

**COMPILATION OF PAPERS ON RESEARCH,
GLOBAL SYNERGY
FOR PROGRESS AND BENEFITS:
UNITING SCIENCE, RESEARCH AND COMMUNITY SERVICE**



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COMPILATION OF PAPERS ON RESEARCH, GLOBAL SYNERGY FOR PROGRESS AND
BENEFITS: UNITING SCIENCE, RESEARCH AND COMMUNITY SERVICE

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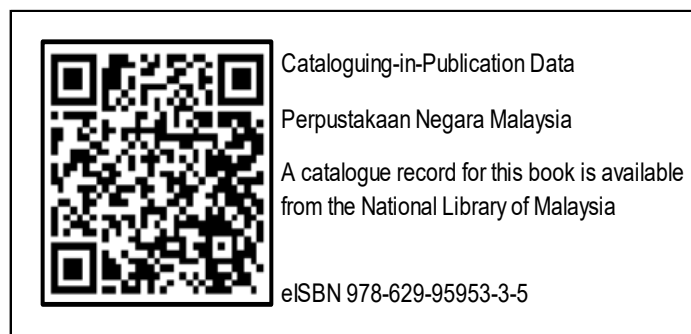
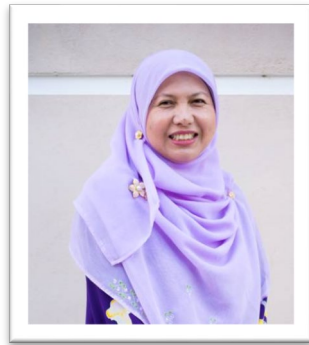


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PREFACE

COORDINATOR OF ACADEMY OF LANGUAGE STUDIES



This chapters-in-book entitled “Research, Global Synergy for Progress and Benefits: Uniting Science, Research and Community Service” compiles the articles presented in the International Colloquium which was held at Universiti Teknologi MARA (UiTM) Seremban Campus on 22 November 2024. It is evidence of collaboration and intellectual exchange between Akademi Pengajian Bahasa, Kampus Seremban with Universitas Islam Darul Ulum (UNISDA), Lamongan, Indonesia. This colloquium brought together scholars and researchers to forge meaningful connections across disciplines and borders.

The articles in this publication capture the spirit and substance of the exchange in the colloquium. Each contribution represents a unique lens through which the theme is interpreted and applied. The contributions offer insights that both challenge convention and inspire progress. These articles are more than a compilation of papers as they are a mosaic of voices united by a common purpose which is to advance knowledge for collective benefits.

I would like to extend my deepest gratitude to all the presenters, session chairs, reviewers, and organizing committees from UiTM and UNISDA. Your dedication made this endeavour not only possible but impactful.

It is hoped that the ideas curated in this publication continue to fuel innovation, fostering partnerships, and enriching the global discourse on how science research and service together can shape a better future.

Dr. Tuan Sarifah Aini Syed Ahmad
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PREFACE REPRESENTATIVE FROM UNISDA



It is with great pleasure and heartfelt appreciation that I extend my gratitude to the Academy of Language Studies, Universiti Teknologi MARA (UiTM) Negeri Sembilan, Seremban Campus, for hosting the international colloquium in November 2024. This significant academic event brought together scholars and lecturers from 14 Indonesian universities alongside our esteemed Malaysian colleagues to share insights and research across the fields of language, literature, education, communication, and social sciences.

The colloquium not only highlighted the academic strength and diversity of our respective institutions but also fostered a spirit of regional cooperation, intellectual growth, and cultural exchange. Through this collaboration, we are reminded of the importance of building academic bridges that transcend borders and promote mutual understanding.

This international colloquium also marks the initiation of the Memorandum of Understanding (MoU) between UiTM and Universitas Islam Darul Ulum (UNISDA), Lamongan. It signifies the beginning of a promising academic partnership, with more collaborative research and scholarly activities to come.

These chapters-in-book reflect the rich discussions and scholarly efforts presented during the event. May it serve as a source of inspiration for ongoing dialogue and cooperation between our institutions.

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PREFACE COLLOQUIUM CHAIR



In November 2024, the Academy of Language Studies, Universiti Teknologi MARA (UiTM) Negeri Sembilan, Seremban Campus had the honour of hosting an international colloquium in collaboration with 14 esteemed universities from Indonesia. This academic gathering brought together lecturers and scholars from various faculties and institutions, united by a shared commitment to advancing knowledge in the fields of language, literature, education, communication, and culture.

The colloquium served as a vibrant platform for cross-border intellectual exchange, fostering meaningful academic discourse, cultural understanding, and future collaborative opportunities between Malaysian and Indonesian universities. The diversity of topics and perspectives presented reflects the richness of our academic traditions and the relevance of social science research in addressing contemporary societal challenges.

This publication compiles selected peer-reviewed papers presented during the event. The editorial process was carried out collaboratively by lecturers from the Academy of Language Studies, UiTM Seremban, and our Indonesian counterparts, exemplifying a spirit of mutual respect and scholarly cooperation.

I would like to express my heartfelt appreciation to the UiTM Negeri Sembilan top management for their unwavering support. Congratulations and sincere thanks go to all authors, reviewers, and committee members whose dedication made this publication possible.

May this collection inspire further research, dialogue, and collaboration.

Dr. Wan Zumusni Wan Mustapha
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Chapter 1

Scratch and Community Services : Addressing Quality Education and Reduced Inequalities

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Abstract: *The integration of technology in education is important for students and teachers. One of the possibilities of integrating technology into education is by using Scratch. Since Scratch is a free web application, it can be accessed by anyone from anywhere and anytime. Moreover, it does not require users to learn any programming language as it applies a drag-and drop block system. It can also be used online and offline, offering 70 languages to choose from. With these features, Scratch can be introduced in community service programmes to address two Social Development Goals (SDG) namely SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities), in reducing the digital divide among teachers and students. It is important to promote the application of Scratch to teachers who cannot access expensive and advanced technology, empowering them to develop quality learning materials for students. Additionally, students can use Scratch for developing multimedia projects related to their subjects, making their learning fun and engaging. By using Scratch, various skills can be enhanced among teachers and students such as critical thinking, creative thinking, computer programming and computational thinking. However, underprivileged teachers and students may not have been exposed to Scratch. Thus, it is essential to introduce Scratch to them through community service programmes organised by certain organisations such as universities. This opens the possibility for teachers and students to learn Scratch, and experts from universities to share their expertise with the community.*

Keywords: *Scratch, community service, Sustainable Development Goals, Quality Education, Reduced Inequalities*

1. INTRODUCTION

The rapid advancement of technology has provided many opportunities to integrate information and communication technologies in education. Conventional learning techniques have been rapidly replaced with modern learning media in making learning more engaging and interactive. Therefore, more meaningful learning can occur. This is because the use of interactive media such as quiz games can increase student engagement and enhance learning outcomes (Putra & Salsabila, 2021). In the educational environment, interactive learning materials with gamification and multimedia elements are becoming increasingly popular worldwide as additional tools in teaching and learning. Interactive learning materials can be developed by teachers while interactive multimedia projects can be assigned

to students related to subjects learnt so that learning can occur through fun ways. As a result, various skills can be enhanced among teachers and students such as critical thinking, creative thinking, computer programming and computational thinking.

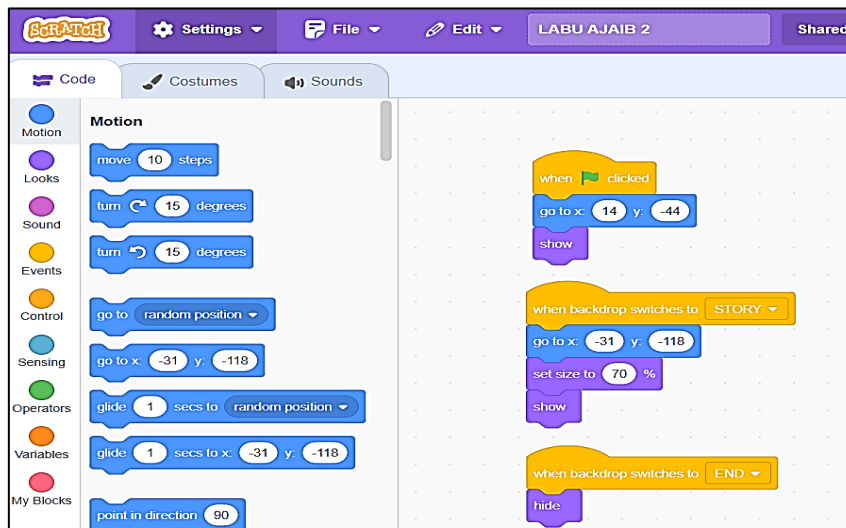
However, there are underprivileged teachers and students who encounter socioeconomic challenges such as low household incomes and limited access to essential services, resources, and infrastructure. Due to the challenges, they have unequal access to programmes for enhancing their information communication technology (ICT) skills. As a result, a bigger digital divide may be formed. Therefore, organisations such as universities can play their role opening the access to upgrade skills related to educational technologies to underprivileged groups to ensure quality and equality in education.

In this context, the use of Scratch has emerged as a promising tool to enhance educational quality and accessibility. Scratch is designed to be user-friendly and visually appealing. Thus, it has the potential to engage a diverse audience in computer programming and computational thinking (Daily & Eugene, 2013) without learning programming language. Additionally, community-based services can play a vital role in complementing the efforts of formal education systems, providing supplementary learning opportunities and support structures particularly in upgrading ICT skills.

2. SCRATCH

Scratch can be accessed at <https://scratch.mit.edu/>. It is a block-based programming language developed by the Massachusetts Institute of Technology Media Lab (Pérez-Jorge & Martínez-Murciano, 2022). It is designed to be an introductory tool for teaching computational thinking and programming to children and young adults, with the goal of fostering creativity, problem-solving, and collaboration (Yuan & Bowen, 2018). Scratch can be used to create games, animations and interactive stories, by dragging visual programming blocks which represent various commands and functions. Although Scratch is designed for children from eight to sixteen years old, it is also suitable for adults.

Figure 1 Scratch interface showing the visual programming blocks



Scratch allows members to exchange ideas, resources, and projects (Simó & Hernández, 2015) in the Scratch website. Additionally, the community contributes to improving motivation and performance among students, as they can share their creations, seek feedback, and learn from one another (Wen et al., 2023). The community is essential for democratizing programming skills and empowering underprivileged groups, such as women and minorities, who have traditionally faced barriers in accessing and thriving in technology (Wen et al., 2023).

Scratch projects published on the Scratch website are accessible and the blocks used can be viewed by all users. This promotes open-source learning and fosters a collaborative environment where users can learn from each other's projects and even remix them to create new applications (Fang et al., 2023; Iskrenović-Momčilović, 2020; Wen et al., 2023). Therefore, Scratch can be an effective tool for teaching computational thinking and programming concepts, while also building a supportive community that can address inequalities in education related to technology.

The educational potential of Scratch has been widely recognized with numerous studies demonstrating its ability to enhance learning motivation, computational thinking skills, and mathematical understanding. Fang et al. (2023) revealed that Scratch had the ability to develop students' computational and mathematical thinking skills. Wen et al. (2023) indicated that Scratch could be effective in improving students' programming knowledge and achievement, as well as their attitudes towards programming. Additionally, Scratch can enhance critical thinking skills, creative thinking skills and problem-solving abilities (Iskrenović-Momčilović, 2020; Wen et al., 2023; Fang et al., 2023)

Scratch should be both inclusive and accessible, particularly for underprivileged populations (Fang et al., 2023; Montiel & Zermeño, 2021; Wen et al., 2023). Thus, ensuring equal access to Scratch-based learning opportunities is essential for promoting inclusive and equitable quality education. This may align with the goals outlined in the United Nations Sustainable Development Goals. One of the ways to make it reachable is by organising workshops through community service.

3. COMMUNITY SERVICE FOR EDUCATION

Community service is defined as volunteer work performed by individuals or groups to benefit their community or society. In education, community service can take various forms, such as tutoring programmes, mentoring programmes and after-school enrichment activities. Other than that, educational outreach initiatives can also be organised in the forms of workshops, webinars, teacher training, and technical support for integrating technology in education.

Community-based educational services can play a crucial role in addressing the challenges formal education systems faced, particularly in underprivileged communities. In the case of digital divide, organisations can provide supplementary learning opportunities, access to technology and digital resources, and support structures that may not be readily available in traditional school settings.

In the context of university, expertise from the institution can develop community-based education programmes, such as Scratch workshops and coding clubs, to promote computational thinking and digital skills among underserved youth (Balouktsis, 2016; Fang et al., 2023). These community-based initiatives not only benefit the participants but also provide valuable learning experiences for the university community, which comprises lecturers, staff, and students. Participants can develop their teaching, leadership, and community engagement skills.

4. INTEGRATING SCRATCH IN COMMUNITY SERVICES

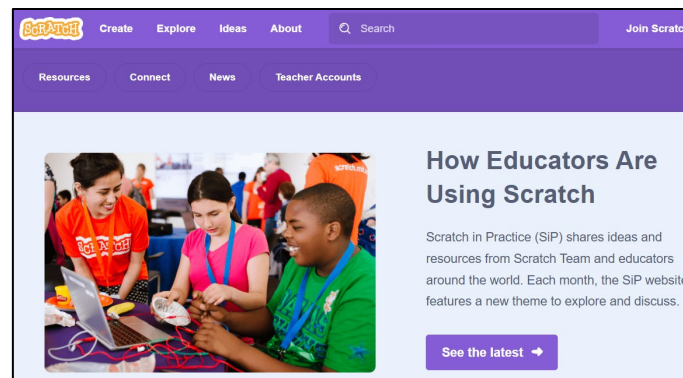
The integration of Scratch into community-based educational services can be a powerful approach. Among the SDGs that can be addressed are SDG 4: Quality Education and SDG 10: Reduced Inequalities. The following are how Scratch can be integrated into educational community services by universities.

Universities can organise various face-to-face educational programs for underprivileged students in their vicinity through face-to-face programmes. First, after-school programmes can be conducted to provide access to Scratch and teach digital skills and computational thinking to youth in low-income

areas (Jannah et al., 2021). Second, coding clubs can be hosted at community centers, libraries, selected schools or other accessible venues that bring Scratch-based learning to diverse participants. Finally, university lecturers can collaborate with schools to conduct workshops at schools, utilising the school computer laboratory with the facilitation from schoolteachers.

Universities can also reach broader participants by conducting programmes virtually. Programmes such as workshops and after-school programmes can be conducted through online platforms. Workshops can be conducted on video conference platforms such as Google Meet, Zoom and Webex. At the same time, after-school programmes can be conducted on learning management systems such as Microsoft Teams and Google Classroom. The platforms allow communication among participants, file sharing, and assignment management. Other than that, Scratch itself offers a teacher account where teachers can monitor the progress of their students' projects. Due to the nature of online programmes that eliminate geography boundaries, the programme participants can go beyond the university vicinity. When community service programmes are conducted online, the participants can be from the local country and other countries.

Figure 2 Teacher Account on Scratch



In the context of teachers, training and support for teachers in under-resourced schools are crucial. Therefore, professional development workshops should be conducted to specifically equip them with the skills and confidence to integrate Scratch into their classrooms. Mentorship programmes that pair experienced Scratch lecturers from universities with teachers can be organised to provide ongoing support and guidance.

It is hoped that community service on Scratch for students and teachers can help them work together to create interactive projects. Thus, they may develop critical 21st-century skills such as problem-solving, communication, and teamwork. The skills are valuable for academic and career success and contribute to personal growth and social cohesion.

5. SDG4: Quality Education

The purpose of SDG 4: Quality Education is to make sure that quality education is inclusive and equitable. Additionally, it is also to foster opportunities for lifelong learning for all individuals. This reflects the crucial role of education in driving economic growth, improving health outcomes, reducing inequalities, and ultimately, fostering sustainable development (Shaeffer, 2019).

Some key targets of SDG4 are as follows (United Nations Development Programme, n.d.):

- a. To ensure that all girls and boys complete free, equitable and quality primary and secondary education by 2030.
- b. To ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

- c. To substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.
- d. To eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

The emphasis on quality education reflects the recognition that simply providing access to education is not adequate. Education must be of adequate quality to impart the knowledge, skills and competencies required for individuals to thrive and contribute to sustainable development. The aspect of quality education emphasized in this article by using Scratch that may enhance not only ICT skills but also other skills including critical thinking, creative thinking, problem-solving and computational thinking.

SDG4 on quality education is a critical component of the broader Sustainable Development Goals, as education is a key enabler for achieving many other development targets related to poverty, health, gender equality, and economic growth (Nazir et al., 2023; Al-Kuwari et al., 2021; Sari et al., 2020).

6. SDG 10: REDUCED INEQUALITIES

The purpose of SDG 10 is to reduce inequality within and among countries. In education, reducing inequalities can take many forms, such as inequality in income, economy and opportunity. Inequalities commonly occur in the underprivileged communities. The goal of SDG 10 recognizes that inequality is a significant barrier to sustainable development, as it undermines the realization of human rights.

Some key targets of SDG 10 are as follows (United Nations Development Programme, n.d.):

- a. Progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average.
- b. Empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.
- c. Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.
- d. Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

The inequality emphasized in this article is the opportunity to access education such as access to enhancement of ICT skills as addressed in this article. Addressing inequality is critical for achieving a just and equitable society, where all people have the chance to reach their full potential. By reducing inequalities, SDG 10 supports the broader vision of the 2030 Agenda for Sustainable Development, which aims to "leave no one behind".

7. HOW SCRATCH CAN ADDRESS QUALITY EDUCATION AND REDUCED INEQUALITIES

The integration of the Scratch programming platform and community-based educational services can be a powerful approach to addressing the goals of quality education and reduced inequalities (Boeren, 2019).

First, by providing access to Scratch-based learning opportunities within community settings, the initiatives can help to democratize digital skills and computational thinking. Many underprivileged communities, particularly those with limited resources or access to technology, often encounter

challenges in developing the digital competencies required for success in the 21st century. Bringing Scratch-based activities to community centers, after-school programmes, and other accessible venues can help to bridge the digital divide and ensure more equitable access to quality educational experiences (Bhandari, 2024).

Second, the hands-on, project-based nature of Scratch can foster the development of critical 21st century skills such as problem-solving, communication, and teamwork. The competencies are not only valuable for academic and career success but also contribute to individual empowerment and social mobility. By empowering participants, especially those from underprivileged groups in creating their own digital projects using Scratch, inequalities can be reduced, and a more inclusive and equitable educational landscape can be promoted.

Finally, the Scratch community itself serves as a valuable resource for participants. It provides opportunities for collaboration, peer-to-peer learning, and the sharing of ideas and creative works. The sense of community and belonging can be particularly impactful for students who may feel isolated or marginalized in traditional educational settings.

Overall, the integration of Scratch and community-based educational services represents a promising approach to addressing the multifaceted challenges of quality education and reduced inequalities. Hence, universities should facilitate the underprivileged communities in their vicinity to introduce Scratch through community services.

8. CONCLUSION

The integration of Scratch and community-based educational services offers a compelling approach to address the critical goals of quality education and reduced inequalities. By democratizing access to digital skills and computational thinking, the initiatives can help to bridge the digital divide and ensure more equitable opportunities for underprivileged populations. Furthermore, the hands-on, project-based nature of Scratch can foster the development of essential 21st-century competencies, empower participants and promote social mobility. The Scratch community itself also serves as a valuable resource, providing opportunities for collaboration, peer-to-peer learning, and the sharing of ideas and creative works. Overall, this interdisciplinary approach holds significant promise for fostering a more inclusive and equitable educational landscape, where all individuals are given the chance to develop their knowledge, skills, and confidence to thrive in the digital age and contribute to sustainable development.

