHODS

Creswell, in "*Designing and Conducting Mixed Methods Research*" states that the research was conducted using a mixed methods approach, which combines qualitative and quantitative elements to investigate the impact of the learning approach on students' understanding of global issues using the explanatory Sequential Design research design. This research design begins with collecting and analyzing quantitative data, followed by collecting and analyzing qualitative data. Cresswell and Clark, in "*Research Design:*

Qualitative, Quantitative, and Mixed Methods Approach" state that this approach is used to provide a deeper understanding of the research findings.

The quantitative approach involved a survey using a questionnaire administered to several students taking general courses such as Pancasila Education, Civic Education, Indonesian Language Education, and Religious Education at the Universitas Pendidikan Indonesia. The research sample consisted of 278 students. This study successfully collected quantitative data from 281 student respondents, meeting the sample criteria (Krejcie & Morgan, 1970). Meanwhile, the qualitative approach involved interviews with selected respondents, namely, lecturers or experts in Civic Education. Cresswell and Clark state that data from both approaches were analyzed separately and combined to provide a more comprehensive understanding of the research issues. The mixed methods approach was chosen because it offers more profound and comprehensive insights into the complexity of the relationship between the learning approach and students' understanding of global issues.

In this study, the Explanatory Sequential design research process began with collecting quantitative data through questionnaires administered to 281 students enrolled in general courses at Universitas Pendidikan Indonesia. After the quantitative data were analyzed to identify patterns related to students' understanding of global issues, the next stage involved collecting qualitative data through in-depth interviews with experts in Civic Education. The qualitative data were then analyzed to enrich and contextualize the quantitative findings. After separate analyses, both types of data were integrated to form a more comprehensive understanding of the impact of the learning approach on students' knowledge. This integration ensured the qualitative data supported and clarified the quantitative results, offering a holistic view of the research problem.

RESULTS AND DISCUSSION

Result

The results of the global citizen survey

The survey results offer insights into students' perceptions and attitudes toward global issues, reflecting their high awareness and engagement in global dynamics. The three aspects of the survey, namely belief in the impact of global actions, active monitoring of international issues, and habits of seeking information and conducting research on topics of interest, collectively provide an overview of how students currently respond to and interact with various challenges and opportunities that arise on a global scale. This discussion will explore the implications of these findings, both in theoretical and practical contexts, and provide insights into how this knowledge and attitude can shape collective responses to increasingly complex and interconnected global issues.

From the data presented in Table 1, it can be seen that most respondents (39.1%) believe that actions in one part of the world can impact other parts. Hence, they express "Agree." Additionally, a significant number of respondents in the "Neutral" category (26.3%) indicate uncertainty or ambiguity in their views regarding the statement. Meanwhile, the number of respondents who "Strongly Disagree" (1.1%) and "Disagree" (3.9%) is relatively small, indicating that the percentage of those who disagree with the statement is a minority. Finally, there are also respondents who "Strongly Agree" (19.6%), indicating substantial agreement with the statement. Thus, this data reflects a variation of perspectives within the respondent group, with the majority tending to agree or believe that actions in one part of the world can impact other parts.

Table 1. Actions in one part of the world can impact other parts

Student Responses	F	%
Strongly Disagree	3	1.1
Disagree	11	3.9
Neutral	74	26.3
Agree	138	39.1
Strongly Agree	55	19.6
Total	**281**	**100.0**

Source: Research, 2024

The survey results show that 39.1% of respondents agree that actions in one part of the world can affect other regions. This data reflects students' awareness of global interconnectedness, the primary goal of project-based learning, which aims to enhance understanding of global issues through a scientific approach. As stated in PBL theory, integrating substantive content and ideas to solve problems using a systematic approach can help students understand the impact of global actions on broader society (Kolmos et al., 2021).

