

# The Impact of Participation in an Online Multidisciplinary Peace Course on Students' Conceptions of Peace: *The Perspectives on Peace* Course at Hiroshima Jogakuin University 2023–24

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## Abstract

This study explores how the *Perspectives on Peace* course at Hiroshima Jogakuin University influenced students' conceptions of peace. The interdisciplinary course covered topics such as nuclear disarmament, environmental sustainability, and art in peacebuilding. Using sentiment and thematic analysis, the study measured changes in student reflections before and after the course. Sentiment analysis revealed an increase in positive sentiment, while thematic analysis showed growth in key peace-related themes like reconciliation and peacebuilding. New themes, including environmental sustainability, also emerged. These findings suggest that the course may have contributed to broadening students' understanding of peace, as indicated by changes in sentiment and the language used to describe peace, potentially reflecting a shift from negative to positive peace.

**Keywords:** Peace Conceptions, Peace, Positive Peace, Sentiment

## I. Introduction

Peace is a multifaceted concept that has been interpreted and applied in diverse ways across cultures and academic disciplines. Traditionally, scholars have distinguished between positive peace, which refers to the presence of justice, equality, and harmony, and negative peace, defined as the absence of violence and conflict (Galtung, 1969). Positive peace emphasizes proactive efforts to build societal structures that foster well-being, while negative peace is more concerned with preventing or ending direct violence. Traditional peace studies often focus on these theoretical distinctions and examine historical case studies to explore how these forms of peace are

achieved and maintained (Reardon, 1999). While such approaches provide important insights, they can sometimes overlook the diversity of issues and perspectives that intersect with peace. In contrast, the course examined in this study offers a broader approach by integrating a wide range of topics that connect to peace, including nuclear disarmament, environmental sustainability, and the role of the arts. This interdisciplinary method exposes students to the multifaceted nature of peace, challenging them to think critically about how peace manifests across different contexts and domains. Courses designed around peace studies have the potential to significantly influence students' conceptions of peace by exposing them to these nuanced distinctions and encouraging reflection on global issues such as reconciliation, peacebuilding, and justice (Harris & Morrison, 2013). However, while research has explored the impact of peace education in general, there is still a gap in understanding how specific courses shape individual students' conceptions of peace, particularly in post-conflict settings like Hiroshima. This study seeks to fill that gap by examining how participation in this unique peace studies course influences students' evolving understandings of peace, using both thematic and word frequency analysis to assess changes in their reflections before and after the course.

## II. The *Perspectives on Peace* Course at HJU

The course was designed to foster student engagement with peace studies through a series of pre-recorded video lectures and interactive online activities. Google Classroom was used as the central platform for delivering the course, allowing students to access lectures on-demand and complete assignments at their own pace. Over the course of the program, students engaged with twelve lectures that covered a wide range of topics related to peace, including the history of nuclear disarmament, the role of the arts in peace activism, and global peacebuilding efforts. Each lecture was followed by a comprehension quiz to ensure students grasped the key concepts. In addition, students participated in discussion threads where they responded to prompts designed to encourage critical reflection on the material. These discussions enabled students to share insights with their peers and explore different perspectives on peace. The final assignment required students to create a brief presentation on a peace-related topic of their choice, drawing on the themes covered throughout the course. Students were expected to upload their presentations to Google Classroom and provide feedback on the work of at least three classmates. This assignment allowed students to synthesize the knowledge gained from the course and pres-

ent their own understanding of peace in a clear and reflective manner. The course is designed for students of any academic background and of lower intermediate English level (although students were allowed to join with lower levels as long as they understood it would be a challenge). The course is also specifically designed to bring together students from different national and cultural backgrounds. The course content and themes by class are as follows:

