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Fostering Teachers' Growth Mindset to Face Education Challenges Using a Cultural Language Learning Approach (CLLA)

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Abstract. Growth mindset practice by teachers' is essential for facing the disruption of education that has been caused by technological advances. This study used multiple case studies to investigate the level of teachers' growth mindset, teachers' readiness to face education challenges, and how to foster teachers' growth mindset using a cultural language learning approach. It involved 26 teachers from elementary to higher levels who completed a questionnaire comprising closed-ended questions, and participated in in-depth interviews and a peer debriefing - the latter to determine trustworthiness. The data were compiled and analyzed descriptively using defined criteria. The research procedure followed these steps: (1) Gathering raw data on three research variables; (2) Reviewing data; (3) Analyzing data; (4) Ensuring trustworthiness through peer debriefing; and (5) Research judgment. This study fills a gap in the literature concerning the concept of teachers' growth mindset and fostering teachers' growth mindset by using a cultural language learning approach as an alternative to their educational practices. This study reports the following findings. First, most of the participants confessed that they did not fully practice the seven growth mindset principles, namely, never stop growing, experiment and innovate, ask questions, be flexible, learn new technology, truly listen and reflect constantly. Second, they were not yet prepared to face education challenges. Third, they admitted to not yet having embedded local cultures as their teaching discourses. The findings are expected to provide an alternative reference and guide for policymaking for teachers and practitioners affected by these issues.

Keywords: Teachers' growth mindset; Cultural language learning approach; raw data; peer debriefing; trustworthiness

1. Introduction

To continue growing, we consistently and constantly need chances to evaluate and analyze our work. The school year is busy, and self-reflection is hard to achieve. This problem can be solved by adding reflection to professional development opportunities, such as teacher association meetings and conferences

or workshops, to promote consistency and maintain a meaningful academic routine (Gunn, 2018). Whether we can admit it or not, few people follow an innate growth mindset to continue to develop (Busch, 2018; Chen et al., 2023). This failure can be caused by environmental factors, including authorities who launch unilateral policies with various considerations, such as government launching a new top-down curriculum that limit teachers' ideas to self-improve. Such a forced endeavor is likely to cause apathy and stagnation of the growth mindset of many people, including academics at various levels of education. This is not fully the academics' fault, as they are merely required to implement their government's political rules (Hermayawati, 2021, 2023).

The notion of a growth mindset was introduced by Carole Dweck, a psychologist at Stanford University, in 2006, and it has been under discussion since. A growth mindset is the belief that one's abilities, qualities, and intelligence can be developed, even though it is difficult. In contrast, a fixed mindset is the belief that intelligence and one's qualities are difficult to change. Evidence that teachers have a fixed mindset can be found in their written academic work. This study focused on portraying teachers' growth mindset to face education challenges using the cultural language learning approach (CLLA).

It is claimed that a growth mindset is necessary to stimulate humans to change so that they can face their life problems. However, how to encourage educators to foster their growth mindset has not been investigated. This gap motivated the authors to conduct the current study, which intended to revive the growth mindset of educators, so that they can foster their learners' innate mental mindsets, in a natural way, while considering environmental rules. In this case, the current study related fostering a growth mindset to an approach to language pedagogy called the CLLA, which benefits local cultural heritages as a means of preserving them (Hermayawati, 2020, 2021).

Answers to the following research questions were pursued by the current study: (1) What is the nature of teachers' growth mindset? (2) What are education challenges teachers face in embedding CLLA to address pedagogical practices? and (3) How can teachers foster a growth mindset through CLLA?

2. Literature Review

This section will review the basic theories that support the current study and are related to the three focus areas of the study, namely, (1) Teachers' growth mindset, (2) Education challenges, and (3) The CLLA. To understand the aforementioned three concepts, related principles will be explained.

In the first place, we will discuss teachers' growth mindset. Growing a particular mindset in learners is a crucial task of most educators, but many teachers operate with a fixed mindset (Gunn, 2018; Science Daily, 2007, Dweck & Yeager, 2017). A growth mindset is the belief that one's abilities, qualities, and intelligence can be developed, while a fixed mindset believes that intelligence and one's qualities are unchangeable (Dweck & Yeager, 2017). Regardless of their age and how good someone is at their job, they should consistently grow and learn. Even the best

teachers need to constantly pursue new ideas, methods, and ways of thinking if they are to serve their learners. Growth mindset has become a hotly debated topic among academics, due to the increasing development of science and technology, which requires the pursuit of a growth mindset in the field of education, including language education. Gunn (2018) identifies seven practices to create a school-wide growth mindset: (1) Never stop growing; (2) Experiment and innovate; (3) Ask questions; (4) Be flexible; (5) Learn new technology; (6) Truly listen; and (7) Reflect constantly.

It is natural to continue growing, both mentally and physically, throughout life (Mesler et al., 2021). People are born with an intense drive to learn, intentionally and unintentionally. Infants grow their skills daily, such as learning to walk and talk without complaining; they are not concerned about making mistakes or humiliating themselves. They learn to walk, and sometimes fall, but get up again, repeatedly, without complaint.

