

LECTURERS' REAL CONTRIBUTIONS TO A RESILIENT INDONESIA IN THE ERA OF SOCIETY 5.0

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ABSTRACT

Lecturers as educators must be able to transform into agents of change, agents of analysis, and agents of control towards a strong Indonesia. All of this is in the context of advancing the public interest, educating, and advancing the life of the nation and state. Efforts are being made to implement the Tri Dharma of Higher Education, including education, research, and community service. This study aims to determine the real contribution of lecturers in realizing quality higher education outputs through the implementation of the Tri Dharma of Higher Education. This type of research is descriptive research using the survey method. From the results of this study, it can be suggested that lecturers are a key element to improve qualifications, competencies, and professionalism.

Keywords: Lecturers, Tri Dharam of Higher Education, Tough Indonesia, Society 5.0

PROEM

Society 5.0 was created as a solution for the 4.0 Revolution. During this period, it is necessary to develop character values, promote empathy, and tolerance, as well as develop the ability to think critically, innovatively, and creatively. Society 5.0 aims to integrate virtual space and physical space into one, making things easier with artificial intelligence. In the era of Society 5.0, human work and activities are focused on technology-based Human Centered. In addition to improving training quality, steps must be taken in preparing Indonesian human resources (HR) to be strong and competent lecturers.

Lecturers as educators are an important part of the practice of the Tri Dharma of Higher Education, including: as educators, research and development, and community service. Lecturers must be able to transform into agents of change, agents of analysis, and agents of control. That way, a strong Indonesia to advance the public interest, educate the nation and advance life to liberate the Indonesian nation can be carried out optimally.

LITERATURE REVIEW

The Role of Lecturers Through the Implementation of the Tri Dharma of Higher Education

Universities, in this case, lecturers are required to carry out the Tri Dharma of Higher Education, including:

1. Teaching

Teaching is the main pillar of the Tri Dharma of Higher Education, where the process of transfer of knowledge between teachers and students occurs.

2. Research

Research is a science that has been developed, and born from the educational process carried out by experts. Lecturers make research a medium for enriching the treasures of knowledge for students. The application of this enrichment can be applied through community service.

3. Community Service

Community service is an activity that has the main goal of assisting certain communities in some pure activities without compensation. This service activity is carried out by the academic community by utilizing science and technology to promote a prosperous society and to educate the nation's life, this is the definition of Community Service according to the Higher Education Law no. 12 of 2012.

Efforts to implement the Tri Dharma of Higher Education towards quality universities must be carried out consistently and continuously. Here are some basic theories for implementing the Tri Dharma of Higher Education: (Yuliawati, 2012)

1. Quality Loop

Education is systematically based on graduate skills formulated in a quality loop in which all components of the educational process are fully interrelated. The following are the four scopes of systemic activity: (a) This cycle begins with careful identification of market needs and then establishes the capacity standards used to develop the curriculum. (b) The education implementation stage is the planning of the education and learning process, including the identification of teacher qualifications based on ability. (c) The learning stage is continuous learning and practice until a competency

certificate is issued and widely used by users of educational services. (d) Reviewing the suitability of competencies with graduates produced as a fulfillment of market needs, then correcting the discrepancies.

4. The job Assignment

When universities work together with industry and the business world to provide job opportunities for students to carry out the learning process and meet work competency standards.

5. Attribution Theory

Analyzing the occurrence of interactions in the classroom is part of the learning process and improving students' skills and abilities. It is necessary to consider possible differences between individuals, such as intelligence, interests, talents, motivations, and various forms of learning for students. The Contribution of Higher Education in Efforts to Realize Resilient Indonesian Human Resources.

Obstacles in the Implementation of Lecturers' Efforts to Implement the Tri Dharma of Higher Education

Based on the findings of empirical data in the implementation of the Tri Dharma of Higher Education, there are several obstacles, including:

1. Insufficient Facilities and Infrastructure

Currently, there are still many university campus facilities and infrastructure that are not adequate. This happens not only in small towns but also in many big cities in Indonesia. For example, unlike classrooms, the lack of educational and teaching facilities such as laboratories, libraries, learning media, internet networks, and reference books to support learning is still far from adequate.

