


Demystifying International Publications: A Structured Training Model to Facilitate UIN SU Lecturers

Rahmah Fithriani^{1,*}, Maryati Salmiah²

Universitas Islam Negeri Sumatera Utara, Jl. William Iskandar Ps. V, Medan Estate, Deli Serdang 20371, Indonesia
¹rahmahfithriani@uinsi.ac.id*; ²maryatisalmiah@uinsu.ac.id
*corresponding author

ARTICLE INFO	ABSTRACT
<p>Article history Received May 22, 2022 Revised Dec 15, 2022 Accepted Dec 19, 2022</p> <p>Keywords International publication Research & Development Scholarly article Tridharma Perguruan Tinggi UIN Sumatera Utara</p>	<p>Writing scholarly papers that meet international standards, such as those indexed by Scopus, has been a source of concern for lecturers at Universitas Islam Negeri Sumatera Utara (UIN SU) Medan, thus, became one of the factors that prompted this study. Employing R&D approach through ADDIE model, this research involved 20 lecturers from different educational backgrounds, skills, and units that represented the demographic site of UIN SU Medan as the participants. The results showed that the effective steps of training program for UIN SU Medan lecturers include the followings: 1) Conducting the training program for at least seven meetings; 2) Going through all the six steps of training; 3) Identifying the targeted journals; 4) Going through peer re-viewing process; 5) Improving writing ability; and the last, 6) changing perception. Those findings concluded that an effective training model that is also suitable for the lecturers' needs is a training model that is like the findings of this study.</p> <p>This is an open access article under the CC-BY license.</p> 

I. Introduction

Indonesian Higher Education (HE) institutions have three main functions known as Tridharma Perguruan Tinggi (the three pillars of higher education), which include activities in education, re-search, and community services. Those three main functions are related to each other in improving the quality of HE educators (Nulhaqim et al., 2016). Thus, all academic community members in an HE institution should work together to implement them. Among those three functions, HE institutions in Indonesia are facing major challenges related to improving the quality of research activities, especially in international publications (Gusmuliana et al., 2022; Nurfaidah et al., 2020). This is an important and urgent issue as the academic and human re-source quality of a higher education institution is measured based on published scientific works, and the scientific works which are published internationally, read globally, and indexed by valid and recognized database will add value to the educational institution in order to meet the requirement to be categorized as a 'World Class University' (Çakır et al., 2019; Tian & Lu, 2017).

In general, the number of Indonesia's international scientific publications had not been satisfactory. Based on statistical data re-leased by SCImago Lab. (www.scimagojr.com), the number of Indonesia's scientific papers published on the international scale in 2013 was only

ranked 61st from 239 countries in the world (Subekti, 2018) and in 2014 was ranked 52nd from 229 countries (Pramisti, 2019). In comparison with those of Asian countries, Indonesia's intellectual products in scientific publications were also relatively low. Based on the survey conducted by the World Economic Forum through the Global Growth Competitiveness Index in which one of the indications is High-er Education and Training, Indonesia ranked 50th out of 144 countries in 2013. Compared to other ASEAN cpercentuch as Singapore that ranked the 2nd, Malaysia 25th, Brunei 28th, and Thailand 38th, the condition of Indonesia's international scientific publication was still around 25 percentage. Meanwhile, based on the number of publications indexed by SCOPUS, a database of publication that is quite trusted as a standard of legal publications as well as the publication metrics provider throughout the world, Indonesia ranked only 11th below other Southeast Asian countries like Thailand, Malaysia, and Singapore (Sugriwa, 2014).

The data presented previously indicate that Indonesia's international scientific publications are still low and needs to be developed. This unsatisfactory position might be rooted in a variety of reasons and one of them is Indonesian HE educators' lack of writing ability, especially in international standard (Lukman et al., 2016). Writing for international readership, which is commonly written in

English is indeed a great challenge not only for Indonesian but also for most of non-native English-speaking writers (Jiang et al., 2017) due to the language barrier and different conceptual ways of expressing ideas through written communication (Fithriani, 2017).

The low number of Indonesia's international scientific publications was forcing the Ministry of Research, Technology and Higher Education (shortened to *Kemristekdikti*) to formulate new rules as an effort to accelerate the number of international scientific publications of Indonesian academicians. In these rules, all the lecturers in Indonesia are obligated to publish international scientific writing. The results appear to be positive, where in recent years the number of Indonesia's international scientific publications has increased significantly. Based on the statement of Minister of Research, Technology and Higher Education Prof. Mohamad Nasir, in 2017 the number of Indonesian globally indexed inter-national scientific publications had been ranked 3rd among ASEAN countries, under Malaysia and Singapore (Fatimah, 2018). The position exceeded Thailand, which in 2016 was still above Indonesia. Meanwhile per 6 April 2018, Indonesia has been ranked the 2nd with 5.125 publications (Seftiawan, 2018).

Unfortunately, this positive trend has yet to permeate many Indonesian universities, including UIN SU. This is evident by the low number of international scientific publications of UIN SU affiliated academicians listed in the databases of international publication indexing. UIN SU's position is currently far from the top 10 universities in Indonesia according to Science and Technology Index (shortened to *SINTA*) by *Ristekdikti* (<http://sinta2.ristekdikti.go.id/>). Even when compared to other state Islamic universities in Indonesia, UIN SU falls short of UIN Bandung, UIN Jakarta, and UIN Raden Intan. Given that UIN SU is aiming for WCU as an academic quality achievement, this condition could be classified as very risky. To become a world-class higher education institution, UIN SU must be qualified to be aligned with other elite campuses both in the Indonesian and global contexts.

A growing number of HE institutions in Indonesia have made strategic plans and movements to increase their academic staff's ability in scientific writing. Among the most popular movements is the implementation of training and mentoring programs for lecturers and students (Lukman et al., 2016). Thus, in relation to the issues and challenges faced by UIN SU lecturers in disseminating their research for international readership, this study was conducted with the main objective to design and develop an effective training model to improve the ability to write international standard scientific papers for UIN SU Medan lecturers. Thus, in line with the background and the main objective previously presented, this study is expected to contribute both theoretically and practically to the development of training models for writing scientific papers for international publications for university lecturers, particularly those of UIN SU.

