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by Erma Yulia

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Research and Community
Service Centre (LPPM) of UNIMED



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THE 4TH INTERNATIONAL CONFERENCE ON
COMMUNITY RESEARCH AND
SERVICE ENGAGEMENTS

2 - 6 November 2020

Virtual Conference

"Opportunities and challenges of education,
technology, innovation, social and
community service research
in new normal"

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FOREWORD

The Institute of Research and Community Service is an element of academic executor that performs some of Medan State University's duties and functions in the area of research and community service under the Rector authority. The Institute of Research and Community Service is led by a Chairman who is directly responsible to the Rector. The chairman performing his duties is assisted by a secretary.

The Institute of Research and Community Service has the duty of coordinating, implementing, monitoring and evaluating research and community service activities. When doing these tasks, the Institute of Research and Community Service holds its functions as following:

1. Devising institutional plans, programs, and budgets.
2. Performing a pure and applied scientific research.
3. Implementing community service.
4. Coordinating the implementation of research and community service activities.
5. Publishing the results of research and community service.
6. Making a cooperation in the field of research and community service with universities and other institutions both domestically and abroad.
7. Monitoring and evaluating the implementation of research and community service activities.
8. Implementing a institutional administrative affair.

The Institute of Research and Community Service consists as following:

- Chairman
- Secretary
- Administration Section
- Center
- Functional Group

The Administration Section is an administrative service unit within the Institution led by a Head who is responsible to the Chair of the Institute. When performing its duties, the Administrative Section holds its functions as followings:

1. Implementing a draft of regulation , plans, programs, activities and budgets.
2. Collecting and processing research and community service data.
3. Making documentation and publishing a research outcome and community service affair.
4. Providing information services in the field of research and community service.
5. Performing a matter of acquiring Intellectual Property Rights, research outcome and community service.
6. Implementing financial affairs, employment affairs, household affairs, and management of state property

The Administration Section of the Institute of Research and Community Service consists as following:

1. The General Subdivision has the duty of performing financial affairs, staffing affairs, management affairs, administration affairs, household affairs, and management of state property.
2. The Sub Division of program has the duty of preparing plans, programs, activities, budget for research and community service, acquisition of Intellectual Property Right, a research outcome and community service.
3. The Sub Division of Data and Information has the duty of collecting, processing, and providing a research information and community service.

The center has the duty of performing research / assessment and community service based on its area. When carrying out these activities, the Rector can appoint lecturers or other functional staff as the central coordinator. The establishment and closure of the center is

done by the rector if necessary. Research and Community Service consist of 5 centers for various fields of study, including:

1. Research Center of Humanities Service (PUSIS, Center of Economics, Law and Human Rights, Cultural Arts and Gender);
2. Science and Technology Center (Sports, KLH, Geospatial and Disaster, Mathematics and Natural Sciences, Engineering);
3. Education Service Research Center;
4. Innovation Center, Publication and Sentra's Intellectual Property Right
5. Community Service program, Professional Placement, and Internship Center

Our Vision

"Becoming an International Development and Service Institution Contributing to National Development through Research and Community Service Programs in the Field of Education, Industrial Engineering, and Culture".

Our Mission

2. Actualizing a research program and an excellent community service in the field of education, industrial engineering and culture on the national and international scopes.
3. Increasing the quantity and quality of publications of the academic community in the Medan State University into journals of national and international reputation for upgrading Medan State University's ranking in world university ranking.
4. Increasing an acquisition and diversity of Intellectual Property Right.
5. Developing research in line with community service for the industrialization of social, economic and rural cultural potentials based on sustainable community empowerment.

6. Strengthening the character of students and alumnus of Medan State University to meet market demands and also having a competitive and excellent entrepreneurial attitude in establishing start-up.

Research Synergy Foundation is a digital social enterprise platform that focuses on developing Research Ecosystem towards outstanding global scholars. We built collaborative networks among researchers, lecturers, scholars, and practitioners globally for the realization of knowledge acceleration. We promote scientific journals among countries as an equitable distribution tools of knowledge. We open research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities.

Known as a catalyst and media collaborator among researchers around the world is the achievement that we seek through this organization. By using the media of International Conference which reaches all researcher around the world we are committed to spread our vision to create opportunities for promotion, collaboration and diffusion of knowledge that is evenly distributed around the world

Our Vision:

As global social enterprise that will make wider impact and encourage acceleration quality of knowledge among scholars.

Our Mission:

First, developing a research ecosystem towards outstanding global scholars. Second, Promoting scientific journals among countries as an equitable distribution tools of knowledge. Third, opening research collaboration opportunities among countries, educational institutions, organizations and among researchers as an effort to increase capabilities. Fourth, creating global scientific forum of disciplinary forums to encourage strong diffusion and dissemination for innovation.

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category. Furthermore, the try out is limited to some students in class A semester V with an average total score of 84.03 with the category of practical learning media to use.

Research limitations - *The limitations of research in implementing a broader try out involving a control group cannot yet be implemented. Researchers only produce products that are suitable for use but have not been able to provide information about the effectiveness of learning media products optimally.*

Originality/value - *The element of novelty in this research is that this animated video was developed to overcome learning problems amid the Covid 19 pandemic. by using animated videos.*

Keywords : Learning Media, Virtual Class, Animation Videos

Feasibility of Welding Technology E-Modules to Analyze The Strength of Welded Joints

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Abstract

Background - *One of the competencies that graduates of the Mechanical Engineering Education Department must have is to be able to analyze the strength of a weld joint. Increasing student competence in analyzing the strength of welded joints, as a reference, a feasible and practical instructional media is needed. Instructional media that specifically analyzes the strength of welded joints are not yet available at the Department of Mechanical Engineering Education of Unimed, so this Instructional media is developed which specifically analyzes the strength of welded joints. Instructional media is developed in electronic form (e-modules) to make it more practical in use.*

Purpose - *The purpose of this study was to determine the feasibility of welding e-modules. Feasibility can be determined through the e-module development process.*

Design/methodology/approach - *The e-module development uses the research and development (R and D) method from Borg and Gall. The steps for developed e-modules use the ADDIE model (Analysis, Design, Development, Implementation and Evaluation), namely (1) Needs analysis, (2) Planning and formulating learning objectives. (3) Development in the form of making modules (4) Feasibility of e-modules through validation by material experts, media experts and instructional design experts. Data collection techniques were carried out by distributing questionnaires and observations.*

Findings - *This study resulted in (1) evaluation of material experts that the technology subject matter was included in the very feasible criteria with an average score of 4.30. (2) The learning design expert's assessment is included in the very feasible criteria with an average score of 4.20. (3) the evaluation of instructional media experts falls into the feasible criteria with*

an average score of 4.03, (4) an increase in the value of student learning outcomes by 75.50%, this proves that e-module technology is suitable for use.

Research limitations - *The research subjects were limited to 5th semester students of the Department of Mechanical Engineering Education of Unimed.*

Originality/value - *The welding technology e-module was developed originally because it has never been developed by other researchers and has been proven to improve student competence in analyzing the strength of welded joints.*

Keywords : feasibility, e-modules, welding technology, weld joints

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