2. Performance of Educators and Education Personnel that are Not Optimal

The progress of the institution depends on the role of the lecturers. The lack of productivity of lecturers in conducting research and community service is influenced by many factors, including: (a) Too much teaching workload. This happens because the ratio between lecturers and students is not fulfilled. Based on the Higher Education Law Number 12 of 2012 and Government Regulation Number 4 of 2014 concerning the Implementation of Higher Education, it is emphasized that the ideal ratio between

lecturers and students is 1:20 for Exact Sciences, and 1:30 for Social Sciences. But in reality, it is far from what is happening in the field; (b) Low interest in conducting research and publishing research results. This has several possibilities, such as low interest in reading scientific articles, especially those in foreign languages, not understanding how to write articles, scientific papers, or books; (c) Lack of knowledge in obtaining reference sources as supporting materials in conducting research; (d) The campus has not been maximal in its efforts to foster research and community development, such as motivation, incentives, and sanctions; (e) There are still some lecturers who are “money-oriented”. Do not close your eyes that many lecturers actively teach from one campus to another, so the time for doing research and community service is not fulfilled; (f) There is no compatibility between theory and practice in serving the community. Usually, students who go to the field to do community service must know to apply it.

3. Unorganized College Management

Fixing and reorganizing organizational management such as paradigm adjustments, strategic management, structuring and management, procedures and systems, to organizational culture and competencies, leadership styles, structuralization, as well as human resources, lecturers, and employees.

4. Quality of University Graduates who are not yet Optimal

The low quality of college graduates can be seen from the phenomena that occur in society, namely: the knowledge obtained from universities is not under the needs of the community so it has an impact on the level of intellectual unemployment, most college graduates can only become workers. and civil servants, the percentage of university graduates who can create their jobs is still not optimal.

Triggers of Low Graduate Quality (Output)

Aspects causing the quality of graduates to below:

1. Input

Lecture curricula do not lead to efforts to prepare students to enter directly into the wider community, the business world, and the industrial world. Most of the lecture material is oriented to the study and understanding of theories and is not balanced with the practical

logic that occurs in the field. Reference books used by lecturers do not provide direction to students in dealing with conditions that occur in the real world. Even practical courses are delivered theoretically to create a less conducive learning atmosphere, plus the lack of complete learning infrastructure, as well as the lack of training for educators and education staff.

2. Higher Education Organization Process

For universities to produce graduates (output) who are ready to enter and are ready to use in the community as well as the business and industrial world, several alternatives can be pursued, such as (a) the education system must be up to date, meaning the curriculum, courses, and ways of learning. must be conditioned with the development of society.; (b) competency-based study program curriculum, as well as syllabus and materials must be continuously reviewed in such a way as to have clear scope and boundaries (epistemological field), respond to community needs, and are dynamic in line with the dynamics of scientific progress in the field concerned. (c) A controlled learning process, meaning that lecturers are proficient in providing learning resources and able to maintain a consistent delivery process until the satisfaction and needs of students are met; (d) The standard of graduates (output) and the use of graduates (outcomes) in the community are guaranteed, meaning that graduates (outputs) can meet the community's need for skilled manpower and are ready to carry out work in the field.

Implementation of Lecturer Contribution Implementing Higher Education Tri Dharma

Education and Teaching

One example of implementation is a solution that has been carried out by Pamulang University, namely E-learning or an online learning system. E-learning has been carried out by Pamulang University since 2016 (Rivalina, 2017), which is one of the campus's efforts to provide a solution to the obstacles in implementing the contribution of lecturers in carrying out the Tri Dharma of Higher Education. This effort is to meet the ratio of lecturers to students, because before the existence of e-learning, the ratio of lecturers and students was not comparable, and was one of the strategies to overcome problems innovatively. In

addition, the use of e-learning at Pamulang University is very good, effective, and satisfying based on the results of Thoyyibah's research (2018).

Research

Along with technological advances, there are many supporting tools and access that can facilitate lecturers in research and publications. Here are some things that make research and publication easier:

1. Research Results Tracing Tools

Connected Papers

Connected Papers is a tool for researchers and scientists to find and explore relevant papers. The way connected papers work is very easy, just enter a keyword or subject and they will generate a graph. Connected papers analyze approximately 50,000 research papers, and select those with the strongest connection to the original paper. Some of the benefits of Connected Papers include: (1) Getting a visual picture of the research field. Through Connected Papers, you can see at a glance which papers are the most popular in their field, as well as the dynamics between fields of study. (2) Exploring relevant papers in both directions. Connected Papers helps find previous works and their most important derivatives.