A. The Importance of International Publications for Indonesian Lecturers

Research dissemination as part of Tri-dharma Perguruan Tinggi has many goals and benefits, not only for the HE institutions but also for the wider community. Communities living in the Industrial Revolution 4.0 era where technology has an increasingly broad role in life are facing new problems that are more complex and may not be found in previous eras. It is in this capacity that higher education institutions are required to play an active role in finding and providing solutions to scientifically overcome the increasingly complex society's problems through. HE institutions should develop research activities so that the benefits are expected to have a more real impact in solving existing issues in society.

In the perspective of research benefits for the HE institution itself, research activities in the context of Tridharma Perguruan Tinggi are among the factors determining its quality (Nulhaqim et al., 2016). Specifically, research activities carried out by HE educators can boost the reputation of the HE institution with which the writers are affiliated on a national and international scale. This is because the amount of research produced by educators in a HEI becomes a standard for determining the institution's ranking, such as those conducted by reputable rating agencies such as *QS World Ranking* and *Webometrics* (Çakır et al., 2019; Tian & Lu, 2017).

Regarding personal benefits, disseminating research works in a global context has a variety of implications, including assisting academics in meeting specific job requirements and accomplishment as a guarantee of financial and career stability (Bartkowski et al., 2015; Sletto et al., 2020). Additionally, because writing is an effective means of communicating empirical findings, publishing papers in internationally reputable journals allow lecturers to actively participate in global community of discourse and assist them lecturers in gaining national and international recognition and acknowledgement as experts in a particular field (Arsyad, 2018; Gusmuliana et al., 2022). Finally, one of the most frequently cited benefits of international publication is that it satisfies one of the prerequisites for advancement to a higher academic position (Cogburn & Neely, 2015). Many Indonesian HE context, many research activities have been carried out in recent years solely to gain the benefit, as fulfilment of promotion for the teaching staff. As a result, there is a perception that research activities are not taken seriously and are merely carried out to complete routine promotional efforts, thus it is natural that the outcomes are less than optimal (Rahardjo, 2010).

Research as an academic obligation stated in Tri-dharma Perguruan Tinggi cannot be separated from the writing and publication of scientific papers. Considering its benefits affecting the overall quality of a HE institution, it is important for universities in Indonesia to give a greater focus on research activities so that campuses in Indonesia

are no longer only known as knowledge transfer institutions but also science development and producing institutions. It is in this consideration too that the government of Indonesia made a regulation to develop science and/or technology through reasoning and scientific research as part of professionalism for lecturers in a higher education institution which is stipulated in Article 12, Paragraphs (2) and (3) of Law Number 12 Year 2012 about Higher Education (Pemerintah Indonesia, 2012). Furthermore, it is also stated that lecturers are obliged to disseminate their research results to the public both on a national and international scale.

In the last few years, Kemenristekdikti, the ministry that oversees higher education institutions in Indonesia, has been incessantly boosting internationally published scholarly articles written by Indonesia's HE lecturers. To emphasize the importance of publishing scholarly articles in internationally reputable journals, Kemenristekdikti states that publishing dissertation research in international journals is one requirement for graduate students before completing their doctoral studies (Depdikbud, 2012). This regulation was set with the aim to improve academic as well as research quality in higher education so that scientific products can highly have competitiveness and internationally published scientific papers are considered to have the criteria needed to guarantee the quality of research since they have been through a peer review and rigorous selection from experts in their fields.

B. The Landscape of International Publications by Indonesian Lecturers

Broadly speaking, the number of Indonesian international scientific publications has not been satisfactory. Based on the statistical data released by SCImago Lab. (<http://www.scimago.com/>), the number of scientific papers published on the international scale of Indonesia in 2013 was only ranked 61st in the world from 239 countries. In line with the data released by SCImago Lab, a survey by Scientific American showed the contribution of Indonesian scientists in the realm of scientific development each year was only about 0.012%, which was far below Singapore with a contribution of 0.179% and, not to mention the United States, which contributes more than 20%. Based on a survey conducted by the World Economic Forum through the Global Growth Competitiveness Index, Indonesia ranked 50th in the interstate competitiveness of 144 countries.

For the ASEAN level itself, per 2015, Indonesian intellectual products in scientific publications were relatively low, in comparison with neighboring countries such as Singapore in the 2nd rank, Malaysia in the 25th, Brunei in the 28th, and Thailand in the 38th. In general, the condition of Indonesian international scientific publication was still around 25%. Meanwhile, based on the total of

publication indexed by SCOPUS, an indexing database that is believed to be one of the bona fide benchmarks of a publication as well as a provider of publication metrics worldwide, Indonesia ranked only the 11th, which was below most other Southeast Asian countries such as Thailand, Malaysia, and Singapore.

The insignificant contribution of international publications by Indonesian researchers forced the Ministry of Research, Technology, and Higher Education (Kemenristek, 2019) to create new regulation to accelerate the total number of international scientific publications by Indonesian academics, including lecturers and university students. The effect of this new regulation has been enjoyed in the past three years, indicated by the increase of Indonesian International publications as presented in Figure 1. As it can be seen, in 2015 Indonesia produced only 8.498 documents, which were much fewer than those produced by Singapore who claimed the first position. In 2014, the number of international publications increased to 12.493, however it was still below three other neighboring countries; Singapore with 30.525 documents, Malaysia with 21.293 documents, and Thailand with 14.878 documents. The significant increase could be observed in the next two years; in 2018, Indonesian scientists produced 20.594 international publications and successfully claimed the second position among all ASEAN countries; and in 2019 during which Indonesia finally topped all other ASEAN countries including Singapore with a total of 33.411 documents. In 2019, the number of international publications decreased to 22.888 documents, yet Indonesia still claimed the second position just below Singapore.