Furthermore, the percentage of respondents in the "Neutral" category (26.3%) indicates uncertainty or ambiguity in their views on this impact. Winataputra and Budimansyah in "*Pendidikan Kewarganegaraan Dalam Perspektif Internasional: Konteks, Teori dan Profil Pembelajaran*" state that this suggests that more integrative and experiential learning, such as that implemented in PBL, can help reduce this ambiguity. PBL, supported by portfolio-based assessment, allows students to engage more deeply in the learning process through problem-solving and critical dialogue, enabling them to develop a more straightforward and deeper understanding.

The survey results also show that only 1.1% of respondents "Strongly Disagree" and 3.9% "Disagree," indicating that most students are reasonably aware of global issues. These findings align with PBL principles emphasizing challenging, integrative, and contextually relevant learning. Thus, PBL helps students theoretically understand global concepts and motivates them to connect this knowledge with real-world actions in an increasingly complex and interconnected global environment (Budiyanti et al., 2023).

These research findings support the theories and concepts discussed in the literature review, particularly regarding how active and holistic learning approaches can shape students' awareness and responses to global issues. By implementing PBL, students comprehend global issues conceptually and engage in activities that encourage them to actively seek solutions to global challenges (Almulla, 2020).

In the context of the statement, "I actively monitor and critically think about global issues happening around the world" (see **Table 2**), the data shows a variety of perspectives from respondents. Most respondents, accounting for 52.0%, fall into the "Neutral" category, indicating uncertainty or ambiguity in the extent of their activity in monitoring and critically thinking about global issues. Many respondents are also in the "Agree" category (28.8%), suggesting that most actively monitor and critically think about global issues. On the other hand, the percentage of respondents who "Disagree" (10.7%) and "Strongly Disagree" (1.8%) is lower, indicating that a minority of respondents have less favorable views regarding this activity. Finally, a small percentage of respondents (6.8%) "Strongly Agree" with this statement, indicating a high level of activity in monitoring and critically thinking about global issues. The data analysis reflects variation in respondents' level of engagement in monitoring and critically thinking about global issues, with the majority being in the neutral or agree categories in this regard.

Table 2. Actively monitoring and critically thinking about global issues

Student Responses	F	%
Strongly Disagree	5	1.8
Disagree	30	10.7
Neutral	146	52.0
Agree	81	28.8
Strongly Agree	5	6.8
Total	**281**	**100.0**

Source: Research, 2024

In the context of the statement, "I actively monitor and think critically about global issues happening around the world" (see **Table 2**), the data indicates a range of perspectives among respondents. Most respondents (52.0%) fall into the "Neutral" category, indicating uncertainty or ambiguity regarding how much they actively monitor and think critically about global issues. This result suggests that while many students recognize the importance of engaging with global issues, they may still need a strong or consistent involvement in monitoring and critically analyzing these issues.

From a behaviorist theory perspective, this outcome can be seen as a reflection of a response generated by a weak stimulus. In this case, the lack of motivation or reinforcement in learning may contribute to the high number of "Neutral" responses (Amsari, 2018). Applying behaviorist principles, such as positive reinforcement through portfolio and project-based learning, can enhance student engagement in monitoring and critically thinking about global issues, aligning with Edward Thorndike's "law of effect" (Hermansyah, 2020).

Meanwhile, 28.8% of respondents fall into the "Agree" category, indicating that many students actively monitor and analyze global issues. This aligns with Project-Based Learning (PBL) theory, which emphasizes the importance of integrating real-world issues in a global context, where students are encouraged to think critically and take action based on their analysis of existing problems (Fitriyah et al., 2021). PBL allows students to engage in active learning processes, where they learn global concepts and are expected to connect theory with global realities through a scientific approach based on Dewey's statement in his book.

However, 10.7% of respondents "Disagree" and 1.8% "Strongly Disagree" indicate that some students have a less favorable view or are less involved in this activity. This could be due to a learning approach that fails to provide relevant or contextual stimuli, leading students to feel unmotivated to engage actively. Khadijah in "*Belajar dan Pembelajaran*" states that behaviors unsupported by positive reinforcement tend not to develop, which may explain why this percentage appears.