Semantic Scholar

Semantic Scholar is an artificial intelligence-based search engine for scientific publications developed by the Allen Institute for Artificial Intelligence. This search engine leverages advances in natural language processing to provide abstracts of scientific papers. The Semantic Scholar team is actively studying the use of artificial intelligence in natural language processing, machine learning, human-computer interaction, and information retrieval. Semantic Scholar provides a one-sentence summary of academic literature. One of its goals is to overcome the challenge of reading multiple titles and long summaries on a TLDR (To Long Do Not Read) mobile device. This will ensure that readers receive 3 million academic papers published annually. This is because it is estimated that only half of this document has been read. AI is used to capture the essence of the text and generate it in an "abstract" way. This project combines machine learning, natural language processing, and computer vision

to add a layer of semantic analysis to traditional citation analysis techniques and extract relevant images, tables, entities, and locations from papers. Unlike Google Scholar and PubMed, Semantic Scholar is designed to highlight the most important and influential elements of writing. AI technology aims to detect hidden connections and relationships between research topics. Like the search engines mentioned above, Semantic Scholar also uses a graphic structure.

CrossRef (Cross Reference)

CrossRef helps lecturers in finding international/national articles/journals that already have a Digital Object Identifier (DOI). CrossRef is an official DOI registration agency that works with publishers to create a cross-publisher reference network for “online” journals. CrossRef is the most powerful implementation of the DOI model.

Scopus

Scopus is one of the databases (database) of citations or scientific literature owned by Elsevier publishers, but the scope of the journals it has is very large. In addition to displaying scientific works, Scopus also presents data on patents for various research in the world. Scopus also provides services to assess whether a journal has a significant impact or not. The level of influence is listed as Simago Journal Rank (SJR). SJR serves to measure the scientific impact of the average articles in journals. From the many advantages and interests of many people, it is not surprising that many writers are finally competing to have their journals indexed by Scopus.

Publish or Perish

Publish or Perish is a software program that uses a variety of data sources to obtain and analyze scientific citations. Currently, Publish or Perish can access metadata such as Google Scholar, Microsoft Academic, Scopus, and Web of Science. This raw citation data is then analyzed and converted into metrics. Publish or Perish contains an extensive help file with search tips and additional information on citation metrics. Publish or Perish is designed to help individual scholars present the best possible case for their impact on research, even with minimal citations. It can also be used to determine which journal to submit, prepare for an interview, conduct a literature

review, conduct a bibliometric survey, write an award or obituary, or do some research homework. Research Data Processing Tools.

SPSS

SPSS is a statistical data processing software used for interactive, or batch statistical analysis. SPSS stands for Statistical Package for the Social Sciences. SPSS has a user-friendly interface with an easy-to-use way. SPSS is commonly used for processing and analyzing data that has statistical analysis capabilities as well as data management systems with a graphical environment. This application is usually used for social sciences only, but subsequent developments are used for various disciplines. Apart from statistical analysis, data management (case selection, file sharpening, generation of derived data) and data documentation are also features of the SPSS base software.

AMOS (Analysis of Moment Structures)

It is a method in the SEM (Structural Equation Modeling) analysis program with a very widely known covariance basis. This program or method of analysis of moment structures is a stand-alone statistical computing software application and is operated independently. However, at this time the application with this program was later taken over by SPSS so currently, this program is following every development in the SPSS application. The SEM analysis program itself is considered to have a fairly complex approach so it is rarely used. However, by using this analysis of moment structures program, the SEM approach is considered easier to do. Data analysis using AMOS is also not only used in the SEM analysis method but is also often used in other analytical methods such as regression analysis, path analysis, and multigroup analysis. However, this analysis program still applies strict rules in the analysis process, such as the requirement for sample data to meet the assumptions of normality and the goodness of fit model criteria. If the research data to be used cannot meet these requirements, then this analysis program will also have difficulty presenting the required data.

SAS

The Statistical Analysis System program which is often called SAS is an application program that can be used to analyze statistical data. The SAS program has several types of modules that are specific to their use. So, each SAS module will handle certain data.