Teachers learn along with learners when they implement a new curriculum, materials, approaches, methods, media, and classroom techniques. They can also browse the latest research to learn and stay hungry for new knowledge. Everyone does experiments and applies innovative practices, either intentionally or unintentionally, from the time they are infants, through childhood, until adulthood. If they do not know something they are learning about, they ask questions; these questions can take several forms, whether browsing the internet, reading, or asking someone to answer their queries. Every seed has a natural propensity to grow, but seedlings have different capacities to sprout, depending largely on the quality of the environment. Similarly, teachers' mindsets affect learners' academic outcomes (Association for Psychological Science, 2022).

The second concept we will discuss is education challenges. Bharti (2022) lists 11 challenges facing inclusive education, namely (1) Weakening of the current education system, in line with the Fourth Industrial Revolution; (2) Boredom with the traditional or conventional teaching system; (3) Technical problems; (4) Assessment strategies; (5) The expense of modern technology infrastructure; (6) Creating question papers; (7) Virtual classroom engagement; (8) Cheating; (9) Low students self-motivation; (10) The gap between classroom teaching and evaluation, from entrance exams and job interviews; and (11) Education quality (see Figure 1).

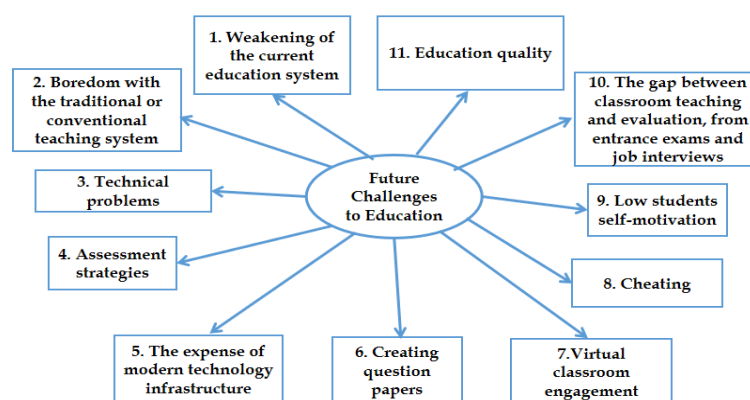


Figure 1: Eleven challenges facing inclusive education (Bharti, 2022)

The third concept, CLLA, is an approach to pedagogy that believes that any community's cultural products can serve as media for language learning in the form of discourses. Unique cultural heritages, either tangible or intangible products, such as housing, clothing, wedding parties, foods and beverages, art performances, folktales, ceremonies, dances, music, traditional songs, and ethnic languages, can be used as learning materials (Hermayawati, 2020, 2021, 2023). These cultural products can be introduced to other communities, to teach them to respect others for the sake of increasing a sense of unity in diversity. CLLA is inspired by the principle of multiculturalism.

Multiculturalism refers to geographical differences between populations, for instance, racial, ethnic, religious, and geographical distinctions and other cultural markers that deviate from dominant, often racial 'norms' (Clayton, 2020). In a liberal democracy, all citizens should be treated equally under the law. This requirement leads to a tendency to homogenize the collective of citizens and to assume a common political culture that all participate in. This common culture is usually formed on a national scale, either naturally, through immigration, or artificially, when different cultural jurisdictions are unified through legislative decisions (Eagan, 2023; Sampoerna University, 2022, Wibowo et al., 2023).

The concept of multiculturalism applies to Indonesian geographical conditions. In Indonesia, multicultural education is carried out via two approaches, namely, learning materials and learning methods. The materials approach involves teaching learners about the values of multiculturalism through special materials that discuss multiculturalism. When learning methods are applied, learners are taught multicultural life values by intertwining learning materials and learning methods in learning various subjects (Cathrin & Wikandaru, 2023). Literature is crucial for enriching insights into multiculturalism in Indonesian society. Multiculturalism broadens horizons and teaches us to respect diversity for the purpose of strengthening a sense of unity. Literature is important for supporting intercultural awareness of societal pluralism (Wibowo et al., 2023).

The difference between the multicultural approach and CLLA is that the multicultural approach uses both the concepts of learning materials and the approach itself. It does not focus on how to make use of the term multiculturalism in practice, particularly in terms of language learning. CLLA fills the gap between the concepts of learning materials and as an approach to practical learning activities. In other words, CLLA focuses on using various cultural aspects or components as materials to teach and learn, particularly in language education, by implementing the seven growth mindset principles suggested by Gunn (2018). The similarity of multiculturalism and CLLA is particularly focused on the existence of teaching and learning intention, namely, to instill respect for cultural diversity.

Studies have mostly investigated the growth mindset theoretically, and have not directly investigated teachers' understanding of growth mindset in principle. The current study was necessary, and it provides new theoretical and practical information, particularly for practitioners, to guide future studies on the topic, and to fill the gap between the literature and the current study.

3. Research Method

We undertook a multiple case study with teachers at secondary school and higher education levels. A case study is a research methodology that examines subjects, projects, or organizations to tell stories and reach conclusions based on the data gathered during the process of investigation (Clary-Lemon et al, 2022). A case study can be an in-depth study of one person, a group, or an event. It is a suitable methodology for various fields, such as psychology, medicine, education, anthropology, political science, and social work (Cherry, 2024). Almost every aspect of the subject's life is analyzed, including history, to determine the patterns and causes of behavior. Multiple case studies employ more than one setting or case and are designed using an analysis of the research description. The findings are presented in words and articulated according to the strategy being implemented (Ćwiklicki & Pilch, 2020; Gulo et al., 2023).

