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Enhancing Senior High School Teachers' Readiness in English Language Learning Based on *Sasirangan* and Augmented Reality

Siti Kustini[1*], Rizky Amelia[2], Novita Triana[3], Heldiansyah[4], Putriana Salman[2], and Widya Ais Sahla[2]

[1]Informatics Engineering Department, Politeknik Negeri Banjarmasin, Indonesia
[2]Accounting Department, Politeknik Negeri Banjarmasin, Indonesia
[3]English Language Education Department, Universitas Lambung Mangkurat, Indonesia
[4]Digital Business Department, Politeknik Negeri Banjarmasin, Indonesia

*kustini@poliban.ac.id

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ABSTRACT

This community service training aimed to strengthen senior high school English teachers' competencies in South Kalimantan by integrating local Sasirangan culture, augmented reality (AR) technology, and critical thinking skills into innovative instruction. Teachers had been facing several persistent challenges: reliance on conventional teaching methods, students' low English literacy, underdeveloped critical thinking skills, minimal use of local culture as a learning resource, and limited adoption of educational technologies like AR. To address these issues, the team designed and delivered a training program centered on integrating Sasirangan, AR, and critical thinking into grade XII English instruction. The program engaged 15 participants: 6 core workshop attendees, 7 community service team members, and 2 teaching assistants. Implementation followed seven stages, namely situational analysis, problem identification, goal setting, solution planning, social approach, activity implementation, and evaluation. During implementation, the team administered a pre-test, presented instructional content, led discussions and Q&A sessions, guided participants in designing learning activities, demonstrated the SasiVision AR application, and conducted a post-test to measure outcomes. Results demonstrated clear gains across three key indicators. Teachers showed a 50% increase in understanding and readiness to use Sasirangan as a contextual learning resource, a 40.7% increase in applying Android-based AR technology in English lessons, and a 14.1% increase in their ability to design activities that foster students' critical thinking. These findings indicate that the training successfully equipped teachers to integrate Sasirangan fabric as a meaningful, contextual resource in English language teaching, supported by the SasiVision AR application, offering a promising model for culturally grounded, technology-enhanced language instruction.

Keywords: augmented reality, critical thinking, English learning, local culture, Sasirangan

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INTRODUCTION

In recent years, the integration of Sasirangan has been implemented across various fields of study such as Biology, Natural Science, Social Science, and Mathematics (Ekawati et al., 2019; Permatasari et al., 2022; Ramdiah et al., 2024; Susanti et al., 2022). However, its utilization in English language learning, particularly technology-based learning, remains relatively limited. English language learning in Indonesia faces various challenges, especially in regions with rich local cultural heritage such as South Kalimantan (Adam et al., 2024; Wahyu, 2021). Teaching practices are still dominated by conventional methods that do not sufficiently promote meaningful engagement or the development of higher order thinking skills. Interview results with a number of senior high school teachers in South Kalimantan (SMAN 1 Gambut, SMAN 1 Kotabaru, and SMAN 1 Jejangkit) indicate that students' English literacy, particularly in writing, speaking, and critical thinking skills, remains relatively low. Students experience difficulties in developing arguments, evaluating information, and connecting learning materials to local cultural contexts (Pathomchaiwat & Thongrin, 2025). Both students' written and spoken work tend to be descriptive in nature and have not yet demonstrated analysis, critical reflection, or synthesis of ideas. Therefore, an English language learning design that incorporates innovation in its practice is needed (Asmayawati et al., 2024; Chen, 2024).

One promising approach is the integration of local cultural elements, such as Sasirangan fabric, with Augmented Reality (AR) technology in Android based applications. AR technology has been recognized as a transformative tool in language learning. Various studies indicate that AR can enhance English proficiency, learning motivation, and student engagement (Belda-Medina, 2025; Rugaiyah et al., 2024; Umisara et al., 2024). Within the context of EFL (English as a Foreign Language), AR is capable of bridging traditional cultural heritage with the learning preferences of the current generation. Through immersive learning experiences, students can explore the historical background of Sasirangan motifs (Permatasari et al., 2025) and interact with three-dimensional visual representations. This integration is also in line with the direction of Indonesian education policy, which emphasizes student centered learning and the strengthening of cultural awareness.

Given the importance of combining cultural heritage, namely Sasirangan, with learning innovation in language instruction, teachers need to be equipped with the ability to effectively implement such innovative learning strategies in order to enhance students' critical thinking skills. Teachers are a key factor in students' learning success, and thus the implementation of this workshop constitutes a strategic step to help teachers understand and implement the learning design that has been developed, so as to achieve optimal outcomes.