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Chapter 2

Global Synergy: The Importance of Language and Oral Presentations in Uniting Science, Research, and Community Service

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Abstract: *This paper attempts to unlock keywords used in the Theme of this Colloquium while positioning Language and Oral Presentations as key for Global Synergy. This paper brings together related works showing the importance of Language through effective oral presentations. This is the basis for Global Synergy of any kind to be achieved. Science and Research can only be made available to Communities through the medium of language. English is the global language, and this study focusses on oral presentations. Communication through Language and the subskill of Oral presentations is the vehicle for knowledge transfer in any field, as well as reaching out to Communities. While much emphasis is given to Science and the field of Research, less is said of the Global Language, English, which is mandatory. How can Science and research findings reach communities if not through the medium of the global language? This study was conducted with undergraduates in a local public university and confirms previous findings. These findings reveal their awareness of the importance of effective oral presentation, while highlighting their lack of confidence and nervousness during such activities. This is an area of great concern to achieve effective oral presentations in English for Global Synergy among all communities. This study also provides suggestions on how these challenges can be addressed.*

Keywords: *Oral Presentations, Global Synergy, Uniting Science and Research, Community Service*

1. INTRODUCTION

The topic plays out the integration of scientific discoveries through research studies and how these can be applied for the betterment of the community. First, let us unlock some of the keywords and phrases:

What is Global Synergy? This term denotes the links between all aspects of our world and underscores the importance of this connection. Hence, not only are the positive aspects to be shared globally, but also ways of overcoming various challenges that are presented to different segments of the world. Some challenges may not be faced at current times but may present themselves with modifications at a later time. This, then, is the platform where sharing ways of dealing with or minimizing problematic areas becomes useful for the community. Communities from all over the globe, and hence, Global Synergy comes to be actively required and encouraged by all.

Global Synergy is not limited to the Sciences alone but to all disciplines, including education, language, culture, and the social sciences. However, the Colloquium's topic specifically refers to uniting Science, as a chosen discipline. The researchers will include education and language, coming from the language

department of Universiti Teknologi Mara, Seremban Campus.

What does uniting Science and Research mean? This is about integrating Science with Research. Usually, scientific discoveries take place in laboratories and in specific spaces within the realm of academic or technical circles. To push these beyond, globally, would be an instance of how Science and research can be integrated globally and findings shared and made accessible to the world communities. This includes work in medicine, engineering, environmental issues, Language, AI usage and much more. The sharing of this new knowledge will mean that other communities can benefit from this according to their individual needs.

What about community service, and how does integrating this into science and research play out? Community Service is about sharing scientific discoveries with other communities who may not have this expertise or experience. Hence when research on science is integrated with community service, insights assist communities within their specific contexts to overcome barriers. Hence, science and technology do not remain in academic journals; rather, they travel to communities across the oceans, making relevant and impactful results.

Hence, the equation of the theme for the Colloquium after unlocking the terms, is how Global Synergy can be achieved by uniting or integrating Science, research and Community Service. The focus of this paper is using the Global language, English and the subskill of oral presentations to achieve Global Synergy. Only then can the direction of progress and benefits be mapped out clearly.

1.1 Language and Communication as a Science

We can safely include Linguistics, which is defined as the science of human language. Countless people communicate with each other and within communities in an impressive variety of ways. In Linguistics, researchers try to understand these various ways within a linguistic system of norms.

Together with this is how language is an expression of culture. Culture is an embodiment of values, beliefs and customs associated with a community. This culture brings a group of people together and helps foster solidarity. Hence, in understanding language, we get glimpses of culture which assist us in building together Global Synergy. This helps to unite diverse communities and disciplines.

In short, Language is a Science and hence within the theme of this Colloquium. The focus of this paper is a sub skill of language, oral presentations. This is essential in achieving Global Synergy with the transfer of knowledge and information effectively.

Global synergy is also about uniting diverse communities and disciplines with a common goal of addressing local needs while participating and engaging in global needs in the endeavour of a global community for the betterment of all. This can only be achieved through a global language which is effectively used in English Oral Presentations.

2. PROBLEM STATEMENT

This study is situated among undergraduates in a public university. The context of this study is Language and Communication through Oral Presentations. Oral Presentation is a part of the curricular of most undergraduate programmes.

Although undergraduates recognise Oral Presentations as necessary, they lack confidence in making them and shy away from such activities.

This study examines undergraduate perceptions of the importance of Oral Presentations and their thoughts on how they can improve their oral presentations.

In a world where face-to-face communications are minimised, oral presentations are still an important part of communication. It is hoped that the findings of this study will reveal obstacles and ways of coping with oral presentations. This is one way of uniting Science and research with the community.

More than that, such effective oral presentations can bring progress in a crucial area—communication.

3. OBJECTIVES

1. To investigate how undergraduate students perceive oral presentations.
2. To propose ways to improve oral presentations among undergraduate students.

It is crucial to understand what undergraduate students think about oral presentations. Only by this investigation can ways be worked into to assist in better communication through effective oral presentations.

When the students themselves can identify reasons for avoiding oral presentations, they become more aware of their shortcomings and look towards improving their oral presentation skills. Awareness will enable the students to put oral presentations in a pivotal position.

4. RELATED WORKS

Oral presentation is the most popular speaking genre in classes as well as the workplace (Chang & Huang, 2015). Most higher education courses include presentations as a method of assessment as well as classroom teaching and learning activities. In addition, successful communicative goals include effective oral presentation skills (Evans, 2013). According to Van Emden and Becker (2017), being able to speak effectively to an audience is one of the benefits that students can gain from their tertiary education. Also, being able to present effectively is a valuable skill for students in whatever subjects they study and will consequently give greater achievements in their academics, career prospects, and their working lives in the future (Van Emden & Becker, 2017). The Learning Centre of the University of New South Wales (2010) defines an oral presentation as a short talk on an assigned topic delivered to a group of people.

4.1 Students' Attitude Towards Oral Presentations

One study by Dansieh et al. (2021) was done to investigate the possible causes of anxiety towards oral presentations among tertiary students from Technical University, Ghana. The study found that even though students are aware of the importance of oral presentations, 63% of the respondents experienced anxiety when asked to give oral presentations. Additionally, 23.9 % experienced nervousness while another 13% experienced stage fright when asked to give oral presentations. The study further revealed that the respondents associated their unfavourable experience to three causes: 1) fear of making mistakes (65.2%), 2) fear towards the audience (21.7%), and 3) lack of knowledge in oral presentations (13%).

Another recent study that measures students' attitudes towards oral presentations was conducted by Pham et al. (2022) on 600 second-year, third-year, and fourth-year students at the Faculty of Foreign Languages of Van Lang University in Vietnam. Despite showing a positive understanding towards the importance of oral presentations, 57.1% of the students dread the idea of standing and speaking in front of an audience.

The next study that sheds light on students' attitudes towards oral presentation is by Marinho et al. (2017). Additionally, the study also reported that 63.9% of the respondents expressed fear towards oral presentations and it is also highlighted that the female gender is prevalent in the percentage. Marinho et al. (2017) also claim that students with less experience in conducting oral presentations and students with negative self-perception tend to have more fear towards oral presentations.

5. CONCLUSION

In order to get more concrete feedback and to confirm past research, a small study was carried out with a group of undergraduate students in a public university where the researchers work. The participants were undergraduates who were predominantly female with 84% and only 16% male. As for the first statement, on the importance of oral presentations in terms of frequency (always, very often, sometimes, and so on), the number who felt this to be true Always comprised 48%, while another 48% felt that it was important very often. Only 1% found this to be true 'sometimes'. This could be because oral presentations in the curriculum are usually pair or group work. Hence, students who are weak and do not favour oral presentations may not find this to be important all the time. Additionally, they can get others in their group to do more of it, with them doing less of it. These are some inferences made.

The second statement on the importance of oral presentations in helping to share knowledge and information was true for 64% of respondents, while 36% felt that it was 'very often'. Considerably, the majority felt that oral presentations were important for the dissemination of information and knowledge. The third statement on the enjoyment of oral presentations shows only 28% found this to be true always, with much more, 40% stating this to be 'sometimes', showing that there is no joy element in oral presentations.

The reasons for this response are unfolded in the next few questions, where the majority felt that they were not good at oral presentations, lacked confidence and were nervous.

The subsequent questions helped in ways to address these shortcomings. The majority felt that they needed to practice more, work more with their peers and with themselves, listen to good oral presentations, and actively participate in class speaking activities.

Hence, this study not only confirms previous studies on oral presentation challenges but also provides suggestions on ways that can be further developed within the curriculum to help undergraduate students overcome challenges and become good oral presenters.

Global synergy for progress and benefit requires good and effective oral presentations in English. This is a basic and compulsory element for global progress. This paper addresses this issue, which is integral for everything else to fall into place easily. Effective oral presentations are where communication takes place, requiring the accuracy of facts presented in a clear and confident manner.

Oral presentations will foster clear and polite communication globally while paving the way towards building better relationships and sharing diverse cultures as well as knowledge and assistance where required. Good communication through oral presentations will create a more connected and prosperous world and encourage the positive building of trust.

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7. FUNDING

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8. AUTHORS' CONTRIBUTION

All authors worked together on this study, which included writing the literature review, administering and analysing the questionnaires to the undergraduate students, presenting the data suitably, and assisting in writing the manuscript. All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to ICGSPB.

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APPENDICES

DEMOGRAPHIC DATA

1. Gender

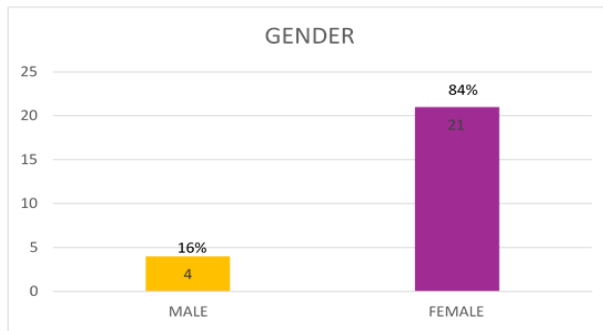


Figure 1 - Percentage for Gender

2. Faculty

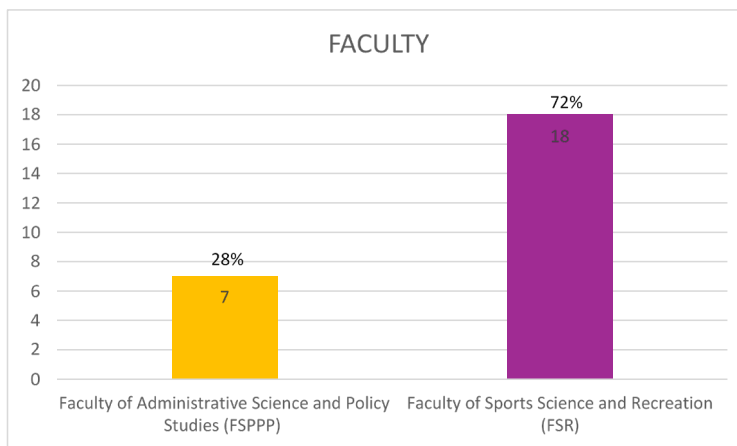


Figure 2 - Percentage for Faculty

COPING WITH DIFFICULTIES/ IMPROVING ORAL PRESENTATIONS

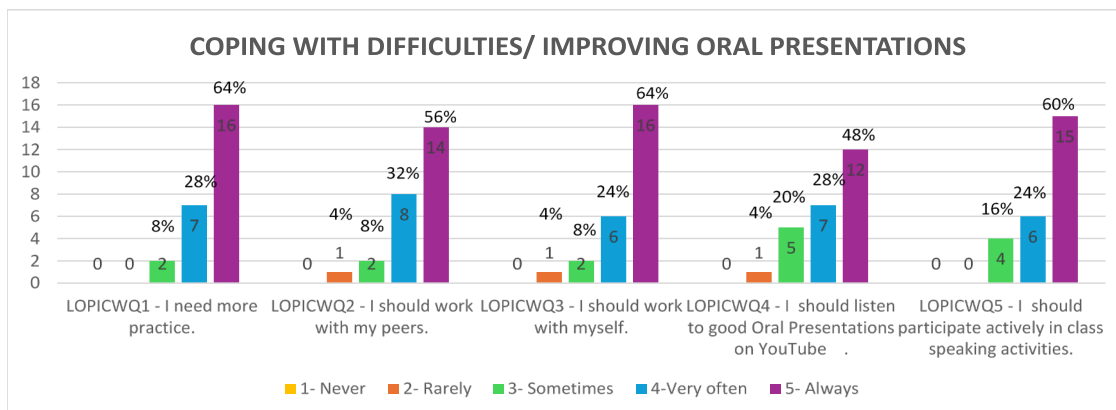


Figure 5 - Percentage for Coping with Difficulties or Improving Oral Presentations

Chapter 3

Creating Critical Thinkers with The Four Dimensions Model of Critical Literacy Pedagogy

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Abstract: *Language choices, influenced by mass media editors, political elites, lawmakers, educational designers, and other text producers, can be used to oppress the public. Readers need to be sensitive to the underlying messages in all texts. Critical literacy pedagogy is a tool to reveal injustice and unequal power relations in text, enhancing students' critical language awareness and empowering them to examine both the word and the world critically. However, many readers remain unaware of the subtle ways language can reinforce critical issues such as inequality and sustain dominant ideologies. This research aims to develop language learning tools using the four dimensions model of critical literacy pedagogy to uncover power, domination, and social systems within texts. This model explores how the Four Dimensions Model—disrupting the commonplace, considering multiple viewpoints, focusing on socio-political systems, and taking action, which can improve students' critical literacy skills by asking students critically to generate critical thinking. Integrating the Four Dimensions Model improves students' ability to critically recognize biases and articulate more socially aware interpretations.*

Keywords: *Critical literacy, Critical questions, Four dimensions model*

1. INTRODUCTION

Language serves not only as a means of communication but also as a tool for control, enabling one party to dominate another. The media, which holds significant power, is key in spreading news and influencing language use and preferences. Through the authority of mass media editors, political leaders, lawmakers, educational planners, and other text creators, language can be manipulated to dominate the public. Therefore, readers must develop a critical awareness of texts to avoid being influenced by the media (Santoso, 2015). Moreover, news consumers should wisely interpret the writer's choice of language. This involves recognizing persuasive language favouring one party's dominance in politics. At the same time, gender discourse includes identifying the language that reflects male dominance over women and vice versa, allowing analysis from the perspective of the oppressed.

2. PROBLEM STATEMENT

In Indonesia, awareness of language analysis faces several challenges. A study conducted by UNESCO in Indonesia revealed an alarming statistic: only 0.001% of the population shows interest in reading. Additionally, a 2016 Central Connecticut State University study ranked Indonesia 60th out of 61 countries in terms of literacy levels. Further, the United Nations Development Program (UNDP)

reported that Indonesia's educational Human Development Index (HDI) was just 14.6% (Anisa et al., 2021). In the 2019 HDI ranking, Indonesia was 111th out of 189 countries (Pramana et al., 2021). The World Population Review ranked Indonesia 54th in education out of 78 countries in 2022. These low literacy rates indicate the need for an effective educational strategy.

The poor literacy rate in Indonesia is worsened by the spread of illegal media in the digital space. According to Prasetyo, Chairman of the Press Council, nearly 80% of Indonesian media outlets are fake, disseminating inaccurate and unverified news to the public (Mahmudi, 2019). These outlets often have hidden agendas, publishing sensational or misleading information to attract readers, the blasphemy case, and the provocative comments, all of which contributed to social chaos. Such issues arise when language is interpreted only textually without considering its broader context. This situation worsens societal tensions, as individuals who are not critical in evaluating the news may accept it at face value without verifying its accuracy.

The public's lack of critical language awareness, including students, significantly contributes to social chaos. Understanding how to interpret language in the media and analyzing the truth of a text by considering its context (societal, institutional, or cultural) is key to comprehending its meaning. Critical analysis is important in helping students develop the language awareness needed to engage with media and avoid contributing to social discord responsibly. Indonesia's lack of critical awareness highlights the need for a learning framework that fosters these skills.

3. OBJECTIVE

To build critical language awareness, critical literacy serves as an effective teaching approach by encouraging students to think critically, solve problems, and take action in their social environment. Critical literacy involves reading texts analytically, viewing multiple perspectives, focusing on socio-political issues, and using one's voice to effect positive change (Abdenia, 2015). The four dimensions model as one of the critical literacy pedagogy approaches focuses on power, ideology, domination, and social construction. These dimensions include disrupting the norm, analysing multiple viewpoints, examining socio-political issues, and taking actions (Batista-Morales et al., 2019; Chafel & Neitzel, 2012; Lewison et al., 2002). Lewison et al.'s (2002) model serves as both a pedagogical guide for teachers and an assessment tool for analysing EFL classrooms (Hayik, 2016). Using this model, teachers can ask students thought-provoking questions to elicit their perspectives on texts. This encourages students to critically analyse texts, which is a fundamental goal of critical literacy education. Throughout the learning process, teachers present a series of critical perspectives by some scholars (Abdenia, 2015; Alford, 2021; Govender, 2019; Huang, 2011a; Kuo, 2014). Several EFL researchers have found that discussions and critical response writing in journals, essays, and papers can lead to positive outcomes in developing critical awareness (Huang, 2011a; Izadinia & Abednia, 2010; Park, 2011).

Therefore, this research aims to create language learning tools based on the four dimensions model of critical literacy pedagogy and to enable students to uncover power dynamics, domination, and social structures within texts. Questioning critically can significantly improve students' ability to become critical thinkers, which is essential for responsible behaviour in social contexts.

4. RELATED WORKS

4.1 Critical Questions in the Four Dimensions Model

Asking critical questions during class discussions forms a key teaching method within the four dimensions model of critical literacy pedagogy. To engage students, the teacher begins with a simple question related to a debatable and intriguing topic, such as beauty pageants. For instance, the teacher might introduce a stereotype discussion by showing an advertisement or image of a Miss Pageant competition from a website, as this provides authentic material. This initial activity sets the stage for

more complex questions designed to trigger students' critical thinking awareness. Questions such as "What do you know about the competition?", "Why are the contestants typically beautiful, tall, and slim?" or "Is it common for beauty standards to focus on being beautiful, tall, and slim?" lead to further exploration of students' critical awareness concerning beauty standards.

For the main activity, the teacher deepens students' engagement with the four dimensions framework by posing more thought-provoking questions. In the first dimension, disrupting the commonplace, questions like "How are they trying to position X?", "Which group is portrayed as more important than others?" or "Do you think X is a common phenomenon in society?" encourage students to challenge everyday assumptions. In the second dimension, considering multiple viewpoints, questions such as "Whose voices are being heard?", "Whose voices are missing?" or "Can you identify different perspectives?" prompt students to adopt others' perspectives, seek out marginalised voices, and analyse conflicting narratives. The third dimension, focusing on socio-political systems, is examined through questions like "How do unequal power relationships arise?", "Does the activity include or create opportunities for participation by subordinate groups?" or "Can you identify the author's power within the text?" Finally, the fourth dimension, taking action, encourages students to use language to enact change, challenge privilege and injustice, and promote social justice. This dimension is explored with questions such as "What actions will you take based on the text you've analysed?" or "Will you transition from being a spectator to an active participant?"

