

## Improving Papuan Students' Literacy with Small Culture Research-Based Learning

FENTY YUNIA VIANARIKA

*SMA Sekolah Anak Indonesia – Yayasan Alirena, Indonesia*  
*vianarika.fenty@gmail.com*

### ABSTRACT

This study evaluates the effectiveness of Research-Based Learning (RBL) in enhancing English literacy among Papuan students at SMA Sekolah Anak Indonesia. The primary aim was to address literacy challenges faced by Papuan students, exacerbated by culturally irrelevant materials and traditional beliefs that undervalue formal education. Utilizing a mixed-method approach, the research combined literature review and analysis of student progress over two academic years (2022–2024). The study focused on 12th-grade students' small culture research projects related to entrepreneurial activities rooted in Papuan culture. Small culture research, in this context, refers to simple, literature-based studies conducted by senior high school students as part of their entrepreneur project, focusing on Papuan life traditions. Despite economic barriers affecting some students, the study concludes that RBL effectively enhances literacy and prepares students for higher education. Recommendations include increasing financial support, refining educational strategies to accommodate diverse student needs, and investing in professional development for educators.

**Keywords:** Research-Based Learning (RBL), English literacy, Papuan students, culturally relevant education, indigenous cultures.

### INTRODUCTION

Educational inequities continue to affect marginalized communities worldwide, with Papua, Indonesia, exemplifying the persistent challenges in achieving equitable education. Historically, similar to global neglect faced by students with significant intellectual disabilities, who were often excluded from traditional academic instruction in favor of functional skills (Cooper-Duffy et al., 2014), Papuan children have long been overlooked in Indonesia's educational policies. While literacy initiatives emerged in 2014, they were plagued by logistical challenges and high delivery costs, limiting their effectiveness. Recognizing these barriers, the Indonesian government introduced a policy to provide free book deliveries to border regions, including Papua, aiming to address literacy gaps in underserved areas.

However, systematic challenges remain entrenched in the Papuan educational landscape. A recent UNICEF (2024) report highlights teacher absenteeism due to illness, poor weather, transportation difficulties, and

unsafe living conditions for female teachers. These logistical and environmental challenges, combined with inadequate infrastructure, contribute significantly to the educational disadvantages experienced by Papuan students.

The persistence of illiteracy in Papua underscores the depth of these challenges. Yawan (2022) found that nearly 30% of individuals aged 15 to 45 were illiterate in 2016, a reflection of both educational gaps and entrenched cultural beliefs that undervalue formal education. Alarming, this issue remains widespread in 2023, as confirmed by Rifanto et al. (2024) and Manik et al. (2023), who discovered that students in advanced classes in Sorong City, one of Papua's more developed areas, still struggle with reading and basic literacy skills. This ongoing crisis highlights that despite government interventions, literacy development in Papua has seen little improvement over the years.

Further complicating the issue is the disconnect between national educational frameworks and the cultural realities of Papuan communities. Manik et al. (2023) notes,

educational facilities in Papua frequently fail to meet local needs, with materials and curricula often reflecting Indonesia's dominant cultural contexts rather than the unique social and linguistic background of Papuan communities. This incongruity hinders students' engagement and inhibits their academic progress, particularly in mastering key skills such as English literacy, which is essential for broader global competitiveness (Andayani, 2022).

The consequences of illiteracy extend beyond education, perpetuating social and economic marginalization. As UNESCO (2006) notes, illiteracy exacerbates economic disparities, limiting access to employment opportunities and perpetuating cycles of poverty. Sari and Aisyah (2024) further emphasize that literacy gaps limit individual confidence and competitiveness, resulting in diminished life opportunities.

To address these systemic issues, innovative educational strategies are required – ones that not only improve literacy rates but also integrate culturally relevant content. Research-Based Learning (RBL) offers a promising solution. RBL integrates problem-solving, critical thinking, and cultural insights into the educational framework, providing students with practical skills aligned with their community's needs. Scholars like Browder et al. (2009) and Lemons et al. (2016) advocate for this approach as a way to bridge the educational gap in marginalized communities. By integrating students' cultural contents into their learning, RBL helps students develop both academic and practical skills, which are critical for overcoming the challenges they face.

The study centred on small culture research projects conducted by 12<sup>th</sup>-grade students, which explored entrepreneurial activities inspired by Papuan cultural practices. In this context, small culture research refers to straightforward, literature-based investigations undertaken by senior high school students as part of their entrepreneurial projects, focusing on traditional Papuan lifestyles. This method fosters student engagement with their cultural heritage while simultaneously developing key research skills that enhance both their academic growth and personal development.

