

## STRENGTHENING SCIENTIFIC PUBLICATION LITERACY THROUGH PREDATORY JOURNAL DETECTION TRAINING FOR GEOGRAPHY EDUCATION STUDENTS AT NUSA CENDANA UNIVERSITY

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### Abstract

Scientific publication literacy is a crucial competency for students completing their final research projects, yet many remain unfamiliar with predatory journals and proper journal submission procedures. This community service activity was conducted at the Geography Education Study Program, Nusa Cendana University, targeting 103 sixth-semester and final-semester students who were actively writing their theses. A preliminary survey revealed that 68 out of 103 participants did not know how to verify journal credibility or understand the stages of journal submission, both nationally and internationally. To address this, a structured training was conducted focusing on predatory journal detection, national journal classification under the Sinta 1 to 6 indexing system, and the complete journal submission process from manuscript preparation to publication. Following the training, post-test results showed that approximately 85 participants were able to distinguish predatory journals from legitimate ones, understand the journal submission stages, and differentiate between national and international journal categories. These results demonstrate that targeted training significantly improved students' scientific publication literacy and prepared them to make informed decisions when selecting journals for publishing their research findings.

**Keywords:** Predatory Journal, Scientific Publication Literacy, Journal Submission, Sinta Indexing, Geography Education.

### INTRODUCTION

The ability to publish scientific work has become an increasingly essential competency for university students, particularly those completing undergraduate theses. In the current academic landscape, the dissemination of research findings through reputable journals is not only a matter of academic achievement but also a prerequisite in many Indonesian higher education institutions for graduation eligibility (Kementerian Pendidikan dan Kebudayaan, 2020). However, the rapid proliferation of online journals has created a complex publishing environment in which predatory journals, those that exploit the open-access model by charging

publication fees without providing legitimate peer review, have become a serious threat to the integrity of academic publishing (Elmore & Weston, 2020; Grudniewicz et al., 2019).

Predatory journals have grown exponentially in number over the past decade, making it increasingly difficult for novice researchers, including undergraduate students, to distinguish credible publications from deceptive ones (Cobey et al., 2018). In Indonesia, this problem is particularly acute given the government's push for increased research output and the requirement for students to publish their thesis findings in indexed journals (Direktorat Jenderal Pendidikan Tinggi, 2021). The national journal indexing system known as Sinta, which classifies journals from Sinta 1 as the highest to Sinta 6 as the entry level, was introduced to help researchers identify quality national journals. Nevertheless, many students remain unfamiliar with how to use this classification system effectively or how to navigate the journal submission process.

At the Geography Education Study Program of Nusa Cendana University, this challenge is clearly evident among sixth-semester and final-semester students who are actively preparing their theses. A preliminary needs assessment conducted prior to this community service activity revealed that 68 out of 103 students did not know how to verify the credibility of a journal, had no understanding of what constitutes a predatory journal, and were unfamiliar with the procedural steps involved in submitting a manuscript to either national or international journals. This condition reflects a broader gap in scientific publication literacy that is not adequately addressed through standard academic curricula.

The lack of publication literacy among students not only risks their research being published in predatory or low-quality journals but also undermines the broader goal of building a credible and productive academic community in Indonesia (Madhavi, 2025). Community service activities that provide practical, hands-on training in journal selection, predatory journal detection, and the submission process represent an effective and contextually relevant intervention to address this gap (Basri et al., 2025). Several studies have demonstrated that structured training significantly improves students' ability to evaluate journal quality and follow proper submission procedures, leading to more informed and confident early-career researchers (Nurainun et al., 2025).

In response to these identified needs, this community service activity was designed and implemented with the aim of strengthening scientific publication literacy among Geography Education students at Nusa Cendana University through targeted training on predatory journal detection, understanding of the Sinta national journal classification system, and step-by-step guidance on the journal submission process from manuscript preparation to final publication. It is expected that through this intervention, students will be better equipped to make informed decisions in selecting appropriate publication venues for their research and contribute meaningfully to the development of academic knowledge.