4.2 From Conventional to New Reading Instruction

Power, ideology, and dominance are central to critical literacy pedagogy. Critical literacy, with its four dimensions, equips students to read and analyse texts from different perspectives, challenge conventional viewpoints, explore socio-political issues, take meaningful action, and discover their voice in shaping a better world. It moves beyond the surface-level approach of traditional reading, which often focuses on basic comprehension and vocabulary, and pushes towards a deeper, more analytical interaction with texts. Traditional reading instruction which focuses on conventional questions about text topics, vocabulary meanings, and references dominates many educational systems. However, to meet the demands of 21st-century education, teachers need to blend traditional methods with more critical approaches. This shift is reflected in the research of Hoesny and Darmayanti (2021), which emphasises the role of teachers in facilitating flexible strategies, open assessments, and fostering creativity, critical thinking, teamwork, and communication in the classroom. Iyer (2010) also notes that many teachers struggle to adopt critical literacy methods, as it requires moving from a teacher-centred, text-based approach to a student-centred one emphasising critical thinking.

Although traditional reading methods are still prevalent, teachers can begin to introduce critical literacy gradually. One effective method is to use simple, authentic materials such as advertisements or news articles, which provide real-world connections and are easy for students to analyse critically. This gradual introduction of more complex texts aligns with Kuo's (2014) research, which suggests that critical literacy can be introduced progressively, beginning with simple texts and moving to more advanced ones.

In teaching critical literacy, teachers should prioritise flexibility to encourage students to think critically and analytically. One effective way to achieve this is by incorporating authentic materials that students encounter in their everyday lives. Topics like beauty standards, which are relatable and relevant to students, provide an accessible entry point for critical discussions. Authentic materials, such as language found on TV, billboards, mailboxes, cafeteria menus, or even clothing labels, can serve as rich texts for analysis. Popular culture and daily interactions, including gestures, attire, and personal technology, also offer valuable opportunities for students to practice critical literacy. This approach, which focuses on real-world texts and media, is increasingly becoming a trend in critical literacy curricula (Johnson & Vasudevan, 2012). By analysing these authentic materials, students can better connect critical thinking to their own experiences, making the learning process more engaging and relevant.

Asking critical questions is key to fostering critical learners. Discussions around critical literacy inherently involve questioning, as it pushes students to think deeply and analyse content. While traditional methods of teaching reading still dominate in many educational institutions, teachers can slowly introduce critical literacy concepts by familiarising students with questioning techniques. For instance, using a two-sided coin or money as a warm-up activity encourages students to think critically. By asking questions like, “Why do I ask you to do this?”, “What do you learn from this?” or “Why do I show different coins/money to each group?” teachers engage students in thinking beyond surface-level observations. These questions prompt students to explore different perspectives, understand underlying meanings, and challenge existing ideas. This approach aligns with several academic studies (Abdenia, 2015; Alford, 2021; Govender, 2019; Huang, 2011a; Kuo, 2014), emphasising that critical questioning helps students focus on important aspects of a subject and allows them to articulate their thoughts. Through this process, students not only develop critical awareness but also gain confidence in their ability to think independently.

Lewison et al.’s four-dimensional model of critical literacy has been successfully implemented in educational settings, including in Indonesia. Gustine (2014) found that introducing critical literacy in an Indonesian EFL classroom helped shift teaching from a “banking” approach, where students passively receive information, to a “critical pedagogy” model that encourages students to become socially aware and critical thinkers.

Kuo's (2014) research also supports the idea that critical literacy can complement traditional education. By incorporating students’ personal identities and concerns into the curriculum, critical literacy can enhance traditional language learning, motivating students to use English as a tool for self-expression and research. Kuo highlights the importance of “critical moments,” where students encounter differing viewpoints and learn to appreciate multi-perspective thinking. Similarly, Lie (2010) asserts that multilingual students from diverse cultural backgrounds can develop critical thinking skills through critical literacy frameworks.

Ultimately, the goal of critical literacy is to promote social awareness. By encouraging students to question and challenge societal norms, teachers help them become active social agents. Kuo (2014) notes that students play dual roles as both language learners and social participants when they engage in critical literacy tasks. An example of this in action is seen in elementary school students in the U.S. who created a petition for gender justice as part of their critical literacy learning (Lee, 2017). This demonstrates that critical literacy enhances students’ analytical skills and empowers them to take meaningful action in their communities.

5. CONCLUSION

Critical literacy is an educational approach that encourages students to engage with texts and their world critically, helping them to solve problems and act within their social environments. It aims to enhance students’ critical language awareness through a structured framework, such as the four dimensions model: disrupting the commonplace, considering multiple perspectives, focusing on socio-political issues, and taking action. This model transitions from conventional to new reading teaching methods, emphasising student-centred learning through critical questioning and flexible thinking. Teachers can use authentic materials and guide students progressively from simple to more advanced texts. By asking thoughtful questions, teachers foster critical awareness, enabling students to challenge existing norms, understand power dynamics, and take informed actions based on their readings. Ultimately, critical literacy helps students become more socially aware, thoughtful, and active participants in society.

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Provision of Fund: Whether the study was partially or fully funded or not funded at all. Please specify any sources of funding (institutional, private, and corporate financial support) for the work reported in the paper.

If there was no funding, the following wording should be used: “This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.”

8. AUTHORS' CONTRIBUTION

The author designed, coordinated, and carried out the experiments, prepared the data, analyzed the findings, and managed the manuscript's writing.

9. CONFLICT OF INTEREST DECLARATION

I certify that the article was written by the author herself. The article has never been published before and isn't being considered for publishing anywhere else. This study hasn't been submitted for publication or published anywhere, either in full or in part. The author also confirms that she has made a substantial contribution to the study, validity, and legitimacy of the data and its interpretation for submission to the ICGSPB.

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Chapter 4

Increasing Understanding of Anticorruption Education through Education for Gen Z Youth in Corruption Eradication in Senior High School 2 Angerang District, Banten Indonesia

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Abstract: *The purpose of this community service activity is to increase the understanding of Gen Z young people at SMA Negeri 2 Tangerang Regency about anti-corruption education. The method of implementing the activity involves socialization, education, discussion, and simulation of relevant corruption cases, where participants are invited to understand the negative impact of corruption and its preventive measures. The results of the activity showed an increase in students' awareness and understanding of the importance of understanding corruption and corrupt behavior which is the forerunner of corrupt acts. It is hoped that participants avoid corrupt behaviors such as dishonesty, cheating, not keeping promises and others in daily life. Suggestions were given to strengthen anti-corruption education through formal curriculum and extracurricular activities in schools.*

Keywords: *anticorruption, education, gen z, corruption eradication, SMA Negeri 2 Tangerang Regency*

1. INTRODUCTION

Corruption is one of the serious challenges faced by our country, Indonesia. Widespread corrupt practices have resulted in various negative impacts, ranging from obstacles in economic development to public distrust of public institutions (KPK, 2023). In this context, anti-corruption education is an important step that must be introduced from an early age, especially for the younger generation or Gen Z who will become future leaders (Rika, 2020).

Research shows that anti-corruption awareness should be instilled at a young age, as they are more responsive to ethical and integrity values (Zico, 2023). Therefore, this service activity is designed to increase the understanding and awareness of students of SMA Negeri 2 Tangerang Regency regarding the importance of understanding anti-corruption in daily life and as part of their obligations as good citizens.

2. ACTIVITY IMPLEMENTATION METHOD

This community service activity was carried out on Thursday and Friday, October 24 and 25, 2024 at SMA Negeri 2 Tangerang Regency, Banten, which is a form of a series in commemoration of World Anti-Corruption Day (HAKORDIA) which is carried out online and offline with the target participants

being 72 students in grades 10 and 11. The methods used in the implementation of this activity include several stages as follows:

- a. Socialization: Introduction to the concept of corruption, types of corruption, and their impact on society and the state. In this stage, students are given an in-depth explanation of the definition of corruption, real examples of corruption cases, and how these actions violate laws and social norms.
- b. Group Discussion: The students were divided into small groups to discuss various corruption cases that have occurred in Indonesia and their impact on society. This discussion aims to strengthen students' understanding of the negative impact of corruption as well as explore their opinions and ideas on how to prevent it.
- c. Case Simulation: Through the simulation method, students are given the opportunity to practice scenarios involving acts of corruption, such as bribery or abuse of power. This scenario allows them to understand the pressures and temptations they may face in real situations as well as develop an anti-corruption attitude.
- d. 4. Evaluation and Reflection: After the simulation, an evaluation session was conducted to identify the extent of the understanding and anti-corruption attitude that had been instilled. Each group was asked to share their experiences and lessons learned during the simulation, as well as ideas to strengthen the value of anti-corruption in the school and family environment.

3. RESULTS OF ACTIVITIES AND DISCUSSIONS

The results of this community service activity show a significant increase in students' understanding of the concept of anti-corruption and its negative impacts. Based on the results of the evaluation carried out, more than 85% of students admitted that this activity made them more aware of the importance of integrity and honesty in every action. In addition, most students expressed interest in being actively involved in anti-corruption-related activities in the future.

Case simulation activities are the most interesting part for students because they provide hands-on experience of situations that test integrity (Setiyawan, 2022). Students who previously did not fully understand the social implications of corruption became more aware of the impact. Group discussions also play an important role in deepening students' understanding of corruption, as they have the opportunity to share their views and discuss preventive solutions (Widjaja, 2021).

However, there are several challenges in the implementation of this activity, including time limitations that do not allow for the delivery of material in more depth, as well as differences in students' level of understanding of anti-corruption concepts. As a solution, it is recommended that anti-corruption education activities be carried out in a sustainable manner through curriculum and extracurricular activities in schools.



4. CONCLUSION

This community service activity succeeded in increasing the understanding of SMA Negeri 2 Tangerang Regency students about the importance of anti-corruption education. This program shows that the younger generation, especially Gen Z, has great potential in supporting efforts to eradicate corruption if given the right understanding and motivation. It is recommended that anti-corruption education programs in schools be strengthened by incorporating this material into the educational curriculum. In addition, the school can also organize extracurricular activities or anti-corruption communities that actively involve students. Through sustainable efforts, it is hoped that the younger generation can contribute to creating an environment free from corrupt practices in the future.

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7. AUTHORS' CONTRIBUTION

Rana, N. prepared a place for the counseling location.

8. CONFLICT OF INTEREST DECLARATION

I certify that the article is the Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere.

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Chapter 5

Implementation of Digital Education Innovation in Moringa Leaf Gelato (*Moringa Oleifera*) as a Stunting Preventive Effort Starting with Pregnant Women, Postpartum and Breastfeeding Young Mothers and Toddlers

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Abstract: *Stunting is a condition of failure to grow both physically and in the brain due to malnutrition or lack of nutritional intake during a child's growth period. Stunting often occurs in toddlers aged 12-36 months. Toddlers who experience stunting at this stage usually find it difficult to reach optimal height in the following period. The stunting rate in Bandung district is quite high. Moringa is a plant that has high nutritional content, and its leaves can be used as a basic ingredient for processing food or drinks. Efforts to increase nutritional literacy can be done by expanding knowledge about improving eating behavior in children and providing information on Moringa leaf processing. to prevent stunting in the Bandung district with participants being young mothers after giving birth, young mothers who are pregnant, mothers with toddlers and PKK mothers in the local area. This activity aims to increase knowledge by using Moringa leaves. and increasing local community participation to improve the nutrition of toddlers and post-natal mothers so they can use Moringa leaves as additional food or healthy snacks. The results of this activity were seen in the presence of young mothers who were very enthusiastic about getting education in processing Moringa leaves to prevent stunting, and the community was able to differentiate between toddlers who were in the stunting category or in the low height category due to genetic factors, and the community understood this. The benefits of Moringa leaf extract for preventing stunting by using Moringa leaves in everyday life to prevent stunting*

Keywords: *Stunting, Nutritional Literacy, Moringa Leaves, Gelato*

1. INTRODUCTION

According to the World Health Organization (WHO), stunting is a growth and development disorder that generally occurs in toddlers due to chronic nutrient deficiency and repeated infections, characterized by height below standard. The 2021 Basic Health Research (Riskesmas) results show that the prevalence of stunting in Indonesia in 2021 was 24.4%. Fresh moringa leaves contain various nutrients, such as calcium (1077 mg), iron (6 mg), protein (5.1 g), zinc (0.6 mg), vitamin A (6.78 mg), vitamin B1 (0.3 mg), and vitamin C (22 mg). According to Kurniasih, Irwan Arif, and colleagues (2020), the nutrient content of moringa leaves is 10 times higher in vitamin A compared to carrots, 4 times higher in vitamin E compared to corn oil, 2 times higher in protein, 17 times higher in calcium compared to milk, and 25 times higher in iron compared to spinach, based on the nutrient content per 100 grams. It was found that the concentration of several nutrients is higher in the tender top part of the moringa leaves compared to the young and old leaves. The tender leaves, young leaves, and old leaves

of moringa each have different nutrient concentrations, so all can be utilized according to needs (Irwan, 2020; Marhaeni, 2021; Safangat et al., 2013).

As a highly beneficial functional food, moringa leaves play a significant role in improving body nutrition, especially for pregnant women and malnourished children, thus helping to prevent stunting. According to Dr. Theresia Monica Rahardjo in the book "Moringa Leaves," toddlers suffering from stunting can be given processed moringa leaves regularly. Gradually, these toddlers will experience improvement, from severe stunting to moderate, moderate to mild, and mild to normal. According to the Ministry of Health of the Republic of Indonesia (2018), moringa leaves are a plant rich in vitamins and minerals, containing various beneficial substances.

2. PROBLEM STATEMENT

Stunting is a big problem for society and the future of the country. Stunting prevalence in children under five in Southeast Asia amounted to 29.4%, and this problem became the spotlight of the President of Indonesia. The president invites all Indonesian citizens to reduce stunting rates and prevention and when an event was held in the Bandung district, there were reports from PKK cadres that someone was experiencing stunting. From this data, babies and toddlers who were suffering from stunting in Cipagalo Village generally experienced underweight, short/very short growth, and malnutrition (lack of nutrition) or experienced one of these problems. According to several literatures, one of the biggest factors causing stunting is malnutrition (lack of nutrition). And in accordance with the direction of the Indonesian government, we must promote this stunting case, so we, the lecturers, want to make efforts to reduce stunting rates and prevent stunting by increasing people's knowledge of nutritional literacy.

3. OBJECTIVE

- a. To Reduce the Incidence of Stunting: with efforts to reduce the incidence of stunting in the Bandung area, it is hoped that this can contribute to a good reduction in creating a superior generation of Indonesians.
- b. To Prevent Stunting: Make several efforts to prevent stunting, such as conducting outreach to increase knowledge about what causes stunting and how to overcome or prevent it
- c. To Disseminate of Nutritional Literacy: One of the efforts to increase public knowledge, especially among pregnant women, postpartum mothers, breastfeeding mothers and mothers with toddlers, is by providing nutritional literacy and implementing various innovations in Moringa leaf gelato and various Moringa leaf preparations which are rich in benefits and effective in preventing and reducing stunting. With increasing knowledge, it is hoped that this will have an impact on patterns of providing nutritious food.

4. RELATED WORKS

Activity method through community in relation to the placement of nutritional literacy, which is very important for creating and maintaining healthy nutritional status in public. Steps taken are:

4.1 Coordination with the Head of Ciganitri Village

During the first phase, the village head will discuss the issue of stunting. The goal of this collaborative project is explained, which is to help the village tackle this issue by providing nutritional literacy to mothers to prevent and reduce stunting through the utilization of moringa in moringa gelato. Coordination is carried out so that the village head can provide guidance and cooperation related to the implementation of activities, including the time, place, and location.

4.2 Moringa Utilization Counselling

In the second phase, nutritional literacy is provided through counselling on the benefits of moringa leaves in preventing and reducing stunting. The benefits of moringa leaves in gelato preparations were explained. Children under five years old, pregnant women, and breastfeeding mothers can all benefit from the high nutritional content found in moringa leaves. Literacy interventions were conducted through the distribution of leaflets, interactive discussions, and training on making moringa gelato. If you have more than one paragraph, please insert a line spacing between the paragraphs. Do not insert any space before and after the paragraph. Please insert a line spacing after each paragraph, before the next section.

4.3 Moringa Gelato Making Training.

The third phase involves utilizing moringa leaves through training on making supplementary food in the form of moringa gelato that can be given or served to toddlers. The mothers participate in the training activity by gaining hands on experience. Fresh moringa leaves are the main raw material needed to make moringa gelato. The basic preparation steps for making moringa gelato include picking, soaking, and cleaning the leaves to remove dirt.

5. CONCLUSION

This community service is very useful for post-young mothers giving birth, young mothers who are pregnant, mothers with toddlers and local PKK mothers. Indicated by its presence, very enthusiastic and high-spirited from participants were pregnant, postpartum, and women with toddler. So also, with the supporters of this activity, among others, other sub-district heads, local village officials, village midwives, PKK Mobilization Team, CSR PT. Paragons Technology and Innovation and Mass Media Inspira. By increasing nutritional literacy, we carry out activities to expand knowledge about improving eating behavior in children and counselling on processed moringa leaves to make para guests and invitees very interested in following the method of presenting processed moringa leaves to make nutritious gelato. This activity increasingly makes participants and invited guests attracted by its simple methods and tools that are easy to obtain. The purpose and benefits of this activity can be felt directly by participants and invited guests in increasing public knowledge and awareness about the effectiveness of Moringa leaves and how processing Moringa leaves, like how to make them into nutritious gelato, can help people get it.

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8. AUTHORS' CONTRIBUTION

Ika Zakiah approaches and communicates with partners, coordinates internally with the committee and implementation team, coordinates the preparation of proposal drafts, coordinates all activities, fund usage, and evaluation of the research program implementation, and prepares the research program implementation report. Upus Piataun Khodijah coordinates the preparation of research materials, contacts and coordinates research sources, coordinates the review of the content suitability of research materials, compiles, collects, and administers documents and documentation of the training program implementation, assists the leader in preparing the proposal, evaluating the implementation, and preparing the research program implementation report. Henny Noviany Coordinates, prepares, and arranges the format for filling out documents & documentation and evaluation materials for the research program implementation. Coordinates the attendance of researchers and ensures the smooth implementation of the research. Coordinates field staff in the execution of the research program. Prepares the location, facilities, and administration for the research program implementation. Distributes job descriptions to research participants. Assists the leader in approaching and coordinating with partners, preparing the proposal, and evaluating the implementation of the research program.

9. CONFLICT OF INTEREST DECLARATION

We declare that this article is the original work of the Authors and Co-Authors. This article has not been published before and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication and has not been published in whole or in part elsewhere. We attest to the fact that all Authors have made significant contributions to the work, validity, and legitimacy of the data and its interpretation for submission to the ICGSPB.