This research explores the implementation of RBL at SMA Sekolah Anak Indonesia, a private school in Bogor Regency attended exclusively by native Papuan students. It

evaluates the effectiveness of RBL in improving literacy and research skills among 12<sup>th</sup>-grade students while exploring how culturally relevant pedagogy can address systemic challenges and foster a more inclusive, context-sensitive educational environment.

## Literature Review

Integrating indigenous knowledge into education is a crucial step in understanding the educational needs of indigenous communities. Pulhele (2024) emphasizes that integrating indigenous knowledge into various subjects enriches the curriculum and makes education more relevant to the community's cultural context. However, indigenous knowledge is often considered primitive, lacking the perceived legitimacy of scientific knowledge. This perspective persists despite constitutional protections, such as Article 28 (3) of Indonesia's 1945 Basic Law, which mandates that the recognition and respect of cultural identities and traditional societies.

Education in remote indigenous communities is inherently, shaped by the interactions between individuals, society, and the environment. Wantik et al. (2024) apply RE Park's ecological theory to argue that community behavior is influenced by environmental changes, a framework particularly relevant to Papuan communities where daily life revolves around traditional practices and natural ecosystems.

Fiharsono et al. (2023) highlight that rural communities in Papua often maintain traditional 'kampong' structures and continue to rely on agriculture, farming and hunter-gatherer practices. These socio-economic realities necessitate adjustments in the design and delivery of education to accommodate indigenous students' unique needs. Conceptual adjustments are needed to align curricula with local cultural and linguistic contexts, ensuring education's relevance and accessibility.

The disconnect between educational materials and Papuan cultural contexts, as highlighted by Manik et al. (2023), underscores the need for culturally relevant approach. Research-Based Learning (RBL) has been identifying as a promising method for bridging this gap. By integrating problem-solving and cultural insights into the curriculum, RBL fosters critical thinking and equips students with skills relevant to their communities.

Browder et al. (2009) and Lemons et al. (2016) advocate for the use of RBL in marginalized settings, emphasizing its potential to improve student engagement and learning outcomes.

Despite its promise, the implementation of RBL faces challenges, particularly in remote areas like Papua. Limited teacher training, inadequate resources, and logistical constraints hinder its effectiveness. However, Andayani (2022) suggests that aligning RBL with local cultural contexts can mitigate these barriers and enhance its impact. By integrating indigenous knowledge and addressing sociological factors, RBL can become a transformative tool in addressing the literacy crisis in Papua.

This review highlights the importance of integrating cultural insights into educational strategies to address the systemic challenges faced by Papuan students. The next sections will explore how RBL, tailored to the unique cultural and social context of Papua, can serve a sustainable solution for improving literacy and fostering educational equity.

## METHODS

### Participants

This empirical study was conducted over two academic years (2022–2024) at SMA Sekolah Anak Indonesia, involving 12<sup>th</sup>-grade students from diverse Papuan tribal backgrounds. The study included 11 students, predominantly female (7 female, 4 male). Nine students were from Asmat Regency, with one each from Intan Jaya and Pegunungan Bintang Regencies.

### Data Collections and Analysis

A mixed-method approach was employed to evaluate the effectiveness of Research-Based Learning (RBL) in improving English literacy. Data were collected through research projects, final exams, and university entrance examinations (SNPMB).

1. Research projects: Students completed research projects linked to their entrepreneurial activities, emphasizing real-world applications of literacy within Papuan cultural contexts. Projects were assessed using a rubric evaluating presentation, methodology, results, cultural relevance, and innovation.
2. Final exams: Comprehensive exams evaluated students' English proficiency

across the curriculum, providing quantitative data on literacy improvement.

3. University entrance examinations (SNPMB/Seleksi Nasional Penerimaan Mahasiswa Baru): SNPMB scores were analyzed to assess students' readiness for higher education, focusing on their English literacy performance.

Quantitative data from these assessments were analyzed using descriptive and inferential statistics to identify trends and improvements. Qualitative data from student reflections, teacher observations, and project evaluations were thematically analysed, capturing insights into learning processes and cultural engagement.

### Ensuring Validity and Reliability

Triangulation was used to ensure validity by integrating data from multiple sources, including student reflections, teacher observations, and project evaluations. Rubrics aligned with RBL objectives were designed to evaluate critical areas such as problem-solving, cultural pride, and skill development.

1. Student Reflections

Reflections explored challenges faced, cultural insights gained, skills developed, and future academic or professional readiness.

**Table 1.** Student Reflections

Question	Category
What challenges did you face your research project, and how did you overcome them?	Problem-solving
How has this project changed your understanding of Papuan culture?	Cultural pride
What skills did you develop through this research activity?	Critical thinking
How do you think this project has prepared you for future academic or professional goals?	Future intention

2. Teacher Observations

Teachers documented student engagement, teamwork, cultural integration, and literacy application.

