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An evaluative study for communicative language teaching (CLT) on online teaching and learning in higher education: Indonesian and Malaysian university context

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Abstract
The higher education landscape is continually evolving, with educators adapting to meet the needs, aspirations, and expectations of their students. Data technology and virtual-learning systems have become vital components in higher education operations, with many institutions incorporating online frameworks and innovations. The aims of the study to evaluate the effectiveness of Communicative Language Teaching (CLT) using university platforms for online teaching and learning in Indonesia and Malaysia, focusing on students' perspectives. The research utilizes the CIPP, which stands for Context, Input, Process, and Product appraisal framework proposed by Stufflebeam (*Journal of Research and Development in Education, 5*, 19-25, 1971). The study includes all students who take English as their subject in the English Department Program, as well as English lecturers. The stratified random sampling approach was employed for data collection. Qualitative data gathered through interviews with educators from both institutions, while written papers provide additional insights. For quantitative data, a modified questionnaire with 63 items divided into six sections and five score scales were disseminated online through the Survey123 program. Descriptive and inferential statistics were used to analyze the questionnaire results. Smart-PLS was utilized for barrier element analysis, using PLS-SEM for causal predictive analysis and consideration of reflective and formative factors. Figure 1 presents the conceptual model, illustrating the connections between exogenous and endogenous latent components in the study. By integrating qualitative and quantitative approaches, this research provides valuable contributions to the understanding of CLT's impact on online education in these settings.

Keywords Evaluation · Communicative language teaching · Higher education · Online learning · Teaching

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1 Introduction

Today, the higher education framework is experiencing continuous advancement, with teachers anticipating and meeting their understudies' requirements, yearnings, and desires. As a result, data innovation and virtual-learning frameworks are seen as essential elements in college operations, with many of these dynamically contributing to online frameworks and innovations (Redmond et al., 2018; Wang & Zhan, 2020). Nevertheless, one of the challenges for colleges within the innovation period is joining unused online-learning devices to enhance and help either the teaching-instruction process or both (Coman et al., 2020).

In anticipation of the learning process during the COVID-19 lockdown period, including in Indonesia and Malaysia, implemented regulations to modify and adapt technology platforms for online learning (Azlan et al., 2020; Churiyah et al., 2020; Dube, 2020; Jaffar et al., 2022; Simamora, 2020). These regulations compelled universities in Indonesia and Malaysia to develop their own online learning platforms, allowing lecturers and students to access course materials and interact through institution portals. However, challenges persist in teaching and learning through these platforms due to limited access and technological barriers (Azhari & Fajri, 2022; Kusuma, 2022a; Thanawala et al., 2022).

Moreover, in response to the implementation of online learning during the COVID-19 pandemic, several studies have been conducted e.g., (Azlan et al., 2020; Celik et al., 2022; Febrianto et al., 2020; Ismail et al., 2022; Jaffar et al., 2022; Madya & Abdurahman, 2021; Yates et al., 2021). For instance, Abd Hamid et al. (2020), in their study, found that flexibility, technology capacity, social contact, and teacher qualities have a significant and positive association with students' happiness with blended learning. In contrast, one of the respondents in their study also faced distractions and technical issues during the learning process.

Furthermore, in the context of English language teaching, Wang and Zhan (2020) investigated the relationship between English language learner characteristics and online self-regulation. They found that students with lower foreign language learning anxiety were more motivated to learn English online, while those with higher anxiety were less motivated. This suggests that anxiety can significantly affect learners' cognition, emotions, and behaviors. Gunasinghe et al. (2019) discussed the different terms used to refer to online learning environments, such as "virtual learning environment," "e-Learning technology," "learning management system," and "content management system." They emphasized that online learning provides educators and learners with anytime, anywhere access and enhances the learning experience. Further, Prasetya (2022) explored the cognitive strategies implemented in the online learning environment to support critical thinking in English language learners. The study identified procedural, metacognitive, conceptual, and strategic cognitive strategies as beneficial for online teaching and learning. Overall, the literature on online learning environments designed for the English language highlights the importance of factors such as self-regulation, anxiety, motivation, self-efficacy, metacognition, and cognitive strategies.