The problems faced by the majority of English teachers at the senior high school level in South Kalimantan are as follows. First, learning is still dominated by conventional methods: teachers tend to use traditional approaches that do not sufficiently encourage active student engagement and have not yet developed higher order thinking skills. As a result, learning has not become fully meaningful or relevant for students. Second, students' English literacy skills remain low: teachers are faced with students who are still weak in writing, speaking, and critical thinking. Students experience difficulty developing arguments, evaluating information, and relating subject matter to real life contexts and local culture. Third, the integration of local culture into English language learning has not been optimized: although Sasirangan has already been utilized in other subjects, English teachers have not extensively used it as a contextual learning resource. Fourth, there is limited use of innovative learning technology: technologies such as Augmented Reality (AR), which have been shown to increase learning motivation and engagement, have not been widely used by teachers in English language learning, partly due to the need for training and mentoring. Fifth, there is a need to strengthen teachers' capacity in twenty first century learning strategies: teachers require support to integrate culture, technology, and critical thinking development in an integrated manner within their teaching practice. Among these five problems, the priority issues are the suboptimal integration of local culture into English language learning and the limited use of innovative learning technology.

Several solutions are proposed to address the problems that have emerged, among others by organizing a *Learning Innovation Workshop on Sasirangan, Augmented Reality, and Critical Thinking in Grade XII English Language Instruction* at Senior High Schools in South Kalimantan. The suboptimal integration of local culture into English language learning is one of the priority issues that needs to be addressed. To this end, teachers are guided to utilize the motifs, history, and cultural meaning of Sasirangan as authentic content in classroom English learning activities. In addition, the limited use of innovative learning technology in English classes is also a challenge that must be faced. As a solution, teachers are introduced to the use of an Android based mobile Augmented Reality (AR) application that can display interactive visuals of Sasirangan motifs, thereby making the learning process more immersive, engaging, and contextual for students.

METHODS

Community Service Implementation Approach

The approach used in the implementation of this Community Service Program (Pengabdian kepada Masyarakat/PkM) is the Participatory Action Approach, a participatory approach to community empowerment that positions program participants as primary subjects in the program development process rather than merely as beneficiaries (Affandi et al., 2022). Within the context of teacher training, this approach emphasizes teachers' active involvement throughout all stages of the activity, from needs identification, planning, and implementation to the evaluation of the training program. Under this approach, teachers do not merely receive material in a one-way manner but are also involved in sharing their experiences, needs, challenges, and solutions relevant to the learning conditions in their respective schools. As a result, the training becomes more contextual, applicable, and responsive to actual needs in the field.

Time and Location of Activity

The community service activity was conducted on Friday, 12 September 2025, at Hotel Jelita, Banjarmasin, South Kalimantan.

Partners and Participant Profile

The partners of this community service activity were State Senior High Schools (SMAN) in South Kalimantan. The participants consisted of six English teachers from SMAN 1 Jejangkit, SMAN 2 Banjarmasin, SMAN 4 Banjarbaru, SMAN 1 Gambut, SMAN 1 Batu Ampar, and SMAN 1 Kotabaru. The participants involved in this community service activity had substantial prior experience teaching English at the senior high school level and demonstrated strong motivation to enhance their professional skills in innovative English language learning.

Activity Instruments

Several instruments were used in this activity, including interview question items, pre-test and post-test questionnaires, and feedback sheets. The interviews were aimed at identifying the initial conditions of English language learning at the partner schools and determining teachers' needs with respect to the integration of local culture and the utilization of technological innovation in English learning. The pre-test questionnaire consisted of 10 items on a Likert scale designed to assess participants' initial understanding of local culture based English learning, the use of Augmented Reality (AR) technology, and the development of critical thinking skills in learning. The post-test questionnaire was similarly presented as a 10-item Likert scale questionnaire designed to measure the improvement in participants' understanding following the workshop. In addition, the activity was evaluated through participant feedback regarding the material, implementation, and benefits of the workshop. The results of this evaluation served as the basis for improving and developing subsequent activities. Examples of

the interview instrument items, the pre-test and post-test questionnaires, and the feedback sheet are presented in Table 1 and Table 2.

Examples of interview questions

1. Could you describe your experience teaching English at your current school?
2. What learning methods and media have you used thus far in English language teaching?
3. Have you ever incorporated elements of local culture into the learning process? If so, could you provide an example?
4. How familiar are you with the use of digital technology in learning?

Table 1. Example questionnaire items for the pre-test and post-test

No	Test	Example Pre-Test Statement Items	1	2	3	4	5
1	**Pre-Test**	I am aware that Sasirangan can be used as a medium for English language learning.	☐	☐	☐	☐	☐
2	**Pre-Test**	I have previously used local wisdom in teaching English.	☐	☐	☐	☐	☐
3	**Post Test**	This workshop improved my understanding of using Sasirangan as a learning medium.	☐	☐	☐	☐	☐
4	**Post Test**	I now have a better understanding of how to integrate local wisdom into English language learning.	☐	☐	☐	☐	☐

Table 2. Example items in the feedback sheet

No	Example Feedback Sheet Statement Items	1	2	3	4	5
1	Relevance of the workshop theme to learning needs	☐	☐	☐	☐	☐
2	Clarity of the material delivered by the presenter	☐	☐	☐	☐	☐
7	Ease of understanding the use of AR technology in the workshop	☐	☐	☐	☐	☐
8	The workshop provided inspiration for new learning innovations	☐	☐	☐	☐	☐

Table 2 presents examples of items (1, 2, 7, and 8) from the feedback sheet. The remaining items (items two, three, and four) on the feedback sheet were as follows:

a. (2) What new knowledge or skills did you gain from this workshop?
b. (3) Did you encounter any obstacles or difficulties during the workshop?
c. (4) How do you plan to apply the results of this workshop in your classroom teaching?