**Table 2.** Teacher Observation

Question	Category
Are students actively participating in discussions and activities?	Engagement
How well are students working in teams?	Collaboration
Are students making connections between their research and Papuan culture?	Cultural integration
Are students applying literacy and research skills effectively?	Skill application

### 3. Project Evaluations

Projects were assessed for cultural relevance, methodological rigor, presentation quality, impact, and originality.

**Table 3.** Project Evaluation

Question	Category
Does the project reflect an understanding of Papuan culture?	Cultural relevance
Is the research process well-structure and rigorous?	Methodology
Is the project clearly communicated, both visually and verbally?	Presentation
Does the project propose meaningful solutions or insights?	Impact
Is the project creative and original?	Innovation

Construct validity was addressed by ensuring alignment between these data sources. For example, reflections on cultural pride were cross-verified with teacher observations and project evaluations for cultural relevance. Criterion validity was reinforced by benchmarking against national literacy and cultural integration frameworks.

Reliability was ensured through inter-rater agreement, standardized rubrics, and consistency across cohorts. Test-retest reliability was confirmed by replicating evaluations across academic years.

## Implementation of Research-Based Learning

Students conducted research projects over eight months, aligning their topics with entrepreneurial activities and Papuan cultural contexts. Guided by the teacher, students developed research questions, identified problems, and sought solutions independently, in alignment with the RBL approach as described by Mahardini et al. (2018).

The teacher's role included providing structured timelines (see Appendix D), supporting methodological decisions, and fostering critical thinking. Research-based strategies, including setting measurable objectives and systematic reading instruction, were employed to enhance literacy and problem-solving skills.

## FINDINGS AND DISCUSSION

### Findings

The implementation of the RBL module at SMA Sekolah Anak Indonesia demonstrated significant improvements in students' literacy skills and problem-solving abilities. By engaging students in research projects tailored to their local contexts, the approach empowered them to develop critical thinking and practical competencies. These results align with the principles highlighted in *Laudato Si'*, the encyclical written by the Holy Father Francis in 2015, which emphasizes the intrinsic value and potential of human beings to transform their circumstances through knowledge, will, and responsibility (118). The success of this approach reflects the importance of fostering human dignity through education that respects and nurtures students' unique capacities.

One of the most notable outcomes of the RBL module was its success in integrating culturally relevant research projects, which strengthened students' connection to Papuan traditions and contexts. This approach resonates with *Laudato Si'*, which calls for healing relationships not only with nature but also with culture and society (119). By integrating local traditions into the curriculum, the module fostered a sense of pride and identity among students, bridging the gap between formal education and indigenous knowledge. This culturally responsive pedagogy aligns with the encyclical's emphasis on respecting the social

and cultural dimensions of humanity to promote holistic growth.

Despite these successes, financial constraints emerged as a significant challenge, particularly in relation to students' participation in university entrance examinations. These economic barriers reflect the broader systemic issues addressed in *Laudato Si'*, which critiques systems that undermine equitable access and human dignity by prioritizing economic efficiency over social justice (118). Addressing these challenges requires a commitment to creating educational systems that ensure fairness and opportunities for all, recognizing the interconnectedness of social, economic, and cultural dimensions.

These findings underscore importance of sustained investment in resources and support systems to overcome economic barriers and maximize the benefits of innovative educational approaches like RBL. As *Laudato Si'* reminds us, there can be no renewal of humanity with the world without an adequate understanding of human dignity and interconnectedness (118). By addressing financial constraints and promoting culturally relevant learning, educators can create an inclusive environment that empowers students to succeed academically, socially, and morally.

### ***Quality of Research Projects***

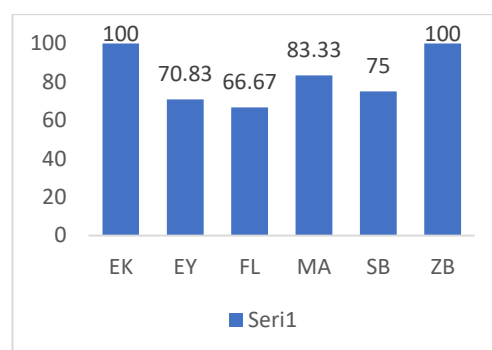
The findings from this study indicate significant improvements in students' literacy skills, evidenced by their quality of their research projects and their performance at university entrance examinations. The research project titles from the 2022/2023 and 2023/2024 cohorts illustrate a diverse range of topics, all rooted in Papuan cultural contexts and addressing relevant issues. These projects not only demonstrate the students' engagement with their cultural heritage but also reflect their ability to apply research skills to practical problems, as shown in Appendix B.