This multiple case study investigated issues related to teachers' growth mindset that enable them to face educational challenges. We used the CLLA with 26 teachers at levels from elementary school upwards.

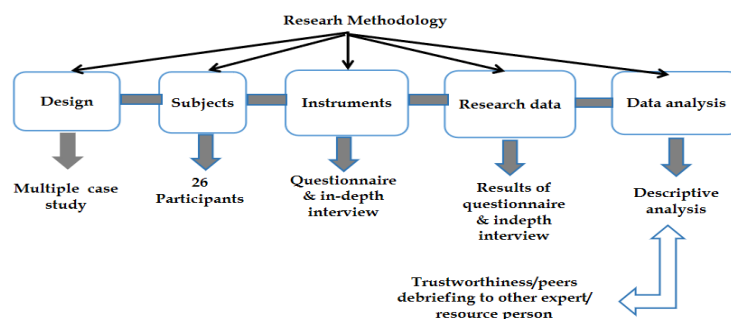


Figure 2: The multiple case study design used for this study

Figure 2 describes the research methodology of this study. Participants were eight teachers and 18 lecturers involved in language education. They were purposely recruited to participate and were invited to complete a questionnaire that provided details for a needs analysis regarding pedagogical 'necessities', 'lacks' and 'wants'. The needs analysis was undertaken to determine their understanding of a growth mindset, in principle and regarding its practical aspects, particularly as it relates to local cultures. In this case, local cultures can be introduced to other cultural communities and other nations through their teaching materials discourses, conferences or journal articles.

The first step of this study was to prepare a needs analysis questionnaire to obtain raw data. A closed-ended questionnaire was distributed to the research participants. Closed-ended questions are commonly responded to in several ways, such as multiple-choice questions with a single-word answer, 'yes' or 'no', 'true' or 'false', or a rating scale (e.g., from strongly agree to strongly disagree) (Dossetto, 2023). This study used a closed-ended questionnaire that required true or false responses to gather the participants' needs analysis data pertaining to three components of 'necessities' (abilities that people must possess), 'wants' (abilities people should possess) and 'lacks' (abilities that people do not possess).

A needs analysis or needs assessment is a process that is carried out at the start of a learning process (Barghamadi, 2021; Markus, 2023). In this study, a target needs analysis was applied as a device to pursue basic insights of the research participants toward their growth mindset level. The target needs analysis involves 75 affirmations related to the three components, with 25 statements for each. Participants were required to respond honestly according to their capacities and experiences. The needs analysis affirmations or items are given in Appendices 1-3.

In this study, 100 teachers from Yogyakarta, Indonesia, were invited to respond to the questionnaire, though only 26 persons completed the questionnaire in full. These participants had various affiliations and a range of education qualifications, which led this study to employ the multiple case study technique, to accommodate the participants and their varied experiences. The responses to the questionnaires were categorized and analyzed descriptively and analytically using the seven criteria of teachers' mindset growth as suggested by Dweck (Gunn, 2018). The seven growth mindset principles were also used as the basis for formulating the content of the questionnaire.

The raw data from the questionnaires were then sorted in preparation to being analyzed descriptively, and validated using in-depth interviews with three school principals who were involved as research participants, and a peer debriefing conducted with other relevant experts in which results were used as the basis of a research judgment. In the field of economics, descriptive analytics serves as the core of all analytics, by providing a basic understanding of customer behavior and trends that identify key performance indicators and serves as a starting point for further analysis (Mandel, 2023). Descriptive analytics identifies patterns in data to answer questions about who, what, where, when, and to what extent in relation

to the research question, to illustrate how to approach, conduct, and communicate quantitative descriptive analysis more effectively (Lase et al., 2023). The primary audience for descriptive analytics includes members of the investigated community who are consumers of research findings (Loeb et al., 2017). In this study, descriptive analytics was applied to analyze participants' insights regarding growth mindset principles, to determine their readiness to face education challenges. Results of the descriptive analysis were then judged as the study findings' trustworthiness.

Figure 3 presents the research data collection procedure, as follows: (1) Preparation (preparing questionnaire and an unstructured in-depth interview as the research instruments); (2) Collecting raw data (gathering the completed questionnaires); (3) Data processing (categorizing all the completed questionnaires to be analyzed); (4) Data processing (categorizing the analyzed results); (5) Sorting data according to three concepts being investigated (necessities, wants and lacks) to gain participants' insights on growth mindset principles; (6) Validating data (conducting peer debriefing with relevant experts through the review of the experts relevant scientific works); (7) Reporting (finalizing data analysis in words as preparation for the judgment); and (8) Research judgment (deciding research findings through articulation of beliefs based on trustworthiness results). The results of the judgment were then defined as the research findings (see Figure 3).

