

Establishing Cognitive Strategies to Support Online English Language Learners' Critical Thinking

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Abstract

Shifting to online-based teaching and learning has become the most obvious way to increase pedagogy sustainability in nations with the current implementation of an online learning environment. Research has shown that online learning and teaching in English language subjects influence the cognitive strategy environment. This research aims to determine and explore the cognitive strategy implemented in the online learning environment to support the critical thinking of English language learners. This study is a quantitative descriptive study accomplished online utilising survey methodologies. The sample selection method is simple random sampling. Primary data was collected in this study by distributing questionnaires to 115 respondents via the internet. Data was gathered via the completion of questions provided to all respondents in the survey. In addition, the data were evaluated in order to be characterised and described. The data analysis findings of English language lecturers' surveys indicate that the cognitive strategy used during the online teaching situation was prosperous and profligate. The cognitive strategies necessitated implementing the online English language learners' critical thinking included procedural, metacognitive, conceptual, and strategic. This research establishes that the cognitive strategy implementation of online learning is commonly advantageous during remote teaching. The survey indicated that just 73% of English lecturers considered cognitive strategy online platforms as beneficial as traditional meetings for supporting critical thinking. Positive responses were obtained from the questionnaire. In addition, the statement is relevant to their experience and background in online teaching, which indicates a good attitude toward the cognitive strategy that works well in their online learning mechanism. The research suggests that online pedagogy and English lecturers' must be developed to pave the way for a potential future authentic online strategy. The research may illustrate the difficulties associated with online education and potential areas for improvement..

Keywords: *cognitive strategies, online English language learners, critical thinking, online environment.*

INTRODUCTION

Due to the outbreak of COVID-19-19, universities and higher education's worldwide have closed, affecting practically of university students and more than 2.4 billion learners at all levels (Onyema et al., 2020). In Indonesia, the suspension of the teaching and learning process is intended to facilitate the transition to online teaching by offering extensive, high-quality educational materials and tools. Karasneh et al. (2021) explicated that to improve the Emergency Remote Teaching (ERT) procedure, the government used strategies such as integrating national resources and planning at the highest level, familiarising lecturers, and allowing local authorities and academics to conduct online teaching following local circumstances.

Choosing distant education or online learning mechanism during the COVID-19 pandemic has allowed instructors and students flexibility in time and place, particularly in English language learning pedagogy. However, this education differs from high-quality online learning since the instructor might not have enough online teaching training to mirror normal online courses. Yu (2020) stated that the suitable English language strategy and approach are among the most important aspects of technology-based learning in most online courses. The selecting was well designed, and class activities that include social interactions help to increase learning productivity. While emergency remote teaching (ERT) is a short-term answer for colleges, Hodges et al. (2020) determined that it is also critical to address how students are involved in the process. The consequences of ERT of English as a foreign language learning at universities and students' involvement in online education have been a major issue and need more investigation.

There were several differences between the conventional classroom and the online learning environment. For one, the time commitment is limited in a typical classroom since most of the contact takes place in class. Since the online classroom is always open, Zheng et al. (2020) identified that English lecturers must find innovative ways to organise their time to keep up with the expectations. When learners take a course online, they must know what to anticipate regarding their style and structure and what they may expect from their participation. Albiladi and Alshareef (2019) supported that English language learners need to know what they anticipate from a course to prevent frustration because they do not comprehend what is expected. Students also need to ask questions to comprehend the activities better they are participating. The quality of English lecturers' communication with their students might suffer in this circumstance, thus developing strategies to connect with students in a group will help them persevere.

Cognitive Strategies in The Online Environment

According to ERT, a temporary change of instructional delivery occurred to an alternative distribution modality due to crisis conditions (Ferri et al. 2020). This teaching technique differs from standard online courses, is an alternative to instructional delivery of teaching materials, information, and activities scheduled to be provided physically, occurring only during emergencies and events in the digital era. Lin et al. (2017) affirmed that the ability to assist English language learning in developing effective learning techniques to enhance critical thinking is one of the most significant aptitudes English lecturers or instructors bring to the online learning environment. Scaffolding instruments and materials could be built into the design of the online learning environment. However, Seckman (2018) clarified that it was critical to observe the use of scaffolding by English language learners and acclimate the scaffolds according to the specific needs of the individual. Mayer (2019) supported that scaffolding was all about supplying suitable structured support in the learning environment, considering that some learners may require little or no support, and others may require additional support. If English lecturers design and develop an online course, the scaffolds could also be used as the last moment resources to help individual learners work through issues to persist in online learning progress

This creative process progresses through the cognitive stages of attention, consciousness, and eventually comprehension. Van Popta et al., (2017) justified

that in the online environment of a cognitive process, attention and awareness were critical. Online education has been shifted away from cognitive processes and toward social engagement. While it is thought that English language learners' benefit from social involvement, both inside and outside of the classroom, significant and real social circumstances are required. (Ramlee et al., 2019) verified that cognitive and drawback abilities, generally referred to as metacognitive abilities, were more valuable than any single piece of information. As a result, the English lecturers as an instructor in the online course must be a facilitator of learning, a guide who assists them in locating relevant materials and engaging in acceptable online learning activities. Challita et al., (2019) authenticated that problem-solving, connection discovery, academic material analysis, and communication interpretation are all online cognitive activities that need English language learners to work through challenging online situations. Davis et al (2018) complemented that the courses' hectic online environment is not favourable to the focused, undisturbed thought required to accomplish specific online cognitive learning goals. To train learners to do assigned homework, English lecturers must ensure that their participation in this somewhat unsupervised online learning mode is favourably encouraged.