However, there are still gaps and limitations in the research, particularly in areas such as the social presence of introverted and extroverted learners, a sense of community, and the specific design of assessment and feedback in online teaching activities. Further research is needed to address these gaps and enhance the effectiveness of online learning environments for English-language learners. The current research presents the phenomenon of online learning via the management of learning system (MLS) platform for each university, which is crucial to recognizing and evaluating the effectiveness of learning CLT online at both universities to address the needs of CLT for students as identified by the CIPP's Stufflebeam model. This study begins with the assumption that, through a communicative teaching method, lecturers may create a better learning experience by emphasizing students' emotional well-being in a way that encourages and supports the development of knowledge and skills, even in online learning settings.

Studies have addressed the adoption of the MLS platform in teaching and learning activities in advanced countries such as Malaysia (Al-rahmi et al., 2021), Mexico (Diaz Pérez & Colorado Aguilar, 2020), Korea (Bailey & Lee, 2020), the USA (Costley, 2014), Turkey (Mohammed, 2015), Arab Saudi (Sayaf, 2023), Hong Kong (Tong & Trinidad, 2005), and the United Kingdom (Bond et al., 2019). To address the aim of the study, we formulated the following research questions:

1. How effective is the communicative language teaching process through both universities' online platforms as evaluated with the CIPP model?
2. Are there any impacts of context on the product? input on the product? and process on the product? as well as context, input, and process on the product?

2 Literature review

Assessment of students, measurement, testing, program evaluation, review of school personnel, accreditation of schools, and program assessment are all part of educational evaluation. Assessment for learning and measurements are at the heart of modern educational evaluation. The distinction between measurement and evaluation, proposed by Ralph Tyler over 50 years ago and later developed by others, had a significant impact on the development of evaluation as an important element of the teaching and learning process (Cahapay, 2021). Evaluation involves identifying the merit, worth, or significance of things by synthesizing information from dictionaries and regular use (Cahapay, 2021). It encompasses the process of identifying, acquiring, delivering, and implementing descriptive and condescending information about the merit and worth of specific objects' goals, design, implementation, and results (Cahapay, 2021). The purpose of evaluation is to make improvement decisions, provide accountability reports, inform institutionalization/dissemination judgments, and enhance knowledge of the phenomenon involved (Cahapay, 2021).

One of the widely known evaluation models adapted to education is the Kirkpatrick model (Cahapay, 2021). However, this model has limitations when used by evaluators, especially in the complex environment of higher education (Cahapay, 2021). The limitations include a propensity towards the use of the lower levels of the model, rigidity that leaves out other essential aspects of the evaluand, and a paucity of evidence on the causal chains among the levels (Cahapay, 2021). To address these limitations, evaluators should consider more appropriate methods, integrate contextual inputs in the evaluation framework, and establish causal relationships among the levels (Cahapay, 2021).

In addition to the Kirkpatrick model, other evaluation models and approaches have been developed and applied in the field of education. For example, the CIPP model, developed by Stufflebeam and his colleagues, is one of the oldest and most fully proven ways of assessment (Kim, 2022; Vizconde, 2022; Zhao et al., 2022). The CIPP model stands for context, input, process, and product evaluation, and it has been utilized in various topic areas and situations (Finney, 2019; Kim, 2022; Vizconde, 2022; Zhao et al., 2022). The model provides a comprehensive framework for evaluating educational programs and interventions, considering the context in which they operate, the inputs and resources involved, the processes of implementation, and the outcomes or products achieved (Finney, 2019; Kim, 2022; Vizconde, 2022).

In general, educational evaluation plays a crucial role in assessing the effectiveness and impact of educational programs and interventions. It involves the measurement of student learning outcomes, the evaluation of teaching practices, and the assessment of program quality and effectiveness. In the next section, this study will explore the CIPP model, overview of online learning, and the CLT of English language learning environment.

2.1 CIPP model

Assessment is a fundamental aspect of educational evaluation, encompassing the process of defining, obtaining, offering, and using descriptive data on the worth and quality of certain things' purposes, form, and fulfillment (Silviariza et al., 2023). The CIPP model, developed by Stufflebeam and his colleagues, provides a comprehensive framework for program development, implementation, and assessment (Salamah & Istiyono, 2022). The model consists of four elements (Finney, 2019): context, input, process, and product evaluation (Salamah & Istiyono, 2022). Each element plays an essential role in evaluating educational programs and interventions.

Context evaluation involves assessing the need, problem, asset, and opportunity within a situation (Rizal et al., 2022). In the context of online learning during the COVID-19 pandemic, the evaluation of the context includes exploring the goals and objectives of the online learning platform, the learning environment, and the specific needs of the participants (Rizal et al., 2022). This evaluation is crucial in understanding the relevance and effectiveness of online learning methods during the pandemic (Rizal et al., 2022).