Data Analysis Technique

The interview data were analyzed using a qualitative descriptive analysis with a thematic approach. The steps taken by the community service team included transcribing the interview results, thoroughly reading through the entire dataset, categorizing the data, and drawing conclusions based on patterns in participants' responses. Meanwhile, the pre-test and post-test questionnaire data were analyzed using quantitative descriptive analysis to examine changes in participants' understanding and perceptions before and after the workshop. The percentage formula used was as follows. The formula for calculating the percentage of improvement is presented below.

$$\textbf{Percentage} = \frac{\textbf{Score}}{\textbf{Maximum Score}} \textbf{ X 100\%}$$

For the feedback data, the community service team employed quantitative descriptive analysis for the rating scale items and simple qualitative analysis for the open-ended questions.

The results of this data analysis were used as evaluative material for the implementation of the workshop. Data obtained through the interviews, the pre-test and post-test questionnaires, and the feedback were compared and cross referenced with one another to obtain a more comprehensive picture of the workshop's implementation and participants' responses to the activity. The pre-test and post-test results were analyzed based on the level of community empowerment, as presented in Table 3.

Table 3. Criteria for community empowerment levels

Empowerment Level	Percentage	Indicator
Very High	76% - 100%	The community is able to develop activities independently and sustainably
High	51% - 75%	The community begins to apply knowledge/skills independently
Low	26% - 50%	The community begins to understand the material and is able to follow guidance
Very Low	0% - 25%	The community remains fully dependent on facilitators/program implementers

Source: Adapted from Arnstein's Ladder of Citizen Participation (Chelsea & Boakye DanquahDani, 2023)

Stages of Community Service Implementation

The implementation of the community service activity followed the stages of the participatory approach, comprising seven systematic stages beginning with situational analysis and concluding with final evaluation of the activity, as shown in Figure 1.

Figure 1. Stages of community service implementation

In the first stage, the community service (PkM) team identified the initial conditions of English language learning at the partner schools through interviews with several English teachers at SMAN 1 Gambut, SMAN 1 Kotabaru, and SMAN 1 Jejangkit, South Kalimantan. This stage aimed to determine teachers' needs related to the integration of local culture and the use of technological innovation in English learning. The second stage involved problem

identification. Based on the situational analysis, the main problems faced by teachers were formulated, namely the continued dominance of conventional methods, students' low English literacy, the limited integration of Sasirangan culture into learning, and the minimal use of innovative technologies such as Augmented Reality (AR). The third stage was goal setting. The team and partners agreed on the objectives of the activity, namely, to enhance teachers' competence in designing English language learning that integrates local Sasirangan culture, Android based AR technology, and critical thinking development strategies. In the fourth stage, the community service team developed a solution design in the form of a learning innovation workshop. At this stage, training materials, learning modules, examples of Sasirangan based activities, and guidelines for using the AR application in English learning were prepared. In the fifth stage, the team carried out coordination and adopted a collaborative approach with the schools and teachers as partners. This approach emphasized participatory partnership so that teachers would be actively involved from the planning stage through to implementation. The sixth stage was the implementation of the activity itself. This was carried out in the form of a workshop that included the delivery of material on the use of Sasirangan as an English learning resource, training in the use of the AR application, an introduction to critical thinking-based learning strategies, and hands on practice in which teachers developed lesson designs. This was followed by the final evaluation stage, conducted to assess teachers' understanding and readiness to implement innovative learning. The evaluation included participant feedback, activity reflection, and assessment of the lesson designs produced during the workshop.

During the implementation of the community service activity itself (the sixth stage), the steps carried out are shown in Figure 2 (Salman et al., 2023).