1. **Introduction:** explores the basic concepts of peace and the varied conceptions of it in history and the contemporary world.
2. **Hiroshima as a City of Peace:** Discusses Hiroshima's reconstruction as a peace symbol and its role in promoting global peace and reconciliation.
3. **The World Friendship Center:** Examines the World Friendship Center's contributions to international peace activism and grassroots peacebuilding.
4. **A Japanese Diplomat's Role in Peace:** Tells the story of a Japanese diplomat's efforts to maintain peace between the U.S. and Japan before WWII, illustrating the role of diplomacy.
5. **UNITAR and Peacebuilding:** Introduces UNITAR's work in post-conflict peacebuilding, focusing on training and capacity-building efforts from Hiroshima.
6. **A Japanese-American Family's WWII Experience:** Explores the divided loyalties in a Japanese-American family during WWII, focusing on reconciliation and personal peace after the war.
7. **Green Legacy Hiroshima:** Highlights the survivor trees from the atomic bombing, symbolizing resilience and connecting environmental sustainability with global peace.
8. **Visual Art & Peace:** Looks at how visual art is used to reflect on war and peace, showing how art can promote peace through creative expression.
9. **Nuclear Weapons since WW2:** Reviews the history of nuclear weapons testing and accidents after WWII, and their ongoing impact on global peace.
10. **Dark Tourism vs. Peace Tourism:** Compares dark tourism and peace tourism, analyzing their roles in promoting peace education at sites of mass death and tragedy.
11. **Korean hibakusha and Peace:** Investigates the experiences of Korean hibakusha, connecting their stories to themes of colonialism, gender, and peace.
12. **War Culture & Peace Culture:** Discusses the shift from a culture of war to a culture of peace, focusing on the global effort to abolish nuclear weapons.

**Table 1 Study Participants**

| University Location | Gender |    | Study      |           | CEFR equivalent | Totals |
|---------------------|--------|----|------------|-----------|-----------------|--------|
|                     | m      | f  | undergrad. | postgrad. |                 |        |
| Japan               | 0      | 7  | 7          | 0         | A2-C1           | 7      |
| Philippines         | 4      | 14 | 14         | 4         | A2-C2           | 18     |
| Indonesia           | 8      | 5  | 13         | 0         | A2-C1           | 13     |

*n* = 38

Table 1 shows the demographic breakdown of the study participants. A total of 38 participants were involved, including 7 Japanese undergraduate students (all female), 18 participants from the Philippines (14 female, 4 male; 14 undergraduate and 4 postgraduate), and 13 Indonesian undergraduate students (5 female, 8 male). The participants came from a variety of academic backgrounds, and while English proficiency levels ranged from A2 to C2, the vast majority (33) were B1 level (CEFR equivalents).

### III. Study Participants & Design

The first aspect of the study involved a sentiment analysis of students' written statements. Sentiment analysis is a method that allows for the extraction and quantification of emotions or attitudes from text, classifying them into categories like positive, negative, or neutral. While it has been widely used in areas such as marketing and social media analysis (Pang & Lee, 2008), it has also proven useful for understanding how individuals conceive of more abstract concepts like identity, cultural understanding, and wellbeing (Liu, 2012). In educational research, sentiment analysis can provide insights into how learners' emotional responses evolve, offering a window into cognitive shifts that occur during or after learning experiences (Cambria et al., 2017). Although it has not been used as a method for looking into conceptions of peace, it is a promising tool for exploring how students' conceptions of peace may change through participation in courses and potentially, other experiences, and may provide a way of capturing any changes that occur in those conceptions as a result of such participation (Mohammad et al., 2018). This may, therefore, allow for an understanding of not only what students think about peace, but also how they emotionally engage with the topic before and after such interventions.

To conduct the sentiment analysis, two widely-used tools, VADER (Valence Aware Dictionary and sEntiment Reasoner) and TextBlob, were employed. VADER is a rule-based model specifi-