### ***Performance in Assessments***

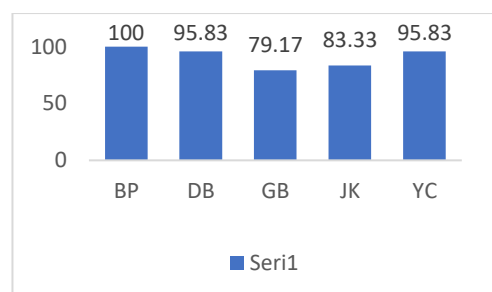
Students' performance in assessments, including research projects and university entrance examinations, was evaluated to gauge the effectiveness of the RBL module.

A comprehensive evaluation of students' research was conducted using a rubric that assessed various aspects, including presentation, content background,

methodology, results, contributions, and subject knowledge (see Appendix A). Students' research projects were evaluated positively, with high marks across various assessment criteria, as illustrated in Figure 1 and 2. The majority of students demonstrated strong performance in presentation, methodology, and content knowledge.



**Figure 1.** Result of Students' Research Project Final Exam 2022/2023



**Figure 2.** Result of Students' Research Project Final Exam 2024/2025

#### **1) Final tests**

From the data illustrated in Figure 1 and 2, the results were promising, with all students scoring above 66 in their final tests. Notably, three students achieved a perfect score of 100, indicating exceptional academic excellence. While one student scored 66.67, the majority of students (seven in total) attained scores between 70 and 95, reflecting a strong overall performance and the effectiveness of the educational strategies implemented. This high level of achievement indicates the effectiveness of the RBL approach in enhancing literacy skills.

#### **2) University entrance examinations**

Analysis of university entrance examination scores across different cohorts reveals significant variations. For the 2022/2023 cohort, the highest score

achieved was 708.78 per 1,000, which was considerably higher than scores in the range of 423 to 513 per 1,000 seen in other cohorts. The 2023/2024 cohort faced unique challenges, with only three out of the initial five students participating in the examinations. One student gained admission through academic merit selection, while the remaining students chose not to pursue further education due to financial constraints. This drop in participation highlights the critical impact of economic barriers on students' educational opportunities and underscores the need for enhanced support mechanisms to facilitate access to higher education.

**Table 4.** Result of University Entrance Examination

Table 4.1		Table 4.2	
2022/2023		2023/2024	
Initial	Score	Initial	Score
EK	480.68	BP	491.65
EY	510.86	DB	563.79
FL	423.97	GB	452.47
MA	513.27	JK	Not participate
SB	431.21	YC	Not participate
ZB	708.78		

## Discussion

Building upon the findings presented in the previous section, the discussion provides an in-depth interpretation of these results, comparing them with existing literature and examining their broader implications for future educational practices. This analysis also addresses the challenges and limitations identified in the study, including the impact of financial constraints and the need for differentiated instruction.

The implementation of Research-Based Learning (RBL) in English classes at SMA Sekolah Anak Indonesia has yielded significant results, as evidenced by the students' performance on their research projects and university entrance examinations. This research provides critical insights into how culturally relevant pedagogies can enhance literacy and research skills among Papuan students. By embedding local cultural elements into the learning process, the RBL approach created a

meaningful and effective educational environment. This alignment with Mahardini et al.'s (2018) RBL approach has also promoted critical thinking, authentic learning, problem-solving abilities, and collaboration.

Additionally, the use of social ecology-based education, as described by Wantik et al. (2024), emphasizes the importance of students' direct interactions with their environment. This method fosters a deeper understanding of their surroundings, making the learning experience more meaningful and contextually relevant. In the case of Papuan students, integrating local cultural knowledge and environmental interactions into the RBL approach further strengthens their learning by connecting academic content with the real-world issues they face. This approach not only enhances their academic skills but also grounds them in their cultural identity and ecological context, enriching their educational experience.

## *Integration of Cultural Context and Literacy Development*

One of the core strengths of RBL observed in this study is its integration of culturally relevant pedagogy, which directly addresses the challenges highlighted by Yembise (2010) and Andayani (2022). Both scholars argue that educational materials in Papua often fail to reflect students' cultural and social realities, leading to disengagement and poor academic performance. By situating research projects within the context of indigenous Papuan cultures, the RBL approach not only improved literacy but also deepened students' cultural identity and pride. This approach aligns with the findings of Yawan (2022), who emphasized the importance of tailoring literacy program to local contexts, as seen in West Papua's Yo Sí Puedo program. The integration of local issues into the curriculum created a meaningful learning context, reflected in high student engagement and improved literacy outcomes.