On the other hand, 6.8% of respondents "Strongly Agree" with this statement, indicating a high level of activity in monitoring and critically thinking about global issues. This response is consistent with PBL principles, emphasizing the importance of creating challenging and meaningful learning experiences that can result in more profound and sustained engagement.

Overall, the varying levels of respondent engagement in monitoring and critically thinking about global issues, with the majority falling into the "Neutral" or "Agree" categories, indicate the potential to enhance further student involvement by implementing more interactive and contextual learning models. The implementation of the PBL approach, supported by portfolio-based assessments and learning that emphasizes inquiry and critical dialogue, can help guide students to become more active in monitoring and critically thinking about global issues, consistent with the principles of behaviorist learning and PBL (Budiyanti et al., 2023).

In the context of the statement, "I often seek information and conduct research on global issues that interest me," Table 3 shows variation in the level of activity among respondents in seeking information and conducting research on global issues that interest them. Most respondents fall into the "Agree" category (37.4%), indicating that most actively seek information and research global issues that interest them. Additionally, a significant number of respondents in the "Neutral" category (28.1%) indicate uncertainty or ambiguity in their activity level. The number of respondents who "Disagree" (8.5%) is relatively small, suggesting that a minority of respondents have a less favorable view of this activity. Finally, a small percentage of respondents (14.9%) "Strongly Agree" with this statement, indicating a high level of activity in seeking information and researching global issues that interest them. The data analysis reflects variation in the level of engagement among respondents in seeking information and conducting research on global issues that interest them, with the majority falling into the "Agree" or "Neutral" categories.

Table 3. Seeking Information and Conducting Research on Global Issues

Student Responses	F	%
Strongly Disagree	3	1.1
Disagree	24	8.5
Neutral	107	38.1
Agree	105	37.4
Strongly Agree	42	14.9
Total	**281**	**100.0**

Source: Research, 2024

In the context of the statement, "I often seek information and conduct research on global issues that interest me," the data in **Table 3** shows variations in respondents' activity levels in searching for information and researching global issues that capture their attention. Most respondents fall under the "Agree" category (37.4%), indicating that most students actively seek information and research global issues that interest them. This aligns with Project-Based Learning (PBL) theory, which encourages students to engage in learning activities based on exploration and research relevant to real-life situations (Pan et al., 2021).

From a behaviorist perspective, students' engagement in information-seeking and research activities can result from positive reinforcement that encourages sustained learning behavior. In this context, when students find that their efforts in searching for information and conducting research yield beneficial knowledge, they will likely continue doing so. PBL integrates this approach by offering opportunities for students to explore relevant and meaningful global topics, allowing them to develop deeper understanding through independent research (Fitriyah et al., 2021).

However, 28.1% of respondents fall under the "Neutral" category, indicating uncertainty or ambiguity in how actively they search for information and research global issues. This suggests that although there is interest in global issues, some students may need more motivation to take further steps in researching these topics. Winataputra and Budimansyah in *"Pendidikan Kewarganegaraan Dalam Perspektif Internasional: Konteks, Teori dan Profil Pembelajaran"* state that this can be addressed through more contextual learning that actively involves students in real-world problem-solving processes.

On the other hand, 8.5% of respondents "Disagree," indicating that a small portion of students have a less favorable view of this activity. This could be due to a lack of motivation or support in the learning environment that enables them to explore global issues independently. Behaviorist theory states that behavior unsupported by positive reinforcement tends to weaken (Amsari, 2018), which may explain why some students do not actively seek information and research global issues.

Conversely, 14.9% of respondents "Strongly Agree," indicating a high activity level in searching for information and researching global issues. This shows that some students are highly motivated to deepen their knowledge and are intensely interested in specific global topics. In PBL, such students are typically empowered through projects that allow them to combine their interests with the learning process, resulting in a deeper and more relevant understanding within a global context.