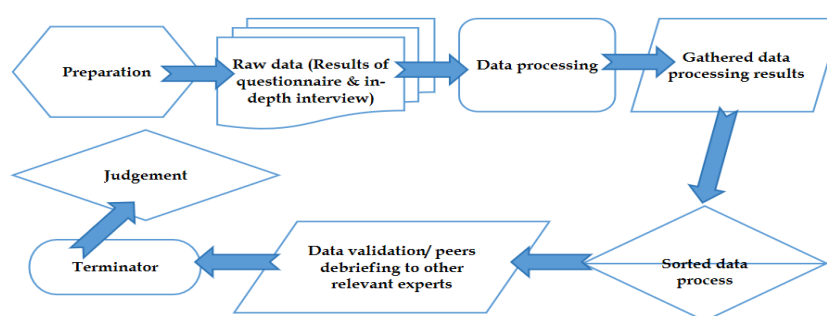


Figure 3: Research procedure - Hermayawati's model (2023)

4. Results and Analyses

This section will report on the results of the pursuit of the research questions: (1) What is the nature of teachers' growth mindset? (2) What are education challenges teachers face in embedding CLLA to address pedagogical practices? and (3) How can teachers foster a growth mindset through CLLA?

4.1 The Nature of Teachers' Growth Mindset

The existence of teachers' growth mindset in this study is represented through participants' responses to the questionnaire. Teachers were considered to have a growth mindset if they fulfilled seven requirements as demanded by Dweck's growth mindset principles. Participants were required to respond to 25

statements, indicating true or false for the necessities category, and yes or no for the wants and lacks categories. Appendices 1, 2 and 3 contain the target needs analysis for the necessities, wants, and lacks categories, respectively. If participants answered questions correctly (that is, as expected), it means that they had insight that corresponded with the principles of a growth mindset, while UA refers to unexpected answers by the participants, who did not answer as expected. Appendix 4 contains the results of questionnaire data analyses.

Table 1 records the frequencies of responses to the necessities analysis items, Items 7 and 23, for which participants provided unexpected responses.

Table 1. Unexpected answers to necessities statements

Item No.	Necessities statements	UA	%
7	Teachers' growth mindset is not in line with the current curriculum implementation in Indonesia.	20	77
23	Challenges such as those in Item 22 are very difficult for teachers to face, even teachers with a growth mindset.	18	70

Note. UA= unexpected answer

The two main unexpected answers regarding necessities indicate participants' understanding of the principles of growth mindset. The motivation for their answers is that current education curriculum implementation is, in principle, matched with the seven growth mindset practices. In other words, the current education curriculum is aligned with the growth mindset belief. However, most participants, namely, 20 of 26 teachers, responded to Item 7 that teachers' growth mindset does not correspond with the current education curriculum implemented in Indonesia. They also indicated that it is difficult to address the 11 components of education challenges (Item 23). This means that 20 of 26 (77%) and 18 of 26 (70%) participants had neither acquired growth mindset principles, nor were they ready to face educational challenges.

Table 2. Unexpected answers to wants statements

Item No.	Wants statements	UA	%
3	Honestly, I have no insight concerning growth mindset, since it is new knowledge for me.	17	65
4	I am unaware of this approach or principle, so I have never implemented it in my class.	16	62
8	Since I feel that I have achieved a fixed mindset, I don't think I need to grow my mindset.	23	88
9	I am sure that my mindset will develop naturally without any effort.	23	88
13	I don't need to do any reflection on what I have done, even though I know that I have made mistakes.	22	85
16	As a language teacher, I think if the students hold fixed mindset beliefs, they may interpret their language learning struggle similarly to other subjects' struggles.	14	54

Item No.	Wants statements	UA	%
17	Teachers with fixed beliefs will be able to adapt to any future changes by creating innovations.	16	62
20	Teachers with fixed mindsets can create learning environments infused with a growth mindset.	15	58
	Σ UA	146	562

Note. UA= unexpected answer

Table 2 presents the responses of participants on the 'wants' component items, which represents participants' confessions of their shortcomings regarding their growth mindset, and their willingness to grow. It means that they want to grow their mindsets but they do not know how to do it. Table 2 shows relatively large numbers for unexpected answers for Items 3 (n = 7), 4 (n = 16), 8 (n = 23), 9 (n = 23), 13 (n = 22), 16 (n = 14), 17 (n = 16) and 20 (n = 15). The average of unexpected answers of eight items is $562/8 = 70.02\%$. This means that around 70% (of 26 teachers) are willing to learn about the growth mindset principles and to apply the principles in their teaching practices.

Table 3. Unexpected answers on lacks statements

Item No.	Lacks statements	UA	%
1	I have never implemented a growth mindset.	15	58
4	I have never benefited from this new idea in teaching.	19	73
6	I do not know the difference between growth and a fixed mindset beliefs.	11	42
7	It is a difficult matter for me to employ any technological devices as media for teaching.	20	77
10	I always follow any educational regulations precisely as launched, without exerting any effort to enrich or develop it.	10	38
11	I am still confused about how to innovate my teaching insight, so I always discuss the teaching guidance.	10	38
23	I feel that I am a teacher with a growth mindset, and I can be developed through hard work, good strategies, and input from others.	19	73

Note. UA= unexpected answer

Table 3 presents the unexpected answers for the lacks statements. The questionnaire statements that elicited large numbers of unexpected answers are Items 1 (n = 15), 4 (n = 19), 6 (n = 11), 7 (n = 20), 10 and 11 (n = 10 each), and 23 (n = 19). These item numbers dominate with relatively big scores. It means that participants' growth mindset insights need improvement by intensive and consistent practice of the seven elements of a growth mindset suggested by Dweck.