Stages Data steps are usually used to create, read, or manipulate data. Procedure steps are used to analyze, summarize, or tabulate data. Both the data stage and the procedure stage begin with the word "data" or "proc", and end with the word "run". SAS System includes products for the management of large databases; statistical analysis for time series; statistical analysis for almost all problems in classical statistics; multivariate analysis; linear models and generalized linear models; clustering; data visualization; plotting; and geographic information systems.

LISREL (Linear Structural Relationship)

LISREL is the latest software from the SPSS generation released by SSI (Scientific Software International). Especially for the student edition, LISREL 8.80 software was released for free. In this edition of LISREL for student or student edition, the number of indicators is limited to a maximum of 15 indicators or manifest variables, otherwise, the program will not be able to run. In its operation, the LISREL program requires data input and file input (commands). To prepare input data, LISREL provides the PRELIS program, and to prepare input files, LISREL provides the SIMPLIS program as the command language.

LISREL can identify relationships between complex variables and has the choice of processing either by writing a programming language or not. The advantage of Lisrel software is its ability to identify relationships between complex variables. How to operate it, which consists of various options, both with syntax and with simple programs, make it more widely used by various groups. The syntax will certainly be preferred for users who are familiar with programming languages. While Simplis or Simple Lisrel is an alternative for those who are unfamiliar with programming languages. LISREL is used to solve Structural Equation Modeling (SEM) problems.

NVIVO

NVIVO is present as an application that can be used to process and analyze qualitative data which so far in qualitative research rarely uses an automated system for analyzing qualitative data. NVIVO is used as a tool for researchers to research qualitative data with the assumption that researchers understand the data to be processed and analyzed. Qualitative research methodologies can be developed from descriptive research with

interesting patterns and based on numbers or objective data. Via the NVIVO 12 Plus Application/Software.

2. Similarity or Plagiarism Check Tools

Universities have a great responsibility to provide education and socialization related to the prevention of plagiarism. It is necessary to understand with students and lecturers regarding plagiarism. Science is developed based on pre-existing knowledge. So there is no need to hesitate when compiling scientific papers/written papers, mentioning sources of reference. This must be understood as intellectual honesty that will not reduce the weight of our writings. Turnitin & iThenticate, both are software for checking plagiarism in a paid way. Both are also from the same company. The results displayed are more strictly Turnitin compared to iThenticate. This tool works by checking the similarity of words, but only Turnitin can read images and tables against uploads that have previously been on the internet. Electronic text containing journal articles, books, and previous assignments submitted by faculty or university to Turnitin & iThenticate. Turnitin & iThenticate itself is provided by an external commercial company that sells its license to universities to use it internally. Turnitin & iThenticate can index all papers within a university and compare them with papers from other universities which also index their writings through Turnitin & iThenticate. This is what makes Turnitin & iThenticate able to find irregularities, similarities, and paraphrases that may be taken without mentioning references according to the rules that have been determined in a written work.

3. Reference Management Software (RMS)

Reference Management Software is software that helps users to store, organize, and use bibliographic information. The software usually includes a database of relevant literature for recall of stored selected literature, allowing insertion of text citations and references in the citation style chosen when writing scholarly. Generally, when they start writing, lecturers and researchers have difficulty managing information, data, or research supporting literature. Researchers can be helped through RMS to manage reference documents such as books, journal articles, photos, websites, and so on. This software also helps to easily retrieve stored literature. The most important function is

compiling citations and a bibliography with various styles of writing according to their respective fields. The most widely used RMS include: EndNote - paid (<http://endnote.com>); Zotero - free (<http://zotero.org>); Mendeley - free (<http://mendeley.com>). The way these three software works is almost the same, namely the ease of browsing and storing steps such as being able to manage and organize references, create and share annotations, collaborate with other users, and find new content in the field of interest. The difference is only in storage capacity.

4. Utilization of Publication Tools

Each author needs a unique ID or identifier so that the characteristics of the authors of scientific articles such as academics can be distinguished from one another, especially for those who have the same name. From the creation of this unique identity, the authors get benefits such as (1) Creating research profiles and lists of publications; (2) View, tracking, and measuring the number of citations; (3) Knowing the article citation network; (4) Knowing the research collaboration network. The following is a site that gives the author's ID or morning identity before publishing his writing:

ORCID (Open Researcher and Contributor ID)

ORCID (Open Researcher and Contributor ID) is a code in the form of a combination of numbers and numbers that uniquely identifies scientific and scientific authors and other contributions. The ORCID profile/ID provides a persistent identity for authors, much like the identities created by digital object identifiers (DOIs) as unique codes for a scientific publication.