Cognitive Strategies for Supporting Online Learners' Critical Thinking

The online environment qualifies for scaffolding the learning environment to match all learners' requirements and give the right assistance to help learners persevere. Muali et al. (2018) defined four scaffolding methods for supporting learning: procedural, metacognitive, conceptual, and strategic. The usefulness of practical online resources and tools in the learning environment is emphasized in procedural scaffolding. As English language learners understand how to navigate the online course environment and participate in learning activities, procedural scaffolding supports them along the way. When English language learners begin an online course, they may not know what to do. Blayone et al., (2017) proved that since each new online course has its unique navigation structure and set of materials, this problem is exacerbated if the course is not developed using a standard template. The learners must also understand how the material presented, the units of study organised, and the expectations for participation in the course, among other things

The fundamental processes converged with the managing of thinking and learning were assisted by metacognitive scaffolding. Vanoostveen et al., (2019) indicated that online learning is more challenging for learners who cannot think critically, making them more conceivable to discontinue. As learners participate in the online learning situation, metacognitive scaffolding helps plan, observe, and evaluate processes to confirm that knowledge is handled opportunely, accumulated, and retrieved efficiently. Wu et al (2017) affirmed that learning becomes effective when learners become conscious of their thoughts. The online course's aims and objectives must be expressed to learners. They would have been a substantial desire to learn, as English lecturers have come to understand. Picciano (2017) expressed that learner may have difficulty grasping the significance of an English online course if it is created with behavioural goals and objectives that do not place the learning in the context of applicable information and skills required in the real world. As a result, learners may be negligibly motivated to meet their learning

objectives. Halverson & Graham (2019) initiated that it is important to provide an overview of what the course is about, how the activities will assist them in achieving those objectives, what the key activities will be, and other applicable communication.

Conceptual scaffolding aids learners in logic through complicated ideas and topics. Al Mamun et al. (2020) clarified that conceptual scaffolding helps learners focus on the most important aspects of their English language studies. They might get discouraged and demotivated if they cannot grasp course content. English language learners struggling with the material might benefit from conceptual scaffolding, which helps them discover and arrange essential concepts into meaningful learning frameworks (Banse et al. (2017). Hasan & Ahmad (2018) corroborated that the usage of advance organizers, questions, explanations, visual organizers, layouts, and pointers are some techniques that may be used to prepare for assessment or evaluation.

Learners may associate what they already know and learn in unexpected manners using advance organizers. Unlike an exposition, since it links information to learners' existing schemata, this lesson helps students connect what they already know and what they learn in new ways (Walqui, 2017). When confronted with new material, students make meaning of it based on what they already know. Students with limited previous understanding of a topic may be better able to process new information since they have not built mental conceptual frameworks for the subject. Teaching stands all about helping students activate or construct the mental structures they need to organize and comprehend new knowledge and help them remember it.

Examines strategic scaffolding that supports learners at the right moment and various techniques that learners may engage in supporting analysis, planning, technique, and approach alternatives throughout online learning mechanism. Belland (2017) explained that strategic scaffolding highlights different learning routes that may be used in the learning situation to accommodate students' varied learning demands. Kayi-Aydar (2018) expressed that too much help may demotivate students, and overly little support might force them to give up since they do not know what to do next. Because strategic scaffolding offers timely assistance for learners, it is a crucial instrument. Strategic scaffolds demand a constant observation of individual learner progress so that English lecturers may intervene when required. English language learners who have difficulty grasping course topics may benefit from hearing various perspectives on the material.

Rokhmat & Putrie (2019) strengthened that aim for different delivery methods while teaching topics that appeal to a wide range of students. Using appropriate simple explanations from English lecturers' viewpoints may aid students in understanding challenging concepts. Occasionally, learners may require suggestions or examples to help them comprehend the next step in a system or process or provide them with a starting point for an activity. Smit et al. (2017) discovered that some students have difficulty participating in discussions at the beginning of a course. This condition might signify that learner are confused about how to answer the discussion topic and are waiting for anyone else to do so

METHOD

Research Design

A descriptive quantitative method was used due to the objective and research questions. The method is a suitable non-experimental strategy for collecting objective numerical data to answer questions about the cognitive investigation strategies to support online English language learners' critical thinking. Doyle et al. (2020) explained that descriptive research is referred to as an observational approach since no variables in the study are modified throughout the research process. The fundamental objective of descriptive research is to explain the nature of the demographics being studied rather than concentrate on their characteristics. The variables in research include objects, trends, approach, conditions, and duration, or any category that occurs in a study that the researchers want to quantify the strategies to support online English language. Dependent variables alternate in response to derivatives' circumstances or results.

Context of the Study

Consideration for participants' confidentiality applies to their anonymity during explicit consent. Requiring individuals to complete forms containing sensitive information, such as their names or contact information, would have harmed the English lecturers' desire to engage. Before starting the study, every effort was taken to introduce required information, including the supply of contact information in case of enquiries. The electronic survey delivered 74 English lecturers from 25 universities and institutions of higher education in Jakarta. They came from an English education background, holding a master's degree and a philosophy doctorate, and specialised in English for Foreign Language. Similarly, conducting online learning environments into multiple Learning Management Systems was comparable. The empirical data gathering phase began in January 2020 and lasted fifteen weeks. After receiving training from their institutions and colleagues, the English lecturers practiced English pedagogy at universities and higher education for almost six years before participating in the research. The researcher observes and does not participate in the interaction of language learners in an online learning environment for this study. The purpose is to monitor, discuss, and investigate English lecturers' cognitive investigation strategies to support online English language learners.