The unexpected answers of the needs analysis are given in Appendix 4. It can be seen in Appendix 4 that Items 1, 3, 4, 7, 8, 9, 13, 16, 20, and 23, in particular, attracted unexpected answers. In descending order, the number of unexpected answers is as follows: Items 7 (n = 46), 4 (n = 37), 8 (n = 36), 9 (n = 30), 1 (n = 29), 23 (n = 28), 13 (n = 26), 3 (n = 23), 20 (n = 22), 16 (n = 20). The rest of the items attracted between 3 and 19 unexpected answers. The unexpected/incorrect answers of the three aspects of the needs analysis are shown in Appendix 4 as the input answers.

Table 4 shows the incorrect responses to a total of 75 statements. Item 1 of the necessities category relates to participants' views on the existence of the growth mindset concept, and 29 participants, over the three categories, indicated that they had never heard of it, so they had never implemented it. This type of response was strengthened by responses to the next items, particularly items 1, 3, 4, 7, 8, 9, and 11, which yielded 29, 23, 37, 46, 36, 30, and 26 unexpected answers, respectively. Mostly, the input answers data indicate that participants did not acknowledge the growth mindset concept, and they found it difficult to employ technological devices as media for teaching (see Item 7 of the lacks category statement). This finding corresponds with their admissions of being fixed-mindset individuals, which affects their insights concerning the curriculum currently implemented in their country.

Table 4. Mostly unexpected answers to 75 needs analysis items

Item No.	Necessities	Wants	Lacks	UA
1	The education world today introduced an approach called growth mindset, which was developed in language pedagogy since 2007.	I have never heard of a belief/approach called growth mindset.	I have never implemented growth mindset.	29
3	Growth mindset is the belief that one's abilities, qualities, and intelligence can be developed, while a fixed mindset means intelligence and qualities are unchangeable.	Honestly, I have no insights concerning growth mindset.	I will implement this new belief with my learners if I have knowledge about its principles.	23
4	Growth mindset is a relatively new insight/approach/principle that must be implemented to develop learners beyond cognitive thinking.	I do not know about such an approach/principle, so I have never implemented it in my lessons.	I have never benefited from teaching according to such a new belief.	37
7	Teachers' growth mindset is not in line with the current curriculum implementation in Indonesia.	I feel that my growth mindset is fixed and unchangeable.	It is a difficult matter for me to employ any technological	46

Item No.	Necessities	Wants	Lacks	UA
			devices as the media to teach.	
8	The growth mindset principle does not relate to the <i>Merdeka</i> Curriculum at all.	I believe I have achieved a fixed mindset, so I think that I need to grow my mindset.	I do not know how to grow my learners mindset.	36
9	Growth mindset can be implemented to introduce local Indonesian cultures tot the rest of the world.	I am sure that my mindset will develop naturally without any effort.	I am not sure whether I have a fixed-mind belief.	30
11	TGM is not in line with the current curriculum implementation in Indonesia.	I never stop growing, by continuing my studies, and/or attending regional, national, or even international seminars.	I am still confused about how to innovate my teaching, so I always discuss the teaching guidance with my mentor.	26

Note. UA = Unexpected answers

4.2 Facing Future Education Challenges by Embedding the Cultural Language Learning Approach in Pedagogical Practices

Neither the 11 education challenges suggested by Bharti (2022), nor the seven elements of growth mindset practices proposed by Dweck and then developed by Gunn (2018, see Section 2) explicitly include culture as one of the challenges facing education. It is essential to conserve culture, for the sake of avoiding inter-community conflicts and to encourage recognition among national communities (Hermayawati, 2020). One of the intentions is to embed local culture in education discourses. In this study, most participants admitted that they lacked embedded cultural discourses in their teaching. Cultural implementation was only presented during certain cultural events, when they wore local cultural dress at school, and for the sake of tourism. Preservation of local cultures can protect communities from the strong currents of globalization (Lee & Lee, 2019; Mialiawati, 2020).

In relation to embedding local cultures as one of the education challenges, this study reveals that most participants admitted that they never benefited local cultures in their teaching discourses. It can be seen from their responses to the necessities component that 25 participants agreed and only one participant disagreed with an affirmation that culture should be embedded as one of the teaching materials in the education discourse. This means that local culture is worth including in the education curriculum, though it is rarely implemented proportionally by the research participants.

4.3 How to Foster Teachers' Growth Mindset Through the Cultural Language Learning Approach

Tables 3 and 4 show that more than 50% of participants gave unexpected answers to statements relating to their growth mindsets. Conceptually, fostering teachers' growth mindsets can be achieved by motivating them to practice the seven principles of a growth mindset (Gunn, 2018). This study involved participants in relevant training, both in-service and after working hours, that was handled institutionally and presented by relevant experts at periodic meetings with program partners and workshop events. The events were presented according to the Information gathered in the needs analysis, particularly the responses provided by participants regarding wants (see Table 3) and lacks (see Table 4). This educational partnership program is still periodically running today, in the form of semester or half-yearly meetings hosted by the leading private university in Yogyakarta, Indonesia.

4.4 Analysis of Results

Based on the three research questions presented above, we reached the following conclusions. First, in their questionnaire responses, more than 58% of participants confessed that they had never applied growth mindset principles, 78% had not benefited from a growth mindset, 42% were confused about how to apply a growth mindset, 77% found it difficult to employ technological devices in their teaching, 38% always followed the education regulation exactly as it is and without any creative modification, and 38% were confused about having to be innovative. In contrast, 73% believed they could achieve growth mindset beliefs by working hard, using good strategies, and accepting input from others. Second, most participants admitted that they had few embedded cultural discourses in their teaching. Third, participants fostered a growth mindset through CLLA by becoming involved in periodic meetings, conferences or workshops that were presented by experts from a higher education institution. Even though few participants felt that they had applied growth mindset principles completely, they had applied some of the seven principles, particularly asking questions when they needed help, being flexible, and truly listening to their learners' difficulties and ideas.