cally designed for social media text and other informal contexts, utilizing a lexicon of emotional intensifiers, slang, and negations to accurately assess sentiment on a polarity scale ranging from negative to positive (Hutto & Gilbert, 2014). TextBlob, on the other hand, offers a simpler, more general-purpose sentiment analysis tool that relies on a lexicon-based approach and applies natural language processing techniques to classify text polarity (Loria, 2018). These tools complement each other, with VADER excelling at handling more informal, emotion-heavy language, while TextBlob provides a broader sentiment assessment. The sentiment analyses were conducted using Python libraries for both VADER and TextBlob, allowing for efficient processing and consistent evaluation across the dataset. For this study, prior to analysis, all non-English contributions were translated into English, ensuring that sentiment could be consistently evaluated across the dataset. The texts were then prepared for analysis by normalizing punctuation, correcting spelling errors, and tokenizing the text into manageable units for accurate sentiment scoring (Zhang et al., 2018). Following the sentiment analysis, a paired t-test was conducted to assess whether any changes in sentiment before and after the course were significant. It is important to note that positive or negative sentiment in the analysis does not directly correlate with concepts of positive or negative peace; instead, sentiment analysis provides an additional layer of insight into emotional tone, which can supplement the other analyses by revealing how students emotionally engage with the complex ideas of peace and conflict.

The second aspect of the study involves thematic analysis of themes in student responses. Thematic analysis is a qualitative research method used to identify, analyse, and report patterns within data, and is particularly well-suited for exploring complex, subjective experiences (Guest, MacQueen, & Namey, 2012). It allows researchers to systematically examine data by coding it into meaningful categories, which are then organized into themes that reflect the key ideas within the data. This method is highly flexible and can be applied across a wide range of research fields, making it useful for studies where the aim is to understand how people perceive or experience particular phenomena (Braun & Clarke, 2006). In educational settings, thematic analysis is often used to explore how students' ideas, values, and attitudes evolve, providing insight into shifts in thinking after exposure to new information or experiences (Terry et al., 2017). Its ability to provide rich, detailed insights into both explicit and implicit themes makes it an ideal tool for analysing student reflections, particularly when trying to capture nuanced changes in conceptions over time. In this study, thematic analysis was chosen to explore the evolving conceptions of peace among students. Given the complexity of peace as both a personal and global concept, a

qualitative technique like thematic analysis offers the depth required to uncover subtle shifts in understanding. By identifying patterns and themes within the students' reflections, thematic analysis allows for a systematic comparison of their pre-course and post-course perspectives. This method also accommodates the diversity of student experiences, capturing both the direct influence of course content and the spontaneous emergence of broader ideas related to peace and conflict. As such, thematic analysis provides a comprehensive lens through which to understand how students internalize, interpret, and articulate their growing awareness of peace, making it highly relevant to this research.

For this study, thematic analysis was applied to categorize student reflections, with a focus on identifying both course-related themes and emergent themes. Before beginning the analysis, all non-English contributions were translated into English to ensure consistency in the coding process. The data were then analysed using NVivo software, which facilitated the recursive coding process, where the text was reviewed and re-coded iteratively to ensure thorough coverage of all relevant themes. The analysis began by identifying themes directly related to the course content, such as nuclear disarmament, reconciliation, and peacebuilding, which were expected to appear in student reflections based on the lecture topics. Following this, the analysis shifted to explore additional, emergent themes that were not directly tied to the course material but arose organically from the students' reflections, potentially providing valuable insights into the students' broader understanding of peace and conflict, highlighting the ways in which the course content influenced their conceptual growth in areas beyond the direct scope of the lectures. Simple statistical comparisons of theme frequency and coverage were then conducted to assess changes in student engagement with these themes from pre- to post-course reflections.

The final aspect of the study was word frequency. Word frequency analysis is a quantitative method commonly used to assess patterns in textual data by counting how often specific words or phrases appear (Tausczik & Pennebaker, 2010), and where the prominence of certain words can indicate the importance of underlying concepts or ideas in the data (Stubbs, 1996). Word frequency analysis is particularly useful when paired with qualitative methods, such as thematic analysis, as it provides an additional dimension to understanding how individuals express key concepts. Since the pre-course and post-course reflections, each consisting of around 150–250 words across 38 student responses, represent a relatively small body of text, word frequency analysis is used here as a supplementary and indicative method rather than a definitive measure. By examining the most commonly used words in student reflections, word frequency analysis

helps to highlight dominant themes and reveals shifts in focus or concern over the period of student enrolment in the course. For the word frequency analysis, all non-English reflections were translated into English to ensure consistency. Similar words with related meanings, such as “peaceful” and “peace,” were compounded into single categories, and non-semantic words like common conjunctions or articles were removed. The analysis focused on identifying the top 20 most frequently used words in both pre- and post-course reflections.