Instruments and Data Analysis

The Google Form electronic survey questionnaire was divided into three pieces, including information on the segment and instructions for completing the survey. The first section gathered demographic information about the respondents. The rest of the questionnaire focused on cognitive investigation strategies to support online English language learners' critical thinking. The questionnaire was designed using four-point Likert Scales; strongly agree (4), agree (3), disagree (2), and strongly disagree (1) in very simple English to assess their cognitive strategies supporting critical thinking of the English language learners. Four Likert Scales were used to minimise participants' neutral replies. The questionnaire should be beneficial and simple to complete in terms of objectives. The data gathering tool for this study was a questionnaire instrument that has previously been used in earlier investigations. Descriptive statistics enable the data to be described in terms of its

qualities. It is included in frequency, central tendency, dispersion or fluctuation, and location measurements.

Reliability and Validity

The best practice for creating a survey required conducting a field test to confirm the instrument’s reliability and validity prior to executing it. Field trials were undertaken to determine the functionalities of data collection measures. Field testing determined if questions were phrased correctly and produced. The questionnaire was subjected to reliability testing. The data were analysed using SPSS version 26. According to Filser et al. (2018), the questionnaire is valid for usage if the reliability result is more than 0.7.

Table 1. Cronbach’s Alpha

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardised Items	No of Items
.855	.854	31

The questionnaires were adapted from Richardson et al. (2021) and Ahmadi Safa & Motaghi (2021). To be generalisable to a larger population, quantitative research’ data gathering, and subsequent conclusions must drive further resembling experimental conditions to resembling real-world situations.

Table 2. Inter-item correlations of English lecturers’ questionnaires

Questionnaire sections	Pilot study	Actual study
Procedural Scaffolding	0.163	0.295
Metacognitive Scaffolding	0.073	0.157
Conceptual Scaffolding	0.192	0.247
strategic scaffolding	0.204	0.224

RESULTS AND DISCUSSION

Result

The main research was accomplished by distributing the survey questionnaire to a convenience sample of 74 English lecturers. The responses were examined, and some things were eliminated, added, or adjusted to enhance item clarity. Descriptive statistics were used to analyse the English lecturers’ perspectives regarding accommodating cognitive strategies to support online English language learners’ critical thinking, and group averages and standard deviations are shown in Table 1. Based on the mean values in the table, it can be stated that the participants had varying degrees of strength in their ideas regarding teaching implementation in the online environment

Table 3. Categorization Cognitive Strategy Mean and Standard Deviation

No	Procedural Scaffolding Item Statement	Mean	S.D
Q1.	I familiarize English language learners with the course’s general design and structure via a course orientation, a syllabus, introductions, overviews, and summaries.	3.30	2.91
Q2.	I include quantifiable student-centered learning outcomes in the syllabus and elsewhere—at the course level, each unit or module, and individual lessons.	3.16	2.75
Q3.	I provide derived assessments directly from learning outcomes. Regularly conduct brief evaluations of several sorts to allow English language learners to	3.08	2.69

	track their progress.		
Q4.	I use online resources that directly assist English language learners in meeting their learning objectives.	2.64	2.28
Q5.	I use instructional tactics that include discipline-specific best practices and online instructional design.	3.14	2.75
Q6.	I use learning objectives, assessments, instructional techniques, and technological factors regarding the learning management system (LMS).	3.03	2.65
Q7.	I simplify and make navigation accessible to English language learners	3.15	2.77
Metacognitive Scaffolding Item Statement		Mean	S.D
Q8.	I build ways to assist learners in establishing learning objectives and create a strategy to assist them in achieving the course objectives.	2.84	2.50
Q9.	I am focused depending on the category assessed. Learners' outlooks are mostly visual, audio, or physical.	2.85	2.56
Q10.	I convince learners to learn more effectively when professors mirror their thought processes or show a subject using a real item.	2.89	2.55
Q11.	I see that monitoring learning entails keeping track of the learner's progress, determining if learners are on track and focusing on the appropriate objectives, and determining the possible results of their efforts.	3.09	2.71
Q12.	I engage learners in a conversation about their learning styles rather than instructing them to emphasize something.	3.04	2.66
Q13.	I model and facilitate meta-discussions by encouraging students to develop this habit of questioning as they complete tasks.	3.22	2.84
Q14.	I need either update learning procedures or adjust plans in response to the planning and monitoring techniques used throughout an activity, or both.	2.86	2.58
Conceptual Scaffolding Item Statement		Mean	S.D
Q15.	I consider enhancing existing schemata and allowing students to connect old knowledge to new topics.	2.86	2.57
Q16.	I ensure to simplify or expand on the material to assist learners in activating or developing suitable mental structures for organizing and interpreting incoming information.	2.91	2.53
Q17.	I generate diagrams, idea maps, and outlines that may assist learners in organizing new knowledge into meaningful schemas.	3.22	2.85
Q18.	I assist learners in making sense of the complex material offered in the readings and organizing incoming knowledge.	3.01	2.66
Q19.	I discuss a range of graphical organizers for visually organizing various sorts of information.	3.16	2.75
Q20.	I arrange sequential data in a way that makes sense via the use of graphical organizers to explain cycles, sequences of events, and flowcharts.	3.04	2.69
Q21.	I open the Spider maps that may support information that demands examination.	3.27	2.88
Q22.	I use Venn diagrams and comparison charts to arrange comparative data visually.	2.97	2.57
Q23.	I employ concept maps and idea trees to organize conceptual information and organization charts to manage hierarchical information.	3.08	2.74
strategic scaffolding Item Statement		Mean	S.D
Q24.	I give well-timed assistance to assist learners in attaining greater levels of	2.96	2.56