Input evaluation focuses on assessing alternative approaches to meeting needs and allocating resources (Luib et al., 2022). In the context of online learning, input evaluation includes examining the regulations related to online learning and ensuring the quality control of lecturers (Luib et al., 2022). This evaluation ensures that the necessary support and resources are provided for effective online teaching and learning (Luib et al., 2022).

Process evaluation involves evaluating the implementation process of the program, including educational supervision, teaching activities, interaction, and technological support (Asghar et al., 2022). This evaluation assesses the effectiveness and efficiency of the online learning process, ensuring that teaching and learning activities are carried out effectively and that students have access to the necessary support and resources (Asghar et al., 2022).

Product evaluation focuses on evaluating the results and outcomes of the program (Asghar et al., 2022). In the context of online learning, product evaluation assesses the impact of online learning on student outcomes, such as knowledge, skills, values, and attitudes (Asghar et al., 2022). This evaluation provides insights into the overall effectiveness and success of the online learning program (Asghar et al., 2022).

The CIPP model provides a comprehensive framework for evaluating educational programs, ensuring that they meet the needs and goals of the learners and stakeholders involved (Sankaran & Saad, 2022). By employing this model, educators and policymakers can make informed decisions, improve program effectiveness, and enhance the quality of education (Zhao et al., 2022). However, it is important to note that the CIPP model is not without its limitations and challenges. Evaluators must consider the specific context and adapt the model accordingly to ensure accurate and meaningful evaluation (Matthew & Yamat, 2020).

In conclusion, the CIPP model offers a comprehensive framework for assessing educational programs, encompassing context, input, process, and product evaluation. This model provides a systematic approach to evaluating the effectiveness, relevance, and impact of educational interventions, including online learning during the COVID-19 pandemic. By employing the CIPP model, educators and policymakers can make informed decisions, improve program effectiveness, and enhance the quality of education.

2.2 Online learning

Many higher education institutions and academicians quickly responded to the COVID-19 pandemic by transitioning their conventional campus-based programs to online platforms (Alzahrani et al., 2023; Ramlo, 2021). This shift required scholars to adapt traditional teaching methods to the online environment, as stay-at-home guidelines and social isolation became unavoidable (Ballena & Feranil, 2021). Online learning, which involves the use of educational technology and the internet, has seen significant growth and development during this time (Kusuma, 2022; Martono et al., 2018; Setiawan et al., 2021). Scholars and researchers have defined online learning as a method of education that occurs partially or wholly through

the internet, providing access to information and knowledge regardless of time constraints or geographical factors (Febrianto et al., 2020; Funa & Talaue, 2021; Habibi et al., 2023). According to Aisha and Ratra (2022) as well as Kim (2022), the prevailing consensus among authors is that online learning refers to the provision of learning opportunities through the use of internet-based technology for educational activities. It is considered a logical progression of distance learning, offering opportunities for learning activities using technology (Amnouychokanant et al., 2021; Maulana & Muslim, 2019; Todd et al., 2021).

Online learning offers several advantages over conventional classroom learning methods. It provides flexibility for learners to attend lectures at any time, reduces costs, and allows access to up-to-date knowledge (Goodell, 2020). Additionally, online learning has minimal environmental impact and can cater to individual learners' needs (Goodell, 2020). The use of educational technology in online learning has also improved instructors' pedagogical abilities, offering a range of training methodologies, suitable curriculum design, and language learning tools (Wandani et al., 2022).

However, the attitudes of teachers toward technology in the second language classroom can significantly influence their pedagogical beliefs, tactics, processes, and materials used in teaching (Zhang, 2022). Teachers' beliefs about technology for teaching and learning are crucial in shaping the classroom environment (Lan, 2020; Lee et al., 2021). It is important to consider teachers' perspectives and practices when implementing online learning.

The COVID-19 pandemic has highlighted the importance of online learning and its impact on higher education institutions. The quality of online learning has become a significant concern for universities as they transitioned to online platforms during the pandemic (Ardiyanto et al., 2021; Cleofas & Rocha, 2021; Francom et al., 2021). Evaluating the quality of online learning is essential for ensuring successful teaching and learning processes, policies, technical infrastructure, instructional practices, and technological and pedagogical support (Lemay et al., 2021).