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Chapter 6

The Influence of Willingness to Change and Perceived Technology Opportunities on Corporate Entrepreneurship and Labor Growth in Non-Financial Companies in Central Java

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Abstract: *This study is categorized as a cross-sectional study, meaning that it only takes research data from a certain period. The unit of analysis is the organization because each respondent's answer represents their organization, which in this study is a non-financial company in Central Java. The sample used was 120 respondents, with a purposive sampling technique that took the criteria of non-financial companies that had been established for at least 3 years. The analysis used was path analysis. The results of the study showed that the willingness to change had a positive and significant effect on corporate entrepreneurship. Perceived technological opportunities had a positive and significant effect on corporate entrepreneurship. The willingness to change had a positive and significant effect on workforce growth. Technological opportunities had a negative and not significant effect on workforce growth. Corporate entrepreneurship had a positive and significant effect on workforce growth. The results of the regression coefficient test showed that 74.7% of workforce growth in Non-Financial Companies in Central Java was explained by the willingness to change, perceived technological opportunities and corporate entrepreneurship. The results of the path analysis showed that the willingness to change was more effective through indirect channels. Perceived technological opportunities were more effective through indirect channels. The most dominant influence in influencing workforce growth was the increase in the willingness to change mediated by corporate entrepreneurship.*

Keywords: *Willingness to Change, Perceived Technological Opportunities, Corporate Entrepreneurship, Workforce Growth*

1. INTRODUCTION

Although it is increasingly recognized that business growth is increasingly advanced towards the progress and development of the world economy, there is still debate about the role of entrepreneurship. Information technology as a pillar of national development as the vision of Indonesian information technology stated in the sentence of realizing Indonesia as a strong country in global competition, through the development and utilization of information and communication technology for the formation of a prosperous society based on knowledge. The rapid progress of information technology opens up opportunities for accessing, managing and utilizing information in large volumes quickly and accurately.

Corporate entrepreneurship is essential for the survival, profitability, and progress of non-financial

firms (Salvato, 2004). Corporate entrepreneurship refers to entrepreneurial activities within an organization designed to revitalize the firm's business by changing its competitive profile or by emphasizing innovation (Zahra, 1996). Examples of corporate entrepreneurship include product innovation, process innovation through research and development, and the pursuit of new markets (Covin & Slevin, 1991; Miller, 1983). In an increasingly dynamic and uncertain competitive environment, it is essential for non-financial firms to develop an entrepreneurial mindset that enables them to identify and exploit opportunities in their environment (Sirmon & Hitt, 2003). Some factors that influence corporate entrepreneurial behavior are willingness to change, generational involvement, perceived technological opportunities, and strategic planning. These factors are in accordance with Miller (1983), who noted that entrepreneurial activities produce innovation because of their maturation process which is marked by the courage to take risks and always follow developments. These characteristics, in the research of Kellermanns & Eddleston (2006) are shown by the extent to which the company is willing to change and is open to new ideas (willingness to change) and the ability to see technological opportunities in its environment (perceived technological opportunities).

The influence of willingness to change, and perceived technological opportunities on corporate entrepreneurship. Research on the influence of CEO characteristics and generational involvement on entrepreneurial behavior at the company level and its influence on workforce growth by taking the object of research on non-financial companies in the United States. Weismeier-Sammer (2011) conducted a study which is a replication of the study conducted by Kellermanns & Eddleston (2006) by taking the object of research on non-financial companies in Austria.

This study is a development of the research of Kellermanns & Eddleston (2006) and the research of Weismeier-Sammer (2011) which tested the influence of willingness to change, and perceived technological opportunities on corporate entrepreneurship and the role of adding the influence of corporate entrepreneurship on employment growth based on the research of Kellermanns et al., (2008). The reason for conducting this study is to expand knowledge in the field of corporate entrepreneurship, especially in non-financial companies that can be compared with previous studies. In addition, the research conducted by Kellermanns & Eddleston (2006) and the research of Weismeier-Sammer (2011) is a rare study in the field of corporate entrepreneurship, because their research focuses on non-financial companies.

This study takes the object of research as non-financial companies in Central Java. This increasingly rapid development opens up opportunities for non-financial industries to become one of the mainstays for absorbing labor. Therefore, batik businesses, which are mostly non-financial companies as well as being part of Indonesia's cultural heritage, need to develop entrepreneurial behavior in order to survive and grow from generation to generation.

2. LITERATURE REVIEW

2.1 Corporate Entrepreneurship

Corporate entrepreneurship involves a variety of potential activities including product innovation, risk taking, and proactive attitudes aimed at facilitating organizational renewal and sustainability (Covin & Slevin, 1991; Miller, 1983). As a component of corporate entrepreneurship, innovation is a company's commitment to creating and introducing products, production processes, and organizational systems (Covin & Slevin, 1991).

2.2 Willingness to Change

Kellermanns & Eddleston, (2006) explains that the willingness to change is the readiness of the organization to face new challenges in business, the openness of the organization to try new things, and the general attractiveness of the organization that arises from new ideas.

2.3 Perceived Technological Opportunities

Zahra (1996) explains that technological opportunities refer to the extent to which non-financial companies see their industry as rich in opportunities for innovation and technological breakthroughs. Furthermore, Kellermanns & Eddleston, (2006) explain that perceived technological opportunities are the ability of companies to see opportunities for innovation, research and development in an industry.

2.4 Labor Growth

Kellermanns et al., (2008) stated that labor growth is a change in the number of workers owned by a company. This change is caused by the level of entrepreneurial behavior in non-financial companies, so that a high level of entrepreneurial behavior will have an impact on high innovation that opens up opportunities for increasing the number of workers.

3. RESEARCH METHODS

This research model explains the factors that form corporate entrepreneurship, namely the willingness to change and perceived technological opportunities with variables that are influenced by corporate entrepreneurship, namely workforce growth.

The population in this study were all non-financial companies in Central Java. Sampling in this study used a non-probability sampling design, then if viewed from the characteristics of the population, the determination of respondents was carried out using the purposive sampling method, namely those that have been established for at least 3 years. The sample taken was 120 respondents obtained from the multiplication of the number of research parameters. The analysis technique used was the path analysis technique.

4. RESEARCH RESULT

4.1 First Path Analysis Results

Table 1. Path Analysis of Equation 1

Model	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.377	1.902		2.826	.006
Willingness_to_change	.824	.131	.483	6.304	.000
Perceived_technology_opportunities	.541	.129	.322	4.200	.000

a. Dependent Variable: Corporate Entrepreneurship

From table 1. the first regression equation can be made

$$Y1 = 0.483 X1 + 0.322 X2$$

Description:

1. The regression coefficient of willingness to change is 0.483, which indicates that the willingness to change has a positive effect on the entrepreneurship of business companies in Non-Financial Companies in Central Java.

- The regression coefficient of perceived technological opportunities is 0.322, this indicates that perceived technological opportunities have a positive effect on the entrepreneurship of business companies in Non-Financial Companies in Central Java.

4.2. Second Path Analysis Results

Table 2. Results of Path Analysis of Equations 2

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.548	1.559		1.634	.105
Willingness_to_change	.331	.120	.246	2.763	.007
Perceived_technology_opp ortunities	-.046	.109	-.034	-.417	.678
Corporate Entrepreneurship	.425	.073	.540	5.805	.000

a. Dependent Variable: Workforce Growth

Table 3 can be used to create the second regression equation, namely

$$Y_2 = 0.246 X_1 - 0.034 X_2 + 0.540 X_3.$$

Description:

- The regression coefficient of willingness to change is 0.246, indicating that the willingness to change has a positive effect on the growth of the entrepreneur workforce in Non-Financial Companies in Central Java.
- The regression coefficient of perceived technological opportunities is -0.034, indicating that perceived technological opportunities have a negative effect on the growth of the entrepreneur workforce in Non-Financial Companies in Central Java.
- The regression coefficient of corporate entrepreneurship is 0.540, indicating that corporate entrepreneurship has a positive effect on the growth of the entrepreneur workforce in Non-Financial Companies in Central Java

4.3 t-Test Results

- Willingness to change has a significant effect on entrepreneurship of businessmen in Non-Financial Companies in Central Java, this can be seen from the significance value of 0.000 < 0.05, so that hypothesis 1 is proven.
- Perceived technological opportunities have a significant effect on entrepreneurship of businessmen in Non-Financial Companies in Central Java, this can be seen from the significance value of 0.000 < 0.05, so that hypothesis 2 is proven.

3. Willingness to change has a significant effect on the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, this can be seen from the significance value of $0.007 < 0.05$, so that hypothesis 3 is proven.
4. Perceived technological opportunities have no significant effect on the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, this can be seen from the significance value of $0.678 > 0.05$, so that hypothesis 4 is not proven.
5. Corporate entrepreneurship has a significant influence on the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, this can be seen from the significance value of $0.000 < 0.05$, so that hypothesis 5 is proven.

5. RESULTS OF DETERMINATION COEFFICIENT TEST

Table 3. Results of the Determination Coefficient of Equation 1

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705 ^a	.497	.489	3.594

a. Predictors: (Constant), Perceived_technology_opportunities, Willingness_To_Change

Table 4. Results of the Determination Coefficient of Equation 2

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704 ^a	.496	.483	2.849

a. Predictors: (Constant), Corporate Entrepreneurship, Perceived_technology_opportunities, Willingness_to_change

Judging from the coefficient of determination (R^2) of total influence, the coefficient of determination value obtained is as follows:

$$\begin{aligned}
 \epsilon_1 &= \sqrt{1 - R_1^2} \\
 &= \sqrt{1 - 0,497} \\
 &= \sqrt{0,503} \\
 &= 0,709 \\
 \epsilon_2 &= \sqrt{1 - R_2^2} \\
 &= \sqrt{1 - 0,496} \\
 &= \sqrt{0,504}
 \end{aligned}$$

$$= 0,709$$

$$R^2 \text{ total} = 1 - \{(\epsilon_1)^2 \times (\epsilon_2)^2\}$$

$$= 1 - \{(0,709)^2 \times (0,7099)^2\}$$

$$= 1 - \{(0,503) \times (0,504)\}$$

$$= 1 - 0,253$$

$$= 0,747$$

The results of the calculation of the total R^2 value of 0.747 can be interpreted as the variation in the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java is explained by the variables of willingness to change, perceived technological opportunities and corporate entrepreneurship of 74.7% and the remaining 25.3% is explained by other variables outside the research model, for example reputation and speed of service.

5.1 Path Analysis Results

The following path diagram shows the direct and indirect effects as well as the total effect.

Table 5. Path Analysis Results Path Analysis Results

Variable	Path Coefficient		Total Influence	Test Statistic	P-value
	DE (Direct Effect)	IE (Indirect Effect)			
X ₁ ke Y	P ₃ =0,246				
X ₂ ke Y	P ₄ =-0,034				
X ₁ melalui X ₃ Ke Y		P _{1x} P ₅ = 0,483x 0,540 = 0,261	P ₃ + (P _{1x} P ₅) =0,246+0,261 = 0,507	-2.854	0.004
X ₂ melalui X ₃ Ke Y		P _{2x} P ₅ =0,322x0,540 =0,174	P ₄ + (P _{2x} P ₅) =(-0,034)+0,174 =0,14	4.355	0.000

Based on the table above, the relationship between variables can be described in the following diagram:

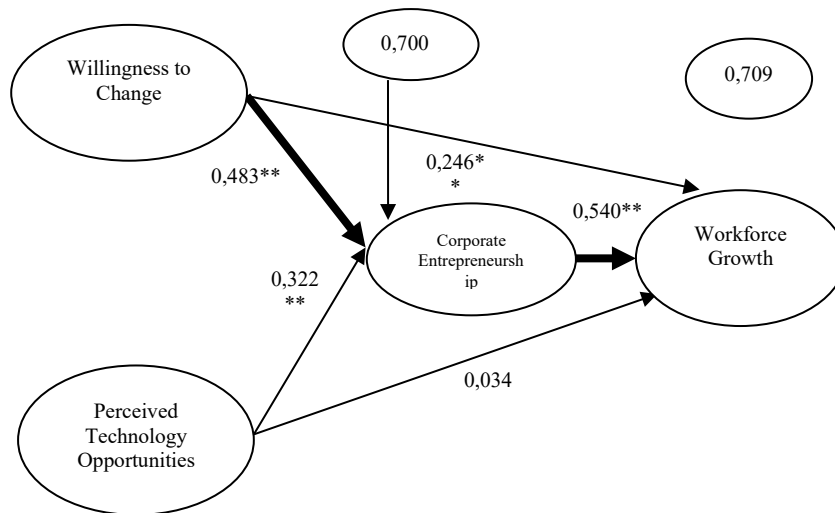


Figure 1 Results of Direct and Indirect Influence

Description:

1. The direct influence of willingness to change on workforce growth is 0.246, while the indirect influence is 0.2061 so that increasing workforce growth is more effective through indirect channels.
2. The direct influence of perceived technological opportunities on workforce growth is -0.034, while the indirect influence is 0.174 so that increasing workforce growth is more effective through indirect channels.
3. The direct influence of willingness to change through corporate entrepreneurship is the greatest influence on workforce growth of entrepreneurs in Non-Financial Companies in Central Java

6. DISCUSSION

6.1 The Influence of Willingness to Change on Workforce Growth

The results of the path analysis show that the use of intervening variables of corporate entrepreneurship in order to increase the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, for the variable of willingness to change is effective, because the indirect influence is greater than the direct influence. This means that to increase the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, it is better to use the variable of willingness to change indirectly.

This can be done in increasing corporate entrepreneurship, among others, by the following steps:

Non-financial companies have shown a strong commitment to research and development, technological leadership, and innovation.

Non-financial companies have emphasized making major innovations in their products and services over the past three years.

6.2 Non-financial companies have emphasized taking bold, broad action in positioning themselves and products or services over the past three years.

With a good willingness to change, it will increase corporate entrepreneurship, so that entrepreneurs will feel well served and workforce growth will increase in Non-Financial Companies in Central Java.

6.3 The Influence of Perceived Technological Opportunities on Workforce Growth

The results of the path analysis show that the use of intervening variables of corporate entrepreneurship to increase workforce growth, for the variable of perceived technological opportunities is effective, because the indirect influence is greater than the direct influence. This means that to increase the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, it is better to use the variable of perceived technological opportunities indirectly.

This can be done by increasing corporate entrepreneurship of entrepreneurs, including by taking the following steps:

- a. Non-financial companies have demonstrated a strong commitment to research and development, technological leadership, and innovation.
- b. Non-financial companies have emphasized making major innovations in their products and services over the past three years.
- c. Non-financial companies have emphasized taking bold, broad action in positioning themselves and their products or services over the past three years.

With the increasing corporate entrepreneurship of entrepreneurs, it will provide confidence to entrepreneurs and entrepreneurs have better workforce growth in Non-Financial Companies in Central Java.

7. CONCLUSION

Willingness to change and perceived technological opportunities have a positive and significant effect on corporate entrepreneurship of entrepreneurs in Non-Financial Companies in Central Java. Willingness to change and Corporate entrepreneurship have a positive and significant effect on the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java, while technological opportunities have a negative and insignificant effect on the growth of the workforce of entrepreneurs in Non-Financial Companies in Central Java. The results of the path analysis show that willingness to change is more effective through the indirect path and perceived technological opportunities are more effective through the indirect path.

8. SUGGESTIONS

Entrepreneurship of the company is further enhanced so that workforce growth is further increased, efforts that can be made from increasing technological opportunities that are perceived by other non-financial companies have shown a strong commitment to research and development, technological leadership, and innovation. Non-financial companies have been pressing to make major innovations in their products and services over the past three years. Non-financial companies have taken bold, broad actions in positioning themselves and their products or services over the past three years.

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10. AUTHORS' CONTRIBUTION

The author analyzes the research phenomenon, designs a conceptual framework, searches for data, analyzes research results, and produces a research report.

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Chapter 7

Exploring Local Wisdom: The Character Values Inherent in Cirebon Mask Dance

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Abstract: *The city of Cirebon is known for its diverse local wisdom, including cultural practices passed down through generations. This highlights the urgency of instilling character values embedded within traditional cultural elements. Cirebon Mask Dance is one of the cultural heritages that continues to be preserved today. The significance of safeguarding and promoting Cirebon Mask Dance lies in understanding the character values expressed through its presentation. By comprehending its philosophical aspects, the unique characteristics of the Cirebon masks, and the dance costumes, the authenticity of Cirebon Mask Dance can be maintained without altering any foundational elements. Furthermore, Cirebon Mask Dance is an effective educational medium for instilling moral and spiritual values in younger generations. Individuals learn the importance of discipline, cooperation, and respect by engaging in the dance's character values.*

Keywords: *Local wisdom, Character values, Cirebon Mask Dance.*

1. INTRODUCTION

Cirebon City is located at the border area between West Java and Central Java. Geographically, Cirebon City is situated at 108.33°E and 6.41°S on the north coast of Java Island, East West Java. The area of Cirebon City is 37.35 km² or 3,735.8 hectares. It is a city rich in cultural and historical heritage. One of Cirebon's cultural wealth lies in its unique traditional arts. Arts such as Cirebon mask dance showcase not only aesthetic beauty but also philosophical and historical meanings. This reflects the wisdom and values of the local community passed down from generation to generation. This uniqueness becomes a cultural attraction that strengthens Cirebon's identity amidst the development of the times.

Culture, in the scientific context, is understood as a system of ideas, actions, and human works that develop in society through a learning process. According to Koentjaraningrat (Faris, et al. 2017), culture includes ideas, values, norms, patterned activities, and physical works of humans that depict the close relationship between abstract and concrete aspects of human life. Therefore, culture encompasses all aspects of human life, including behaviour patterns, belief systems, attitudes, and all human activities that characterize a particular community group. Within culture, there are values and norms that help create a more meaningful life filled with positive values, regulating social interactions, and maintaining harmony in society.

Traditional arts play an important role in maintaining and strengthening the cultural identity of a community. Through various forms of expression such as dance, music, theater, visual arts, and literature, traditional arts function as a medium to transmit cultural values, history, and identity to the next generation. Traditional arts reflect cultural wealth and ancestral heritage, which form the foundation for the collective identity of the community (Sari, 2024). Traditional arts, such as performing

arts, often play a role in rituals, traditional ceremonies, as well as entertainment. Performing arts in Indonesia have evolved from social needs to become educational tools and media for conveying cultural values, also reflecting social transformation over time.

A concrete example is traditional dance. Each movement in traditional dance generally has deep meaning and symbolism, reflecting the philosophy and worldview of its supporting community. Cirebon City is distinguished by its traditional mask dance. Cirebon Mask Dance has five characters: Panji, Samba, Rummyang, Tumenggung, and Klana. Each of these masks has different characteristics and contains implicit character values. This dance is usually performed at government events, ceremonies, weddings, and other public events. It is performed by one to several dancers, accompanied by a *Sinden* (female singer) and ten musicians. Mask dance is one of the traditional arts potentials that can serve as an alternative medium for character value development within local wisdom.

2. METHODS

This study employs the literature review method, a qualitative approach that systematically examines and synthesizes existing studies, theories, and findings relevant to Cirebon Mask Dance. Through this method, the researcher identifies gaps in the current body of knowledge regarding the dance's historical, cultural, and artistic significance, situates the study within the broader academic context of traditional Indonesian performing arts, and establishes a robust theoretical foundation. By critically analyzing scholarly articles, books, and other credible sources, this approach integrates diverse perspectives on the dance's symbolism, regional variations, and evolving practices. Furthermore, it aids in formulating research questions and objectives that address how Tari Topeng Cirebon reflects and preserves local identity, offering a comprehensive understanding of its cultural and artistic value.