Overall, this data shows varying levels of student engagement in searching for information and researching global issues that interest them, with most respondents falling under the "Agree" or "Neutral" categories. This indicates significant potential to motivate students further through more active and project-based learning approaches. By combining behaviorist elements like positive reinforcement and PBL, which emphasize contextual and meaningful learning, students can engage more in more profound exploration and research activities, ultimately enhancing their awareness and understanding of complex global issues (Budiyanti et al., 2023).

In this survey's findings, essential insights into the perceptions and attitudes of students toward global issues were discovered. The data reflects high awareness and engagement among students in global dynamics. Most respondents (39.1%) believe that actions in one part of the world can impact others, indicating a belief in global interconnectedness. Regarding monitoring global issues, the majority (52.0%) fall into the "Neutral" category, suggesting variation in the activity level. Concerning seeking information and researching topics of global interest, the majority (37.4%) do so frequently. Despite diverse viewpoints, this survey reflects a high level of awareness and interest among students in global issues, with potential implications for enhancing understanding and engagement in the collective response to increasingly complex global challenges.

The survey results suggest that while students have a high level of understanding of various global issues, they still need to address them actively. This observation aligns with the principles of behaviorist learning theory, which posits that learning is primarily shaped by the environment and the reinforcement or consequences associated with specific behaviors (Skinner, 1958). According to Skinner, behavior is modified through reinforcement, and positive reinforcement can encourage desired actions (Andriani & Wiranata, 2022). In this context, stimulating students' proactive actions regarding global issues may require innovative, collaborative learning approaches incorporating positive reinforcement and active engagement.

Furthermore, the interviews highlighted the interconnectedness of actions across different parts of the world, emphasizing the need for individuals to respond wisely to global impacts. This concept can be linked to the project-based learning model, which integrates multiple learning theories to create meaningful and contextually relevant learning experiences. Budimansyah in "*PAKEM: Pembelajaran Aktif, Kreatif, Efektif, dan Menyenangkan*" states that Project-based learning encourages students to connect theoretical knowledge with real-world applications, thereby helping them understand global challenges more holistically. The model's interdisciplinary and collaborative approach aligns with the idea that complex global issues require critical thinking, information evaluation, and the integration of diverse perspectives (Fitriyah et al., 2021).

Additionally, the integration of global issues within course curricula, as suggested by the interview findings, aligns with the project-based learning approach, emphasizing the importance of connecting academic content with practical, real-world challenges. By embedding these issues within mandatory courses, students are encouraged to see the relevance of their learning and actively apply their knowledge in addressing societal problems. This approach, reinforced by portfolio-based assessments, fosters a comprehensive learning environment that promotes cognitive development and civic engagement (Fouche et al., 2021).

Behaviorist learning theory and project-based learning provide valuable insights into how innovative teaching methods can bridge the gap between understanding and action. Students can be encouraged to take more proactive and sustainable actions in addressing global challenges through structured, reinforcement-based activities and collaborative, interdisciplinary projects. The synergy between these approaches underscores the potential for educational strategies that are both effective and aligned with the needs of 21st-century learners.

Discussion of Global Citizenship Education based on learning projects

Developing a cross-class and cross-course project-based learning model creates a deep collaborative learning experience within the context of Civic Education. This learning model expands on the "Project Citizen" model by adding the dimension of collaboration between different classes and courses. In this learning strategy, students from Civic Education, Pancasila Education, Indonesian Language Education, and Islamic Religious Education courses from various study programs work together to carry out comprehensive Project Citizen. This cross-class collaboration provides diverse stimuli and triggers active responses, enriching perspectives and learning experiences.

From the behaviorist theory perspective, stimuli are crucial in triggering students' active responses. In this learning strategy, cross-class interactions become stimuli that stimulate students' active responses. The positive reinforcement from the project results and exhibitions strengthens these responses, creating a dynamic learning environment. Learning is a process of progressive behavioral adaptation. In this context, positive reactions to collaborative projects reinforce students' engagement more deeply in the learning process (Andriani & Wiranata, 2022).