#### IV. Results

Table 2 shows the sentiment analysis results of pre- and post-course responses using both TextBlob and VADER sentiment analysis tools. The results indicate a significant positive shift in sentiment after the course, with TextBlob sentiment scores increasing from  $M = 0.037$  ( $SD = 0.089$ ) pre-course to  $M = 0.500$  ( $SD = 0.071$ ) post-course,  $t(40) = -2.1$ ,  $p = .042$ . Similarly, VADER compound scores improved from  $M = 0.060$  ( $SD = 0.086$ ) pre-course to  $M = 0.479$  ( $SD = 0.051$ ) post-course,  $t(40) = -2.3$ ,  $p = .037$ , indicating a shift toward more positive conceptions of peace. The breakdown of VADER scores shows an increase in positive sentiment, rising from  $M = 0.180$  ( $SD = 0.080$ ) to  $M = 0.550$  ( $SD = 0.070$ ), and a corresponding decrease in neutral sentiment, from  $M = 0.720$  ( $SD = 0.070$ ) to  $M = 0.380$  ( $SD = 0.060$ ). The negative sentiment remained relatively stable, with only a slight decrease from  $M = 0.102$  ( $SD = 0.011$ ) to  $M = 0.098$  ( $SD = 0.012$ ).

The data collected from pre- and post-course responses revealed changes in the frequency and coverage of key themes discussed in the course. Table 3 shows the frequency and coverage percentages before and after the course, along with the change in frequency for each theme. For example, the theme of nuclear disarmament increased from 2 mentions in the pre-course responses to 10 mentions in the post-course responses, with an increase in text coverage from

**Table 2 Sentiment Analyses of Pre- and Post-Course Responses (VADER & TextBlob)**

| Test     | Component | pre   |       | post  |       | t    | p     |
|----------|-----------|-------|-------|-------|-------|------|-------|
|          |           | M     | SD    | M     | SD    |      |       |
| TextBlob |           | 0.037 | 0.089 | 0.510 | 0.071 | -2.1 | 0.042 |
|          | compound  | 0.060 | 0.086 | 0.479 | 0.051 | -2.3 | 0.037 |
| VADER    | positive  | 0.180 | 0.080 | 0.550 | 0.070 |      |       |
|          | neutral   | 0.720 | 0.070 | 0.380 | 0.060 |      |       |
|          | negative  | 0.102 | 0.011 | 0.098 | 0.012 |      |       |

**Table 3 Frequency & Changes in Key Class Themes**

| Theme                   | freq. (pre) | coverage %* | freq. (post) | coverage %* | change +/- |
|-------------------------|-------------|-------------|--------------|-------------|------------|
| nuclear disarmament     | 2           | 1.51        | 10           | 5.50        | + 8        |
| justice and power       | 1           | 0.82        | 8            | 4.81        | + 7        |
| reconciliation          | 3           | 2.04        | 12           | 6.52        | + 9        |
| memory/legacy           | 2           | 1.05        | 5            | 3.20        | + 3        |
| peace activism          | 1           | 1.21        | 8            | 4.38        | + 7        |
| responsibility          | 0           | 0.00        | 4            | 2.41        | + 4        |
| peacebuilding           | 0           | 0.00        | 3            | 1.50        | + 3        |
| hibakusha               | 1           | 2.50        | 9            | 6.22        | + 8        |
| colonialism             | 0           | 0.00        | 6            | 3.45        | + 6        |
| art & peace             | 0           | 0.00        | 5            | 2.90        | + 5        |
| environment             | 0           | 0.00        | 7            | 6.70        | + 7        |
| international relations | 0           | 0.00        | 6            | 6.72        | + 6        |
| Hiroshima present       | 2           | 1.82        | 9            | 6.05        | + 7        |
| Hiroshima past          | 1           | 0.95        | 8            | 4.50        | + 7        |

\*of coded segments

1.51% to 5.50%. Similarly, the theme of reconciliation saw an increase from 3 mentions to 12 mentions, and coverage grew from 2.04% to 6.52%. Other key themes, such as justice and power, peace activism, and Hiroshima now, also showed notable increases in both frequency and coverage after the course. In contrast, some themes that were not present in pre-course responses, such as environment and international relations, emerged post-course with text coverage percentages of 6.70% and 6.72%, respectively.