3. RESULTS AND DISCUSSIONS

3.1 Local Wisdom

Local wisdom can be understood as the utilization of human intellect to act and respond to events. Etymologically, local wisdom (local wisdom) or wisdom is defined as an individual's ability to use reason and thought to determine actions or attitudes toward an event, reflecting the designed relationship patterns between humans and their environment. (Rianto& Yuliananingsih 2021). Thus, local wisdom represents the values and cultural roots embodied in traditions, customs, experiences, and knowledge possessed by the community, forming an essential element in their culture. Local wisdom plays a significant role in regulating the social order of society. It has two dimensions: the dimension of peace and the dimension of welfare. The dimension of peace includes internal aspects within the social community, such as politeness, honesty, solidarity, harmony, deliberation, commitment, positive thinking, and gratitude. Meanwhile, the dimension of welfare encompasses aspects such as hard work, discipline, education, health, mutual cooperation, gender equality, environmental preservation, and cultural creativity (Kurnianto, 2020). According to Yuniati and Khotimah (2016), the characteristics of local wisdom include various abilities that allow it to remain relevant and resilient amidst external cultural influences:

- a. Able to withstand external influences, maintaining its essence despite pressures from foreign cultures.
- b. Has the capacity to accommodate elements of foreign culture, by adapting or accepting new elements without losing its fundamental identity.
- c. Shows the ability to integrate foreign cultural elements into the original culture, creating

harmonious synergy between local traditions and new influences.

- d. Able to control external influences, ensuring that cultural changes remain aligned with the values.
- e. Plays a role in providing direction for cultural development, guiding social and cultural transformations while adhering to principles passed down through generations.

Local wisdom plays an important role in society, particularly in creating and maintaining profound social values. According to Mazid & Farikah (2020), the primary functions of local wisdom include:

- a. **Preservation of Cultural Identity:** Local wisdom serves as a binder in preserving cultural heritage, which can strengthen the identity of a community and introduce and maintain the values of customs and traditions passed down through generations.
- b. **Strengthening Social Life:** Local wisdom helps regulate social behavior within the community through values and norms that function to control social interactions and maintain harmony among individuals in the community.
- c. **Guiding Community Development:** Local wisdom not only preserves traditions but also guides community progress by integrating local culture with external influences without losing the existing value essence.
- d. **Instilling Character Education Values:** In education, local wisdom can be a primary source for shaping individual character. Through arts, customs, and culture, the community can instill values such as discipline, responsibility, and patriotism in the younger generation.

3.2 Philosophy of Cirebon Mask Dance

Cirebon Mask Dance is estimated to have existed since the 14th to 15th century. This art form continued to develop and gained significant roles during the reign of the Demak Sultanate, where Cirebon Mask Dance was used as a medium for Islamic preaching and spreading Islamic teachings (Dwaji, & Falah, 2023). Cirebon City was one of the centers for spreading Islam, where religious leaders used cultural arts, such as mask dance, as a medium to invite people to embrace Islam. As a result of this dissemination process, mask dance has endured to this day and continues to play an important role in various religious activities and traditional ceremonies, such as mapag sri, nadran, and other cultural rituals (Pramadanti & Hartono, 2024). This mask dance is presented as a performance containing philosophical values and implicit character values. Each element of the mask dance contains unique philosophical values. These values are reflected in the distinctive characteristics of each mask, showcased through color variations. These colours symbolically represent the journey of human life, reflecting the life cycle with all its aspects and changes. The mask dance shares similarities with other styles, featuring five characters: Panji, Samba, Rummyang, Tumenggung, and Klana. It is said that these five masks represent different characteristics and depict human nature from birth to adulthood. The Panji mask represents the stage of human life at birth, characterized by calmness and purity. The Pamindo or Samba mask symbolizes childhood, when humans begin to explore their surroundings. The Rummyang mask illustrates the stage of self-discovery, where individuals begin to understand their identity and existence. The Tumenggung mask reflects the stage of adulthood, marked by discipline, responsibility, and stability. Meanwhile, the Klana mask depicts the stage where humans have reached physical and mental maturity but are accompanied by tendencies toward arrogance and greed (Pramadanti & Hartono, 2024). Cirebon Mask Dance has great potential as a source of character education learning, as it contains various elements that can evoke positive attitudes and behaviors, both for the dancers and the audience. These elements include dance movements, costumes, accessories, props, makeup, accompanying music, and the historical or story background associated with it. Each of these elements reflects important values such as courage, discipline, cooperation, loyalty, obedience, honesty, and creativity, which can be internalized and applied in daily life. This mask dance also reflects the value of discipline through its neat and orderly movements, while cooperation is demonstrated

through the unity of the dancers in the performance. Additionally, Cirebon mask dance is inseparable from its graceful and elegant movements. The dance's hallmark lies in its delicate hand movements, accompanied by drum and rebab music that dominates throughout the performance

3.3 Mask Dance Performances

The Mask Dance performance involves five characters, each with distinct roles and characteristics. Each mask embodies unique character values and representations.

a. Panji Mask



Figure 1. Panji

Mask The Panji mask, characterized by a clean white face, symbolizes purity akin to a newborn baby. Representing purity and innocence, Panji is a gentle and harmonious character. The Panji dance is usually depicted with delicate movements. Its body language suggests that the dance is gentle, not overly active, and quite intricate. The moral message conveyed by the Panji Mask Dance of Cirebon emphasizes that humans should behave well, be polite, gentle in speech, and possess noble character (Yuhanda, 2019).

b. Samba Mask



Figure 2.

Samba Mask This character is more cheerful and lively, symbolizing childhood or a joyful life. Representing children, the movements of this mask are very agile and playful, like children's behaviour.

c. Rumyang Mask

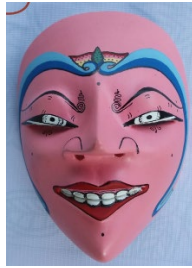


Figure 3

Rummyang Mask The Rummyang mask symbolizes the transition period, the shift from childhood to adulthood, filled with curiosity and exploration. This mask represents a person entering adolescence. The dancer using this mask performs movements that convey the message that all humans should do good.

d. Tumenggung Mask



Figure 4.

Tumenggung Mask, It describes the life cycle of a person who has reached full maturity and stability. It depicts an adult who is gallant, assertive, and responsible, with movements resembling a noble or a chief. This mask symbolizes a person with firmness and noble character, providing a message about high loyalty characteristics and personality.

e. Klana Mask



Figure 5.

Klana Mask, The Klana character symbolizes uncontrolled desire and anger. This dance is full of strong expressions and aggressive movements, reflecting internal human conflict. Despite depicting an evil role, this mask delivers an important lesson that humans should strive for life and happiness through good means. The Klana Sewandana mask is red, similar to the wayang kulit character Klana Sewandana. It portrays King Prabu Klana Sewandana with an antagonist character, depicted with a red mask, bulging eyes, thick mustache, and protruding teeth, indicating a harsh, brave, and arrogant king (Hanif, 2019).

In addition to the characteristics of the masks, there are values in the elements and colors of the dancers' costumes. The dancers' costumes are absolute as they are the dancers' identity, ensuring that through movement, accompanying music, attire, and expression, the performance is perfectly conveyed.

According to Dyah (2007), the explanation of Cirebon Mask Dance costumes is as follows:

f. Panji Mask Dance Costume



Figure 6.

Panji Mask Dance Costume The upper part of the Panji Mask Dance costume includes head decorations consisting of a mask and Sobrah or Tekes, made from human hair shaped into a half circle on the crown, with two thin circular pendants in the middle. The middle part represents a delicate and silent king's costume, characterized by a bright-colored dodot cloth. Accessories include a necklace, shoulder belts, belt, bracelets, and a shirt. The lower part uses dodot cloth as a cover.

g. Samba Mask Dance Costume



Figure 7.

Samba Mask Dance Costume The upper part or crown of this costume consists of a mask and Sobrah or Tekes made from human or synthetic hair braided into a half-circle. Just like the upper part of the Panji Sobrah, it has beads and circular decorations on the left and right sides, hanging down. The middle part, representing a delicate and agile king, consists of several accessories such as a necklace, shoulder belts, a belt made of striped velvet, a shirt, and bracelets. The Samba Mask costume dominates in bright colours, with gold-colored fabric attached to the front of the shirt. The lower part uses dodot cloth with the lancar cangcut pattern, usually with mega mendung batik.

h. Rumyang Mask Dance Costume



Figure 8.

Rumyang Mask Dance Costume The upper part uses Sobrah or Tekes with a human hair arrangement, shaped into a half-circle, decorated with a leather jamang, and two thin circular pendants in the middle, adorned with beads. The middle part represents a queen character, using bright-colored dodot cloth. Accessories include a necklace, shoulder belts, a belt, bracelets, and a shirt. The lower part uses dodot cloth with the lancar cangcut pattern, usually with mega mendung or paksi bird motif batik.

i. Tumenggung Mask Dance Costume



Figure 9.

Tumenggung Mask Dance Costume The upper part uses a peci-bendo, a modification and replacement for Sobrah. The middle part represents a dignified royal official character, with a dark-colored shirt for the evil character. The sleeves have gold thread biku-biku details. The belt is made of striped velvet and lotus motifs. The lower part uses sontog pants, related to open field activities, requiring freedom of movement and cleanliness aspects for the dancer.

j. Klana Mask Dance Costume



Figure 10.

Klana Mask Dance Costume The Klana Mask Dance costume includes a kutung shirt, sontog pants, injang, krodong, kace, tie, ampok, hand and foot bracelets, keris, Sobrah/Tekes, and a shawl. The kutung shirt is a short-sleeved top adorned with colored lace. The sontog pants are knee-length shorts with lace, made of velvet or red satin, designed for dancer flexibility. After wearing the shirt and pants, the dancer wears a batik/tapih cotton cloth with mega mendung motifs. Then, a stagen is used for firmness, with the dodot lancer wingkis as a cover, followed by an ampok with a red base color adorned with bead-shaped flowers. The dance movements are aggressive, energetic, with high leg lifts and wide hand stretches.

3.4 Exploring Character Values

Traditional Indonesian mask dances, like the Cirebon Mask Dance, depict stories rich in cultural and spiritual meanings. Each mask in this dance represents a character conveying specific moral messages. For instance, in Cirebon tradition, the Panji Mask symbolizes purity and innocence at the beginning of life, while the Klana Mask reflects desires, ambitions, and greed emerging when humans are dominated

by worldly desires (Prameswari & Rifanjani, 2019). The colours on the masks are not merely for aesthetics but also carry symbolic meanings. White indicates purity, red represents passion or anger, and black signifies mystical strength. Additionally, design elements like thick eyebrows or bulging eyes emphasize the emotional or spiritual aspects of the character. Dance movements are also full of symbolism: smooth and gentle movements reflect peace, while firm and energetic movements indicate authority or conflict. This symbolism is not only part of the performance art but also serves to highlight the human connection with greater spiritual forces. This dance plays a role in maintaining social and ecological balance, linking the community to their tradition rich in spiritual meanings. One effort to preserve and develop this dance is to explore the character education values contained in the dance and its inheritance process. According to Utamia & Indrawan (2024), character education is a system designed to instill certain personality values in students, including aspects of knowledge, awareness, motivation, and behavior encouraging the application of these values in life. The importance of character education for the nation's generation lies in its ability to shape resilient, competitive, moral, and tolerant individuals. Gotong royong, as a form of local wisdom closely tied to Indonesian culture, holds important values in strengthening the social character of society. In the field of education, gotong royong is applied to develop a sense of solidarity, cooperation, and concern among individuals. Traditional cultural arts, such as dance, can be a primary source in instilling character education values.

4. CONCLUSION

The Cirebon Mask Dance, rich in symbolism and philosophical values, not only functions as a form of artistic expression but also as an effective educational tool to instil moral values such as discipline, cooperation, respect, and responsibility. Each mask worn by the dancers symbolizes various aspects of human life's journey, such as purity, enthusiasm, introspection, responsibility, and a warning against the dangers of greed. The dance movements, ranging from gentle and graceful to strong and energetic, reflect the emotional spectrum of humans. The costumes and use of colours in the masks add depth to the symbolism, with each colour conveying specific moral messages, such as white for purity and red for courage or passion. Through the learning process and internalization of these characters, it maintains a balance between spiritual and social aspects in community life.

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Chapter 8

Digital Transformation: Utilization of Technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and Blockchain to Increase Efficiency and Innovation in Business

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Abstract: *Digital transformation has become a key catalyst in the evolution of modern businesses. This study examines how technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), and blockchain can be applied to enhance operational efficiency and drive innovation in business strategies. The analysis includes case studies and recent literature to identify the main benefits, challenges, and opportunities associated with the adoption of these technologies. The findings indicate that the integration of these three technologies can provide significant competitive advantages across various industrial sectors.*

Keywords: *Artificial intelligence; Blockchain; Digital information; Internet of Things; Innovation*

1. INTRODUCTION

In the digital era, adopting technology has become essential for companies to remain competitive. Artificial Intelligence (AI), the Internet of Things (IoT), and blockchain are three key technologies that have shaped a new paradigm in modern business. These technologies offer immense potential for enhancing efficiency, reducing operational costs, and unlocking new opportunities for innovation (Suharto, 2024).

AI enables companies to analyze data in depth, identify complex patterns, and make accurate predictions to support better decision-making. IoT, on the other hand, connects devices and systems to create an integrated ecosystem, allowing for real-time monitoring and control. Blockchain, with its security and transparency, provides solutions to address trust issues in digital transactions. The combination of these three technologies not only transforms how companies operate but also creates new opportunities to enhance competitiveness.

A study conducted by Zeb et al. (2024) shows that AI successfully increased productivity by 35% within the first two years of implementation. Research by Raval et al. (2021) found that IoT could reduce logistics operational costs by up to 25%. Blockchain has also been proven to improve supply chain efficiency by reducing administrative processing time by 30% (Dutta et al., 2020). Another study by Mrs.R. Subapriya et al. (2023), demonstrated that blockchain can trace product origins to enhance customer trust.

However, despite the significant benefits of these technologies, challenges in implementation cannot be overlooked. Many companies face difficulties in adapting to new technologies, such as the need for human resource training and updating technological infrastructure. These obstacles often become major

barriers that slow the digital transformation process.

Research also indicates that digital transformation not only impacts operational aspects but also affects organizational culture. The changes brought about by these new technologies require flexibility and innovation at all levels of the company to achieve successful implementation.

Moreover, the role of governments in supporting digital transformation cannot be ignored. Supportive policies, fiscal incentives, and digital training programs have helped many countries accelerate the adoption of advanced technologies across various industrial sectors.

Digital transformation also plays a crucial role in supporting sustainability. Technologies like IoT have been used to monitor resource usage and reduce environmental impact. Similarly, blockchain can increase transparency in tracking sustainable products, supporting green initiatives that are gaining global attention.

By integrating AI, IoT, and blockchain, companies can create a business ecosystem that is more responsive, adaptive, and innovative. This transformation not only helps improve operational efficiency but also provides a competitive advantage that is difficult to replicate.

2. PROBLEM STATEMENT

Digital transformation presents significant opportunities for companies but also introduces a range of substantial challenges. Many companies struggle to understand and adopt new technologies like AI, IoT, and blockchain. This lack of understanding often leads to resistance to change and failures in effectively integrating technology into business processes. Additionally, infrastructure barriers, such as limited networks and technological resources, exacerbate the situation, especially for small and medium enterprises.

Beyond technical barriers, security remains a major challenge in implementing digital technologies. The use of IoT, for instance, creates opportunities for hackers to access connected systems. While blockchain is renowned for its security, it still requires careful management and specialized expertise to prevent potential exploitation.

Lastly, adopting digital technologies often requires significant initial investments. Many companies are hesitant to allocate substantial budgets without clear guarantees of return on investment. Therefore, a comprehensive strategic approach is essential to overcome these challenges and ensure the successful implementation of digital transformation.

3. OBJECTIVE

- a. **Identify Key Benefits:** Explore in-depth how technologies like AI, IoT, and blockchain can improve operational efficiency and drive innovation.
- b. **Analyze Case Studies:** Provide detailed analyses of technology implementation across various industrial sectors.
- c. **Offer Strategic Guidance:** Deliver recommendations to address challenges in adopting digital technologies, such as in manufacturing, logistics, and financial services.
- d. **Develop Adoption Strategies:** Provide practical recommendations to overcome major obstacles in implementing digital technologies, including technical and organizational challenges.

4. RELATED WORKS

4.1 Artificial Intelligence

AI has been utilized in various business applications, ranging from data analysis to process automation

(Chukwuma et al., 2024). A study by Liu et al. (2024) found that implementing AI in manufacturing can improve production efficiency by up to 40%. Additionally, AI plays a crucial role in personalizing customer experiences in the e-commerce sector, enabling companies to offer relevant product recommendations. Zeb et. al. (2024) also highlighted how AI aids the healthcare sector in analyzing patient data for faster and more accurate diagnoses. This study noted that AI-based algorithms could reduce diagnostic errors by 20% compared to conventional methods.

AI has also had a significant impact on the financial sector. Research by Carter Liang & Luo (2023) showed that AI algorithms could predict credit risks with greater accuracy than traditional methods. This not only improves the efficiency of the credit process but also reduces default rates. Furthermore, AI is used to detect fraudulent activities in financial transactions in real time, providing additional security for companies and customers.

In the education sector, AI has been employed to personalize student learning through digital platforms. Research by Zeb et al. (2024) found that integrating AI in online learning increased student engagement by up to 30%. Moreover, AI algorithms enable in-depth analysis of learning data, helping educators identify student weaknesses and provide tailored teaching approaches. AI's potential is also evident in the development of autonomous transportation technology, where AI-based navigation systems help reduce accident risks by up to 25%.

The use of AI is also expanding in supply chain management. Predictive algorithms powered by AI can forecast market demand, reduce overstock, and minimize storage costs. According to Chukwuma et al. (2024), the adoption of AI in supply chains boosts overall efficiency by 35%, making it an essential tool in modern business strategies.

4.2 Internet of Things (IoT)

IoT has become a catalyst for improving operational efficiency across various industries. Oladele (2024) noted that the implementation of IoT in logistics allows companies to track shipments in real-time, reduce waiting times, and enhance customer satisfaction. In the healthcare sector, IoT is used to monitor patient conditions through connected medical devices, providing early alerts that can save lives. Another study by Raval et al. (2021) showed that IoT could reduce energy consumption in manufacturing systems by up to 20%.

IoT also plays a crucial role in smart city management. IoT-based intelligent transportation systems can reduce traffic congestion by up to 25%, according to a study by Mrs.R. Subapriya et al. (2023). Additionally, the use of IoT in waste management has helped major cities like Singapore reduce waste by 15% annually. An additional study demonstrated that IoT enables optimized irrigation in the agricultural sector, reducing water usage by up to 30% (Saez Rojas et al., 2024)

IoT implementation in the energy sector has also achieved significant milestones. IoT sensors are used to manage energy consumption more efficiently, allowing companies to cut energy waste by up to 25% (Han et al., 2022). In the manufacturing industry, IoT has been used to detect machinery issues early, reducing operational downtime and maintenance costs. This not only improves efficiency but also extends equipment lifespan.

IoT is also utilized in smart security systems to enhance monitoring and risk mitigation. For instance, IoT devices can provide instant alerts to property owners in the event of a security breach. Research by Mrs.R. Subapriya et al. (2023) noted that IoT-based security systems reduce theft risks by up to 30%, offering additional protection in residential and commercial environments.

4.3 Blockchain

Blockchain offers transparency and security in business transactions. According to Dutta et al. (2020), the implementation of blockchain in supply chains not only reduces fraud risks but also improves

efficiency by eliminating intermediaries. Another study by Mrs. R. Subapriya et al. (2023) highlights that blockchain can be used to track product origins, ensure authenticity, and enhance customer trust. Additionally, Liang and Luo (2023) reveals that blockchain can accelerate cross-border payment processes by reducing transaction costs by up to 15%.