The "Project Citizen" learning model proposed by CICED includes steps such as Problem Identification, Problem Selection, Data and Information Collection, Class Portfolio Development, Class Portfolio Presentation, and Reflection on the Learning Experience based on the book "*We the People: Project Citizen, Teacher's Guide*". In developing this model, an additional initial step is introduced before Problem Identification, called Conceptual Mapping. In this initial step, classes are divided and distributed across various general courses in the university. These steps foster more intensive collaboration, creating a more integrated and contextual learning experience aligned with PBL principles emphasizing meaningful and value-based learning.

From a PBL theory perspective, cross-class and cross-course collaboration aligns with the principle that project-based learning integrates substantive content and ideas to solve problems using a scientific approach. In this model, students learn theoretically and actively engage in analyzing, decision-making, and presenting solutions to citizenship issues. This approach enhances student engagement and allows them to understand how global actions can impact society on a broader scale (Abidin, 2020; Sulistyorini & Anistyasari, 2020).

Implementing project-based learning that combines behaviorist and constructivist elements enables the creation of more meaningful and relevant learning tailored to student's needs in the global era. By integrating the expanded "Project Citizen" model, students can experience a dynamic learning process that develops their cognitive understanding and strengthens their responsive and proactive global citizenship character. This is consistent with the principles of "powerful learning," which emphasize meaningful, integrative, value-based, challenging, activating, and joyful learning. **Figure 1** shows the steps of the developed learning strategy of the "Project Citizen" model.
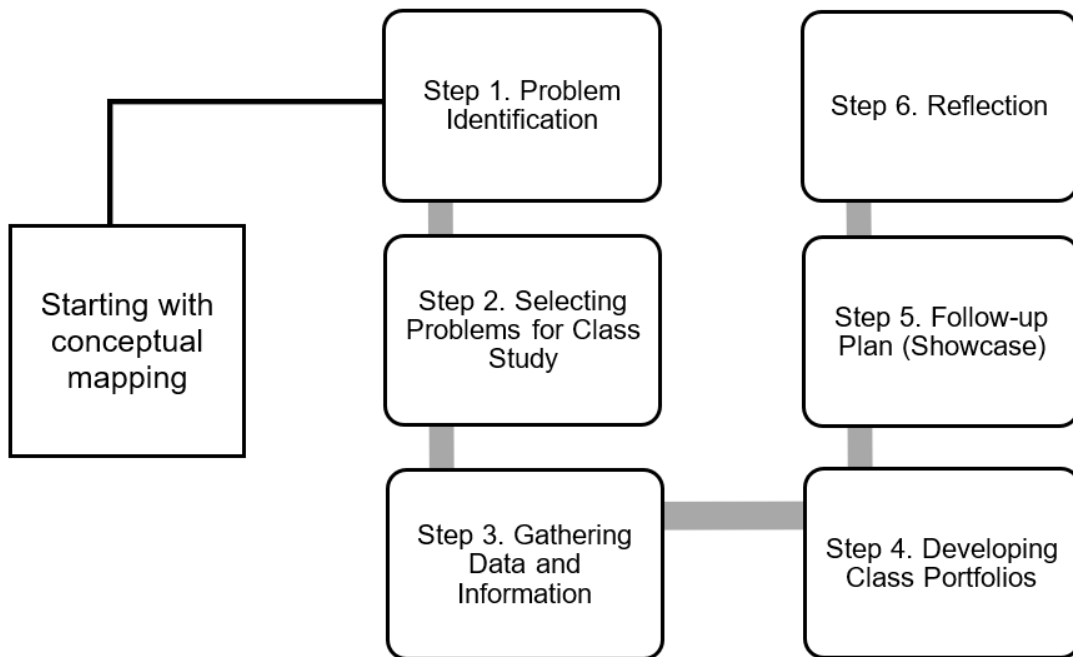
Figure 1. Project Citizen Model Development Learning Strategy
Source: Author's Documentation 2024