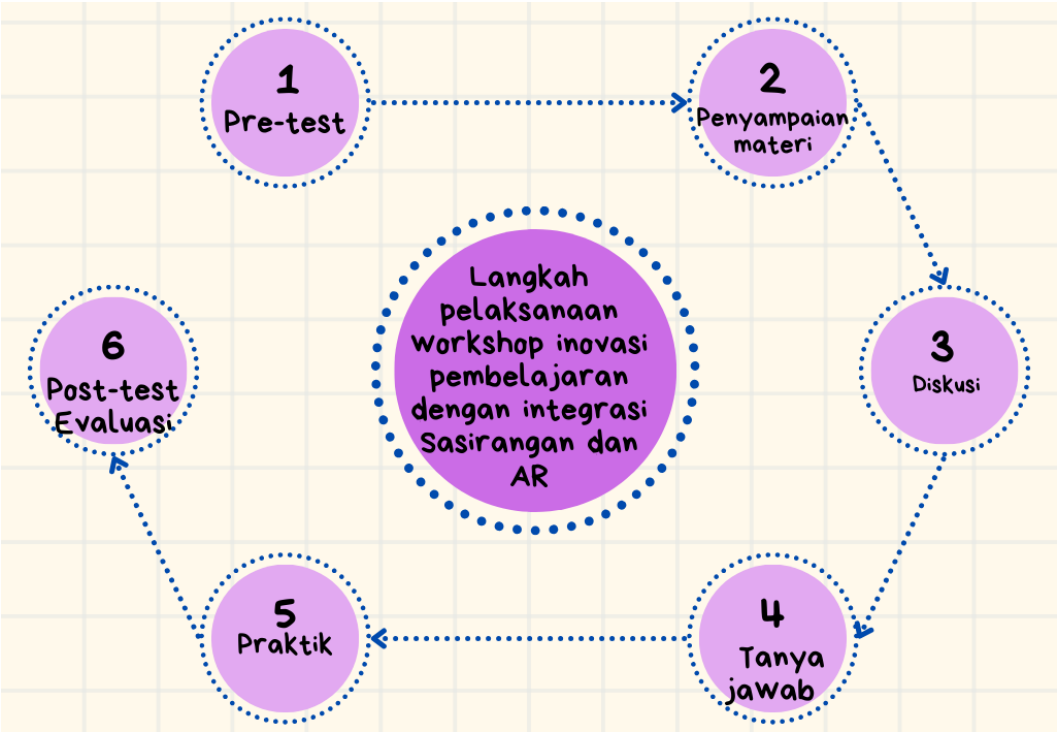


Figure 2. Steps within the sixth stage

1. **Pre-test**
   At the initial stage, participants (teachers) were given a pre-test in the form of a 10-item Likert scale questionnaire to assess their initial understanding of local culture based English learning, the use of Augmented Reality (AR) technology, and the development of critical thinking skills in learning. The pre-test results served as the basis for adjusting the depth of the workshop material.
2. **Delivery of Material**

In this session, participants received presentations from the resource persons covering the concept of integrating Sasirangan as a contextual learning resource in English language teaching, an introduction to Android based Augmented Reality (AR) technology as an interactive learning medium and learning strategies that promote students' critical thinking skills. Delivery was carried out through presentations, demonstrations of the AR medium, and examples of application within English learning activities.

3. **Discussion**
   Following the delivery of material, participants engaged in group discussions to explore the potential application of Sasirangan and AR in their respective classrooms. At this stage, teachers shared experiences with one another, identified potential challenges, and discussed solutions that could be applied according to their schools' conditions.
4. **Question and Answer Session**
   The question-and-answer session provided participants with an opportunity to clarify material they had not yet fully understood whether related to the use of AR technology, the development of culture-based activities, or the application of critical thinking strategies in English learning.
5. **Hands on Practice**
   During the practice stage, participants directly tried using the AR application and developed English lesson designs that integrated *Sasirangan*, the AR medium, and critical thinking activities. The community service team accompanied participants throughout this process to ensure that the resulting lesson designs could be practically applied in the classroom.
6. **Post-test (Evaluation)**
   The final stage consisted of administering a post-test in the form of a 10 item Likert scale questionnaire to measure the improvement in participants' understanding following the workshop. In addition, the activity was evaluated through participant feedback regarding the material, implementation, and benefits of the workshop. The results of this evaluation served as the basis for improving and developing subsequent activities.