## **IMPLEMENTATION METHOD**

This community service activity was carried out using a participatory training approach combined with a pre-test and post-test evaluation design to measure the effectiveness of the intervention. The participatory approach was selected because it actively engages participants in the learning process, encourages interaction between facilitators and students, and allows for real-time problem-solving based on participants' actual experiences and needs (Nuryana et al., 2025). This method has been widely recognized as effective in community service and non-formal education settings, particularly when the target group consists of adult learners who benefit more from experiential and applied learning than from conventional lecture-based instruction (Knowles et al., 2020).

The activity was conducted at the Geography Education Study Program, Faculty of Teacher Training and Education, Nusa Cendana University, involving 103 students from the sixth semester and final semester who were actively engaged in thesis writing. The selection of this target group was deliberate, as these students are at the stage of their academic journey where the ability to identify credible journals and submit manuscripts is most immediately relevant and necessary. Prior to the main training session, a preliminary needs assessment was administered through a structured pre-test questionnaire to identify participants' baseline knowledge regarding journal credibility verification, predatory journal characteristics, and journal submission procedures. This initial assessment is consistent with the diagnostic evaluation framework recommended by Stufflebeam and Zhang (2017), which emphasizes the importance of context evaluation before designing any educational intervention.

The training program was structured into four sequential stages. The first stage involved an orientation session in which facilitators introduced the current landscape of academic publishing in Indonesia, including the government's policy on student publication requirements and the role of the Sinta indexing system in classifying national journals from Sinta 1 to Sinta 6. Participants were provided with printed reference materials and guided through the official Sinta website to familiarize themselves with how journal rankings are determined and updated (Direktorat Jenderal Pendidikan Tinggi, 2021). This stage aimed to build foundational awareness and contextualize the relevance of journal selection within participants' immediate academic needs. The second stage focused specifically on predatory journal detection. Participants were introduced to the defining characteristics of predatory journals, including the absence of a legitimate peer review process, lack of transparency regarding editorial boards, misleading journal titles, aggressive solicitation of manuscripts, and the absence of proper archiving or Digital Object Identifier registration (Grudniewicz et al., 2019; Elmore & Weston, 2020).

Practical tools and platforms for verifying journal legitimacy were demonstrated, including the use of the Directory of Open Access Journals, the Scimago Journal Rank portal, and the official Sinta database. Participants were guided through hands-on exercises in which they evaluated sample journals using these tools, allowing them to develop critical evaluation skills in a structured and supervised environment (Cobey et al., 2018). The third stage covered the end-to-end journal submission process, from manuscript preparation to final publication. Facilitators walked participants through each procedural step, including formatting a manuscript according to journal author guidelines, writing a cover letter, using online submission systems such as Open Journal Systems, responding to reviewer comments, and

understanding the stages of editorial decision-making including revision, acceptance, and online publication (Basri et al., 2025).

This practical walkthrough was supplemented by case studies drawn from actual journal submission experiences, enabling participants to anticipate common challenges and develop problem-solving strategies relevant to their own manuscript preparation (Nurainun et al., 2025). The fourth and final stage consisted of a post-test evaluation using the same structured questionnaire administered during the pre-test phase. This pre-test and post-test design is a standard and widely validated approach for measuring knowledge gain in training-based interventions, as it provides a direct comparison of participants' competency levels before and after the activity (Creswell & Creswell, 2018). Facilitators also conducted a brief focus group discussion at the end of the session to gather qualitative feedback from participants regarding the relevance, clarity, and practical utility of the training content.