The responses provided by the participants were confirmed by the in-depth interviews and peer debriefing that were conducted with three principals from three different levels of education, and two relevant experts. In fact, the three principals reported that they were only now learning about the principles of growth mindset, as a result of being involved in the study as participants. This shows that the growth mindset concept is not widely known by teachers at various levels of education, including lecturers. The two experts who were involved in this study affirmed that around 60% of teachers were not acquainted with the growth mindset principles.

5. Discussion

This section will discuss the three research findings relating to the existence of teachers' growth mindset, future education challenges in relation to embedding

CLLA for language pedagogical practices, and how to foster teachers' growth mindset through CLLA.

5.1 The Existence of Teachers' Growth Mindset

The notion of a growth mindset is based on the belief that basic qualities can be generated through personal effort (Yeager & Dweck, 2020; Sutton, 2021; Sandeep, 2022). Dweck and Yeager (2021) affirm that a growth mindset can generate individual competencies through cognitive strategies of hard work and persistence. By establishing such practices, individuals, including teachers, can learn how to adapt to challenging changes, including the 11 challenges suggested by Bharti (2022).

This finding confirms the findings of Kroeper (2022) and Kroeper et al. (2022), which reveal that, when instructors motivate learners to learn, provide opportunities for feedback, support active students with additional attention, and assess their learning, instructors endorse the development of growth mindset beliefs. In contrast, when instructions suggest some students are incapable, fail to give feedback, are frustrated with learners' efforts in responding to the given materials, and only assess the learners' performance and brilliance, it signals that instructors endorse fixed mindset beliefs. Instructors with well-acquired growth mindset beliefs must appreciate the efforts of learners' learning process though experiencing failures, rather than only their brilliant final achievements and ignoring the ups and downs of the learning (Yeager & Dweck, 2020; Sutton, 2021; Sandeep, 2022).

5.2 Challenges Facing Education in the Future Regarding Embedding the Cultural Language Learning Approach for Pedagogical Practices

Cultural heritage refers to a legacy of tangible and intangible elements, such as local buildings, artifacts, books, performances, folklore, customary ceremonies, items of clothing, foods and beverages, and paintings (Abungu & Desai, 2019; Hermayawati, 2020). These elements are inherited by communities from their ancestors, to be conserved for future generations because of their artistic, cultural, or historic value (Otero, 2021; Pintossi et al., 2021). Cultural heritage can be utilized in various sectors and has crucial meaning, not only as a vehicle for cultural interest, but also for politics, business, education, tourism and other purposes (Nilson & Thorell, 2018).

From the perspective of environmental aesthetics, cultural heritage stresses human interrelationships among certain communities, which work to respect each other for the sake of keeping the peace in society worldwide (Giombini, 2020). Like the United States of America, which consists of 50 states with cultural differences and challenges (Verona et al., 2018; Chakraborty, 2024), Indonesian cultural heritage faces crucial challenges, of which one is the low level of conservation of practices of cultural heritage, which need to be developed (Verona et al., 2018). Regarding cultural heritage, Verona et al. argue that its preservation tends to be influenced by natural catastrophes, and depends on human activities and efforts to guard it (Mekonnen et al., 2022). This means that cultural heritage preservation depends on human ways of guarding it to avoid its extinction. Studies report that little human effort is exerted to preserve local cultural heritage.

The current study suggests that one of the ways to preserve local culture is by embedding culture in teaching materials in the form of discourses, even though it is not explicitly included in the education curriculum, in general, or in the language education curriculum in Indonesia, in particular. This poses a challenge for language education teachers, as curriculum developers, to be more creative in their efforts to practice the seven growth mindset principles with the aim of developing language pedagogy, curriculum and practices and incorporating CLLA, as a means of cultural heritage preservation, to cultivate in learners a sense of belonging to their ancestors and their heritage.

The challenge is to benefit local cultural heritage, which is not specifically included in Bharti's (2022) 11 challenges. However, cultural heritage preservation can be one of the ways to solve problems related to education quality and to address Bharti's (2022) last challenge, education quality. CLLA can be an alternative approach to practice, which can be easily applied by teachers with a growth mindset, though it may not be possible for teachers with a fixed mindset. Conceptually, teachers' growth mindset is likely to ensure that the seven actions of growth mindset principles are applied consistently.

5.3 Fostering Teachers' Growth Mindset Through the Cultural Language Learning Approach

Gunn (2018) articulates that, to develop a growth mindset, teachers should practice its seven principles. In this study, teachers were continually motivated to join periodic meetings and to attend institution seminars and workshops guided by relevant experts. They were continuously guided to seek consistent self-improvement by conducting innovative experiments, which stimulated them to ask questions and express their opinions to others, with the intention of acquiring new insights, being flexible in adapting new knowledge and insights, adopting new technology, utilizing technology development, truly listening to the ideas of others, and continually and consistently conducting repeated reflection for self-development (Dweck & Yeager, 2021; Elliot et al., 2017; Gale, 2023; Gunn, 2018; Heggart, 2015; Sandeep, 2022; Yeager & Dweck, 2020). This is the way the gap between the literature and the current study is closed, and the findings strengthened. Other studies did not touch on how to relate growth mindset beliefs to local culture preservation through education practices.