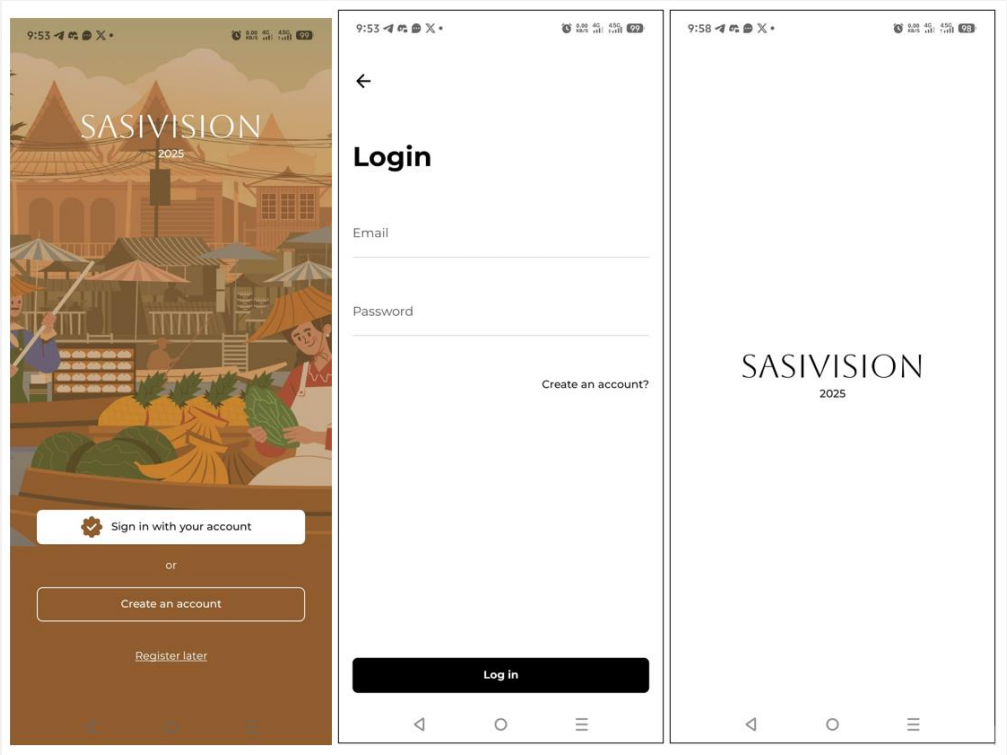


Figure 3. Overview of the science and technology (IPTEKS) component of the community service activity

The science and technology component provided to the community service participants is presented in Figure 3, namely the interface of the SasiVision application developed by the community service team, which contains English language learning material for Grade XII senior high school students. The community service team aimed to enhance participants' knowledge and skills in implementing innovation in classroom English language learning (Al-Shamaileh & Sutcliffe, 2023; Listia et al., 2023). It is hoped that this training will provide participants with deeper knowledge and skills, and that it will be carried out consistently so that teachers can maximize their students' English language proficiency.

RESULT AND DISCUSSION

This community service activity aimed to enhance senior high school teachers' understanding in South Kalimantan regarding the use of local culture, particularly Sasirangan fabric, as a contextual learning resource in English language teaching; to improve teachers' competence in integrating Android based Augmented Reality (AR) technology into English language learning; and to equip teachers with innovative learning strategies capable of improving students' English literacy skills, particularly in writing, speaking, and critical thinking. The community service activity was conducted on Friday, 12 September 2025, at Hotel Jelita, Banjarmasin, South Kalimantan. A total of 15 people took part in this activity, comprising the team and resource persons from Politeknik Negeri Banjarmasin and Universitas Lambung Mangkurat, along with one English teacher each from SMAN 1 Jejangkit, SMAN 2 Banjarmasin, SMAN 4 Banjarbaru, SMAN 1 Gambut, SMAN 1 Batu Ampar, and SMAN 1 Kotabaru. The results achieved through this community service activity are as follows.

Administration of the Pre-Test

The community service team administered a pre-test questionnaire at the beginning of the activity. This questionnaire aimed to determine participants' perceptions and understanding prior to participating in the activity. Participants indicated their response by marking columns

numbered 1 to 5 according to their level of agreement with each statement and completed the questionnaire in approximately 15 minutes.

Delivery of Material

a. Utilization of local culture, particularly Sasirangan fabric, as a contextual learning resource in English language teaching

This material was delivered by Dr. Novita Triana, S.Pd., MA, of Universitas Lambung Mangkurat, assisted by Rizky Amelia, M.Pd. This session aimed to enhance teachers' understanding of the importance of integrating local culture into English language learning so that the learning process becomes more contextual, meaningful, and relevant to students' lives. In this session, the presenter introduced Sasirangan fabric not merely as a cultural product but also as an authentic resource for developing various English language skills such as reading, speaking, writing, and vocabulary building. The material presented included the urgency of integrating local wisdom for students, followed by an introduction to the cultural values and philosophy underlying Sasirangan motifs, the potential for using descriptive, argumentative, and procedural texts based on Sasirangan, and strategies for designing communicative activities, such as role play as a seller and buyer of traditional fabric, as well as presentations on local culture in English. In addition to the presentation of material, participants were also invited to discuss their teaching experiences and the challenges they faced in relating local culture to English language learning. This session is expected to encourage teachers to be more creative in designing teaching materials based on local wisdom, thereby making learning more relevant and engaging while also fostering students' pride in their regional culture. Documentation of this session is presented in Figure 4.