C. Factors Influencing Indonesia's Low International Publications

There are various factors causing Indonesia's international scientific publications lower than those of other developed and neighboring countries. Generally, they could be divided into two categories; the external factors which include Indonesia's HE academic culture encouraging students to memorize rather than to express their ideas through writing and lack of supporting research facilities and infrastructure (Lukman et al., 2016), and the internal ones including one's competence and motivation (Pardjono et al., 2017).

Related to the internal factors, most Indonesian lecturers commonly find language barrier as a major excuse why it is particularly difficult for them to write scholarly articles for international readership. Pouring ideas in written language itself is already challenging since it comprises a complex mental process involving multiple skills from cognitive analysis to linguistic synthesis (Fithriani, 2020). The challenges are even doubled as most mainstream journals use English as their working language, while the language serves only as a foreign one in Indonesia.

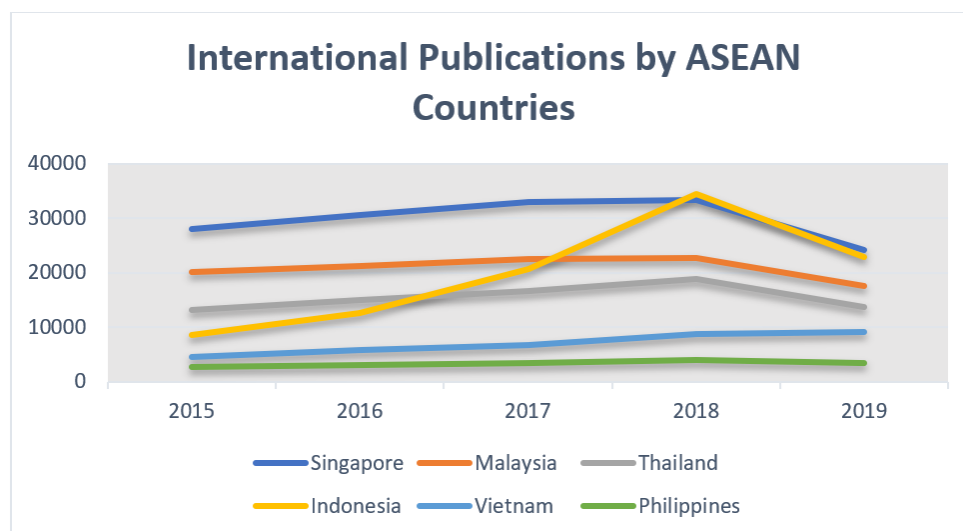


Fig. 1. Indonesian International Publications in Comparison with Other ASEAN Countries (Source: Kemenristek/BRIN, 2019)

This means that most Indonesian are neither familiar nor fluent in using English in both oral and written communication. Thus, it becomes more challenging for Indonesian researchers to write in English since they need to transfer their ideas from Indonesian to English and organize them into new and different rhetoric patterns than what they are already familiar with (Fithriani, 2018). As a result, the rejection rate considerably high when Indonesian lecturers send their manuscripts to reputable international journals since the author's poor linguistic skills become one major reason for paper rejection (Salih et al., 2014).

Table 1. The comparison of international publications by UIN SU Medan lecturers and other state universities lecturers in North Sumatra (Per December 4th, 2020)

No	National Rank	Higher Education Institution	Number of Publication SCOPUS	Google Scholar
1	12	Universitas Sumatera Utara	5,988 documents	51,202 documents
2	64	Universitas Negeri Medan	724 documents	18,781 documents
3	192	UIN SU Medan	104 documents	7,077 documents

In addition to language competence, digital literacy is also closely related to one's ability to write and publish a research article (Yazon et al., 2019). The term digital literacy is defined as the set of competencies that enable one to use Information and Communication Technologies (ICT) tools to participate in a knowledge society fully (Parvathamma & Pattar, 2013; Sen, 2017). A digitally literate person should be able, among other skills, to access, evaluate, organize and pre-sent digital information (Pagani et al., 2016). These skills are particularly necessary for lecturers who are preparing manuscripts for international publications since credible re-sources containing recent and relevant literature and studies are mostly available in

digital formats. In addition to this reason, most journals are managed through the open journal system (OJS) to ensure that they can be freely accessed by the global community. It means that a lecturer planning to send a manuscript to a reputable journal should be able to navigate the common features available on the OJS website such as downloading the author guidelines and uploading the manuscript. Unfortunately, studies have reported that Indonesia is among the countries with low digital literacy (Kurnia & Astuti, 2018; Kurniawan, 2016). Thus, it could be hypothesized that lack of digital literacy be a potential reason why Indonesian lecturers' productivity in writing for international publication is still low.

Finally, many Indonesian lecturers are still unaware of the importance of disseminating their research to the international academic community. They tend to believe that publishing scholarly articles in reputable international journals is just a process they must run, whether they like it or not, to fulfil the requirements for promotion to higher functional positions (Rahardjo, 2010). Therefore, it is still quite common to find lecturers who think that the obligation of international publications is just a burden rather than an opportunity to shape and develop their reputation among international academic community within their expertise.

D. The Recent Condition of UIN SU Lecturers' International Publications

The increasing number of Indonesian international scientific publications and the regulations from the Minister of Research and Technology emphasizing the importance of international scientific publications seemed have no major effect on the quantitative improvement of research conducted by lecturers in UIN SU. It can be seen from the low number of international scientific publications of UIN SU if compared to other university lecturers in Indonesia. Based on the data retrieved from SINTA, as of December

2020 UIN SU was ranked 192nd nationally with only 104 scientific publications indexed by SCOPUS.

The number of these scientific publications was far below those produced by the universities named in the list of the top 10 in SINTA. Even when compared with two other state universities in North Sumatra, UIN SU Medan was still far below the University of North Sumatra (USU) which was in the 12th position nationally with 5,988 publications indexed by SCOPUS and the State University of Medan (UNIMED) which was in the 64th position nationally with 724 publications indexed SCOPUS (see Table 1). Meanwhile, in the ranks of State Islamic Universities throughout Indonesia, UIN SU Medan was al-so at the bottom of the board with the position of 11th from 17 universities recorded in the SINTA database (Table 2).