The application of blockchain in the financial sector has also transformed transaction methods. Research by Zeb et al. (2024) shows that this technology can reduce transaction settlement times from several days to mere minutes. In the healthcare sector, blockchain is used to secure electronic medical records, ensuring safe and transparent access for healthcare providers and patients Han et al. (2022). This technology has also been employed to support intellectual property management, enabling more efficient global ownership tracking.

Blockchain is also applied in electoral systems to ensure transparency and reduce the potential for fraud. For instance, several countries have piloted this technology to provide secure and tamper-proof voting access. Moreover, blockchain is used to facilitate smart contract-based transactions, which automatically execute agreements when predefined conditions are met (Dutta et al., 2020).

The implementation of blockchain in the creative industries has also delivered significant benefits. Artists and content creators can leverage this technology to protect their copyrights, monitor the distribution of their works, and ensure fair compensation. According to Han et al. (2022), blockchain has improved royalty distribution efficiency by up to 20%, creating a fairer and more transparent ecosystem for creators.

5. CONCLUSION

Digital transformation integrating AI, IoT, and blockchain holds immense potential to revolutionize how companies operate and innovate. These three technologies not only provide higher operational efficiency but also enable businesses to create more personalized and relevant customer experiences. By leveraging data optimally, companies can identify trends, understand customer needs, and deliver faster, more effective solutions.

However, this transformation is not without challenges. Technical aspects such as data management and security require special attention. Moreover, successful implementation largely depends on an organization's readiness to adapt to rapid changes. This includes employee training, developing adequate infrastructure, and fostering a culture of innovation throughout the organization.

Digital transformation also has broader impacts, including on environmental sustainability and social inclusion. By using IoT to monitor energy usage and blockchain to ensure transparency in supply chains, companies can contribute to global efforts to create more socially and environmentally responsible businesses.

Moving forward, collaboration among the private sector, government, and academia is essential to drive greater innovation. With an integrated and strategic approach, digital transformation can become a key catalyst for sustainable and inclusive economic growth.

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7. AUTHORS' CONTRIBUTION

The author examines the research phenomenon, develops a conceptual framework, collects data, analyzes the findings, and compiles the research report.

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Chapter 9

Development of the Target Smash Tool to Improve Table Tennis Players' Accuracy

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Abstract: *The smash is one of the most effective offensive techniques in table tennis, exerting significant pressure on opponents through its high speed and power. However, achieving accuracy in smash execution remains a major challenge for both amateur and professional players. This study aims to develop a target smash tool designed to enhance table tennis players' shot accuracy. The research employs the Research and Development (R&D) method based on the steps outlined by Borg & Gall. The findings indicate that the tool effectively improves players' smash accuracy, with potential for further development, such as integration with smartphone applications for training data analysis.*

Keywords *akurasi smash, alat bantu tenis meja, pengembangan alat, penelitian R&D, tenis meja*

1. INTRODUCTION

Table tennis is a highly popular sport worldwide, valued not only for its simplicity of equipment but also for the high level of skill it demands, particularly in offensive techniques like the smash. The smash is recognized as a technique that applies exceptional pressure on opponents, with unmatched speed and power. In matches, it often becomes a decisive factor for winning rallies and scoring points.

However, the effectiveness of a smash is determined not only by the power of the stroke but also by its accuracy. Players frequently face various challenges in training for smash accuracy. A study by Adryan et al. (2024) highlighted that the lack of training tools specifically designed to improve accuracy is a major factor hindering players' skill development. Additionally, common challenges include improper body positioning, suboptimal racket swings, and inadequate ball contact techniques, which affect both amateur and professional players (Oagaz et.al., 2022).

Mastering table tennis skills requires not only quick reactions but also precise ball control. Poor technique can diminish the effectiveness of an attack, even when a powerful smash is performed (Zhang, 2022). Therefore, training focused on improving accuracy has become increasingly crucial in enhancing players' ability to handle various match situations.

In recent years, technological innovations in sports have provided numerous solutions for enhancing athletes' skills. For example, the use of sensor-based devices has successfully improved athlete performance across various sports, including table tennis (Cui & Zhou, 2022). The target smash tool developed in this study is designed to offer real-time feedback to players, enabling them to identify weaknesses and gradually improve their skills.

In addition to sensor-based technology, research has shown that visual feedback can enhance training effectiveness. Targets that provide immediate indicators of successful hits have helped players identify weaknesses and improve their techniques incrementally (Hahm et. al., 2023). This approach offers an advantage in accelerating the learning process compared to traditional training methods.

Moreover, the success of smash training is also influenced by factors such as structured practice routines and the support of coaches who understand each player's strengths and weaknesses (Bennett et.al., 1984). The use of appropriate training tools can complement these efforts by delivering measurable training outcomes.

On the other hand, developing effective training tools requires extensive testing of various prototype designs. This study employs a Research and Development (R&D) approach to ensure that the resulting tool is not only technically effective but also user-friendly (Bennett et.al., 1984). This includes testing the system's reliability, ease of use, and the impact of training on player performance.

The integration of technology into sports also opens up opportunities for inclusive skill development. Training tools like these are not only beneficial for professional players but also allow amateur players to experience the advantages of advanced technology that was previously accessible only to elite athletes (Hahm et.al., 2023). This approach highlights the potential for increasing public participation and enthusiasm for table tennis.

Considering these challenges and opportunities, this study aims to provide a tangible contribution to the development of table tennis skills through innovative training tools. The resulting tool is expected to serve as a practical solution for improving the smash accuracy of both amateur and professional players.

2. PROBLEM STATEMENTS

Accuracy in executing a smash is one of the essential skills that table tennis players must master. However, many players struggle to improve their accuracy due to the lack of training tools specifically designed for this purpose. This research seeks to address several key questions:

First, what are the primary requirements for developing a target smash tool for table tennis? To create an effective tool, it is essential to identify the key elements, such as design, detection sensors, and scoring systems.

Second, how effective is this tool in improving players' smash accuracy? Evaluating the tool's capability to assist both amateur and professional players will be a primary focus.

Third, can this tool be widely accepted by users across different skill levels? User acceptance is crucial, as the tool is designed to be utilized by players of varying abilities.

By answering these questions, this study aims to provide practical and innovative solutions for enhancing the skills of table tennis players

3. OBJECTIVE

This study has the following main objectives:

- a. To develop an innovative target smash tool that helps players improve their shot accuracy using modern technology.
- b. To evaluate the effectiveness of the tool in supporting smash training by assessing player performance during trials.
- c. To assess the level of user acceptance and satisfaction with the tool in terms of design, functionality, and results.

By achieving these objectives, the developed tool is expected to serve as a practical solution for

enhancing the performance of table tennis players.

4. RELATED WORKS

The development of training tools in sports, particularly table tennis, has been the focus of several previous studies. Below are some examples:

4.1 Development of of a Table Tennis Training Device with Real-Time Feedback

Research by Oagaz et.al. (2022) developed a sensory system to analyze racket movements and provide feedback to players. This system records technical data, such as the angle of ball contact and racket speed, which is then delivered to players in real time. The findings showed that the device improved players' shot accuracy by up to 15% within four weeks.

In the context of sports training tool development, real-time feedback offers advantages over traditional methods. By providing immediate data, players can adjust their techniques during practice without waiting for post-session coach analysis (Cui & Zhou, 2022). This approach enhances the efficiency and focus of the training process.

Oagaz et.al. (2022) also emphasized the importance of the tool's compatibility with various training environments. Testing factors such as light intensity and room temperature ensured the device could be widely used.

However, the study noted that the ergonomics of such devices require attention; overly complex or difficult-to-use tools may demotivate players from consistent practice (Rigozzi et.al., 2023). Therefore, balancing functionality and ease of use is essential in the development of such tools.

4.2 LED-Based Training System for Improving Table Tennis Skills

Research by Adryan et.al. (2024) highlighted the importance of training aids in enhancing shot accuracy. They developed an LED-based target system that provides real-time scoring for successful hits. This system delivers engaging visual feedback, motivating players during practice.

The study found that using an LED-based target increased shot accuracy by up to 20% over a six-week training period. Additionally, the tool includes a score-tracking system that allows coaches to monitor players' progress more effectively (Robertson et.al., 2023). However, the primary challenge in developing this system is the relatively high production cost, limiting its accessibility for amateur-level players.

LED technology offers further development potential, such as integration with analytics software to provide deeper insights into players' training patterns (Zhang, 2022). Future research could optimize the tool's energy efficiency to ensure long-term usability.

Adryan et.al. (2024) also noted the system's suitability for various training scenarios, including match simulations. Adjustable target variations provide flexibility for holistic skill development.

4.3 Smartphone Integration for Table Tennis Training Tools: A New Paradigm

Another relevant reference is the study by Cui & Zhou (2022) which integrated smartphone applications with training tools. The app was designed to record players' training data, such as stroke frequency and accuracy, and analyze it using machine learning algorithms.

Smartphone integration offers advantages in portability and accessibility. Players can easily access their training data anytime, enabling them to plan more effective training strategies (Zhang, 2022).

The study also found that combining physical tools with digital applications enhances overall training efficiency.

Furthermore, the app is designed to be compatible with various devices, making it accessible to users from diverse backgrounds. Its simple interface facilitates new users' understanding of the tool's functions (Rigozzi dkk., 2023) This integration benefits both professional and amateur players.

However, the main challenges in implementing this technology include the need for stable internet connectivity and hardware compatibility with various smartphone brands. Further research is necessary to address these issues, particularly in developing countries where access to technology is limited (Rigozzi dkk., 2023).

Currently, the system may not fully capture the unique weaknesses, strengths, or styles of the individual athletes. Thus, the development of more adaptive machine learning algorithms is needed to provide personalized and relevant training recommendations for each player. By implementing the adoptive algorithms, training tools may be able to deliver tailored feedback on the player's progress, leading to more efficient skill development and higher performance outcomes.

5. CONCLUSION

The development of the target smash tool offers an innovative solution for improving the shot accuracy of table tennis players. By leveraging modern technology such as detection sensors and an automatic scoring system, this tool has successfully enhanced the performance of both amateur and professional players. The real-time feedback provided by the tool motivates players to train more intensively and focus on areas that need improvement.

Although the tool has some limitations, such as relatively high costs and the need for initial training, its potential for further development remains significant. For instance, integration with smartphone applications could provide deeper training data analysis, while automating the scoring system could enhance its usability efficiency. Further research is recommended to involve a broader range of subjects and explore additional technologies to improve the tool's functionality. Consequently, the target smash tool is expected to make a significant contribution to the development of table tennis skills in the future.

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7. AUTHORS' CONTRIBUTION

As the main author in a scientific work, your duties involve several important steps in the research process carried out together with the second author to produce high-quality research results.

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Chapter 10

Integrating Sundanese Culture into The English Teaching and Learning Process in the Higher Education Context

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Abstract: *In an increasingly globalized society, it is becoming more important to incorporate local cultures into educational frameworks, particularly when teaching non-native languages. This article explores the integration of Sundanese culture into the English language teaching and learning process in higher education. Focusing on the dynamic interaction between local cultural elements and foreign language acquisition, the study underscores the importance of incorporating indigenous knowledge and traditions to enhance the learning experience. Drawing from recent research in language pedagogy, cultural studies, and education, the article discusses the potential benefits of such integration in fostering culturally responsive teaching, improving language acquisition, and enriching student identities.*

Keywords: *Cultural Integration, English Language Teaching, Higher Education, Language pedagogy, Sundanese Culture*

1. INTRODUCTION

Effective and meaningful language acquisition has long been acknowledged to be facilitated by incorporating culture into language instruction (Kramersch, 2017). Integrating local cultural components into English as a Foreign Language (EFL) can help close the gap between the target language and students' native identities, leading to deeper comprehension and engagement. A notable cultural group in Indonesia, where several civilizations cohabit, is the Sundanese, whose rich customs, beliefs, and practices offer a special chance for educational integration.

The ongoing integration of culture into language education is still a major issue in the more considerable pedagogical authority. Historically, Western-centric viewpoints have been dominant in English language teaching (ELT), with minimal regard for the variety of cultural backgrounds of students (Liddicoat, 2020; Liddicoat et al., 2020). The latest developments in global educational practices emphasize integrating local culture to foster more relevant and contextualized learning experiences (Cheung et al., 2013). Native to West Java, Indonesia, the Sundanese culture offers a rich legacy, including its language, arts, social norms, and values, all of which are underrepresented in popular language courses. Including this cultural knowledge in English language instruction in Indonesian higher education could provide a more inclusive and comprehensive learning environment that preserves students' cultural identities while promoting their English competency.

2. PROBLEM STATEMENT

Although a lot of literature has been produced on incorporating general cultural components into teaching foreign languages, less attention has been paid to particular cultural groups, especially in Indonesia. Western cultures have been the subject of most studies on cultural integration in EFL settings, and the influence of indigenous cultures in non-Western nations has not been examined. This study addresses the underrepresentation of indigenous cultures, particularly Sundanese culture, in English language education within Indonesian higher education. Although English is a crucial global lingua franca (Jenkins, 2018; Llorca, 2020), its teaching in Indonesia often excludes local cultural perspectives, resulting in a curriculum detached mainly from students' cultural realities (Marcellino, 2015). This lack of cultural integration limits students' engagement and potentially diminishes their ability to connect deeply with the language. Furthermore, as English becomes increasingly necessary for global communication, teacher educators must rethink traditional pedagogical approaches to language learning by integrating local cultural elements to enhance relevance and engagement (Herdi et al., 2023).

3. OBJECTIVE

Integrating Sundanese culture into the English teaching and learning process in higher education, particularly at Universitas Muhammadiyah Bogor Raya in West Java, Indonesia, is multifaceted. It aims to enhance cultural awareness, improve language skills, promote intercultural competence, foster critical thinking, support character education, and encourage active student learning. By achieving these objectives, educators can create a more enriching educational experience that prepares students for local and global contexts.

4. RELATED WORKS

Scholars have been interested in integrating culture into language learning for many years. The contributions of culture to language learning have been extensively covered in the literature, with particular attention paid to the effects of integrating both the target and local cultures into language instruction. In this section, we review some of the significant scholarly works that address the intersection of culture and language teaching, especially in non-Western contexts, emphasizing integration of indigenous cultures such as the Sundanese culture, into English language curricula.

4.1 Cultural Integration in ELT

A growing body of research in applied linguistics and language pedagogy stresses incorporating students' cultural backgrounds into language learning. Kramsch (2017) emphasizes the need for culture in language education since she contends that learning a language is inseparable from understanding culture. She says that including culture in the classroom helps students to develop "intercultural competency," which lets them negotiate cultural variations and enhance their language ability. Byram (2020) supports this viewpoint by highlighting the importance of foreign language students interacting with the language and the cultural context in which it is used through his concept of "intercultural communicative competence." These fundamental theories contend that cultural content improves the educational process by promoting global awareness and making learning more relevant. Integrating local culture into English language teaching can enhance the learning experience for students. It allows students to see the relevance of the language to their everyday lives and helps them connect better with the language by reflecting on their cultural backgrounds (Wutun et al., 2018). Hence, many academics support switching from Western-dominated, standardized curricula to

resources representing a range of ethnic origins (Baker, 2021; Hakim, 2022; Pirhonen, 2024).

Integrating Sundanese culture into English Language Teaching (ELT) can significantly enhance the learning experience for students. Here are some effective examples of how meaningful learning can be achieved through this integration:

a. Cultural Projects and Activities

Students can engage in projects that explore Sundanese traditions, such as traditional dances, storytelling, drama, music, culinary arts, and crafts. For instance, a project could involve students researching and presenting the significance of their *Sunda* culture in drama or storytelling performances. This helps them practice their English language skills and deepens their understanding of their cultural heritage.



Figure 4.1 Drama Lutung Kasarung Reborn

DILE PROJECT 2022: Lutung Kasarung Reborn - YouTube

b. Language Games Incorporating Local Context

Creative learning methods, such as language games that incorporate Sundanese cultural references, have been shown to improve language skills. For example, teachers can create vocabulary games using Sundanese terms and their English equivalents, allowing students to learn new words while connecting them to their cultural context. This approach has improved students' speaking, listening, reading, and writing skills (Seftika et al., 2017).



Figure 4.2 Sundanese Letter Games

c. Storytelling and Folktales

Utilizing Sundanese folktales in the classroom can serve as a rich resource for language learning. Students can read or listen to stories in English based on Sundanese folklore, followed by discussions or creative writing assignments where they express their interpretations or create new endings. This method promotes engagement and allows students to relate personally to the content while practicing their English skills.

d. Cultural Reflection Activities

Incorporating activities that encourage students to reflect on their cultural identity can enhance meaningful learning. For example, students might write essays or discuss what being Sundanese means to them and how it influences their perspectives. This fosters language skills and encourages critical thinking about their cultural values and identity (Kita Ngatu & Basikin, 2019).

e. Interactive Media and Technology

Interactive media showcasing Sundanese culture, such as videos of traditional ceremonies or music, can make lessons more engaging. Students can analyze these materials in English, discussing themes, vocabulary, and cultural significance, thus bridging their local culture with the target language effectively (Anon, 2024; Seftika et al., 2017).

This strategy fosters a more dynamic and inclusive learning environment where students can use their cultural knowledge to understand language in relevant ways. In addition to improving students' enthusiasm and engagement, this method cultivates cross-cultural communication abilities, which are essential in our increasingly interconnected world (Huang, 2023; Lai, 2013; Tambunan et al., 2021).

4.2 The Importance of Local Culture in the Indonesian ELT Context

Incorporating local culture into ELT materials and practices makes learning more relatable for students. Educators can engage students more effectively using culturally relevant content, such as local stories, traditions, and customs. Research indicates that when students see their culture reflected in their learning materials, they are more motivated and better able to connect with the language being taught (Anon, 2012; Herdi et al., 2023).

Research highlights various effective strategies for integrating local culture into ELT. Techniques such as contextualizing topics, using local literature, conducting discussions on cultural practices, and creating projects exploring local traditions have enhanced students' understanding and use of English. These strategies improve language skills and encourage critical thinking about cultural differences and similarities (Herdi et al., 2023; Yusniawati & Lestari, 2021).

4.3 Cultural Integration and Indigenous Knowledge

In addition to promoting student engagement, integrating Sundanese culture into language teaching has significant implications for cultural preservation and identity reinforcement. Incorporating indigenous knowledge into ELT materials can make learning more relatable and meaningful for students. Research indicates that when local wisdom is integrated, students find it easier to understand and engage with the content, leading to improved language acquisition (Wulandari, Sundari, and Ellysafny 2020). By integrating indigenous knowledge, educators play a vital role in preserving local cultures and traditions. This approach helps students appreciate their heritage while learning a global language, ensuring that cultural identities are maintained in an increasingly globalized world (Leonard, 2022; da Silva et al., 2023).

Character development can benefit from the moral principles and values frequently reflected in local wisdom. Character education programs benefit from including these elements in ELT since they foster a sense of responsibility and appreciation for students' cultural heritage (Anon, 2012). Students who are exposed to indigenous knowledge develop intercultural understanding. Understanding various cultural viewpoints helps students communicate more effectively in various contexts and prepares them to participate in global citizenship (Dewi et al., 2022).