The data collected from pre- and post-course responses revealed notable changes in the frequency and coverage of other emergent themes, as shown in Table 4. For instance, the theme of global justice was absent from pre-course responses but emerged significantly in the post-course data, with 7 mentions and a coverage of 4.65%. Similarly, environmental sustainability and action toward peace saw notable increases, with both themes appearing for the first time post-course and receiving 7 and 6 mentions, respectively. Other themes, such as peace as wellbeing and relationships with others, also showed increases in both frequency and coverage. The theme of peace as wellbeing increased from 5 mentions (3.80% coverage) to 9 mentions (5.74% coverage), while relationships with others grew from 3 mentions (2.45% coverage) to 8 mentions (4.62% coverage). Additionally, themes such as global citizenship and internal peace/mental health exhibited increases in both frequency and coverage, reflecting a broader shift in the stu-



Table 4 Frequency &amp; Changes in Other Emergent Themes

| Theme                         | freq. (pre) | coverage %* | freq. (post) | coverage %* | change +/- |
|-------------------------------|-------------|-------------|--------------|-------------|------------|
| global justice                | 0           | 0.00        | 7            | 4.65        | + 7        |
| peace as wellbeing            | 5           | 3.80        | 9            | 5.74        | + 4        |
| relationships with others     | 3           | 2.45        | 8            | 4.62        | + 5        |
| action toward peace           | 0           | 0.00        | 6            | 3.77        | + 6        |
| global poverty and inequality | 0           | 0.00        | 5            | 4.15        | + 5        |
| environmental sustainability  | 0           | 0.00        | 7            | 5.18        | + 7        |
| family unity after conflict   | 0           | 0.00        | 4            | 2.53        | + 4        |
| internal peace/mental health  | 4           | 3.20        | 8            | 4.80        | + 4        |
| global citizenship            | 2           | 1.80        | 6            | 4.35        | + 4        |

\*percentage of coded segments



**Figure 1** Word Cloud, pre-test, 40 most common words

dents' conceptions of peace toward global and personal well-being.

Figure 1 shows a word cloud generated from the pre-course responses to the question, “What does peace mean to you?” Non-semantic words, such as articles and conjunctions, have been excluded to focus on meaningful content. Approximately 15% of the contributions were translated from other languages into English. Near-identical terms, such as references to Gaza/Palestine, have been combined into single categories for clarity. The most frequent terms include peace, violence, conflict, war, and freedom, along with other notable words like calm, security, well-being, and justice. The size of each word reflects its frequency in the responses.



## V. Discussion & Conclusion

The results of this study indicate a significant shift in students' conceptions of peace following their participation in the course. Sentiment analysis of student reflections revealed a marked increase in positive sentiment, with both the VADER and TextBlob tools showing a significant rise in positive polarity scores post-course (Table 2). The shift from predominantly neutral and slightly positive sentiments pre-course to more positive emotions post-course suggests that students developed a deeper emotional engagement with peace as a result of the course content. This finding aligns with the course's interdisciplinary approach, which exposed students to various dimensions of peace, including nuclear disarmament, reconciliation, and peacebuilding. The