For example, student projects on topics such as **"Altering Mindset and Diet of Indigenous Asmat People from Rice into Sago"** and **"Cubera Snapper Noodle to Alter Instant Noodle in Producing Asmat Local Food"** demonstrate how research on culturally relevant topic can enhance learning. These projects allowed students to explore issues directly affecting their communities, reinforcing the connection between education

and everyday life. This method reflects Mahardini et al. (2018), who argue that RBL fosters critical thinking and problem-solving by involving students in real-world research. Moreover, the integration of entrepreneurial activities into the curriculum mirrors Browder et al. (2009), who found that practical, community-based research enhances literacy and academic achievement. The students' projects through the RBL approach resonate with Wantik et al. (2024) findings that this educational approach equips students with life skills that are deeply relevant to their environment. This approach fosters a sense of pride and responsibility among students for preserving the culture and ecosystems that sustain their communities. By combining academic learning with an understanding of their local ecological and cultural context, students are not only developing academic skills but also growing as active, culturally aware citizens committed to sustaining the heritage and environment of their community.

#### ***Variability in Student Performance***

While RBL approach has shown overall effectiveness, variability in student performance remains as important finding. The university entrance examination results, with scores ranging from 423 to 708.78 per 1,000, highlight disparities in student proficiency and preparation. This suggests that although RBL has been beneficial, further refinement is needed to address disparities in academic readiness and ensure that all students benefit equally from the approach.

These findings resonate with the work of Rifano et al. (2024), who noted that even advanced students in urban areas like Sorong City struggle with reading skills. The disparity in test scores across cohorts suggests that while some students thrive under the RBL model, others may require additional support to reach their full potential. Yembise (2010) also points out that educational materials often reflect dominant Indonesian cultural contexts rather than local Papuan cultures, which can further contribute to these disparities. To bridge this gap, future iterations of the RBL curriculum could integrate differentiated instruction that provides targeted support for students with varying levels of academic readiness.

The differences in performance between the 2022/2023 cohort (with a standout score of 708.78 per 1,000) and the 2023/2024 cohort (scores between 452 and 563 per 1,000) highlight the influence of external factors, such as financial constraints and access to resources, on student outcomes. This reflects the systemic educational inequalities outlined by Manik et al. (2023), who argue that educational facilities in Papua frequently fail to meet community needs, thereby exacerbating disparities in academic performance.

#### ***Critical Thinking and Research Skills Development***

One of the most important findings from this study is the improvement in students' critical thinking and research skills, as evidenced by their ability to independently identify research problems, formulate hypotheses, and explore solutions. This aligns with Mahardini et al. (2018), who emphasize the importance of student-centered learning in fostering deeper understanding and critical inquiry. By engaging students in real-world research projects, the RBL approach facilitated a deeper level of intellectual engagement, as students were tasked with addressing authentic, culturally relevant issues.

For example, students working on projects like **"Innovation of Sago Noodle to Alter Asmat People's Diet on Instant Noodle Consumption"** demonstrated a high level of engagement with both academic and community-based research. These projects required students to critically assess local problems – such as the over-reliance on instant noodles – and propose culturally sensitive solutions, which helped them develop not only research skills but also a deeper understanding of the socio-economic issues in their communities.

While the findings indicate overall success, the variability in exam results suggests that not all students developed these skills at the same rate. This points to the need for differentiated instruction within the RBL framework, which can provide additional support for students who may struggle with critical thinking and research skills development. As Rinantanti et al. (2017) noted, teacher competence and professional development are crucial in meeting the diverse needs of students. Teachers need ongoing training in culturally responsive teaching

methods and differentiated instruction to ensure that all students can benefit from the RBL approach.

### **Financial Constraints and Educational Access**

The impact of financial constraints on educational access was one of the most critical findings of this study. The reduced participation in university entrance examinations for the 2023/2024 cohort – where only three out of five students took the exams – highlights the profound influence of economic barriers. Despite their academic potential, several students chose not to pursue higher education due to financial difficulties, underscoring the systemic nature of economic challenges in education.

These findings align with Yawan (2022) and UNESCO (2006), both of whom highlight the link between illiteracy and socio-economic marginalization. Illiteracy and limited educational opportunities perpetuate cycles of poverty by restricting access to employment and economic advancement. Similarly, Manik et al. (2023) argue that improving the quality of human resources in Papua requires not only enhancing educational quality but also addressing broader socio-economic barriers.

The financial challenges faced by Papuan students echo the findings of Andayani (2022), who emphasizes the need for robust support systems to ensure equitable access to education. Without financial assistance, scholarships, or other resources, even the most innovative educational strategies may fail to achieve their full potential. Addressing these economic barriers is essential for ensuring that students have the opportunity to fully benefit from programs like RBL.