The development of the "Project Citizen" steps in this study begins with the conceptual mapping stage, which aims to provide an initial framework for mapping critical concepts related to citizenship issues to be discussed. By planning and implementing the solutions generated, students can respond to their analysis and understanding of citizenship issues through concrete actions. This learning strategy utilizes behaviorist principles such as stimulus-response, positive reinforcement, and social interaction to create an engaging, relevant, and responsive learning environment that meets students' needs.

In this approach, cross-class and cross-subject collaboration serves as a source of varied stimuli that enrich the learning process. The social interactions established among students from diverse backgrounds provide opportunities to learn from each other and respond to different perspectives in line with behaviorist principles. Skinner emphasized that positive reinforcement plays a crucial role in shaping desired behaviors. In the context of this project-based learning, the positive outcomes from collaboration and project showcases act as reinforcement that encourages students to stay engaged in the learning process.

From a theoretical perspective, the diversity of perspectives, increased engagement, and development of social skills provide a rational argument supporting the advantages of this model. Students not only learn to understand citizenship concepts theoretically but also gain hands-on experience working together to formulate solutions to real problems faced by society. This aligns with PBL principles emphasizing project-based learning to create meaningful and value-based learning experiences.

However, management challenges and assessment complexities must be considered when implementing this model. Despite these challenges, by leveraging behaviorist theory that recognizes the importance of social interaction in the learning process, this strategy is expected to impact the development of students' citizenship character positively. Nurdyansyah and Fahyuni, in "*Inovasi Model Pembelajaran Sesuai Kurikulum 2013*" state that collaboration between classes and subjects adds additional stimuli through a variety of information sources and perspectives, providing opportunities for students to respond and learn from one another according to behaviorist principles.

Thus, developing the steps in "Project Citizen," starting with conceptual mapping and ending with concrete actions, enables the creation of dynamic and responsive learning. This model hones students' cognitive skills and strengthens social engagement and global citizenship character, making it an effective strategy in Project Citizen. However, in the development of this learning strategy model, there are strengths and weaknesses, which are as follows:

Table 4. Advantages and Disadvantages of Learning Strategy

Advantages	Disadvantages
Contextual Relevance: This learning strategy creates a learning environment relevant to students' citizenship.	Management Challenges: Classroom management can become complex with the involvement of multiple courses and classes.
Collaboration and Social Interaction: Collaboration among classes and disciplines stimulates social interaction in line with behaviorist principles.	Complex Assessment: Assessing projects involving various courses can be complex and subjective.
Development of Citizenship Skills: This learning strategy aids in developing practical skills and a deep understanding of citizenship issues.	Time and Resource Demands: Implementing this model requires a significant investment of time and resources.

Source: Research, 2024

The cross-disciplinary and cross-class project-based learning approach that integrates global issues offers significant advantages aligned with the principles discussed in the literature review. First, this strategy creates a learning environment relevant to students' citizenship by focusing on global issues, allowing students to connect their learning with real-world events. As outlined in Project-Based Learning (PBL) theory, learning relevant to global contexts can enhance student motivation and provide more meaningful learning experiences.

This model's cross-class and cross-course collaboration also triggers social interaction in line with behaviorist principles. This interaction serves as a stimulus that elicits active responses from students in sharing ideas, perspectives, and experiences. In behaviorist theory, stimulus-response and positive reinforcement are vital elements in shaping effective learning behavior (Amsari, 2018). Through this diverse collaboration, students can enrich their understanding of global issues and broaden their perspectives, consistent with the constructivist approach that combines experiential learning and social interaction (Fitriyah et al., 2021).