4.4 Theoretical and Pedagogical Models of Cultural Integration

The theoretical underpinnings of cultural integration in language teaching can be traced to sociocultural theories of learning (Newman & Latifi, 2021; Utami, 2016), which emphasize the role of culture in cognitive and linguistic development. Rooted in the ideas of Piaget and Vygotsky, the constructivist learning theory emphasizes that students construct knowledge through their experiences and interactions with their environment. In the context of cultural integration, this means designing learning activities that allow students to explore their cultural identities while engaging with new languages. This approach encourages active participation and critical thinking (Kouicem & Nachoua, 2018; Pardjono, 2002).

Cultural model theory emphasizes the importance of cultural awareness in language education. It posits that understanding cultural models, shared beliefs, and practices within a culture can enhance students' cross-cultural awareness and communication skills. By applying this theory, educators can create lessons that reflect students' cultural backgrounds, fostering a deeper connection to the language being learned (Batiste, Denby, and Brinson, 2022).

In recent years, there has been an important shift in pedagogical methods supporting cultural integration into language learning. The "intercultural communicative competence" (ICC) approach is one such model that highlights the significance of comprehending and navigating cultural variations in communication (Byram, 2020). Byram claims that ICC is the perfect framework for incorporating local cultural content, like Sundanese, into language learning since it seeks to enhance students' capacity to communicate with others from diverse cultural backgrounds appropriately and successfully. Educators can use role-playing activities, cultural conversations, and comparisons of Sundanese and English cultural customs to promote intercultural competency while enhancing language skills.

Theoretical and pedagogical models of cultural integration are essential for improving the relevance and engagement of English Language Teaching for students. Educators can establish a dynamic learning environment that values and appreciates cultural diversity by integrating practical approaches such as project-based learning and community involvement, and frameworks such as cultural models' theory and constructivist learning theory. This integration enhances language proficiency and cultivates intercultural competence in students, equipping them for a globalized world.

5. CONCLUSION

Integrating local culture into English language teaching and learning is a critical study area, particularly in diverse and multilingual contexts such as Indonesia. Research supports the idea that embedding Sundanese culture into English language instruction allows students to connect their learning with their cultural identity. The student's educational experiences are much enhanced when Sundanese culture is incorporated into the English teaching and learning process in higher education. Along with improving language skills, it promotes character development, critical thinking, and cultural awareness. To prepare students for global citizenship, educators are encouraged to adopt culturally responsive teaching strategies that showcase Indonesia's diverse cultural heritage.

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8. AUTHORS' CONTRIBUTION

Conceptualization, M.L.K., E.S, and M.T.; writing original draft preparation, M.L.K.; review and editing, all authors. The research, analysis, and manuscript were shaped by the input of all authors, who have reviewed and approved the published version of the work.

9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the original work of the authors and co-authors. The article has not received prior publication and is not under consideration for publication elsewhere. This manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify that all Authors have contributed significantly to the work, validity, and legitimacy of the data and its interpretation for submission to ICGSPB.

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Chapter 11

Teaching Malaysian Culture: The Fun Way

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Abstract: *The teaching of culture as a subject can be interesting and difficult at the same time, especially when it involves understanding another aspect of culture such as religion and customs besides one's own. Assessing students' knowledge and understanding in subjects such as culture is no easy task either. In the digital world today, there are many online assessment tools which can be used to facilitate teaching and learning. One such application is Quizizz, a game-based online quiz. The purpose of this research is to measure the effectiveness of MARC 2.0 (acronym for Malaysian religion and customs), an online Quizizz game to teach culture and gauge students' knowledge and understanding of Malaysian culture. Descriptive questionnaire was used to obtain feedback after students played MARC 2.0, the quizizz game. Results of the survey indicated that students responded positively to the use of MARC 2.0 as a quizizz game to learn and embrace Malaysian culture in a fun and interactive manner and to introduce the culture of Malaysia to any foreign or local students pursuing their studies in Malaysia. The inclusion of attractive visuals, a timer, correct answers as well as scores obtained using MARC 2.0 motivated students to understand, learn and gain insights to the culture of Malaysia in a fun and engaging way. Additionally, MARC 2.0 could be installed in their handphones for convenience. In conclusion, it is important for teachers to consider using fun and entertaining technology-based applications to teach culture to make learning more engaging and meaningful. MARC 2.0 can be further explored and extended to include other aspects of Malaysian culture such as food, festivals, traditional songs, clothes and even taboos to tourists visiting Malaysia in the hope of introducing Malaysia as a land of beauty and diversity.*

Keywords: *online platform, culture, interactive*

1. INTRODUCTION

The use of information communication technology (ICT) in education has seen tremendous growth in promoting e-learning (Devi & Astuti, 2021). This is also seen in the integration of many web-based games which has benefited both teachers and students in making teaching and learning more effective, fun and interesting. According to Callista and Hua (2021), this technological medium has not only helped increase students' motivation by providing autonomy for independent and self-learning but also by providing immediate feedback to assessments, questions, and tasks. In Malaysia,

the most popular web-based games used for teaching and learning are Kahoot, Quizlet, Edupuzzle and Quizizz (Callista & Hua, 2021).

Online learning using various technological applications such as e-games, quizzes, as well as mobile gadgets has seen a tremendous increase, especially during the COVID-19 pandemic for the years 2020-2022. Although online learning, especially online distance learning, has been widely used in various institutions, it has become even more prominent during the pandemic due to travel restrictions and exclusion of face-to-face learning. This has not only affected instructors worldwide to make changes to the mode of delivery of content in their lessons, but also the running of other general programmes such as orientation programmes for students who embark on their designated programme of study.

Quizizz is a gamified online tool for teaching and learning a subject. As such, it is appropriate and useful to be used as a reinforcement tool in the teaching of the Malaysian Religion and Customs subject, which that allows students to assess their knowledge and track progress. Quizizz also allows for instant feedback of quiz questions, and players can access the quiz questions multiple times via their computers or mobile phones.

According to Zhao (2019), Quizizz is available for free, and it is easy to use. Quizizz can be played by individuals or multiple players at the same time. Visuals in the form of pictures can be added in and there is scoring and ranking as well as performance data. The Malaysian and Culture quiz questions can also be repeated multiple times. There are 4 options of multiple-choice answers of A, B, C and D and students just need to select the correct option, and they will receive immediate feedback to the correct answer. Additionally, Quizizz is free and carries a multitude of features such as incorporating multiple-choice questions, fill-in-the-blank questions and open-ended questions. It also allows quiz makers to input audio and visuals. The strength of Quizizz lies in its multi-platform feature which allows the ability to be used by any device with a browser. All in all, Quizizz is a learner-friendly tool to be used by students.

This paper reports the success of using *MARC 2.0*, an online quizizz game to teach culture to students in a fun manner. *MARC 2.0* can be accessed at: <https://quizizz.com/join?gc=70420009>

2. PROBLEM STATEMENT

Although Malaysia is world renowned as a learning hub, it still has strong Asian culture and values which may be “strange and different” to students of various cultural background especially foreign students who are pursuing studies here. So, how can Malaysian religion, beliefs and culture be introduced to students in a fun manner. *MARC 2.0* (short for Malaysian Religion and Customs). Quizizz game is the answer to this!

MARC 2.0 was developed as part of the teaching and learning for the Malaysian Religion and Customs subject and is taught to a group of foreign students from universities in China as requirement for the Global Short Course Programme (GSC) in UITM Shah Alam under the ICEPS Global Studies programme. These students were taught the major religions in Malaysia which is Islam, Buddhism, Hinduism and Christianity, as well as festivals and customs pertaining to each religion. PowerPoint slides containing notes and visuals such as pictures were also incorporated into the lessons. These foreign students were given insights into the Malaysian way of life. At the end of course they had an internal assessment to answer. To enhance their learning and understanding of the lessons taught in class, *MARC 2.0* quizizz game was developed.

3. METHODOLOGY

MARC 2.0 was developed using the Quizizz platform where questions were posed in an online game platform. Figure 1.0 below describes the process in developing *MARC 2.0* and utilizing it in the classroom for teaching-learning. A total of 155 used *MARC 2.0* and answered the survey questionnaire.

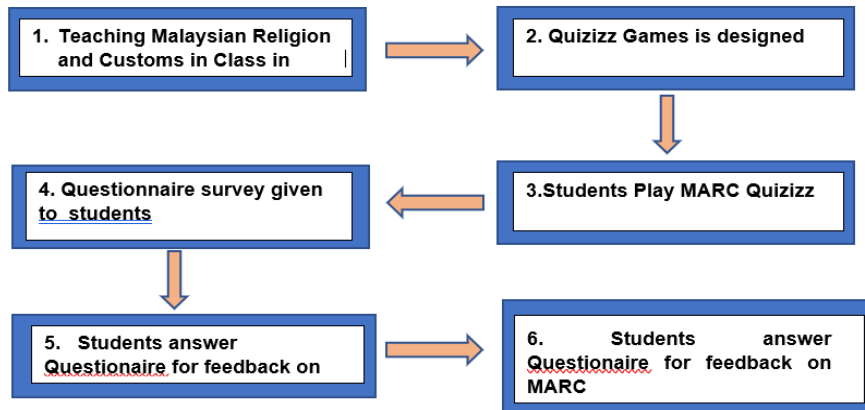


Figure 1.0: *MARC 2.0* Design Framework

4. RESULTS AND FINDINGS

Results of the effectiveness of using *MARC 2.0* to integrate Malaysian Religion and customs is given below:

i) *MARC 2.0* is easy to use

Likert Scale response	Percentage
Strongly disagree	1.15
Disagree	2.30
Neutral	11.49
Agree	42.53
Strongly Agree	42.53

In terms of usage, 85% of the respondents agreed that *MARC 2.0* was easy to install and use. The students could install *MARC 2.0* easily on their laptops as well as mobile phones. Many of them preferred to use their mobile phone to play *MARC 2.0* as it can be played anywhere and at any time by just clicking on the link provided. As such, *MARC 2.0* is viewed as an interesting and user-friendly gaming tool.

ii) *MARC 2.0* is effective in enhancing my learning of Malaysian religion and culture

Likert Scale Response	Percentage
Strongly disagree	8.05
Disagree	0.00
Neutral	6.90
Agree	50.57
Strongly Agree	34.48

One of the primary objectives in developing *MARC 2.0* as a gaming tool was to enhance understanding of the lessons taught beyond lecture hours. This objective was fulfilled, as 85% agreed that they were able to better understand the lesson by using *MARC 2.0* outside the classroom environment. This is in line with a study conducted by Zhao (2019) which stated the use of Quizizz in an accounting classroom whereby it was reported that the students enjoyed Quizizz beyond classroom hours. The inclusion of fun and interactive elements such as pictures and music made it an enjoyable game to be played.

iii) *MARC 2.0* has an attractive story board display

Likert Scale response	Percentage
Strongly disagree	1.19
Disagree	1.19
Neutral	22.62
Agree	46.43
Strongly Agree	28.57

75% of the respondents agreed that the pictures and visuals in *MARC 2.0* helped them better understand Malaysian religion and culture. Students said that the visuals were appropriate and relevant to the quiz questions posed. Some students did state that although they have some insights into the religion and customs in Malaysia, *MARC 2.0* has added more learning experience on this subject. They now are more aware of the culture and lifestyle of Malaysians. In addition, students were able to learn in their comfort zones. As these students were foreign students involved in online distance learning, *MARC 2.0* enabled them to study remotely in the comfort of their home country. The features in quizizz platform such as memes, avatars, themes and music were incorporated into *MARC 2.0* and this increased students motivation to learn the subject(Zhao, 2019).

iv) *MARC 2.0* is fun and interactive.

Likert Scale responses	Percentage
Strongly disagree	3.49
Disagree	0.00
Neutral	8.14
Agree	40.70
Strongly Agree	47.67

88.37% agree that *MARC 2.0* is fun, interactive; and challenging. Quizizz lets students compete to measure their abilities against each other. The ranking in *MARC 2.0* allows students to compete against one another thus increasing their motivation to do better each time. Students who get average and mediocre scores will put in more effort to study harder to better their scores and rankings.

5. CONCLUSION

Results from the studies on the effectiveness of *MARC 2.0* as an online quiz game to introduce Malaysian culture and religion reveal that the students who used it found it to be highly beneficial and gave favorable feedback towards its design and content. Meanwhile results from the survey also stated that 79% of the students found that *MARC 2.0* has reinforced their understanding of the lesson taught in class while 81% agreed that the feedback on correct answers options in *MARC 2.0* has helped them better understand and have insights into the various religions, beliefs and customs in Malaysia. Thus, *MARC 2.0* has been able to fulfill the objective of teaching and learning of the Global Study Programme and can be used as an extension beyond online lectures. Ross, et.al, (2018) advocates that quizzes also encourage independent learning.

In short, *MARC 2.0* can be used as a technological teaching tool in line with the objectives of the Industrial Revolution 4.0 in teaching and learning (IR 4.0) which calls for the use of interactive methods in teaching-learning and assessments. *MARC 2.0* in this study is an effective interactive game in providing knowledge and input to the subject of Malaysian religion and customs and to teach Malaysian culture in a fun manner, especially to foreign students pursuing their studies in Malaysia. An added advantage is it is easy to install on any platform and is free for students to use at any time. Kim and Bong (2006) in Nuci et.al (2020) state that interactive games and multimedia in online teaching and learning fulfill the needs of IR 4.0 in this new digital era. *MARC 2.0* is a welcomed innovation as it “harnesses the potential of digital technology and meets the demand of technology enabled platforms that compels students to have self-learning skills” (Oke & Fernandes, 2020). Future research could incorporate other aspects of Malaysian culture in *MARC 3.0* such as festivals, food, clothes and lifestyle.

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8. AUTHORS' CONTRIBUTION

All authors worked together on this study, which included writing the literature review, administering and analysing the questionnaires to the undergraduate students, presenting the data suitably, and assisting in writing the manuscript. All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

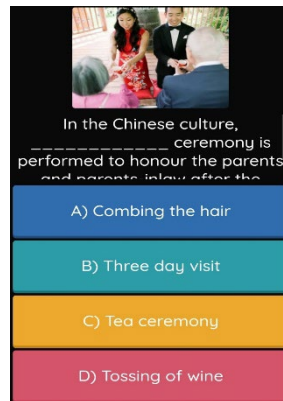
9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to ICGSPB.

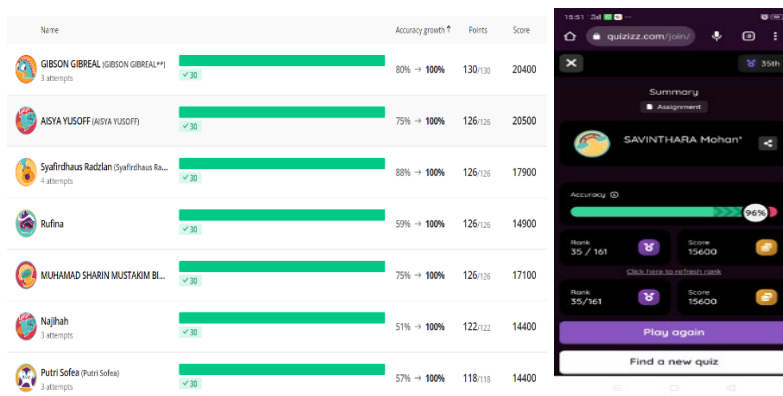
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APPENDIX



Questions and visuals in Marc 2.0 quizizz game



Ranking, score and correct answers given.

Chapter 12

Analysis of the Indonesian Port Readiness for Maritime Autonomous Surface Ship Operation.

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Abstract: Indonesia's maritime transport system is challenged by the development of autonomous vessels, even though it is meant to have a significant positive impact on the maritime sector. To meet these obstacles, West Sumatra's Port of Teluk Bayur needs to be ready. The ability of the port authority organization and its personnel to overcome this obstacle is one of the necessities. The purpose of this study was to assess the port authority organization's and its employees' preparedness to facilitate the operation of these self-governing vessels. This study was quantitatively carried out by assessing the capacity of port authority organizations and staff to determine the knowledge and skills of IT mastery and the degree of individual mental preparedness in the face of change. This study was carried out quantitatively by assessing the capacity of port authority organizations and staff. The findings included the degree of mental preparedness of each individual to deal with change, the degree of IT mastery knowledge and skills, and the degree of willingness of each individual to reach their full potential. From an organizational perspective, the port authority identified several areas that should be improved, including organizational management, human resource management, IT usability and utilization, information accessibility, facility and infrastructure availability, and financial aspects.

Keywords: individual readiness, organizational readiness, port

1. INTRODUCTION

Indonesia as an archipelago connected by water has many ports. Indonesia has 639 ports grouped into several criteria per the port service area. Organizing seaports in Indonesia is regulated in the Regulation of the Minister of Transportation of the Republic of Indonesia number PM 50 of 2021 concerning the Implementation of Sea Ports. This regulation regulates the national port order which contains the role, function, type, and hierarchy of ports in Indonesia, activities carried out at the port both government activities and business activities, determination of port locations, port master plans consisting of port and port support facilities, port development and development as well as working environment areas and port interest areas.

The development and application of Autonomous Vessels will affect the changes in port activities, both in terms of the construction and development of port infrastructure and services/activities that occur in the port. This will increase the role of ports in providing ship services and ports will face several challenges (Kurt & Aymelek, 2024). To ensure that ports can serve autonomous vessels, it is necessary to prepare human resources and port management organizations.

Readiness is one of the important factors in dealing with changes that will occur in the organization. Organizational efforts to reconfigure various aspects of the organization to improve efficiency and organizational service activities are organizational changes (Boohene & Williams, 2012). The readiness of individual resources to accept change is the first step for the organization to accept change. Individual readiness is an important aspect because, without the presence of individuals, the programs that have been prepared by the organization will not run successfully. This states that the readiness of individual

employees is an important aspect that must be considered by organizational leaders to deal with changes that will occur in the organization. Organizational change occurs in a positive direction, but employees often respond negatively to change and will react to hinder the change effort. One of the keys to success in dealing with change in the organization is the readiness of employees to face these changes.

The readiness of individual employees to face change can be seen in the belief that individuals can accept these changes (mental and behavioral) (Rafferty et al., 2013). In addition, individual efforts to increase personal knowledge and skills so that they are ready to face change provide positive confidence for the individual to successfully accept these changes (Samaranayake, 2017). Employees as agents of change must have the desire or willingness to increase their potential and change towards a positive direction can have a good impact on the readiness of the organization to change (Armenakis et al., 1993).

In addition to the human resources aspect in the form of employees, organizational readiness from various aspects also determines the success of the organization in facing change (Holt et al., 2007). The aspects of the organization that become the benchmark for dealing with change are the commitment of the organization to change with the readiness of the management of organizational management and the availability of human resources in the organization (Lehman et al., 2002). Human resources working at the port must have technical skills and the ability to adapt to changes in the organization due to the impact of the development of autonomous ships (Dybvik et al., 2020; Saha, 2021).

To ensure that the port can serve autonomous ships, it is necessary to prepare supporting infrastructure. One of the main infrastructures that must be prepared is infrastructure related to communication tools between ships and ports that must be integrated with Autonomous Ships (Theotokatos et al., 2023, Heffner & Rødseth, 2019; Kavallieratos et al., 2019; Komianos, 2018; Statheros et al., 2008). During the development of information and communication technology, the use of ICT is the basic capital for organizations to face change. By knowing the usefulness of each ICT development and knowing the method of operating the ICT, it is hoped that the organization can improve its performance effectively and efficiently in the face of the autonomous ship era which is conveyed that autonomous ships take advantage of ICT developments. The utilization of ICT must be supported by the existence of facilities and infrastructure. With the existence of these two aspects, the ease of obtaining information (information accessibility) is faster and can be seen at any time wherever the relevant parties are (Choi & Ruona, 2011). Another important thing that organizations must prepare to deal with change is the financing incurred to prepare the organization to restructure its organization. This financing aspect is also one of the main factors that must be addressed by the organization so that the organization has the capital to take corrective measures (Sari Savolainen, 2016). This means increasing efficiency and providing higher-quality services at a lower cost (Kasunic, 2001; Wegner, 1996).