Based on the data presented in the two tables, it can be concluded that the productivity of publishing scholarly articles internationally by UIN SU Medan academic community was still far behind the top-ranked universities in Indonesia. For this reason, an effort should be made to improve the international scientific publication written by UIN SU Medan lecturers so they could compete at the national and international levels.

Table 2. The comparison of international publications of UIN SU Medan and other state Islamic universities in Indonesia (Per December 4th, 2020)

No	Higher Education Institutions	Number of SCOPUS-Indexed Publications
1	UIN Syarif Hidayatullah Jakarta	1.079 documents
2	UIN Sunan Gunung Jati Bandung	852 documents
3	UIN Sultan Syarif Kasim Riau	406 documents
4	UIN Maulana Malik Ibrahim Malang	339 documents
5	UIN Sunan Kalijaga Yogyakarta	240 documents
6	UIN Ar-raniry Aceh	236 documents
7	UIN Sunan Ampel Surabaya	217 documents
8	UIN Raden Intan Lampung	188 documents
9	UIN Alauddin Makassar	148 documents
10	UIN Walisongo Semarang	127 documents
11	UIN Sumatera Utara Medan	104 documents
12	UIN Raden Fatah Palembang	94 documents
13	UIN Sulthan Thaha Saifuddin Jambi	94 documents
14	UIN Imam Bonjol Padang	42 documents
15	UIN Mataram	42 documents
16	UIN Sultan Maulana Hasanuddin Banten	36 documents
17	UIN Antasari Banjarmasin	21 documents

II. Method

A. Research Design

This study applied Research and Development (R & D) design with ADDIE model. Sugiyono (2009) defines R & D as a research design used to produce certain products and test their effectiveness of the products. Therefore, considering the purpose of the research to design and develop conceptual model training of international scientific writing for UIN SU Medan lecturers, R & D is the most appropriate design used in this study. ADDIE model is a general abbreviation for five research steps in the instructional design process: Analysis, Design, Development, Implementation and Evaluation. Branch (2009) mentioned that ADDIE model used input-process-output paradigm which is possibly to produce effective and efficient teaching or training design.

B. Research Site and Participants

Using purposive sampling, the researcher recruited 20 lecturers of UIN-SU Medan, Indonesia coming from eight faculties and one postgraduate school. Purposive Sampling was used to ensure that the participants possess the qualities needed for this study (Etikan et al., 2016). In this case, this study needed to involve UIN-SU Medan-affiliated lecturers with the demographic characteristics representing the overall lecturers in terms of age range, field of expertise, level of education, and courses taught. This study was conducted for nine months from January to September 2019.

C. Data Collection

The researcher collected the data through a variety of instruments including demographic survey, questionnaire of need analysis, survey, face to face interview, observation and writing script (documentation). The primary data were collected through surveys, questionnaires, interviews, and observations while the secondary data were collected through documentation analysis. A demographic survey was used to gather the needed information for participant recruitment. The survey was divided into two parts with every part having five questions. The first part of the survey was given to find out demographic data of participants while the second part of survey was given to explore the participants' experiences in scientific writing. Questionnaire of need analysis was given to find out the needed conceptual model of training for the lecturers, to explore participants' perception of their ability to write scientific writing based on the format of international scientific writing and to evaluate the effectiveness of the conceptual model of training. Therefore, the questionnaire was given twice, before and after the implementation session. It consisted of 42 items which were divided into 9 parts based on the systematic part of scientific writing. Next, a survey was given to collect the data of participants' perception on the effectiveness of implemented conceptual model of training. It was a survey monkey type consisting of 10 open-ended questions distributed to the participants after

the training was implemented. Face to face interview was conducted to 10 participants to find out the deep in-for-mation about the survey. The interview was held in 30 minutes at the place chosen by the participant. The last instrument, writing script, was collected before and after the training was given. Overall, there were 40 writing scripts that were collected to find out the information about the improvement and decrease of their scientific writing quality. It was also applied to the comparison data of the given respond in the other instrument.

D. Data Analysis

The data collected were analyzed by using two methods: namely frequency count and content analysis. The frequency count was used to find out challenges the participants faced when writing for international publication, while content analysis was to explore their experiences and perceptions during training. According to Ary et al. (2010), content analysis aims to identify and analyze the characteristics of the material found. Hence, the researchers analyzed the effective characteristics contained in the training to improve the lecturers' scientific writing for international standard. Finally, in analyzing the manuscripts, two experts were invited to check the completion of each section of the manuscripts.

To maintain the trustworthiness of this study, the re-searcher applied three kinds of trustworthiness. First, for every data collected through different instruments, the re-searcher matched them to know whether they supported each other. Second, after the data were interpreted, the re-searcher did a member checking process. The researcher

shared the data interpretations to the participants to allow them to discuss and clarify the data. If the data interpretations were like what the participants meant, the data were valid and trustable. Third, as the last trustworthiness type, the re-researcher did peer debriefing to discuss whether the data collected made sense with the evidence found.

III. Results and Discussion

The results of this R & D research presented here were obtained from the data analysis obtained from surveys, observations, interviews, and written texts of participants. The findings of this study will be divided into six sections; one containing the demographic data and the rest representing the five stages according to the procedure proposed in the ADDIE model used in this study, namely: Analysis stage; Design stage; Development stage; Implementation stage, and Evaluation stage.

A. Demographic Data

Prior to conducting the research, the re-researchers collected preliminary data using the demographic survey distributed through the SurveyMonkey link (<https://www.surveymonkey.com/r/5X35WPW>) with the purpose to collect the demographic data of potential participants as well as their past experiences in writing for publications. Of 89 potential participants responding to the survey, 20 were selected and invited to join the training. An overview of the demographics of the training participants is detailed in Table 3. To meet the research code of ethics, the participants' names were changed to pseudonyms.