### **Implications for Future Practice**

The findings from this study offer several implications for future educational practice. First, the success of the RBL approach in improving literacy and critical thinking skills suggests that similar methodologies could be effective in other contexts, especially in culturally diverse regions. As Andayani (2022) and Lemons et al. (2016) advocate, integrating local cultural elements into the curriculum enhances student engagement and relevance, potentially leading to better educational outcomes. This is particularly important in

regions where traditional teaching method may not resonate with students' cultural backgrounds.

Second, the observed disparities in student performance underscore the importance of differentiated instruction and ongoing assessment within the RBL framework. Educators should tailor their approaches to meet the varied needs of students, providing additional support where necessary to ensure equitable learning outcomes, especially for those who face difficulties or external challenges, such as financial constraints. This could include more personalized learning plans, supplementary tutoring, or targeted interventions for students who require extra assistance. As Rinantanti et al. (2017) emphasize, teacher competence and professional development are critical for ensuring that educators are equipped to address the diverse needs of their students.

Finally, the financial challenges faced by students in the 2023/2024 cohort emphasize the need for a holistic approach to education that includes robust mechanisms for addressing economic barriers. Manik et al. (2023) argue that improving the quality of human resources in Papua requires enhancing educational quality and aligning curricula with local contexts. Educational institutions and policymakers must collaborate to offer financial assistance, scholarships, and other resources to help students overcome economic constraints and access higher education. Without such support, even the most innovative educational strategies, like RBL, may fall short of their potential impact.

In conclusion, while the RBL approach has demonstrated significant benefits in enhancing literacy and research skills, addressing financial barriers and ensuring equitable access to education remain critical challenges. Future educational practices should build on the successes of RBL while implementing strategies to mitigate economic constraints and support diverse student needs.

## **CONCLUSION**

The implementation of Research-Based Learning (RBL) in English classes at SMA Sekolah Anak Indonesia has yielded significant benefits, notably in enhancing students' literacy skills, critical thinking, and problem-solving



abilities. By engaging local cultural knowledge into academic learning, RBL has created a meaningful educational experience that aligns both with academic rigor and the cultural realities of Papuan students.

Despite the successes observed, such as high university entrance exam scores, variations in student outcomes and financial constraints highlight the need for targeted interventions. Future research should examine the long-term effects of RBL on students' academic success in higher education and explore how addressing financial barriers can reduce achievement gaps.

### Recommendations

To further enhance the effectiveness of the RBL approach, it is essential to develop targeted interventions that address the academic disparities among students. These interventions should focus on providing additional support for students who may struggle with literacy and critical thinking skills, ensuring that all learners can equally benefit from the opportunities presented by the RBL methodology. Tailored support, such as individualized tutoring or peer mentoring programs, could help bridge these

gaps and foster a more inclusive learning environment.

Increased financial support remains critical in reducing barriers to higher education, particularly for students from underserved communities. While scholarships are already supported by the government and local authorities through affirmative action programs, it is crucial that the selection process for these opportunities is closely supervised. Transparent and equitable selection processes will ensure that the benefits of these scholarships reach the students who need them the most, thus fostering greater inclusivity and fairness in access to education.

Additionally, the implementation of ongoing professional development for educators is highly recommended. Teachers play a pivotal role in the success of the RBL approach, and equipping them with the skills and knowledge to integrate culturally relevant pedagogy learning initiatives can empower educators to design and deliver lessons that resonate with students' cultural and social contexts, further enriching the learning experience.

### REFERENCES

- Andayani, E. S. (2022). The importance of learning and knowing English in higher education in Indonesia. *Research and Development Journal of Education*, 8(1). <http://dx.doi.org/10.30998/rdje.v8i1.13315>
- Begum, A. (2020). Role of literacy in people's lives and its importance. *International Journal of Science and Research (IJSR)*, 9(9), 1223-1224. <https://www.ijsr.net/getabstract.php?paperid=SR20916172026>
- Fiharsono, A., Carey, M., Hyde, M., Beazley, H., & Yektingtyas-Modouw, W. (2024). Culturally based learning needs of Korowai students in a lowland-remote area of Indonesian Papua: School physical environment and building design. *The Australian Educational Researcher*. <https://doi.org/10.1007/s13384-023-00615-x>
- Hattu, V. V., & Tahamata, L. C. O. (2024). The role of indigenous communities in protecting the environment after the entry of companies. *Batulis Civil Law Review*, 5(1), 24–31. <https://doi.org/10.47268/ballrev.v5i1.1894>
- Hyer, Glenda. (2014). Teaching literacy skills to students with significant intellectual disabilities: A review of literature. <https://library.hsu.edu/site/assets/files/4635/hyer.pdf>
- Lemons, C. J., Allor, J. H., Al Otaiba, S., & LeJeune, L. M. (2016). 10 research-based tips for enhancing literacy instruction for students with intellectual disability. *TEACHING Exceptional Children*, (Vol. 49, No. 1, pp. 18–30). <https://doi.org/10.1177/0040059916662202>
- Mahardini, T., Khaerunisa, F., Wijayanti, I. W., & Salimi, M. (2018). Research based learning (RBL) to improve critical thinking skills. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 1(2), 466-