Every port in Indonesia must be prepared to accept the changes brought about by the operation of these autonomous vessels. This will affect the port's performance in providing services. Therefore, it is necessary to assess the readiness of the port, especially in terms of human resources and the readiness of the port management organization to accept these changes. And determine the aspects of improvement that must be improved so that the quality of services provided is optimal.

2. PROBLEM STATEMENT

Every port has a port development plan that leads to improved services. One of the services that must be prepared is how the port can serve the operation of autonomous ships later. Therefore, to develop a suitable development plan, each port must first know the current port conditions. For this reason, it is necessary to assess how the readiness of human resources and the readiness of the organization itself in the ability to provide services.

3. OBJECTIVE

This study aims:

- a. To assess the level of readiness of port human resources in Indonesia to face the autonomous ship era. This research aims to identify the extent to which the competencies, skills and knowledge of existing human resources in Indonesian ports are facing the challenges of these new technologies so as to ensure they can adapt to the technological and port operational changes that occur due to the introduction of autonomous ships. The results of this study are expected to provide strategic recommendations for relevant parties to design effective and adequate HR development policies in facing the era of autonomous ships.
- b. To assess the level of port readiness in Indonesia to face the era of autonomous ships. This research aims to evaluate existing port infrastructure, regulations, and operational systems in order to deal with the changes brought about by the implementation of autonomous ship technology. It also seeks to identify the challenges and opportunities faced by Indonesian ports in adapting this technology, as well as assess the investment and development needs required. The results of this research are expected to provide recommendations for policy makers and related parties to prepare Indonesian ports to compete at the global level and support the smooth operation of autonomous ships in the future.
- c. To identify factors that must be improved by ports to face the era of autonomous ships. This research aims to evaluate the competencies of port human resources, such as technical skills and knowledge in autonomous vessel technology, and assess the readiness of port infrastructure in supporting autonomous vessel operations. In addition, the research will also identify aspects of regulation, port management systems, and technology that need to be updated or developed to ensure a smooth transition towards the use of autonomous vessels. The results of this research are expected to provide strategic recommendations for human resource development and port infrastructure improvements that are better prepared to face future technological challenges.

4. RELATED WORKS

4.1 Port Human Resource Readiness Assessment

Assessment of human resource readiness can be assessed from three aspects, namely the first aspect, the aspect of employee mental readiness by assessing the ability to adapt to changes that will occur, the ability to cooperate with internal and external parties, the ability to complete tasks and responsibilities, the ability to accept any changes that occur, the ability to encourage mental, creativity and innovation in developing abilities and self-potential in the face of change, emotional ability in dealing with work pressure and change, the ability to develop effective communication methods, the ability to deal with problems in the changes that occur.

The second is aspects of knowledge and skills related to the development of autonomous ships and the use of Information and communication technology by assessing knowledge of the benefits of autonomous ships for the world shipping industry, knowledge of digital systems in port services, Skills in operating digital systems in port service services, knowledge of port service communication systems, skills in operating communication systems in port services, knowledge of cybersecurity in port service systems, Ability to prevent cybercrime in port service systems, knowledge, and skills in managing change.

The third is aspects of the willingness to change and increase self-potential by assessing the willingness to take opportunities for self-development, the ability to consider the risks of all decisions and actions taken, the ability to improve oneself in learning to increase one's potential, activeness in training to increase one's potential, the ability to accept and overcome new changes that occur, the ability to increase one's potential through the method of learning to know new things, the ability to increase one's

potential through the method of learning to do new things, the ability to increase one's potential through the method of doing work in a team (learning to live together) to overcome changes due to new things.

4.2 Port Readiness Assessment

The port readiness assessment can be measured from seven aspects, namely the first aspect is the port management aspect which assesses the preparation of port management to serve the application of autonomous ships, implementation strategies to serve the application of autonomous ships in the form of rules, standard procedures and service indicators, innovation cooperation with external parties to improve service quality in serving the application of autonomous ships, development of digitization-based service business models. The second aspect is the aspect of human resource management that manages the port by assessing the adequacy of the number of human resources who have knowledge and skills (competencies) in the use of ICT, the adequacy of human resource capabilities in mastering ICT, data analysis and cyber security, the adequacy of training provided in mastering ICT, the adequacy of training materials for service improvement with ICT.

The third aspect assessed is the level of ICT usability at the port by considering the level of awareness of the importance of ICT in port services, especially for serving autonomous ships, the level of ICT usability in obtaining information on the status of cargo transportation, the level of timeliness of the ship information system, the level of port operational suitability in ensuring data security and ship communication. The fourth aspect relates to the level of ICT use by assessing the existence of ICT systems in ship guiding, the existence of ICT systems in berthing services, the existence of ICT systems in ship and port communication systems, the existence of ICT systems in maintenance and repair systems, the use of big data in managing data on ships, cargo, shipping routes and others, the existence of ICT / sensor systems in cargo handling, the use of communication satellites / remote sensor satellites in communication systems, the existence of ICT systems in cargo movement at ports, the existence of ICT systems in document management.

The fifth aspect, is determined by the accessibility aspect of service information by assessing access to port service information in real-time, access to tracking and tracing cargo in real-time, access to ship / cargo status information in real-time, accessible from various places and by various related parties. The sixth aspect, the facilities and infrastructure aspect is assessed from the port development plan and the ability of existing facilities and infrastructure for autonomous ship services. The last aspect, namely the seventh aspect seen from the financial side, is assessed by measuring the existence of a plan to improve autonomous ship services to be outlined in planning documents, port development planning documents have been oriented towards the ability to serve autonomous ships, availability of budgets to increase the competence of human resources capable of serving autonomous ships, availability of budgets to improve facilities and infrastructure to be able to serve autonomous ships. Write the related work here. Please indent the first line of the paragraph by 0.5". Continue the paragraph as usual when writing the subtopics.

5. CONCLUSION

The conclusion of this study shows that the readiness of port human resources (HR) and port organizations in Indonesia to face the era of autonomous ships still requires significant attention and improvement. In terms of human resources, although most port workers have adequate basic skills, there are still gaps in knowledge and technical skills related to autonomous ship technology. Therefore, continuous training and competency development programs are needed to improve the readiness of human resources in the face of rapid technological change.

On the port organization side, although some ports in Indonesia have made modernization efforts, infrastructure, and port operational systems in general still need to be strengthened to support the implementation of autonomous vessels. Readiness in terms of regulation, technology development, and

adaptation to automation systems are also important factors that need to be considered.

Overall, while there is potential to develop Indonesian ports for the era of autonomous vessels, it requires collaboration between the government, industry players, and academia to design policies and programs that can accelerate the transition process. The main recommendations of this research are the importance of human resource capacity building, strengthening port infrastructure, and updating regulations that support the development of autonomous ship technology in Indonesia. Write the conclusion of your paper here.

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8. AUTHORS' CONTRIBUTION

All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

9. CONFLICT OF INTEREST DECLARATION

I certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity, and legitimacy of the data and its interpretation for submission to ICGSPB.

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EMPOWERING ESL STUDENTS' ENGLISH LANGUAGE PROFICIENCY USING AUTHENTIC READING MATERIALS IN A USR OUTDOOR ACTIVITY

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Abstract: *Teaching and motivating secondary school students to read in English Language can be daunting. Therefore, educators of English as a second language are somewhat at a loss to encourage students to read outside the classrooms. This paper shares how second language educators can use authentic reading materials such as Reader's Digest magazine to promote critical reading and creative writing activities among English as a Second Language students in an innovative, critical, fun, and collaborative way outside the classroom. This was done through a university social responsibility (USR) program initiated by the Academy of Language Studies, in collaboration with Reader's Digest magazine. This paper reports a USR program involving 85 secondary students from Sekolah Menengah Agama Nilai, Negeri Sembilan. These students work in groups to do creative writing and critical reading activities outside the classrooms at five checkpoints for two hours. The activities were facilitated by 10 teachers and five lecturers. Findings from the pre- and post-study questionnaires on 85 Form Four and Form Five students show changes in students' reading interest, confidence, understanding and belief after doing the outdoor reading activities, on top of bringing back the joy of reading.*

Keywords: *authentic reading materials, critical thinking, creative writing, Reader's Digest magazines, ESL reading program*

1. INTRODUCTION

Teaching reading can be very challenging for educators at all levels. Similarly, reading is also the most difficult skill to master for English as a Second Language learners. This challenge is more apparent in the digital age where students prefer to spend time in cyberspace and online tools rather than flipping through magazines (Hopper, 2005). Although reading skills are fundamental in improving other language skills, such as listening, speaking, and writing in English as a Second Language, there is an emphasis on secondary students to hone critical reading skills as preparation before they continue their tertiary education, where English Language is the medium of instruction.

In an English as a second language classroom, heavy reliance on textbooks has restricted critical and creative thinking skills among students. This is made worse by students' attitude toward reading and writing as boring activities. Pandian's (2000) study on reading habits among students in Malaysia showed that 80.1% of students were "less fond" of reading. In another survey on UiTM diploma students, Wan Zumusni, Norhaiyati and Wan Aida (2005), 50% of students were willing to buy Reader's Digest magazine although 32.4% reported that they read newspapers. In another study related to EFL (English as a Foreign Language) students in Saudi Arabia, Al-Nafisah and Al-Shorman (2017) found that access to reading materials is one of the factors that prevent reading habits among university students.

Therefore, to attract students' attention to reading and writing in English outside of class time, second language educators should use more innovative, and interesting techniques and teaching approach. One way is to adapt and adopt authentic materials as supplementary learning materials for the students.

Authentic texts are defined as "...one 'created to fulfil some social purpose in the language community in which it was produced'. With the onset of the communicative movement, a greater awareness of the need to develop students' skills for the real world has meant that teachers endeavour to simulate this world in the classroom" (Guariento & Morley, 2001, p: 347).

Reader's Digest magazines are chosen not because it is an international family magazine, targeted for the public. In Southeast Asia, it is available only in Singapore, Malaysia, and Philippines. Reader's Digest Indonesia was published by PT Sarana Media Internasional from 2004 until October 2015. In Malaysia, the magazine is distributed to schools that ordered in bulk orders at 33% discount. Free teacher copies and worksheets are available for beginner, intermediate, and advanced levels.

Reader's Digest magazine is colourful, and compact, making it easy for the students to bring it anywhere they go. There are a variety of articles under the health, technology and many other sections that would appeal to the secondary school students. The level of language use may be slightly higher for the students but challenging enough for them to improve their reading skills and vocabulary.

2. LITERATURE REVIEW

A study by Wan Zumusni, Norhayati and Wan Aida (2005) revealed that students' performance in English language learning improved using RD magazines and worksheets in the classrooms. The study was conducted in UiTM Kelantan, Malaysia and comprised 86 Diploma students, who were poor language learners from three faculties. The students were divided into two groups; 43 students in each control and experiential groups who used Reader's Digest magazines as supplementary materials in the classrooms for three months. Apart from increased motivation and positive attitudes towards reading outside the classrooms, students in the experimental groups reported to have increased their scores in the reading exam from 2.3% in the pre-test to 14% in post-test for those who scored 41-45 marks.

Magazines can be a valuable source of authentic materials since they include pictures and graphics and offer students a natural source of language use (Vavla, 2009). Reader's Digest magazines offer solutions to ESL educators to organize outdoor reading activities which are flexible, adaptable, cost and time-saving. Students must keep up with what is going around the world and having a current magazine that they can afford to buy would encourage reading beyond the classroom.

In addition, articles in newspapers and magazines offer current issues in various genres, making them excellent choices as they are easily available and inexpensive for university students (Al Nafisah and Al-Shorman, 2011). Secondary school students' motivation for reading would be highly influenced by teachers than family as found by Ulper (2011) that students' loyalty towards their primary and secondary school teachers correlates positively to their motivation to read. The use of authentic materials has improved school students' reading and speaking skills (Ardianti, 2024, and Ilahi et al, 2024).

An enrichment program within an exam-oriented environment has a positive impact on lecturers' and teachers' motivation and behaviour and appeals to different learning styles (Hussin, Maarof and D'Cruz, 2000 and Pyle, 2010). Teachers have also shown positive attitudes towards the use of authentic materials in ESL and EFL classrooms and this positively affects students' attitudes and motivation towards language learning (Polio, 2014, Lansford, 2014 & Akbari and Razavi, 2016). Authentic

materials motivate learners to communicate and prepare learners for real world communication (Lansford, 2014).

Kelly et al. (2002) and Polio (2014) offer effective ways for teachers to choose and use authentic materials with ESL/EFL students. This can be done by doing reading and writing activities outside the classroom involving teamwork and collaborative learning, in an outdoor setting. Outdoor learning has an influential and effective impact on students' academic performance on learning (Dhanapal, 2013) including students' enthusiasm for learning science. Therefore, organizing an outdoor activity using the magazine can also propagate the reading of Reader's Digest magazines beyond the four walls of ESL classrooms.

Despite a growing body of research emphasizing the benefits of authentic materials in enhancing ESL learning, significant gaps remain in the application of these materials in real-world contexts, particularly through collaborative initiatives like University Social Responsibility (USR) programs. While numerous studies (e.g., Hopper, 2005; Al-Nafisah & Al-Shorman, 2011) explore the use of authentic materials such as magazines and newspapers in classroom settings, there is limited research examining their impact when integrated into structured, outdoor learning activities that involve partnerships between universities and schools.

Moreover, previous literature often focuses on conventional learning environments and does not adequately explore innovative approaches to motivate ESL learners beyond the classroom (Dhanapal & Lim, 2013; Pyle, 2010). Studies by Lansford (2014) and Akbari & Razavi (2016) highlight the value of authentic materials for improving language skills but lack empirical evidence on how such materials can foster critical and creative thinking in less conventional, outdoor settings. Furthermore, while Kelly et al. (2002) and Polio (2014) suggest incorporating authentic materials into collaborative activities, they do not extend this approach to a holistic program that includes multiple stakeholders, such as teachers, lecturers, and students.

3. RESEARCH METHODOLOGY

The case study involves a strategic collaboration with multiple industry and government partners. The USR program is designed by using a case study to conduct outdoor critical reading and creative writing activities on secondary school students to improve their motivation and learning behaviour in an ESL reading class. The study took place in a religious school in Nilai, Negeri Sembilan. It involved 85 Form Four and Form Five students. The students spoke Malaysian language and/or local language other than English at home. They learned English as a second language as a subject at the schools. Some of them used English actively during school hours, and several used it for social media interactions.

This study bridges these gaps of previous studies by presenting a unique case study that integrates a USR program with secondary school education, leveraging Reader's Digest magazines as authentic materials for outdoor reading and writing activities. Unlike prior research on reading and authentic materials, this study:

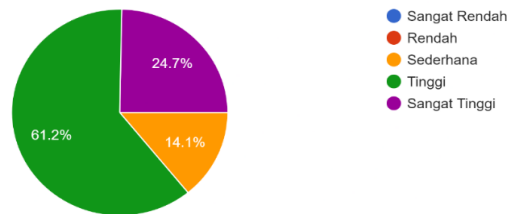
1. Expands the Context of Authentic Material Use: It moves beyond classroom-based applications to examine the impact of outdoor activities achieved through a university-school-industry-government collaboration. The program's design involves checkpoints for indoor and outdoor group tasks that stimulate critical and creative thinking, which is underexplored in existing literature.
2. Highlights the Role of USR Programs: While USR programs are often associated with community engagement in areas like sustainability or health, their application in language education is relatively novel. This study underscores the potential of USR initiatives to bridge institutional knowledge and community needs, addressing academic and social objectives.

3. Fills the Gap in Collaborative Approaches: By involving multiple stakeholders namely lecturers, schoolteachers, and industry partners, the study demonstrates how collaborative efforts can enhance the learning experience. This addresses the gap in research on stakeholder involvement in ESL education programs.
4. Provides Empirical Data on Outdoor Learning: The study contributes empirical evidence at a small scale, on the effectiveness of outdoor learning for improving ESL students' motivation, confidence, and skills, complementing theoretical discussions by Dhanapal (2013) and others.

4 DATA ANALYSIS

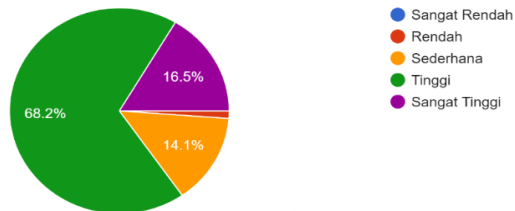
Indicators: Blue (Very low), Red (low), Orange (Moderate), Green (high) and purple (very high). The next pie chart indicates students' interest after the activity. The next pie chart indicates students' interest in reading in the English language and their confidence.

4. Minat anda terhadap aktiviti membaca bahan bacaan Bahasa Inggeris
85 responses



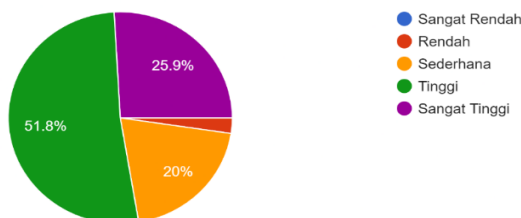
The next pie chart indicates students' confidence after the activity.

5. Keyakinan anda untuk membaca bahan bacaan Bahasa Inggeris
85 responses



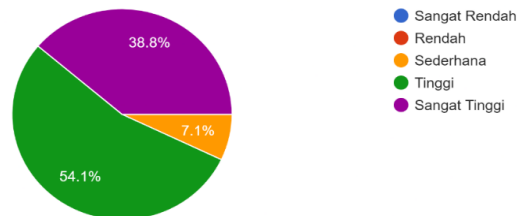
The next pie chart indicates students' understanding when reading English magazines after the activity.

6. Kefahaman anda apabila membaca bahan bacaan Bahasa Inggeris
85 responses



The next pie chart indicates students' belief that reading English language magazines can improve their vocabulary after the activity.

7. Kepercayaan anda terhadap aktiviti membaca bahan bacaan Bahasa Inggeris dapat membantu menambah pembendaharaan kata
85 responses



Pictures from Case Study



Photo 1: Reading activities using Reader's Digest magazines at one of the checkpoints.



Photo 2: Creative writing activity using Reader's Digest magazines at the school canteen.

5. CONCLUSION

This study highlights the innovative aspects of using Reader's Digest in a USR program and the outdoor activity approach and the potential impact on ESL teaching strategies globally. The results of the pre- and post-experimental tests are promising. The USR program Reader's Digest magazine in and out of class successfully attracts secondary ESL students to read Reader's Digest magazines outside the

classrooms. It may increase their motivation to read together with friends and family members. This activity of reading critically and writing creatively outside of class can be carried out according to the level of both primary, secondary, and university students.

The success of developing CREW RD can be seen in the warm welcome given by the school students and the positive feedback from the school's English teachers. The school is also interested in subscribing to the magazine because, in addition to the discounted price offered, the school also gets free worksheets to use in or out of class.

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All authors offered valuable feedback and contributed to shaping the research, analysis, and manuscript.

9. CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to ICGSPB.

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