Table 3. Participants' Demographic Data

No	Nama	Sex	Age	Degree	Course Taught	Faculty
1	Kesyia	F	42	Master	Indonesian Language	FITK
2	Zainab	F	38	Doctor	Research Methodology	PPS
3	Herni	F	29	Master	Management Accounting	FEBI
4	Nurdin	M	36	Master	Math Teaching Planning	FST
5	Riza	M	54	Doctor	Algorithms and Programming	FST
6	Anita	F	45	Master	Reproduction Health	FKM
7	Indah	F	38	Master	Curriculum Development	FITK
8	Sultan	M	63	Doctor	Science Learning DI MI/SD	FITK
9	Bondan	M	34	Master	Islamic Education Philosophy	PPS
10	Lina	F	42	Doctor	Agrarian Law, Customary Law	FSH
11	Aldo	M	40	Doctor	Mass Communication	FIS
12	Amin	M	36	Master	Ushul Fiqh	FSH
13	Rania	F	54	Master	Interpretation of Economic Verses and Hadith	FEBI
14	Nuri	F	30	Doctor	Early Childhood Obedience Development Method	FITK
15	Jamal	M	33	Master	Ilmu Falak/Astronomy	FSH
16	Syarifah	F	48	Doctor	Research Methodology, Islamic Family Law	FUSI
17	Yani	F	40	Master	Student Developmental Psychology	FIS
18	Santi	F	59	Doctor	Basic Social and Cultural Sciences	FIS
19	Hendra	M	28	Master	Web based Programming	FST
20	Budianto	M	33	Master	Micro and Macro Economics	FEBI
No	Nama	Sex	Age	Degree	Course Taught	Faculty

Based on the data presented in Table 3, 11 of the 20 selected participants are female lecturers, while the other nine are male. The age range of the participants ranges, with the lowest being 25 years and the oldest being 63

years, with lecturers aged 30 and 40 years dominating. In terms of educational background, the number of participants with master's degrees is about equal to the number of participants with Doctorate degrees. Furthermore, the

participants come from different faculties at UIN SU; four lecturers from Faculty of Tarbiyah and Teaching Training (FITK), three from Faculty of Islamic Economics and Business (FEBI), three from Faculty of Social Sciences (FIS), three from Faculty of Sharia and Law (FSH), three from Faculty of Science and Technology (FST), two from Post Graduate School (PPS) and each one lecturer from Faculty of Public Health Science (FKM) and Faculty of Ushuluddin and Islamic Studies (FUSI).

The data gathered from the open-ended part of the demographic survey show that most participants were still not aware of the importance of disseminating their research on a global scale. A significant number of the participants (almost 50% of them) admitted that the main function of publishing a paper in an internationally reputable journal is to fulfil the requirement for the promotion to full professorship, as shown in the following excerpt:

"Menurut saya menerbitkan tulisan di jurnal internasional itu tentunya sangat penting bagi dosen karena kalau tidak bisa-bisa karimnya hanya akan berakhir di lektor kepala" [I think publishing articles in international journals is of course crucial for lecturers because if they don't do it their teaching career will only end as senior lecturers] (Amin, pre-training survey)

B. Analysis Stage

In this stage, the data from need analysis is used to see how participants self-assess their ability to write international scientific papers and the average level of difficulty writing scientific papers according to their views. Based on the factors influencing the success of writing scholarly articles for international publication; the results indicate that the major factors causing participants' low productivity in writing for international publication is related to the internal ones, namely lack of digital literacy and low competence in writing according to the conventional rhetoric patterns of scientific writing.

The analysis of the data gathered from the demographic survey and the documents indicate that most of the participants did not have sufficient digital literacy needed in the process of writing a manuscript of a scholarly article such as finding credible resources for references and using related studies to support the discussion. As a result, the manuscripts submitted before the training contained very few references, most of which were derived from non-credible resources. Another finding indicating participants' lack of digital literacy is their very limited knowledge about what OJS means and the procedure of submitting a manuscript through it, where to find the potential target of journal, the suitable journals for the topic of their writing, etc.