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	comprehension.		
Q25.	I Facilitate the material and organize it into distinct parts can assist learners in more efficiently processing the knowledge.	3.25	2.81
Q26.	I construct advanced organizers or other modalities of presenting to accommodate learners' differing learning styles.	3.12	2.71
Q27.	I regularly monitor each learner's performance to assist as necessary.	2.88	2.50
Q28.	I supply alternate explanations to assist learners in comprehending course topics by allowing them to consider various perspectives on the issues offered.	2.70	2.37
Q29.	I operate probing questions to assist learners in expanding their ideas or reorienting themselves if their contributions are irrelevant to the discussion topics.	2.81	2.47
Q30.	I provide background for the conversation and potentially indications about the sorts of things you anticipate them to discuss.	3.11	2.72
Q31.	I give supplemental materials that may assist learners strategically in completing a learning activity by filling in gaps in their abilities or knowledge.	3.05	2.67

The central tendency condition explains one of the most regularly used descriptive statistics. The variance, or degree to which the data seen in a variable deviate from its mean, is represented by the standard deviation, not the mean. The means of 21 of the 31 items were larger than 3.0, suggesting that respondents were usually in agreement. The following four questions had a mean larger than 2.5, suggesting that respondents were typically apprehensive about the statements.

Procedural Scaffolding

Table 4. Procedural Scaffolding General Likert Scale Finding

No	Procedural Scaffolding Item Statement	Point Liker Scales*			
		1	2	3	4
Q1.	I familiarize English language learners with the course's general design and structure via a course orientation, a syllabus, introductions, overviews, and summaries.	6 8%	8 11%	18 24%	42 57%
Q2.	I include quantifiable student-centered learning outcomes in the syllabus and elsewhere—at the course level, each unit or module, and individual lessons.	6 8%	4 5%	36 49%	28 38%
Q3.	I provide derived assessments directly from learning outcomes. Regularly conduct brief evaluations of several sorts to allow English language learners to track their progress.	5 7%	12 16%	29 39%	28 38%
Q4.	I use online resources that directly assist English language learners in meeting their learning objectives.	11 15%	18 24%	32 43%	13 18%
Q5.	I use instructional tactics that include discipline-specific best practices and online instructional design.	4 5%	16 22%	20 27%	34 46%
Q6.	I use learning objectives, assessments, instructional techniques, and technological factors regarding the learning management system (LMS).	4 5%	19 26%	20 27%	29 39%
Q7.	I simplify and make navigation accessible to English language learners	4 5%	16 22%	19 26%	35 47%

The online Procedural Scaffolding implied the one form of learning approach that English learners use to increase their chances of success in the online environment. 57% percent strongly agreed, and 24% percent of English lecturers agreed Through a course orientation, a syllabus, introductions, overviews, and summaries. The comparison was lesser than 11% disagree, and 8% strongly disagree. The Q2 has shown that 38% strongly agree and 49% agree. It focuses on

verifiable student-centred academic achievement at the classroom level, unit or module level, and key observation level. Heron & Webster (2019) exposed that procedural scaffold generates tools, resources, and other assistance to make information understandable in the online environment process. Contrastingly, 5% disagree and 8% strongly disagree had responded to the adverse on the statement. 38% strongly agree, and 39% agree had acknowledged the Q3, while 7% strongly disagree and 16% disagree.

It exposed that respondents' majority was giving evaluations drawn directly from learning outcomes. Regularly conduct short assessments of various types to enable English language learners to monitor their development. The 18% strongly agree and 43% agree to (Q4) use internet tools that directly aid English language learners in accomplishing their educational goals, but 24% disagree and 15% strongly disagree with the statement. The relevant comparison established to the Q5, Q6, and Q7, since the respondent concentrated more to the average 44% strongly agree and 27% agree, simultaneously 23% disagree and 5% strongly disagree that use instructional methods such as discipline-specific best practices and web-based instructional design.

Metacognitive Scaffolding

Table 5. Metacognitive Scaffolding General Likert Scale Finding

No	Metacognitive Scaffolding Item Statement	Point Liker Scales*			
		1	2	3	4
Q8.	I build ways to assist learners in establishing learning objectives and create a strategy to assist them in achieving the course objectives.	12 16%	9 12%	32 43%	21 28%
Q9.	I am focused depending on the category assessed. Learners' outlooks are mostly visual, audio, or physical.	13 18%	15 20%	16 22%	30 41%
Q10.	I convince learners to learn more effectively when professors mirror their thought processes or show a subject using a real item.	10 14%	13 18%	26 35%	25 34%
Q11.	I see that monitoring learning entails keeping track of the learner's progress, determining if learners are on track and focusing on the appropriate objectives, and determining the possible results of their efforts.	7 9%	8 11%	30 41%	29 39%
Q12.	I engage learners in a conversation about their learning styles rather than instructing them to emphasize something.	7 9%	9 12%	32 43%	26 35%
Q13.	I model and facilitate meta-discussions by encouraging students to develop this habit of questioning as they complete tasks.	6 8%	10 14%	20 27%	38 51%
Q14.	I need either update learning procedures or adjust plans in response to the planning and monitoring techniques used throughout an activity, or both.	13 18%	16 22%	13 18%	32 43%