One of the limitations of this study was the small number of participants who responded to the questionnaire; thus, it is suggested that future studies involve more participants. Furthermore, it is recommended that an applied (with intervention) study is undertaken to explore this topic further.

6. Conclusion

This multiple case study analyzed teachers' growth mindsets for facing future education challenges using the CLLA. The study focused on the acquisition level of teachers' growth mindset, future education challenges and how to foster teachers' growth mindset by employing CLLA as teaching materials for the conservation of local cultures, as priceless cultural heritage. This study

strengthened previous findings that had not touched on teachers' confessions about their growth mindset levels. This study involved 26 teachers at various education levels who completed a questionnaire. Their responses were analyzed descriptively and validated through in-depth interviews and a peer debriefing. Results involve three findings. First, most of the participants confessed that they did not completely practice the seven growth mindset principles. Second, they were not prepared to face education challenges. Third, they admitted to not having embedded local cultures in their teaching discourses.

This was a preliminary study that did not involve observation of real classrooms or teachers' growth mindset practices; therefore, the findings are based only on the information the participants provided in the questionnaire, the in-depth interviews and peer debriefing – this is considered as a weakness of the study. It is, therefore, necessary to strengthen our findings. A future study could focus on teachers' tangible practices and employ intervention in real classrooms or forums that apply CLLA. Future researchers should investigate teachers' teaching practices through in-depth observation. By strengthening the findings of this study through classroom intervention, teachers' growth mindsets can be tangibly observed and recognized, and teachers' growth mindset capacity can be improved, to improve education quality. Teachers' growth mindset quality affects learners' growth mindset quality. Teachers with a growth mindset will be able to adapt to change easily, by asking questions and truly listening, and accessing platforms of technologies as devices for accessing cultural heritage materials uploaded to the internet.

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APPENDICES

Questionnaire of Target Needs Analyses for Teachers, Requiring True/False Responses

Appendix 1. 'Necessities' Statement Items

Item No.	Necessities statements
1.	The education world today has introduced an approach called growth mindset which has been developed in language pedagogy since 2007.
2.	Carol S. Dweck is the founder of mindset growth through her research at Stanford University.
3.	Growth mindset is the belief that one's abilities, qualities, and intelligence can be developed, while a fixed mindset believes that intelligence and one's qualities are unchangeable.
4.	Growth mindset is a relatively new insight approach principle, that must be implemented to develop learners beyond cognitive thinking.
5.	In principle, the growth mindset as an approach can be applied both to teachers and learners.
6.	Teachers' growth mindset is crucially needed for teachers to open their thinking insights to enable them to enhance their teaching skills.
7.	Teachers' growth mindset is not in line with the current curriculum implementation in Indonesia.
8.	The growth mindset principle does not relate to the <i>Merdeka</i> Curriculum at all.
9.	Growth mindset can be implemented to introduce Indonesian local cultures worldwide.
10.	Teachers' growth mindset does not conceptually match with Indonesian culture.
11.	Teachers' growth mindset is not in line with the current curriculum implementation in Indonesia.
12.	Teachers' growth mindset should be well-acquired by teachers before learners.
13.	Being well-acquired on growth mindset will improve human's beyond thinking capacity.
14.	Mastering the growth mindset principle will enable teachers and learners to adapt to any changes, including developing <i>Pancasila</i> Learners Strengthen Profile (<i>Penguatan Profile Pemelajar Pancasila/ P-4</i>).
15.	All secondary (including elementary) schools in Indonesia have been periodically implementing P-5 (<i>Projek Penguatan Profile Pelajar Pancasila</i>).
16.	P-5 is a non-separated project from the <i>Merdeka</i> Curriculum.
17.	The <i>Merdeka</i> Curriculum emphasizes the profile of learners through raising their awareness regarding the principle of Unity in Diversity.
18.	Indonesia has a variety of unique cultures that must be promoted through education, including language education.
19.	The varieties of unique cultures can be introduced to learners through discourses.
20.	In principle, teaching today must present regional cultures that exist in Indonesia, as well as in other countries.

21.	Based on the <i>Merdeka Curriculum</i> , teaching materials must be topically presented.
22.	The challenges of the world of education in the future are as follows: (1) The current education system has weakened, in line with the Fourth Industrial Revolution; (2) Boredom with the traditional or conventional teaching system; (3) Technical problems; (4) Assessment strategies; (5) The expense of modern technology infrastructure; (6) Creating question papers; (7) Virtual classroom engagement; (8) Cheating; (9) Low students self-motivation; (10) The gap between classroom teaching and evaluation, from entrance exams and job interviews; (11) Education quality.
23.	Challenges such as those in Item 22 are very difficult for teachers to face, even teachers with a growth mindset.
24.	Even though difficult to achieve, teachers with a growth mindset will feel challenged to work on solutions to the problems in Item 22.
25.	Teachers with a fixed mindset will face the 11 challenges as written in Item 22 a relaxed manner and are not at all indifferent to any changes.