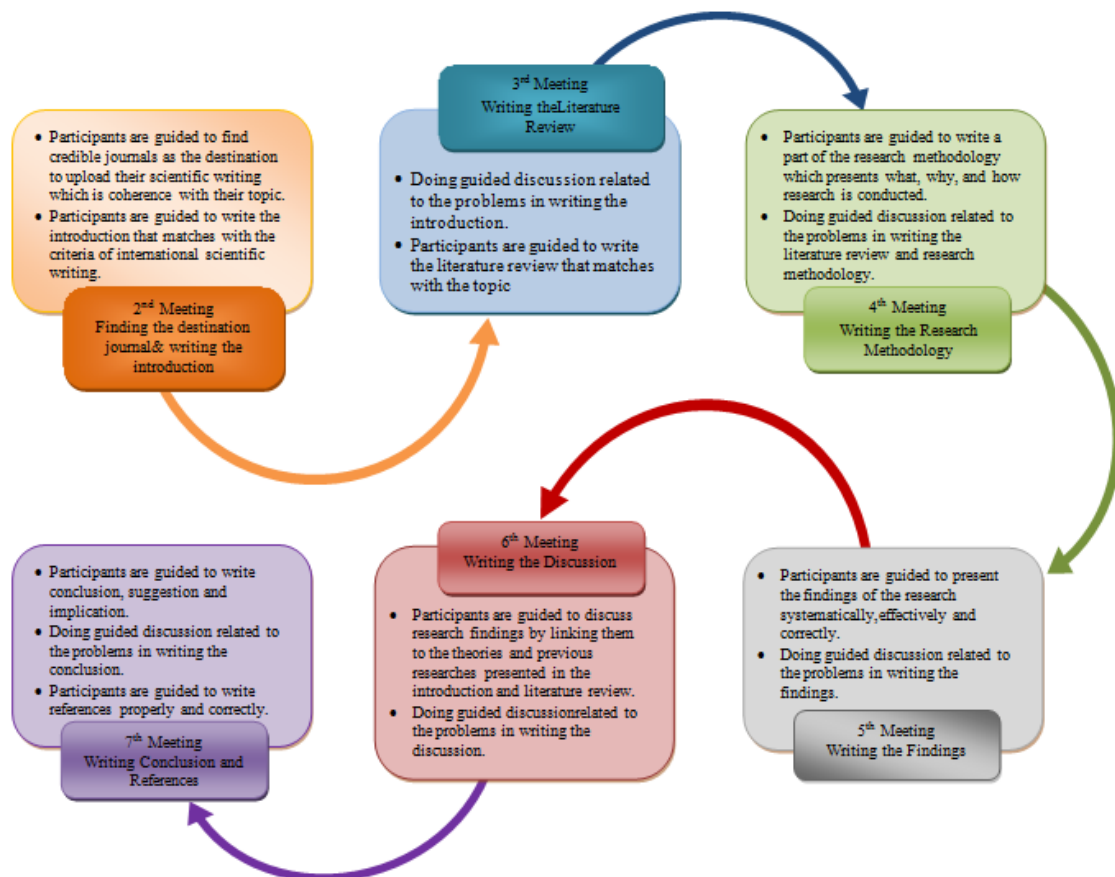


Fig. 2. The Initial Model of Training

Meanwhile, the results related to participants' understanding of the rhetoric patterns reveal that most participants experienced difficulties writing the introduction section. This also relates to the statement given by the training participants that they do not know what they want to write in the introduction and cannot show gaps in the existing library. On the opposite, the easiest part to do according to the trainees is the method section since most of them already know what they need to explain in this part of their articles. This is also supported by the statement of the participants stating they did not find much difficulty in starting the method section, knew what was in the method section, and knew about the population and its recruitment techniques. In conclusion, it can be concluded that the most difficulty encountered by the participants is the introduction section while the most mastered part is the method section.

When compared to the data from their writing drafts, the results show general errors found in most parts of the manuscripts written by the participants. For instance, in the abstract section, generally participants do not include the important information that should be present in an abstract of scientific writing such as the objective of research, methodology of research, findings, conclusion and keyword.

C. Design Stage

Prior to the training program, a training scheme that suits the needs of the participants was designed during this stage. The design process involves four steps as follow:

- The researchers gathered the needed information related to the participants' academic writing skills and experiences in publishing scholarly articles through SurveyMonkey (www.surveymonkey.com), an online survey tool and writing manuscripts.
- The findings from the survey and writing samples were used to inform the researchers what training model and materials suit the needs of the participants.
- The researchers brought the initial training model to a series of discussions with two experts of international publications and peer-debrief sessions with some scientific writing instructors to receive constructing feedbacks, and revised it based on them: and
- The researchers created a survey and a list of interview questions which would be used to gather the data after the designed model was applied to the participants. The use of these two instruments assumed that HE lecturers can assess themselves using Higher Order Thinking Skills (HOTS).

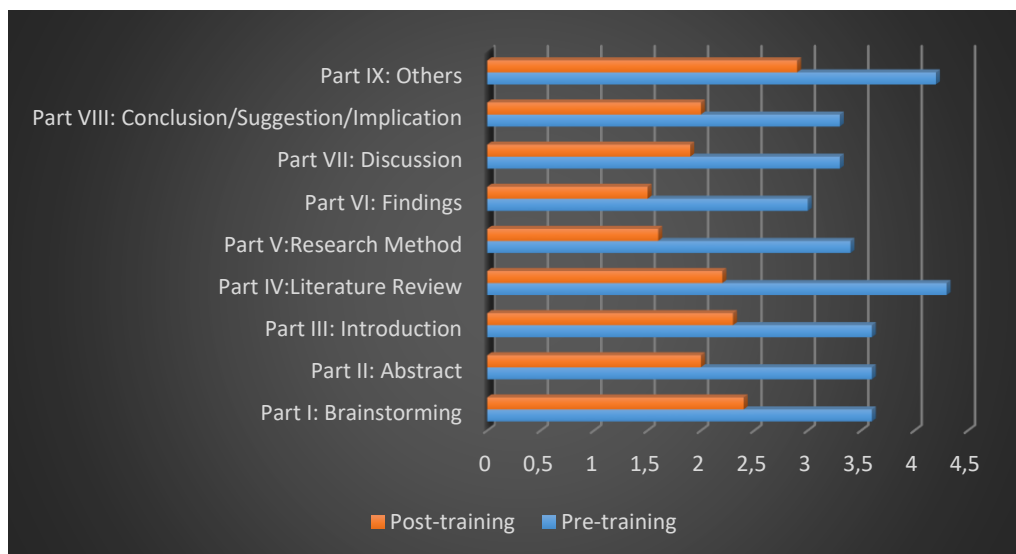


Fig. 3. The Comparison of Participants' Perceptions towards the Difficulties in Writing Scientific Article for International Publications in Pre-training and Post-Training Surveys

D. Developmental Stage

The next stage is the development step, during which the researchers created a series of activities for participants during the training of scientific writing for international publications, starting from finding the targeted journals to writing references according to the appropriate manual style. The training was planned to be conducted in seven meetings. The first meeting was used to provide the

participants with general information about international publications through a seminar session with two experts as speakers. The training session started in the second meeting. Figure 2 shows the training agenda started from meeting two to seven. During each meeting, the topic of discussion was varied, covering the whole parts of a scholarly article. The activities developed during this stage were also discussed with the academic/scientific writing experts for

international publications before it was validated to be implemented in the training program.