Figure 4. Delivery of material by the resource person in session 1

b. Integration of Android based Augmented Reality (AR) technology into English language learning

The resource person for this session was Dr. Siti Kustini, M.Pd., assisted by Norhasanah. This session aimed to introduce the use of Augmented Reality (AR) technology as an innovative learning medium capable of enhancing student engagement, motivation, and understanding in English language learning. In her presentation (see Figure 5), the resource person explained the basic concept of AR as a technology capable of combining virtual objects (text, images, audio, or 3D animation) with the real world through Android devices. This technology was considered to hold strong potential for supporting language learning because it is able to provide a more

interactive, visual, and contextual learning experience. The application used in this session was SasiVision. The resource person explained the basic concept and operating procedure of the SasiVision application. One example of its use presented was the enrichment of vocabulary material, for instance by displaying 3D objects of Sasirangan motifs, accompanied by reading and listening features within the SasiVision application.

Figure 5. Delivery of Material by the Resource Person in Session 2

a. Discussion

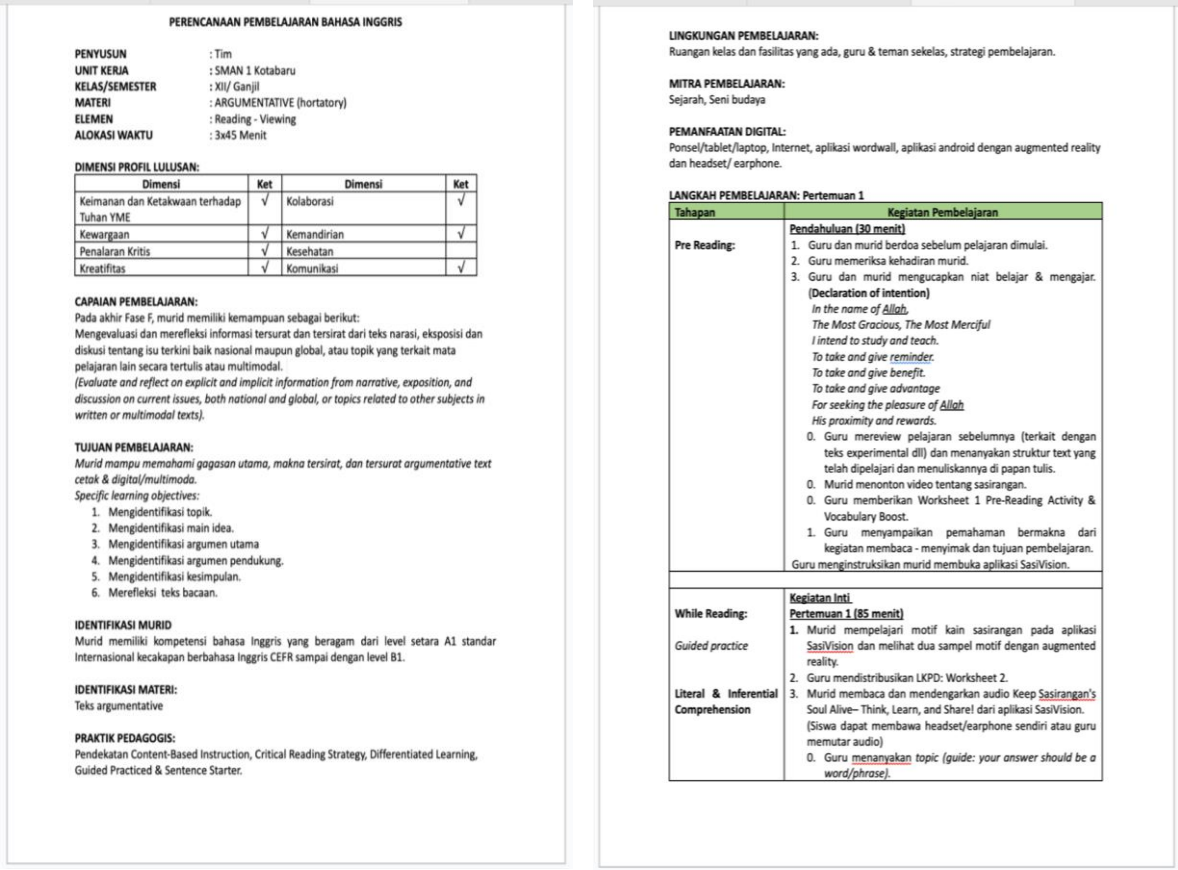
The third session consisted of a discussion. This session focused on the challenges faced by teachers in integrating local culture into English language material, the readiness of facilities and infrastructure for implementing AR technology in schools, and ideas for Sasirangan and AR based learning activities suited to students' ability levels. The community service team explored the potential for integrating Sasirangan into Grade XII English language teaching at the senior high school level. Participants shared their experiences and feasible plans for implementation. This discussion session not only encouraged collaboration among teachers but also created space for sharing experiences and good practices that had previously been carried out.

b. Question and Answer Session

Following the discussion, the activity continued with a question-and-answer session between participants and resource people. In this session, participants were given the opportunity to ask questions directly regarding the material, whether conceptual or technical in nature.

c. Hands on Practice

Participants were then divided into several groups to design a Deep Learning Lesson Plan (Perencanaan Pembelajaran Mendalam). The purpose of this practice was to train teachers to create innovative learning strategies capable of improving students' English literacy skills. Working together, group members adapted and integrated Sasirangan into the Deep Learning Lesson Plan, as shown in Figure 6.