The 28% strongly agree, and 43% agree to employ the English language learners in creating learning objectives and developing a plan to help them complete the online course's goals, yet 12% disagree and 16% strongly disagree are not the same perspective. Nevertheless, strongly agree 34% and agree 35% focused on the category being evaluated. It is minor with disagree 18% and strongly disagree 14% feedback. English lecturers 41% strongly agree, and 39% agree it might persuade English language learners to study more efficiently by mirroring their mental processes or by demonstrating a topic using a real object, yet strongly disagree 9% and disagree 11% have a different perspective. The relevance comparison had related to the Q10 and Q11. 41% strongly agreed, and 22% agreed that English

lecturers might persuade students to study more efficiently by mirroring their mental processes or demonstrating a topic using a natural object.

Similarly, 34% strongly agree, and 35% agree to observe that monitoring learning requires tracking the progress of the learner, assessing if the learner is on track and focused on the proper goals, and determining the probable outcomes of their efforts. In opposition, Q12 responses statements encouraging learners to stress something, engage them in a dialogue about their learning approaches for 35% strongly agreed and 43% agree. This statement had been contrasting responses for 12% disagree and 9% strongly disagree. The counterbalance had been shown to Q13 with 14% disagree and 8% strongly disagree, and Q14 for 22% disagree and 18% strongly disagree. 51% strongly agree, and 27% agree it is selected to encourage students to cultivate this habit of questioning while finishing assignments included model and support meta-discussions. 43% strongly agree, and 18% agree they focused on either updating the learning processes or adjusting English lesson plans in response to the planning and monitoring approaches utilised during an activity.

Conceptual Scaffolding

Table 6. Conceptual Scaffolding General Finding Likert Scale

No	Conceptual Scaffolding Item Statement	Point Liker Scales*			
		1	2	3	4
Q15.	I consider enhancing existing schemata and allowing students to connect old knowledge to new topics.	16	5	26	27
		22%	7%	35%	36%
Q16.	I ensure to simplify or expand on the material to assist learners in activating or developing suitable mental structures for organizing and interpreting incoming information.	7	15	30	22
		9%	20%	41%	30%
Q17.	I generate diagrams, idea maps, and outlines that may assist learners in organizing new knowledge into meaningful schemas.	9	4	23	38
		12%	5%	31%	51%
Q18.	I assist learners in making sense of the complex material offered in the readings and organizing incoming knowledge.	10	5	31	26
		14%	7%	42%	35%
Q19.	I discuss a range of graphical organizers for visually organizing various sorts of information.	4	9	32	29
		5%	12%	43%	39%
Q20.	I arrange sequential data in a way that makes sense via the use of graphical organizers to explain cycles, sequences of events, and flowcharts.	7	15	20	32
		9%	20%	27%	43%
Q21.	I open the Spider maps that may support information that demands examination.	3	11	10	32
		4%	15%	14%	43%
Q22.	I use Venn diagrams and comparison charts to arrange comparative data visually.	6	11	36	21
		8%	15%	49%	28%
Q23.	I employ concept maps and idea trees to organize conceptual information and organization charts to manage hierarchical information.	8	13	18	35
		11%	18%	24%	47%

The respondents replied that they agree 35% and strongly agree that 36% of educators in the English-speaking world consider ways to help learners connect their previous knowledge and new material (Q15); nonetheless, 22% strongly disagree, and 7% disagree with the statement. 41% strongly agree, and 22% agree that English lecturers ensure that the subject is simplified or expanded on to help students activate or construct appropriate mental structures for organising and comprehending information that comes their way (Q16). It had significant comparability to the 9% strongly disagree, and 20% disagree. There are various

tools that English lecturers use to help their students organise their thoughts and ideas into valuable schemas (Q17) have agreed 31% and strongly agree 51%. Although 12% strongly disagree and 5% disagree, responses had different perspectives of the statement. (Q18) English lecturers have 42% agreed and 35% strongly agreed that English language learners' benefit from the guidance of English lecturers who help them make sense of the often-complex information presented in the readings and organise what they learn. The contradictory perspective was only strongly disagreed 14% and disagreed 7%.

Survey participants brought forward a wide variety of visual tools for information organisation had 43% agree and strongly agree 39%, the respondents' condition was different for 5% strongly disagree, and 12% disagree. It was a contradiction English lecturer thought that 9% strongly disagree and 20% disagree learners in English classes learn how to make sense of sequential material via graphical organisers such as flowcharts and cycles. The constructive of the statement recorded to the 27% agree and strongly agree 43%. The setting is like 14% agree and 43% strongly agree that respondents examine the Spider maps, including relevant information (Q19). English lecturers replied that 49% agree and 28% strongly agree that (Q20) Venn diagrams and comparison charts are common visual representations used by survey participants when comparing data. Nevertheless, they responded to 8% strongly disagree, and 15% disagree. Suwastini *et al.* (2021) discovered that conceptual scaffolding improves learning in asynchronous online conversations. (Q21) Conceptual Scaffolding studies must be based only on the fundamental approach and method, and any different or opposing viewpoints must be considered. Q22 and Q23 It was recorded that 24% agreed and 47% strongly agreed that English teachers use organisational charts and concept maps to handle conceptual and hierarchical information.