E. Implementation Stage

After the initial model was validated by the experts, the researchers implemented it during the seven-meeting training held in UIN-SU Language Center building. Each meeting lasted for six hours. During each meeting, the researchers observed the training process to collect the data needed in the next evaluation training scheme phase. In addition to the data from observations, a post-training survey was also used to find out the participants' perceptions after the training. The results of the post-training survey showed that most participants reported that the training is very useful in increasing their knowledge related to scientific writing for international publications. In addition, they also indicated that their understanding of how to write scientific articles following the convention of rhetoric patterns for international publications is significantly improved as seen in Figure 3. The data in Figure 3 show the positive changes of participants' perceptions towards difficulties in writing a scientific article for international

publication. A closer look to the findings reveals that the most noticeable change was found in part III: introduction section, which initially had an average score of 4.3 to 2.3, with a decrease in the average score of 2. On the contrary, the least observable change was found in section V: the method section, which initially had an average score of 2.3 down just 0.7 to 1.6.

When compared with the data from the participants' writing drafts, the results show that some mistakes were found in the participants' introduction section in both drafts submitted during the pre- and post-training (Figure 4). For writing drafts submitted before the training, it was found that most participants made mistakes in explaining the problems or gaps. Mostly the gaps were not discussed in previous studies and the research objectives were not presented. Most of the participants also failed to explain the importance of the topic of discussion. After the training was given, the manuscripts of the participants show a very rapid increase in which the mistakes found in the previous documents were almost entirely resolved. (See Figures 5 for comparison).

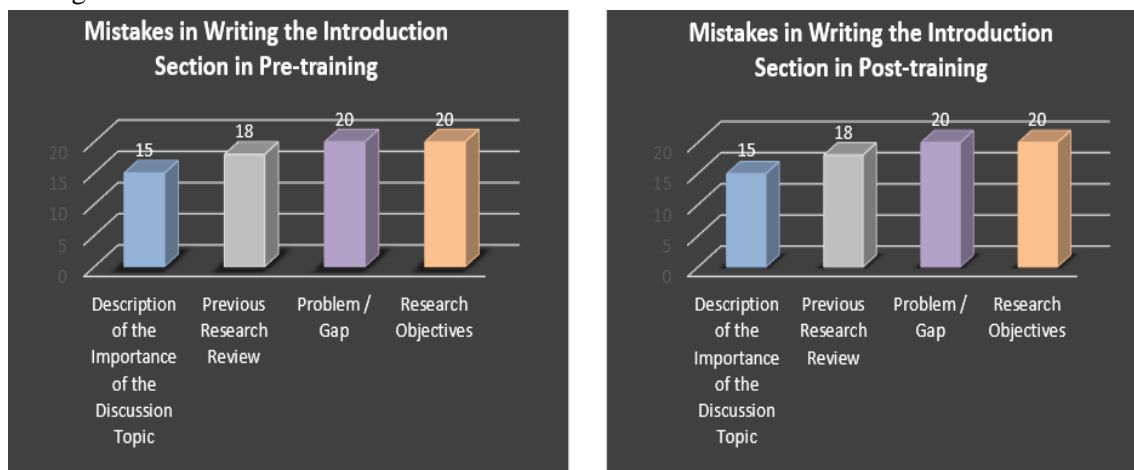


Fig. 4. The Comparison of Mistakes in Writing Introduction at Pre- and Post-Training



Fig. 5. The Comparison of Mistakes in Writing Method at Pre- and Post-Training

Meanwhile, as seen in Figure 6, most participants make mistakes in explaining the method section. Specifically, they fail to explain the aspects of what method and/or approach is used and why that method/approach is chosen. In some cases, many participants still seem confused whether the method they used in their research is quantitative or qualitative. Furthermore, most participants do not provide detailed information related to the instrument used and the procedure of data analysis. After the training was given, the drafts written by the participants show significant improvement where the mistakes found in the previous documents were almost entirely resolved (see Figure 6 for comparison). Merely, only a few participants still failed to explain their research method.

Like what was found on the survey and participants' writings, the results of data analysis from interview also show participants' positive perceptions towards the training as seen in the following excerpts:

"Rasanya sekarang saya lebih paham setiap bagian (artikel) jurnal, bagaimana cara memaparkannya, terus instrument apa yang harus dipakai [I feel I now understand each part of scientific work more, how to describe it, and what instruments I should use" (Anita, post-training survey)]"

"Saya sekarang paham apa yang harus ada dalam abstrak, pendahuluan, metode, dan yang lainnya. Terus perubahan yang paling berasa sekarang aku bisa memahami apa tuh yang dimaksud dengan kesenjangan dalam literatur. Jadi permasalahan dalam tulisanku pun jadi jelas [I came to understand what should be (written) in the abstract, introduction, method, etc. And the change that I felt the most is now I know what gap in literature means. So, the problem (of the study) in my article becomes clearer]" (Rania, interview).