PERENCANAAN PEMBELAJARAN BAHASA INGGRIS

PENYUSUN : Tim
UNIT KERJA : SMAN 1 Kotabaru
KELAS/SEMESTER : XII/ Ganjil
MATERI : ARGUMENTATIVE (hortatory)
ELEMEN : Reading - Viewing
ALOKASI WAKTU : 3x45 Menit

DIMENSI PROFIL LULUSAN:

Dimensi	Ket	Dimensi	Ket
Keimanan dan Ketakwaan terhadap Tuhan YME	√	Kolaborasi	√
Kewargaan	√	Kemandirian	√
Penalaran Kritis	√	Kesehatan	
Kreatifitas	√	Komunikasi	√

CAPAIAN PEMBELAJARAN:
Pada akhir Fase F, murid memiliki kemampuan sebagai berikut:
Mengevaluasi dan merefleksi informasi tersurat dan tersirat dari teks narasi, eksposisi dan diskusi tentang isu terkini baik nasional maupun global, atau topik yang terkait mata pelajaran lain secara tertulis atau multimodal.
(Evaluate and reflect on explicit and implicit information from narrative, exposition, and discussion on current issues, both national and global, or topics related to other subjects in written or multimodal texts).

TUJUAN PEMBELAJARAN:
Murid mampu memahami gagasan utama, makna tersirat, dan tersurat argumentative text cetak & digital/multimoda.
Specific learning objectives:
1. Mengidentifikasi topik.
2. Mengidentifikasi main idea.
3. Mengidentifikasi argumen utama
4. Mengidentifikasi argumen pendukung.
5. Mengidentifikasi kesimpulan.
6. Merefleksi teks bacaan.

IDENTIFIKASI MURID
Murid memiliki kompetensi bahasa Inggris yang beragam dari level setara A1 standar Internasional kecakapan berbahasa Inggris CEFR sampai dengan level B1.

IDENTIFIKASI MATERI:
Teks argumentative

PRAKTIK PEDAGOGIS:
Pendekatan Content-Based Instruction, Critical Reading Strategy, Differentiated Learning, Guided Practiced & Sentence Starter.

LINGKUNGAN PEMBELAJARAN:
Ruangan kelas dan fasilitas yang ada, guru & teman sekelas, strategi pembelajaran.

MITRA PEMBELAJARAN:
Sejarah, Seni budaya

PEMANFAATAN DIGITAL:
Ponsel/tablet/laptop, Internet, aplikasi wordwall, aplikasi android dengan augmented reality dan headset/ earphone.

LANGKAH PEMBELAJARAN: Pertemuan 1

Tahapan	Kegiatan Pembelajaran
Pre Reading:	**Pendahuluan (30 menit)** 1. Guru dan murid berdoa sebelum pelajaran dimulai. 2. Guru memeriksa kehadiran murid. 3. Guru dan murid mengucapkan niat belajar & mengajar. **(Declaration of intention)** *In the name of Allah,* *The Most Gracious, The Most Merciful* *I intend to study and teach.* *To take and give reminder.* *To take and give benefit.* *To take and give advantage* *For seeking the pleasure of Allah* *His proximity and rewards.* 0. Guru mereview pelajaran sebelumnya (terkait dengan teks experimental dll) dan menanyakan struktur text yang telah dipelajari dan menuliskannya di papan tulis. 0. Murid menonton video tentang sasirangan. 0. Guru memberikan Worksheet 1 Pre-Reading Activity & Vocabulary Boost. 1. Guru menyampaikan pemahaman bermakna dari kegiatan membaca - menyimak dan tujuan pembelajaran. Guru menginstruksikan murid membuka aplikasi SasiVision.
While Reading: *Guided practice* **Literal & Inferential Comprehension**	**Kegiatan Inti** **Pertemuan 1 (85 menit)** 1. Murid mempelajari motif kain sasirangan pada aplikasi SasiVision dan melihat dua sampel motif dengan augmented reality. 2. Guru mendistribusikan LKPD: Worksheet 2. 3. Murid membaca dan mendengarkan audio Keep Sasirangan's Soul Alive– Think, Learn, and Share! dari aplikasi SasiVision. (Siswa dapat membawa headset/earphone sendiri atau guru memutar audio) 0. Guru menanyakan *topic (guide: your answer should be a word/phrase).*

Figure 6. Participants' deep learning lesson plan outcomes

Participants subsequently received a direct demonstration of the use of the SasiVision application (see Figure 7). Teachers were guided to scan specific markers using an Android smartphone in order to display visual and audio based English learning content.