473. <https://doi.org/10.20961/shes.v1i2.26816>
- Manik, Y. M., Prasetyo, N. E., & Sulistyono. (2023). Analyzing Education Quality in Papua Province Using Education Indicators. *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran*, 9(1), 40–45. <https://ejournal.undikma.ac.id/index.php/jurnal-kependidikan/article/view/6989>
- Nizar, N. I., Nuryartono, N., Juanda, B., & Fauzi, A. (2023). Can knowledge and culture eradicate poverty and reduce income inequality? The evidence from Indonesia. *Journal of the Knowledge Economy*. <https://doi.org/10.1007/s13132-023-01398-3>
- Pulhele, N. (2024). Indigenous knowledge in Indonesia curriculum development: Literature review of Indonesia's education policy. *Jurnal Ilmu Kejuruan*, 21(1). <https://doi.org/10.17509/jik.v21i1.61910>
- Rifanto, D., Huffed, A., Hasanah, V. R., & Community Education Program, Universitas Pendidikan Indonesia. (2024). Exploring Community Reading Park's role in Sorong City. *Jurnal Kajian Informasi & Perpustakaan*, 12. <https://doi.org/10.24198/jkip.v12i1.48333>
- Rinantanti, Y., Rahman, M. A., Atmowardoyo, H., & Bin-Tahir, S. Z. (2017). Perception of senior high school EFL teachers in Papua, Indonesia towards their own competence. *Journal of Language Teaching and Research*, 8(6), 1181-1189. <https://doi.org/10.17507/jltr.0806.18>
- Sari & Aisyah, R., & Aisyah, S. (2024). Exploring the Impact of Literacy Rate, Health, and Women's Empowerment on Women's Labor Participation Rate in OIC Member Countries. *Indonesian Interdisciplinary Journal of Sharia Economics (IJSE)*, 7(1), 1278-1291. <https://doi.org/10.31538/ijse.v7i1.4618>
- UNICEF. (2024). *Teacher absenteeism in Papua and West Papua*. <https://www.unicef.org/indonesia/media/20401/file/Teacher%20absenteeism%20in%20Papua%20and%20West%20Papua.pdf>
- Vatican.va. (2015). *Laudato Si': On care for our common home* [Encyclical letter]. Vatican. Retrieved from [https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco\\_20150524\\_enciclica-laudato-si.html](https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html)
- Wantik, L., Laksmono, B. S., Lefaan, A., & Lumintang, O. M. (2024). A systematic literature review: Development of education for remote indigenous communities of Papua based on social ecology (RE Park's theory from Chicago). *Journal on Education*, 7(1), 6929–6940. E-ISSN: 2654-5497, P-ISSN: 2655-1365.
- Yawan, H. (2022). Yo Si Puedo: A Cuban literacy program to strengthen literacy level in West Papua, Indonesia. *IJIET (International Journal of Indonesian Education and Teaching)*, 6(1), 82–92. <https://doi.org/10.24071/ijiet.v6i1.4269>
- Yembise, Y. S. (2010). EFL or ESL in Papua: A not clear-cut issue. *Celt: A Journal of Culture, English Language Teaching & Literature*, 10(1), 41-54. <https://doi.org/10.24167/celt.v10i1.123>
- Yembise, Y. S. (2010). The utilization of culturally relevant English teaching material to high school students in Papua. *CELT: A Journal of Culture, English Language Teaching & Literature*, 10(2). <https://doi.org/10.24167/celt.v10i2.177>