Additionally, this model encourages the development of practical skills and in-depth understanding related to citizenship issues, preparing students to become active and contributing citizens in addressing global challenges. The approach emphasizes integrative and value-based learning, where students learn theoretical concepts and how to apply that knowledge in real-world contexts.

However, as outlined in the literature review, some challenges must be considered in implementing this model. The complexity of classroom management, especially when involving multiple courses and classes, poses its challenge. Good organization and coordination are essential to ensure that all aspects of learning remain structured and well-coordinated. Additionally, assessing cross-disciplinary project outcomes can be complicated and subjective, making it necessary to ensure that evaluations reflect student achievement and measure the impact of cross-disciplinary collaboration (Budiyanti et al., 2023).

Cross-disciplinary collaboration becomes the main foundation of this innovative learning strategy, which combines four general courses focusing on global issues. In line with PBL principles, this strategy allows for integrating perspectives, methods, and knowledge from various courses such as Civic Education, Pancasila Education, Indonesian Language Education, and Religious Education, with the primary goal of

incorporating urgent global issues into the curriculum. This integration of global issues creates more relevant learning, where students understand theory and how to apply this knowledge in real-world contexts.

In developing global citizenship skills, students are encouraged to think critically, seek information, collaborate, and take positive actions on global issues. This aligns with the goals of global citizenship education, which emphasizes the importance of developing caring, competent, and responsible students in facing global challenges (Edwards-Jr et al., 2020). This approach also allows students to understand and appreciate cultural and social diversity. By seeing how global issues affect various communities worldwide, students can develop an appreciation for differences, which is a crucial aspect of global citizenship development.

This approach creates an inclusive learning environment and serves as a platform for students to develop their global citizenship skills through collaborative team-based projects relevant to global issues. The strategy emphasizes the development of caring, skilled, and responsible students in addressing global challenges, aligning with the principles of "powerful learning" that integrate meaningful, integrative, and value-based learning.

The project-based learning strategy that combines cross-disciplinary collaboration and focuses on global issues offers several advantages in supporting the development of students' global citizenship skills. The model is relevant to the global context, motivates students by linking learning to real-world issues, and encourages social interaction that enriches their perspectives and understanding. This approach also integrates behaviorist principles, such as stimulus-response and positive reinforcement, which strengthen student engagement in learning. Additionally, this model facilitates the development of practical skills and an in-depth understanding of global citizenship, preparing students to become active citizens who contribute to addressing global challenges.

However, implementing this model faces several challenges, including the complexity of classroom management and cross-disciplinary assessment and the significant investment of time and resources required. Nevertheless, cross-disciplinary collaboration and integrating global issues into the curriculum create relevant and in-depth learning experiences. With this strategy, students understand and learn to apply the theory in real-world contexts, developing critical thinking, collaboration, and positive action skills. This approach offers a comprehensive solution to equipping students with the skills and knowledge needed to become caring, skilled, and responsible global citizens.

CONCLUSION

This research demonstrates that Universitas Pendidikan Indonesia students have a fairly good understanding of global citizenship when facing increasingly complex global challenges. However, this understanding needs to be accompanied by concrete actions. An innovative learning strategy that integrates four general courses focusing on global issues is proposed to address this. Through this approach, students learn theory and develop the critical, collaborative, and practical skills necessary to become responsible global citizens. This strategy combines cross-disciplinary collaboration and social interaction to enrich students' perspectives and understanding of global issues while equipping them to contribute to society actively.

Although there are challenges in classroom management and cross-course assessment, this model offers an effective solution to preparing a generation of students who are more engaged and sensitive to global dynamics. With an integrated and contextual approach, higher education can become a powerful platform for developing critical, caring, and responsible global citizens. The implementation of this model has the

potential to be more widely adopted. It could strengthen collaboration between educational institutions and global communities in preparing students to address real-world issues.

AUTHOR'S NOTE

The author declares no conflicts of interest regarding the publication of this article. The author also affirms that the data and content of the article are free from plagiarism.

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