Figure 7. Participants practicing the use of the SasiVision application

This activity helped participants understand how AR technology can be practically applied in the classroom. Through this session, teachers are expected to gain initial insight and skills in utilizing AR technology as a creative learning medium relevant to current digital developments, thereby making English language learning more engaging, interactive, and suited to the characteristics of the current digital generation. This hands-on practice is expected to equip teachers to guide their students in using the SasiVision application.

d. Post-test

As a form of activity evaluation, participants completed a post-test at the end of the session. This post-test aimed to measure the improvement in participants' understanding of the material presented, both with regard to the integration of local culture and the use of AR technology in English language learning, with the results presented in Table 4. The post-test was completed by six English teachers, and the results are presented below.

Table 4. Pre-test and post-test data

Respondent	Pre-test Score	Post-test Score	Mean	Percentage	Empowerment Level
1	66	84	75	27.27%	Moderate
2	50	88	69	76.00%	High
3	48	86	67	79.17%	High
4	58	90	74	55.17%	Moderate
5	60	88	74	46.67%	Moderate
6	58	92	75	58.62%	Moderate
Overall	**56.67**	**88**	**72.34**	**57.15%**	**Moderate**

Table 4 shows that all participants experienced an increase in scores following the workshop. The mean pre-test score of 56.67 increased to 88.17 in the post-test. Based on these data, it can be concluded that the workshop had a positive impact on improving participants' knowledge, skills, and readiness to implement the SasiVision learning innovation. The community empowerment level for this activity falls within the moderate category, indicating that participants have begun to understand and apply the knowledge and skills acquired in a more independent manner. In other words, the analysis results demonstrate that the activity was successful in improving teachers' knowledge, skills, and readiness to implement AR technology in English language learning. These findings are consistent with those of Febrianty and Sundari (2024), who conducted training on the use of Augmented Reality (AR) based learning media for teachers at SLB Mahardika, Depok, West Java.

The training was shown to improve teachers' competence in utilizing interactive technology in English language learning, with teachers becoming more confident and more effective in using AR media as an engaging and innovative instructional tool (Fletcher & Mackey, 2020; Hanapi et al., 2025). Mursyida et al. (2023), in a study using the AR based Assemblr Edu platform, found that teacher training delivered through a community service workshop genuinely stimulated student interest, strengthened learning motivation, and helped students understand material and complete tasks more efficiently, with media that could be directly accessed via Android smartphones. This suggests that training English teachers in the use of Android based Augmented Reality (AR) applications has a significant impact on improving their competence in designing and using interactive learning media. In addition, the development of AR based learning media encourages teachers to design more creative lesson plans by integrating digital technology, exploratory activities, and experience-based learning that stimulate students' analytical, evaluative, and reflective abilities.

This finding is supported, among others, by the study conducted by Lubis et al. (2025). Within the context of language learning, AR also enables more contextual learning through the visualization of real objects and direct interaction with the surrounding environment. This supports the integration of local cultural elements and authentic student experience into English language learning (Parlar & Sütçü, 2025; Isnaniah et al., 2025). Through this activity,

participating senior high school teachers in South Kalimantan gained increased knowledge and understanding of how to integrate Sasirangan into English language learning and how to use applications incorporating Augmented Reality.

CONCLUSION

The Community Service activity in the form of a Learning Innovation Workshop on *Sasirangan*, Augmented Reality, and Critical Thinking in Grade XII English Language Instruction at Senior High Schools in South Kalimantan was successfully implemented and produced a positive impact on participants. This activity was designed as an effort to enhance teachers' competence in developing English language learning that is contextual, innovative, and aligned with the demands of twenty first century learning. Based on the results of the activity's implementation, it can be concluded that: (1) teachers gained new insight into how *Sasirangan* fabric can be used as a contextual learning resource in English language teaching, both for the development of reading, writing, and speaking skills and for vocabulary enrichment; (2) through training in the use of the Android based Augmented Reality (AR) application, teachers gained direct experience in utilizing technology as an interactive learning medium capable of enhancing student engagement and learning motivation; and (3) the hands on lesson planning activity demonstrated that teachers have begun to be able to integrate local cultural elements, AR technology, and activities that stimulate students' analysis, evaluation, and reflection into English language learning. Overall, this activity succeeded in improving teachers' knowledge, skills, and readiness to implement English language learning that is more contextual, interactive, and oriented toward the development of students' critical thinking skills. As a follow up to this activity, ongoing mentoring will be provided to teachers in implementing Augmented Reality based learning media using the SasiVision application in the classroom. This mentoring aims to ensure that teachers are able to optimally integrate AR technology into the English language learning process. In addition, monitoring of the use of SasiVision is needed to determine the consistency of its use, the challenges faced by teachers, and the effectiveness of its implementation in teaching and learning activities. Further evaluation is also important in order to measure the impact of SasiVision use on student engagement, motivation, and learning outcomes, so that the development of learning media and strategies can be carried out in a more targeted manner.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

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