matic analysis further corroborates these findings by revealing significant increases in the coverage of key course-related themes (Table 3). For example, the frequency of mentions of nuclear disarmament and reconciliation increased dramatically after the course, from 2 and 3 mentions pre-course to 10 and 12 mentions, respectively, post-course. This shift suggests that students moved beyond surface-level discussions of peace to more complex, action-oriented concepts. Additionally, the emergence of new themes, such as environmental sustainability and international relations, reflects how the course broadened students' understanding of peace, integrating global and systemic perspectives. In addition, the word frequency analysis highlights the change in language used by students before and after the course. In the pre-course reflections, words like "conflict" and "violence" dominated, reflecting a focus on negative peace—peace as the absence of conflict. In contrast, the post-course reflections featured terms like "justice," "activism," and "sustainability," pointing to a more nuanced and proactive conception of peace, aligned with the principles of positive peace. This evolution in language suggests that the course effectively expanded students' views of peace, encouraging them to think about how peace can be actively pursued through various avenues, including justice and environmentalism. These results confirm the transformative potential of courses approaching peace in diverse ways to shape and broaden students' understanding of peace (Harris & Morrison, 2013), potentially leading to more holistic and action-oriented conceptions of peace. The findings underscore the importance of an interdisciplinary approach in peace education, as it allows students to see peace not just as the absence of conflict but as a dynamic and multifaceted goal that requires ongoing engagement with global issues. Future research could explore how such interdisciplinary approaches to peace education impact students in different cultural contexts or post-conflict settings, providing further insights into the global relevance of peace studies.

## References

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>.
- Cambria, E., Schuller, B., Xia, Y., & Havasi, C. (2017). New avenues in opinion mining and sentiment analysis. *IEEE Intelligent Systems*, 28(2), 15–21. <https://doi.org/10.1109/MIS.2013.30>.
- Galtung, J. (1969). Violence, peace, and peace research. *Journal of Peace Research*, 6(3), 167–191. <https://doi.org/10.1177/002234336900600301>.
- Guest, G., MacQueen, K. M., & Namey, E. E. (2012). *Applied thematic analysis*. SAGE Publications. <https://doi.org/10.4135/9781483384436>.

- Harris, I. M., & Morrison, M. L. (2013). *Peace education* (3rd ed.). McFarland.
- Hutto, C. J., & Gilbert, E. (2014). VADER: A parsimonious rule-based model for sentiment analysis of social media text. In *Proceedings of the International AAAI Conference on Web and Social Media* (Vol. 8, No. 1, pp. 216–225). <https://doi.org/10.1609/icwsm.v8i1.14550>.
- Liu, B. (2012). Sentiment analysis and opinion mining. *Synthesis Lectures on Human Language Technologies*, 5(1), 1–167. <https://doi.org/10.2200/S00416ED1V01Y201204HLT016>.
- Loria, S. (2018). TextBlob: Simplified text processing. <https://textblob.readthedocs.io/en/dev/>.
- Mohammad, S., Turney, P. D., & Kiritchenko, S. (2018). NRC-Canada: Building the state-of-the-art in sentiment analysis of tweets. In *Proceedings of the Seventh International Workshop on Semantic Evaluation* (pp. 321–327). Association for Computational Linguistics. <https://doi.org/10.3115/v1/S14-2010>.
- Pang, B., & Lee, L. (2008). Opinion mining and sentiment analysis. *Foundations and Trends in Information Retrieval*, 2(1–2), 1–135. <https://doi.org/10.1561/15000000011>.
- Reardon, B. A. (1999). *Peace education: A review and projection*. Peace Education Reports. <https://files.eric.ed.gov/fulltext/ED445967.pdf>.
- Stubbs, M. (1996). *Text and corpus analysis: Computer-assisted studies of language and culture*. Blackwell.
- Tausczik, Y. R., & Pennebaker, J. W. (2010). The psychological meaning of words: LIWC and computerized text analysis methods. *Journal of Language and Social Psychology*, 29(1), 24–54. <https://doi.org/10.1177/0261927X09351676>.
- Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willig & W. Stainton-Rogers (Eds.), *The SAGE Handbook of Qualitative Research in Psychology* (pp. 17–37). SAGE Publications. <https://doi.org/10.4135/9781526405555>.
- Zhang, Y., Jin, R., & Zhou, Z.-H. (2018). Understanding bag-of-words model: A statistical framework. *International Journal of Machine Learning and Cybernetics*, 1(1–2), 43–52. <https://doi.org/10.1007/s13042-010-0001-0>.