Strategic Scaffolding

Table 7. Strategic Scaffolding Likert Scale General Finding

No	Strategic Scaffolding Item Statement	Point Liker Scales*			
		1	2	3	4
Q24.	I give well-timed assistance to assist learners in attaining greater levels of comprehension.	6	12	35	21
		8%	16%	47%	28%
Q25.	I Facilitate the material and organize it into distinct parts can assist learners in more efficiently processing the knowledge.	4	4	35	30
		5%	5%	47%	41%
Q26.	I construct advanced organizers or other modalities of presenting to accommodate learners' differing learning styles.	1	20	22	31
		1%	27%	30%	42%
Q27.	I regularly monitor each learner's performance to assist as necessary.	7	16	30	21
		9%	22%	41%	28%
Q28.	I supply alternate explanations to assist learners in comprehending course topics by allowing them to consider various perspectives on the issues offered.	12	16	28	18
		16%	22%	38%	24%
Q29.	I operate probing questions to assist learners in expanding their ideas or reorienting themselves if their contributions are irrelevant to the discussion topics.	10	16	26	22
		14%	22%	35%	30%
Q30.	I provide background for the conversation and potentially indications about the sorts of things you anticipate them to discuss.	4	16	22	32
		5%	22%	30%	43%
Q31.	I give supplemental materials that may assist learners strategically in completing a learning activity by filling in gaps in their abilities or knowledge.	6	11	30	27
		8%	15%	41%	36%

English language learners' benefit from the timely guidance of English instructors 47% agree and 28% strongly agree who help them understand the language. Despite that, 8% strongly disagree and 16% disagree with the statements. Respondents 47% agree and 41% strongly agree that it is possible to help students better comprehend information by breaking it down and arranging it into manageable chunks. Similarly, of Lecturers in English, 30% agree and 42% strongly agree to use sophisticated organisers or other presentation methods to meet the needs of students with varying learning styles. The antipathetic response to Q25 was 5% strongly disagree 5% disagree and Q 26 responded 1% strongly disagree and 27% disagree. Q27 English lecturers strongly disagree 9% and disagree 22% keep an eye on each student's progress and help them as needed. Besides, 41% agree and strongly agree with 28% of respondents to the statement.

Q28 Alternative explanations are provided by educators who agree 38% and strongly agree 24% help students understand course material by enabling them to examine other views on the problems raised. It is more prominent than the dismissive respondents, with 16% strongly disagreeing and 22% disagreeing. English lecturers use Q29 Probing questions 35% agree and 30% strongly agree in class to help students develop their ideas or refocus if their contributions are off subject. Conversely, the disavowal 14% strongly disagree and 22% disagree with that statement. Q30 English instructors 30% agree and 43% strongly agree that giving context for the discourse and possible hints about the topics English lecturers want them to cover, while 5% strongly disagree and 22% disagree of respondents. Q31 English lecturers 41% agree and 36% strongly agree that providing extra resources that may strategically aid learners in completing a learning task by filling in gaps in their skills or knowledge. However, 8% strongly disagree and 15% disagree with different perspectives related to the statement.

Discussion

Procedures scaffold the learning process by offering tools, resources, and other sorts of help before and during and after teaching. Collaborative Literacy sessions may include procedural supports to help students achieve academic and social objectives while learning a new language. Davis et al. (2018) clarified that the online Learning Strategies (OLS) are English lecturers' ability to deliver, maintain, manage, and employ various approaches to accomplish online learning goals. Each of these statements entails the purposeful utilisation of language to facilitate online learning.

When students interact with digital environments, they must set concrete educational objectives, plan activities to achieve those goals, and coordinate and monitor their learning processes to change and adjust strategies learning goals and increase their effort to achieve the desired achievement; metacognitive abilities are linked to low learning and achievement when students interact with the online environment. Cognitive techniques are classified separately from two other learning methods: procedural scaffolding, metacognitive scaffolding, conceptual scaffolding, and strategic scaffolding. Tsiriotakis et al. (2017) explained that the learning and acquisition of English language learners were accelerated by combining this low-affective-filter environment and these scaffolds.

The conceptual scaffolding's primary function is to connect concepts. Using conceptual questions as directed framing can encourage problem solutions based on conceptual understanding than students who could not answer the previous conceptual problems, those who have been able to see the fundamental relationships. Kim & Lim (2019) authenticated those English learners must have access to the online text's material. However, they should also feel convenient enough to take intellectual risks while collaborating in a classroom community, even if they make errors: teaching methodologies and technical considerations for a Learning Management System (LMS).

Simplify navigation for English language learners and make it more accessible. Zhou and Lam (2019) established that metacognition is defined in various ways, but there is a consensus that it includes metacognitive knowledge and control. Hung and Tsai (2020) discovered different components when English learners could not solve an issue or complete a task independently. A teacher, more skilled classmates, or a computer tutor might step in and assist them. Most learners' perspectives are perceptual, auditory, or physical. Matsuda et al. (2020) found that complex, ill-structured issue resolution requires domain-specific expertise and continual monitoring and assessment via metacognition. Huertas-Bustos et al. (2018) identified that metacognition is essential to solving difficult, ill-structured issues, including design difficulties According to Banse et al. (2017), conceptual scaffolding assists learners in identifying fundamental topics and complementary information. Kern & Crippen (2017) revealed that These findings show that while delivering scaffolding activities, instructors should examine the relevant aspects influencing learning goals, such as learning and student attributes. But Lo et al. (2019) subtracted that conceptual scaffolding would have little impact on understanding. Kim & Lim (2019) revealed that customising teaching to support individual learners involved understanding their learning preferences and past knowledge to assist them in meeting the course activity's objectives.