## APPENDICES

### Appendix A: Research Project Rubric

Criteria	Inadequate	Average	Admirable	Outstanding
	1	2	3	4
Organization of presentation	Hard to follow; sequence of information, jumpy.	Most of information presented in sequence.	Information presented in logical sequence; easy to follow.	Information presented as interesting story in logical, easy to follow sequence.
Background of content	Material not clearly related to the topic or background information dominated seminar.	Material sufficient for clear understanding but not clear presented.	Material sufficient for clear understanding and effectively presented.	Material sufficient for clear understanding and exceptionally presented.
Methods	Methods too brief or insufficient for adequate understanding or too detailed.	Sufficient understanding but not clearly presented.	Sufficient for understanding and effectively presented.	Sufficient understanding and exceptionally presented.
Results (figures, graphs, tables)	Some figures hard to read. Some in inappropriate format. Some explanations lacking.	Majority of figures clear. Majority appropriately formatted. Reasonably explained.	Most figures clear. Most appropriately formatted. Well-explained.	All figures clear. All appropriately formatted. Exceptionally explained.
Contribution of work	Significance not mentioned or just hinted.	Significance mentioned.	Significance explained.	Significance exceptionally well-explained.
Knowledge of subject	Does not have grasp of information, answered only re-entry questions.	At ease with information; answered most questions.	At ease; answered all questions but failed to elaborate.	Demonstrated full knowledge; answered all questions with elaboration.

**Appendix B: Research Project Titles**

- 1) The Analysis of Coconut Paring Machine in Supporting Mama Papua Work Efficiency to Produce Oil in Asmat.
- 2) Altering Mindset and Diet of Indigenous Asmat People from Rice into Analogue Rice 'Sago' to Food Sustainability.
- 3) Cubera Snapper (*Lutjana cyanopterus*) Noodle to Alter Instant Noodle in Producing Asmat Local Food.
- 4) Changing Hunter Gatherer's Mindset at Ngalum Tribe Pegunungan Bintang in Improving Food Security.
- 5) The Innovation of Sago Noodle to Alter Asmat People's Diet on Instant Noodle Consumption.
- 6) The Innovation of Salted Fish from Sagor Catfish (*Hexanematichthys sagor*) in Asmat.
- 7) The Innovation of Sago 'Papuana' as a Healthy Snack from the Diet of Young Indigenous Asmat.
- 8) How to Get Loyal Customers for 'Papuana' Using Customer Expectation Survey.
- 9) How to Control the Market Size of 'Papuana' in Sekolah Anak Indonesia.
- 10) The Analysis of 'Papuana' Product Financial Loss Through Data Comparison Between First and Fifth Selling.
- 11) The Findings of Cooking Sago in a Baking Pan for 'Papuana'.

**Appendix C: University Entrance Examination Data****Cohort 2022/2023**

<b>Initial</b>	<b>English Literacy Score</b>	<b>Accepted at</b>	<b>Information</b>
EK	460.68/1,000	Teknik Elektro, Universitas Sam Ratulangi	
EY	510.86/1,000	Failed	Teknik Sipil, Universitas Negeri Yogyakarta through Beasiswa Afirmasi Papua
FL	423.97/1,000	Ilmu Komunikasi, Universitas Pattimura	
MA	513.27/1,000	Akuntansi, Universitas Negeri Manado	
SB	431.21/1,000	Pendidikan Bimbingan dan Konseling, Universitas Negeri Manado	
ZB	708.78/1,000	Teknologi Pangan, Universitas Udayana	Chose to continue at Food and Nutrition Studies, Berea College-USA.  ZB obtained band 7.5 in IELTS reading conducted by British Council.

**Cohort 2023/2024**

<b>Initial</b>	<b>English Literacy Score</b>	<b>Accepted at</b>	<b>Information</b>
BP	491.65/1,000	Failed	-
DB	563.79/1,000	Failed	Bisnis, Institut Pertanian Bogor through Seleksi Mandiri
GB	452.47/1,000	Failed	-
JK	Not participate	-	-
YC	Not participate	Teknik Informatika, Universitas Negeri Manado	Through SNBP or academic merit selection process

**Appendix D: Research-Based Learning (RBL) Module****Timeline**

<b>No.</b>	<b>When</b>	<b>What to do</b>	<b>Checkmark</b>
1.	July – August	Observing at Entrepreneur project to find issue(s)	
2.	September Week 1–2	Creating research outline through 5W+1H table	
3.	September Week 3–4	Finding and reading research literatures	
4.	October–November	Conducting research (survey, interview, etc.)	
5.	December	Proposal seminar	
6.	January–February	Revision	
7.	March	Presentation and Publication	

**Research Outline (5W+ 1H table)**

<b>What do you observe?</b>	<b>Who are your target participants?</b>	<b>When do you conduct your research?</b>	<b>Where do you conduct your research?</b>	<b>Why do you choose the research topic?</b>	<b>How do you conduct your research?</b>
Write about your research focus. Write the aims of your research.	State your participants for your research.	Create a timeline for your research (How long does your research take time?)	Decide the place of your research will be conducted.	Write you reason(s) or background why you focus on the research topic.	Describe the method(s) how you will conduct your research.