The results of both the quantitative post-test data and the qualitative feedback were subsequently analyzed to assess the overall effectiveness of the training program and to identify areas for improvement in future iterations of similar community service activities (Mukhlisin et al., 2025). Throughout all stages of implementation, the training maintained an interactive and discussion-based format, encouraging participants to raise questions, share their personal experiences with journal selection, and collaboratively evaluate journal samples. This approach aligns with the principles of andragogy, which prioritize self-directed learning, relevance to immediate problems, and the application of prior experience as a resource for new learning (Knowles et al., 2020). The combination of structured content delivery, hands-on exercises, real-case demonstrations, and reflective evaluation created a comprehensive and contextually grounded learning experience that addressed the specific publication literacy needs of Geography Education students at Nusa Cendana University.

## RESULTS AND DISCUSSION

### 1. Participant Profile and Activity Overview

The community service training activity was attended by 103 students from the Geography Education Study Program at Nusa Cendana University, consisting of sixth-semester and final-semester students who were actively engaged in the thesis writing process. The distribution of participants based on semester is presented in Table 1.

**Table 1. Distribution of Participants by Semester**

Semester	Number of Participants	Percentage (%)
Semester 6	47	45.6
Final Semester (8 and above)	56	54.4
Total	103	100

Table 1 shows that the majority of participants were final-semester students at 54.4 percent, indicating that the training was particularly timely given that these students are at the most critical stage of completing their academic work and are most immediately required to identify and submit to appropriate journals. That final-year students represent the most urgent target group for publication literacy interventions due to their imminent need to publish thesis

findings as part of graduation requirements.

## 2. Pre-Test Results: Baseline Knowledge Assessment

Prior to the training, a structured pre-test was administered to all 103 participants to assess their baseline understanding of three key competency areas: predatory journal identification, journal credibility verification, and journal submission procedures. The pre-test results are presented in Table 2.

**Table 2. Pre-Test Results of Participants' Baseline Knowledge**

Competency Area	Understood	Did Not Understand	Understanding (%)
Predatory journal identification	18	85	17.5
Journal credibility verification	35	68	34.0
Journal submission procedures	22	81	21.4
Sinta classification system (1-6)	29	74	28.2
International journal differentiation	15	88	14.6

The pre-test data in Table 2 reveals a significant gap in participants' baseline knowledge across all five competency areas. The most critical deficit was observed in international journal differentiation, where only 14.6 percent of participants demonstrated prior understanding, followed by predatory journal identification at 17.5 percent. These findings confirm the results of the preliminary needs assessment, the majority of undergraduate students in Indonesian higher education institutions lack foundational competencies in distinguishing legitimate journals from predatory ones, largely due to the absence of structured publication literacy content in standard academic curricula. The low comprehension rate regarding Sinta classification at 28.2 percent further underscores the need for targeted training on Indonesia's national journal indexing framework.

## 3. Post-Test Results: Knowledge Improvement After Training

Following the completion of all four training stages, a post-test using the same structured questionnaire was administered to measure knowledge gain across the same five competency areas. The comparative results of pre-test and post-test scores are presented in Table 3.

**Table 3. Comparison of Pre-Test and Post-Test Results**

Competency Area	Pre-Test	Post-Test	Improvement (persons)	Improvement (%)
Predatory journal identification	18	89	71	68.9
Journal credibility verification	35	91	56	54.4
Journal submission procedures	22	87	65	63.1
Sinta classification system (1-6)	29	95	66	64.1
International journal differentiation	15	82	67	65.0

The post-test results presented in Table 3 demonstrate a substantial improvement in participants' understanding across all competency areas following the training intervention. The most notable improvement was recorded in predatory journal identification, where the number of participants who demonstrated understanding increased from 18 to 89, representing a gain of 68.9 percentage points. This is followed by international journal differentiation with an improvement of 65.0 percentage points, Sinta classification system comprehension at 64.1 percentage points, and journal submission procedures at 63.1 percentage points. These findings are consistent with Nurainun et al., (2025), who reported significant pre-test to post-test gains in publication literacy competencies following structured training programs, and with Mukhlisin et al., (2025), who demonstrated that hands-on, participatory training formats are particularly effective in improving students' ability to critically evaluate and select journals for publication

#### 4. Overall Training Effectiveness

To provide a clearer picture of overall training effectiveness, the average pre-test and post-test comprehension rates across all five competency areas were calculated and are summarized in Table 4.