SINTA

Science and Technology Index or SINTA is a portal that contains the measurement of the performance of Science and Technology which includes, among others, the performance of researchers, writers, authors, journal performance, and the performance of science and technology institutions. The way SINTA works is to assess the performance of journals based on standards on accreditation and citations. SINTA indexes all national journals accredited by the National Journal Accreditation (ARJUNA).

Publons

Publons Academy prepares academics to become international professional reviewers. This academy is provided by Publons (<https://publons.com>) for prospective reviewers in scientific journals to have knowledge and skills in reviewing scientific manuscripts to be published in scientific journals. In the online training, participants were provided with materials on procedures for reviewing scientific manuscripts. The end of the learning process is the practice of reviewing manuscripts by inviting experienced reviewers to assess themselves as mentors to assess and provide suggestions for improvements to the results of the review practices carried out by the training participants. Publons itself is a database that stores the track record of researchers and reviewers around the world. When we have a track record of reviewing scientific manuscripts in reputable international journals, we have a great chance to be asked to be a mentor in online training activities at Publons Academy. We can upload peer-reviewed results to this platform for recognition and DOI code. Indeed, in some conventional journals, the peer-review process is closed (blind or double-blind). However, some new types of journals such as PLOS or F1000Research have developed an open peer-review process that unlocks the identities of authors and peer-reviewers. Peer-review can now also be done after the paper is published, otherwise known as Post Publication Peer-Review. There is no prohibition against uploading the results of this type of review to Publons.

Community Service

According to the 2012 Higher Education Law No. 12, it is explained that community service is an activity of the academic community that utilizes science and technology to advance the welfare of the community and educate the nation. This service has developed by industrial developments.

Community service can help accelerate the goals of national development. This is based on its application that PKM is an experience from science and technology directly to the community through an institutionalized scientific methodology. This is one form of the noble responsibility of higher education as an effort to develop community capabilities.

The objectives of the PKM program are: (1) the program develops a model for community empowerment that is adapted to local conditions; (2) to Provide solutions based

on situation analysis according to the needs, challenges, or problems that exist in the community; (3) carry out activities capable of empowering the community at all economic, political, social and cultural strata; (4) transfer technology, science and art to the community for the development of human dignity with gender equity, social inclusion, and the preservation of natural resources.

In addition, this PKM provides many benefits to the community, including: (1) helping to solve problems that exist in the community; (2) applying the results of science and technology; (3) increasing the network of cooperation; (4) inspiration for the implementation of the Tri Dharma of higher education; (5) improve the performance and ranking of institutions.

According to Prof. Zaim (2020), the most important thing in conducting PKM is that it must be based on a regional basis, based on research results, and carried out based on the findings of problems, needs, or challenges in the community. All of this is done by synergizing between multi-disciplinary sciences and partnering. The implementation of PKM is carried out in a structured manner and has clear and measurable output targets. Of all these things, PKM must contain elements of empowerment and assistance or investment. The final result of this PKM must be sustainable, complete, and meaningful

METHOD

This type of research is descriptive research (Creswell & Creswell, 2018) because this paper portrays the real contribution of lecturers in realizing quality higher education outputs through the implementation of the Tri Dharma of Higher Education towards a Tangguh Indonesia in Society 5.0. This study uses a survey method. Data and information were obtained from observations at several private universities in Banten Province and interviews with education practitioners, expert analysis results, highlights from print and electronic media, and public opinion. The instrument used is an interview guide that has been prepared in advance. The interview guide contains indicators about the real contribution of lecturers in realizing quality higher education outputs through the implementation of the Tri Dharma of Higher Education towards a strong Indonesia in the era of Society 5.0.

CONCLUSION

Therefore, the development of educators and education personnel as a key element of the learning process has an important role in improving qualifications, competencies, and professionalism.

To improve the quality of education, the results of PKM can be used as feedback to complement teaching materials.

Focus PKM in this MBKM era on the green economy, blue economy, appropriate technology and STEM, tourism, technology, medical devices, and digital technology.

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