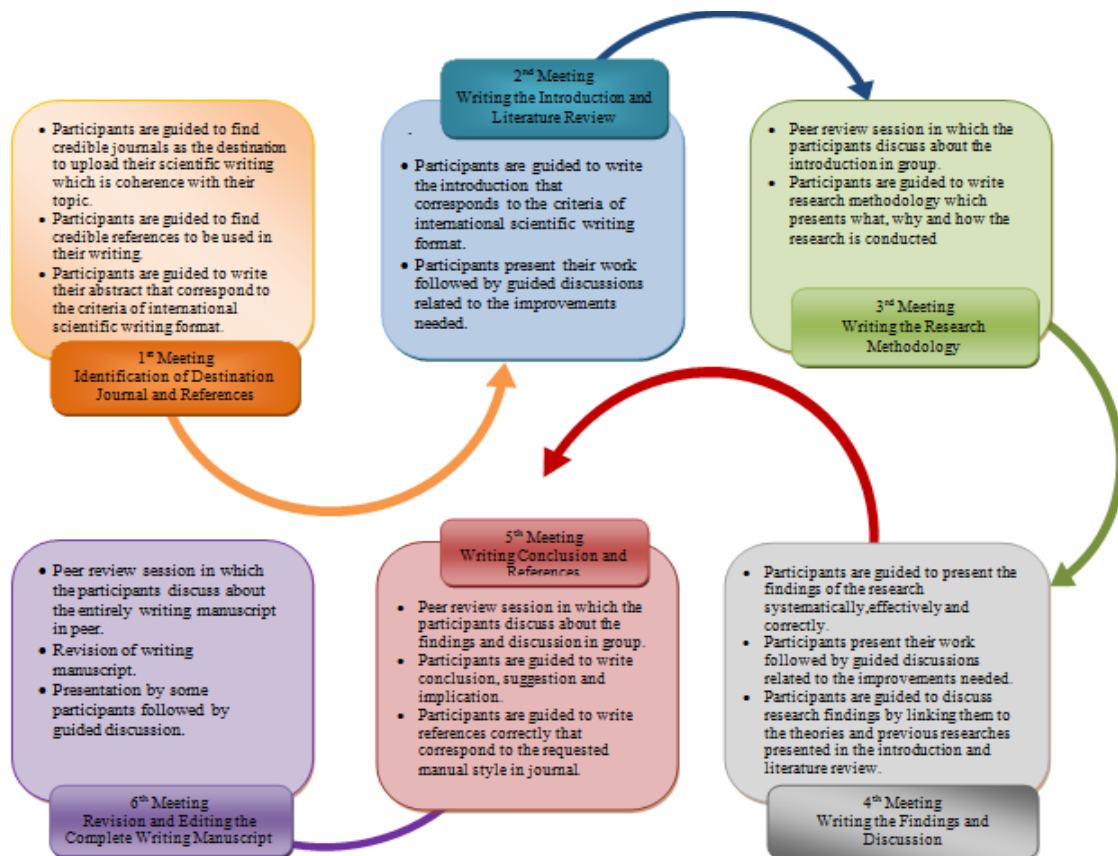


Fig. 6. The Revised Model of Training

F. Evaluation Stage

Despite the positive results found during the implementation stage, the designed training model was not without flaws. Some sections of the drafts written by the participants still have not followed the suggested rhetoric patterns for a scholarly article. In addition, the analysis of the post-training survey shows that at least there were three points of suggestions the participants provided after the training end-ed, as detailed here:

- Training should be given over a longer and routine duration.
- A presentation session is needed to get general feedback from the facilitator and other participants on the drafts written during the training; and
- The provision of peer review in groups and individual sessions after finishing one training topic.

Considering the feedbacks received, in this evaluation step, the researchers revised the activities offered in the initial conceptual model of training with the expectation that it could minimize the deficiencies and obstacles found during the implementation of the previous conceptual training model.

As seen in Figure 6, the revision of the conceptual model of training includes minimizing the number of meetings to 6 meetings. A closer look at the model shows some revision points, including the guided identification of the target journals suitable to the participants' drafts and the credible resources for references to start the training and the provision of peer review in each session after the second meeting.

The results of this study reveal the challenges UIN SU Medan lecturers find in disseminating their research in international journals, which are rooted in three factors, namely, (1) lack of knowledge of the rhetoric patterns of journal articles; (2) low level of digital literacy; and (3) awareness of the importance of international publications. Being incognizant of how to write scholarly articles following the international standards has been mentioned by Lukman et al. (2016). as a reason why many Indonesian writers could not publish their papers in reputable international journals. In this study, the participants' lack of understanding of the rhetoric patterns used in a journal article is indicated by the low quality of the manuscripts submitted by the participants in pre-training stage. This particular result echoes (Fithriani, 2018) notion related to the difficulty commonly faced by writers of non-native English speakers when writing in that language because they need to "organize (their) ideas into new and different (rhetoric) patterns than those in their first language (L1)" (p.3). In addition, it also confirms Pardjono et al. (2017) opinion stating that competence, in this case is that related to writing in internationally accepted rhetoric patterns, is one factor causing the low number of international publications by Indonesian writers.

Furthermore, this study reveals that digital illiteracy is why UIN SU Medan lecturers cannot write scholarly articles for international readership. This finding supports Yazon et al. (2019) belief that digital literacy is closely related to one's ability to write and publish a research article. Thus, when a lecturer is digitally illiterate, he will find it difficult to navigate the OJS as the commonly used system by reputable journals. Without this navigating skill, a lecturer is less likely to publish his writing in international journal, the condition which is explained by Parvathamma & Pattar, (2013); Sen (2017) as being not able to fully participate in a knowledge society. This finding also confirms the researchers' hypotheses that lack of digital literacy is a potential reason why Indonesian lecturers' productivity in writing for international publication is still low.

Finally, UIN SU Medan lecturers' low productivity in international publications is caused by their unawareness of its various benefits, besides its significance for

promotion to a higher academic position. This finding affirms Rahardjo (2010) assumption that research activities within the context of Tridharma Perguruan Tinggi are not seriously carried out, thus therefore the results are not optimal.

Interestingly, language barrier which is often mentioned as a factor why writing for international readership is difficult for Indonesian writers was not proven this study. This is because UIN SU Medan lecturers understand that using translation service is a common practice among non-native English writers who want to submit their manuscripts to academic journals accessed by global community. Thus, it could be assumed that the result of this study contradicts Fithriani (2018) and Pardjono et al. (2017) statements related to the significant role of language competence in producing international publications.

In general, the findings of this study show that sending lecturers to write training and/or workshops proves effective to overcome the challenges they face in writing scholarly articles for international publications. Thus, this study supports Lukman et al. (2016) recommendation to encourage a structured training for publication in reputable international journals in universities research and development institutes in Indonesia.

IV. Conclusion

This R & D research aims to design and develop a training model to improve the ability of UIN SU lecturers to write scholarly journal articles for international distribution. This study suggests that an effective training model involving guided activities and peer feedback could improve lecturers' understanding of how to draft their manuscripts in accordance with international standards, enhance their ability to write scholarly articles for international readers, and alter their perception of the difficulty of writing scientific papers for international publications. Several factors must be considered when implementing the training model designed and developed in this study to achieve optimal results, including the availability of participants' complete written scripts prior to enrolling in the training program and the provision of translation services for manuscripts written in Indonesian. Furthermore, a larger number of participants and a longer evaluation period with both qualitative and quantitative measurements are also required before this training model can be implemented on a large scale.

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