CONCLUSION

This study aimed to find out the cognitive strategies for supporting learners concentrated on critical thinking. Based on the data, it can be obtained that the average approved 83.5% of the English lecturers specified the application of Cognitive Strategies was valuable for supporting learners concentrated on critical thinking. It related to numerous explanations expressed by participants through a questionnaire sent to them following the exam. On the contrary, the platform was adequate for the strategy; nonetheless, it had issues such as an internet connection and technical difficulty (devices). For material practicability, 60,7% of the participants consider that the materials are feasible and appropriate to their level. It is proven from the result of the score the participants obtained. Factors supporting the implementation of online learning circumstances, especially for conducting cognitive strategy in universities and higher education, led to the eagerness of English lecturers as the online learning designers and instructors to develop their learners' capability to have critical thinking.

The realisation that procedural scaffolding is not always a convenient medium was also evident in the study's replies, as more than 71 % of the English lecturers expressed apprehension about the situation. As a result, English lecturers must consider the approach and technique while developing online learning

practices. The replies to the delivery component were varied. While metacognitive Scaffolding online English language learning provided opportunities for collaborative learning with English lecturers and peers, there was also an agitation among English lecturers about integrated teaching with technological encouragement. This situation emphasises the relevance of the English lecturers' online learning environment at the universities and higher education levels. Furthermore, an average of 72 % of respondents thought Conceptual Scaffolding was as beneficial as classroom-based learning. In one of the explanations, an English lecturer noted that they should teach online just as they do in the classroom. The problem of Strategic Scaffolding for online education as part of the traditional instructional design would need to be addressed, with both English lecturers and instructors better prepared with the conventional approach. In the same way that professional English lecturers are taught face-to-face, they must be trained in online teaching approaches to be as successful in online teaching.

Future researchers must understand the limitations of this cognitive strategy study on the online environment. This finding included a small of research since only quantitative studies with enough information on cognitive strategy effect sizes were eligible. Setting the search period to online learning post-pandemic COVID-19 to reflect more recent research trends on scaffolding and online learning further narrowed the pool of viable papers. Due to the challenges in locating relevant research, a cognitive strategy that may have rectified the funnel plot's asymmetry was most likely excluded, which further constrained the generalizability of the discovery.

REFERENCES

- Ahmadi Safa, M., & Motaghi, F. (2021). Cognitive vs. metacognitive scaffolding strategies and EFL learners' listening comprehension development. *Language Teaching Research*, 13621688211021820.
- al Mamun, M. A., Lawrie, G., & Wright, T. (2020). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. *Computers & Education*, 144, 103695.
- Albiladi, W. S., & Alshareef, K. K. (2019). Blended learning in English teaching and learning: A review of the current literature. *Journal of Language Teaching and Research*, 10(2), 232–238.
- Banse, H. W., Palacios, N. A., Merritt, E. G., & Rimm-Kaufman, S. E. (2017a). Scaffolding English language learners' mathematical talk in the context of Calendar Math. *The Journal of Educational Research*, 110(2), 199–208.
- Banse, H. W., Palacios, N. A., Merritt, E. G., & Rimm-Kaufman, S. E. (2017b). Scaffolding English language learners' mathematical talk in the context of Calendar Math. *The Journal of Educational Research*, 110(2), 199–208.
- Belland, B. R. (2017). Computer-based scaffolding strategy. In *Instructional scaffolding in STEM education* (pp. 107–126). Springer.
- Blayone, T. J. B., Barber, W., DiGiuseppe, M., & Childs, E. (2017). Democratizing digital learning: theorizing the fully online learning community model. *International Journal of Educational Technology in Higher Education*,

14(1), 1–16.

- Challita, J., Chapparo, C., Hinitt, J., & Heard, R. (2019). Patterns of cognitive strategy use common in children with reduced social competence derived from parent perceptions. *Australian Occupational Therapy Journal, 66*(4), 500–510.
- Davis, D., Chen, G., Hauff, C., & Houben, G.-J. (2018). Activating learning at scale: A review of innovations in online learning strategies. *Computers & Education, 125*, 327–344.
- Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing, 25*(5), 443–455.
- Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online learning and emergency remote teaching: Opportunities and challenges in emergency situations. *Societies, 10*(4), 86.
- Filser, M., Schreiber, H., Poettgen, J., Ullrich, S., Lang, M., & Penner, I.-K. (2018). The brief international cognitive assessment in multiple sclerosis (BICAMS): results from the German validation study. *Journal of Neurology, 265*(11), 2587–2593.
- Halverson, L. R., & Graham, C. R. (2019). Learner engagement in blended learning environments: A conceptual framework. *Online Learning, 23*(2), 145–178.
- Hasan, R., & Ahmad, N. A. (2018). Conceptual framework of scaffolding literacy module to help remedial students mastering reading skills. *International Journal of Academic Research in Business and Social Sciences, 8*(11), 1031–1038.
- Heron, M., & Webster, J. (2019). Scaffolding talk in EAP lessons: an examination of experienced teachers' practices. *Innovation in Language Learning and Teaching, 13*(4), 358–370.
- Hodges, C. B., Moore, S., Lockee, B. B., Trust, T., & Bond, M. A. (2020). *The difference between emergency remote teaching and online learning*.
- Huertas-Bustos, A., López-Vargas, O., & Sanabria-Rodríguez, L. (2018). Effect of a Metacognitive Scaffolding on Information Web Search. *Electronic Journal of E-Learning, 16*(2), 91–106.
- Hung, J.-F., & Tsai, C.-Y. (2020). The Effects of a Virtual Laboratory and Metacognitive Scaffolding on Students' Data Modeling Competences. *Journal of Baltic Science Education, 19*(6), 923–939.
- Karasneh, R., Al-Azzam, S., Muflih, S., Hawamdeh, S., Muflih, M., & Khader, Y. (2021). Attitudes and practices of educators towards e-learning during the covid-19 pandemic. *Electronic Journal of E-Learning, 19*(4), pp252-261.
- Kayi-Aydar, H. (2018). Scaffolding vocabulary development. *The TESOL Encyclopedia of English Language Teaching*, 1–6.
- Kern, C. L., & Crippen, K. J. (2017). The effect of scaffolding strategies for inscriptions and argumentation in a science cyberlearning environment. *Journal of Science Education and Technology, 26*(1), 33–43.
- Kim, J. Y., & Lim, K. Y. (2019). Promoting learning in online, ill-structured problem solving: The effects of scaffolding type and metacognition level.