**Table 4. Overall Training Effectiveness Summary**

Evaluation Stage	Avg. Understood	Avg. Comprehension Rate (%)
Pre-Test	23.8	23.1
Post-Test	88.8	86.2
Net Improvement	65.0	63.1

Table 4 illustrates that the average comprehension rate increased dramatically from 23.1 percent at the pre-test stage to 86.2 percent at the post-test stage, representing an overall net improvement of 63.1 percentage points. This substantial gain demonstrates that the structured training program was highly effective in addressing the identified knowledge gaps among Geography Education students at Nusa Cendana University. The effectiveness of this intervention is further supported by the andragogical framework applied throughout the training, which emphasizes problem-centered learning, immediate relevance to participants' academic needs, and the integration of experiential exercises that mirror real-world publication scenarios (Knowles et al., 2020). These principles were operationalized through the hands-on predatory journal detection exercises, guided navigation of the Sinta and DOAJ platforms, and the step-by-step walkthrough of the Open Journal Systems submission process, all of which contributed to the observed improvements in participant competency (Basri et al., 2025).

## **5. Participant Feedback and Qualitative Findings**

In addition to the quantitative evaluation, a brief focus group discussion was conducted at the end of the training session to gather participants' qualitative reflections on the activity. The majority of participants expressed that the training significantly increased their confidence in evaluating journals independently and that the hands-on exercises using real journal examples were the most valuable component of the program. Several participants from the final semester noted that they had previously submitted their manuscript abstracts to journals without verifying the journals' indexing status or peer review legitimacy, highlighting the critical and timely nature of the intervention. These qualitative findings reinforce the quantitative results and align with Cobey et al. (2018), who emphasized that practical, tool-based training approaches are more effective than purely theoretical instruction in building researchers' capacity to identify and avoid predatory journals. Furthermore, participants expressed a strong interest in follow-up sessions covering advanced topics such as manuscript writing strategies, journal impact factor analysis, and citation management using reference tools such as Mendeley and Zotero, suggesting that the training has successfully stimulated broader engagement with scientific publication literacy among the student community (Madhavi, 2025).

## **CONCLUSION**

This community service activity successfully addressed a critical gap in scientific publication literacy among Geography Education students at Nusa Cendana University. Through a structured participatory training program targeting 103 sixth-semester and final-semester students, the intervention demonstrated measurable and significant improvements across all five competency areas assessed, namely predatory journal identification, journal credibility verification, journal submission procedures, Sinta classification system comprehension, and international journal differentiation. The overall average comprehension rate increased from 23.1 percent at the pre-test stage to 86.2 percent at the post-test stage, reflecting a net improvement of 63.1 percentage points and confirming the effectiveness of the training design and delivery approach.

The findings of this activity underscore the urgent need to integrate scientific publication literacy into the formal academic curriculum of higher education study programs, particularly for students who are approaching the thesis completion and publication stage. The high initial knowledge deficit observed prior to the training, combined with the substantial gains recorded after the intervention, suggests that many students enter the publication process without adequate preparation, placing them at risk of submitting their work to predatory or non-credible journals. A targeted training approach that combines theoretical foundations with practical, tool-based exercises, as applied in this activity, offers an effective and scalable model for addressing this gap across other study programs and institutions in Indonesia.

Going forward, it is recommended that similar training programs be conducted on a regular and institutionalized basis, ideally integrated into thesis supervision workshops or academic writing courses offered at the study program level. Expanding the training content to include advanced topics such as manuscript writing strategies, academic citation management, journal impact factor analysis, and the use of reference management tools such as Mendeley and Zotero would further strengthen students' overall research dissemination competencies. The

success of this activity at Nusa Cendana University provides a replicable model that can be adapted and implemented across other higher education institutions in Indonesia as part of a broader effort to improve the quality and integrity of student academic publications.

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