Appendix 2. 'Wants' Statement Items

Item No.	Wants statements
1.	I have never heard a belief (an approach) that is called growth mindset.
2.	I know that Carol S. Dweck is the founder of growth mindset through her research at Stanford University.
3.	Honestly, I have blank insights concerning growth mindset.
4.	I did not know such an approach in principle so I never implemented it in my class.
5.	I do agree with the concept of growth mindset as an approach addressed both to teachers and learners.
6.	I think that a growth mindset is considered an approach which is the same as higher-order thinking skills.
7.	I feel that my mindset is fixed and unchangeable.
8.	Since I feel that I have achieved a fixed mindset, I think that I don't need to grow my mindset.
9.	I am sure that my mindset will naturally develop without any effort.
10.	I have currently done three, among the seven growth mindset practices, such as: never stop growing, doing experiments and innovation, and learning new technology to create a school-wide growth vibe.
11.	I never stop growing by continuing my studies, and/or joining any regional, national, or even international seminars.
12.	I prefer to listen to others' speeches more, rather than talk too much.
13.	I don't need to do any reflection on what I have done, even though I do know that I have done faults.
14.	I am sure that there is a relationship between teachers' growth mindset and the development of students' growth mindset.

15.	Teachers with a growth mindset have an association with the development of their students' growth mindset over a school year.
16.	As a language teacher, I think if the students hold fixed mindset beliefs, they may interpret their language struggle to mean that they are just not a 'language person' but also any other subjects.
17.	Teachers with fixed beliefs will be able to adapt to any future changes by creating their novel innovations.
18.	Teachers with fixed growth mindsets will be able to support their learners to have fixed growth mindsets as well.
19.	Teachers who are not growth-minded will never produce learners who are fixed-minded.
20.	Teachers with fixed mindsets can create learning environments infused with a growth mindset.
21.	Teachers, like the students they teach, can learn to develop a growth mindset, but this requires careful planning by school management.
22.	Developing a growth mindset in learners is not an immediate process, fixed-minded beliefs have to be first habituated to be gradually eliminated. Even though difficult to acquire growth mindset, teachers with a growth mindset will feel challenged to work on solutions to the problems in Item 22.
23.	Learners with a growth mindset are less aggressive, have higher self-esteem and fewer symptoms associated with depression and anxiety.
24.	To help shape learners' behavior and mindsets, teachers should look to develop a consistent culture of high expectations and quality feedback.
25.	Individuals who believe their talents can be developed (through hard work, good strategies, and input from others) have a growth mindset while those with a fixed mindset believe such talents are an innate gift and not easily changed.

Appendix 3. 'Lacks' Statement Items

Item No.	Lacks statements
1.	I have never implemented the seven actions of the growth mindset as suggested by Gunn.
2.	I need to know about growth mindset as a new knowledge.
3.	I will implement such a new belief to my learners if I have known its principle.
4.	I have never benefited from such a new belief in teaching.
5.	I always ask my colleagues if I don't understand any educational developments.
6.	I do not know what is the difference between growth and fixed mindset beliefs.
7.	It is a difficult matter for me to employ any technological devices as the media to teach.
8.	I do not know how to grow my learners' mindset.
9.	I am not sure whether I have a fixed-minded belief.

10.	I always follow any educational regulation precisely as being launched without any effort to enrich or develop.
11.	I am still confused about how to innovate my teaching insights so I always discuss the teaching guidance.
12.	I often ask my learners to find their creations as the learning materials.
13.	In every lesson, I always encourage my learners to discuss the given target materials in groups.
14.	I sometimes give chances for the learners to evaluate and score their own and their friends' work.
15.	Learners may assess their work beside the teacher.
16.	I often ask learners to reflect on their learning process.
17.	I always encourage learners to expose ideas and to provide them space for thinking.
18.	I praise learners more for their efforts rather than their intelligence.
19.	By praising their effort and the strategies they used, teachers give learners a template of behavior to follow.
20.	I commonly conduct experiments and innovation in my teaching job.
21.	I am fond of doing experiments and innovation in my teaching based on my creations.
22.	I am not yet flexible enough to change my mind. My mind is unchangeable.
23.	I feel that I am a teacher with a growth mindset for I still can be developed through hard work, good strategies, and input from others.
24.	I feel that I have a fixed mindset belief. Such an innate gift is not easily changed.
25.	I think that a person with a fixed mindset typically achieves lower academic results in tests and exams compared with a growth mindset.

Appendix 4. Totals of Unexpected Answers to 75 Needs Analysis Items

No.	UA for Necessities	UA for Wants	UA for Lacks	Σ UA of NA
1.	2	12	15	29
2.	0	11	1	12
3.	5	17	1	23
4.	2	16	19	37
5.	4	0	4	8
6.	0	3	11	14
7.	20	6	20	46
8.	4	23	9	36
9.	1	23	6	30

10.	3	2	10	15
11.	6	1	10	17
12.	1	5	1	7
13.	0	22	4	26
14.	1	2	0	3
15.	5	4	2	11
16.	5	14	1	20
17.	1	16	1	18
18.	1	3	1	5
19.	0	9	2	11
20.	3	15	4	22
21.	6	0	6	12
22.	0	0	19	19
23.	18	10	0	28
24.	2	2	8	12
25.	3	1	5	9
Σ	93	217	160	470

Note. UA = Unexpected answers