Computers & Education, 138, 116–129.

- Lin, C.-H., Zhang, Y., & Zheng, B. (2017). The roles of learning strategies and motivation in online language learning: A structural equation modeling analysis. *Computers & Education*, 113, 75–85.
- Lo, Y. Y., Lui, W., & Wong, M. (2019). Scaffolding for cognitive and linguistic challenges in CLIL science assessments. *Journal of Immersion and Content-Based Language Education*, 7(2), 289–314.
- Matsuda, N., Weng, W., & Wall, N. (2020). The effect of metacognitive scaffolding for learning by teaching a teachable agent. *International Journal of Artificial Intelligence in Education*, 1–37.
- Mayer, R. E. (2019). Thirty years of research on online learning. *Applied Cognitive Psychology*, 33(2), 152–159.
- Muali, C., Islam, S., Bali, M. E. I., Baharun, H., Mundiri, A., Jasri, M., & Fauzi, A. (2018). Free Online Learning Based on Rich Internet Applications; The Experimentation of Critical Thinking about Student Learning Style. *Journal of Physics: Conference Series*, 1114(1), 012024.
- Onyema, E. M., Eucheria, N. C., Obafemi, F. A., Sen, S., Atonye, F. G., Sharma, A., & Alsayed, A. O. (2020). Impact of Coronavirus pandemic on education. *Journal of Education and Practice*, 11(13), 108–121.
- Ramlee, N., Rosli, M. S., & Saleh, N. S. (2019). Mathematical HOTS Cultivation via Online Learning Environment and 5E Inquiry Model: Cognitive Impact and the Learning Activities. *International Journal of Emerging Technologies in Learning*, 14(24).
- Richardson, J. C., Caskurlu, S., Castellanos-Reyes, D., Duan, S., Duha, M. S. U., Fiock, H., & Long, Y. (2021). Instructors' conceptualization and implementation of scaffolding in online higher education courses. *Journal of Computing in Higher Education*, 1–38.
- Rokhmat, J., & PUTRIE, S. D. (2019). A strategy of scaffolding development to increase students' problem-solving abilities: The case of physics learning with causalitic-thinking approach. *Journal of Turkish Science Education*, 16(4), 569–579.
- Seckman, C. (2018). Impact of interactive video communication versus text-based feedback on teaching, social, and cognitive presence in online learning communities. *Nurse Educator*, 43(1), 18–22.
- Smit, N., van de Grift, W., de Bot, K., & Jansen, E. (2017). A classroom observation tool for scaffolding reading comprehension. *System*, 65, 117–129.
- Suwastini, N. K. A., Ersani, N. P. D., Padmadewi, N. N., & Artini, L. P. (2021). Schemes of Scaffolding in Online Education. *RETORIKA: Jurnal Ilmu Bahasa*, 7(1), 10–18.
- Tsiriotakis, I. K., Vassilaki, E., Spantidakis, I., & Stavrou, N. A. M. (2017). The examination of the effects of writing strategy-based procedural facilitative environments on students' English foreign language writing anxiety levels. *Frontiers in Psychology*, 7, 2074.
- van Popta, E., Kral, M., Camp, G., Martens, R. L., & Simons, P. R.-J. (2017). Exploring the value of peer feedback in online learning for the provider.

Educational Research Review, 20, 24–34.

- Walqui, A. (2017). The development of teacher expertise to work with adolescent English learners: A model and a few priorities. In *Inclusive pedagogy for English language learners: A handbook of research-informed practices* (pp. 103–126). Routledge.
- Yu, F. (2020). Design and Implementation of English Online Translation Platform Based on Multi-strategy Analysis. *2020 International Conference on Advance in Ambient Computing and Intelligence (ICAACI)*, 173–176.
- Zheng, B., Ward, A., & Stanulis, R. (2020). Self-regulated learning in a competency-based and flipped learning environment: learning strategies across achievement levels and years. *Medical Education Online, 25*(1), 1686949.
- Zhou, M., & Lam, K. K. L. (2019). Metacognitive scaffolding for online information search in K-12 and higher education settings: a systematic review. *Educational Technology Research and Development, 67*(6), 1353–1384.