In general, the COVID-19 pandemic has accelerated the adoption and development of online learning in higher education institutions. Online learning offers flexibility, accessibility, and cost-effectiveness, and it has the potential to provide high-quality education (Wahidah & Nasir, 2020). However, teachers' attitudes and beliefs toward technology, as well as the quality of online learning, are crucial factors to consider in ensuring effective implementation and successful outcomes. Evaluating the quality of online learning is essential for continuous improvement and enhancing the overall learning experience for students.

2.3 CLT and english language learning environment

Determining the most appropriate and successful teaching and learning approaches and strategies for a particular environment is a crucial issue in today's domains of teaching and learning. The current study outlines a brief discussion about the Communicative Language Teaching (CLT) approach demonstrated Celce-Murcia (2007a, 2007b). According to Savignon (2018) CLT is not a theory but an approach, which focuses on improving learners' communications competence (CC) using actual

language in relevant circumstances (Martini & Aizan, 2013). Thus the goal of language teaching is communication (Celce-Murcia, 2011). Authors connected this with the direction that Celce-murcia & Zoltan Dornyei (1995) explained and investigated the part of communicative competency models in dialect instruction.

According to Cloudia Ho (2020), Communicative Language Teaching (CLT) promotes a student-centered, interactive, and active learning environment that encourages diverse linguistic feedback. The approach was initially developed by Celce murcia et al. (1993) and further refined by (Celce-murcia et al. (Celce-murcia & Zoltan Dornyei, 1995). It incorporates five key skills. The first skill is Linguistic Competence, which is related to Chomsky's theory (1957, 1970, 1976) and Hymes (1967, 1972). The second skill is Strategic Competence, which draws from the works of Hymes (1967, 1972), Canale and Michael (1980), and Canale (1983). The third skill is Sociolinguistic Competence, which is also based on the research of Canale and Michael (1980) and Canale (1983). Additionally, the approach encompasses Actional Competence and Discourse Competence, as proposed by Canale.

In the revised version, Celce-murcia (2007a) modified the term "actual competence" to "interactional competence" in her recent approach to Communicative Competence (CC). She explained the six elements of CC in a publication by Celce-murcia (2007a), updating the points of interest from her previous models Celce-murcia et al. (Celce-murcia & Zoltan Dornyei, 1995). Additionally, the revised approach now includes the concept of formulaic competence. Celce-murcia (2007b) highly recommends adopting this latest approach, as it reflects her most recent insights and findings in the field of Communicative Competence.

In this context, six models are described as follows: The first one is Social-Cultural Competence, which involves understanding how to effectively communicate within broader social and cultural contexts. The second model, Discourse Competence, is emphasized by Murcia for its significance in creating effective communication. It refers to the choice, sequencing, and organization of words, structures, and discourse to convey a coherent message. Moving on, the third model is Language Competence, which categorizes linguistic competencies into four categories of detailed information. This includes phonology, which comprises both segmental elements (vowels, consonants, and diverse syllables) and supra-segmental components (intonation, stress, tone, and rhythm). The fourth model, Formulaic Competency, balances linguistic competence and involves the use of recurrent open systems. Next, the fifth model is Interacting Competence, which builds upon the foundation of socio-cultural competence. Lastly, the sixth model, Strategic Competency, encompasses learning and language usage strategies. It includes certain activities or mental processes employed by pupils to enhance their second language (L2) learning. Celce-Murcia divides these activities into two categories: learning techniques and communication approaches.

Murcia acknowledges the comprehensiveness and accuracy of the reconstructed model, leading her to offer a set of guidelines for designing and instructing dialect classes. The aim is to equip students with the necessary skills to function competently in a language- and culture-based external environment. Virtual Learning Environments (VLEs) play a vital role in language education, employing various Internet materials and multimedia resources to foster engagement and

encourage students to use their English skills for communicative and meaningful activities (Thamarana, 2016). Essentially, a VLE is a self-contained computer-based online environment that facilitates interactions between teachers and learners. It manages information directly linked to student instruction, such as lecture notes, online conversations, and grades. Moreover, an MLE (Managed Learning Environment) deals with managing other information that may not be directly associated with classroom teaching. The benefits of using a VLE in language education are significant and include: (a) information delivery, (b) peer assistance, (c) group work, (d) self-evaluation, (e) formative and summative assessment, (f) teacher-student contact, and (g) tutorials. Additionally, VLEs can address various challenges in language education, such as increased student numbers, more efficient assessment marking, broader involvement, and limited teaching resources (Thamarana, 2016).

The study explores barriers encountered in implementing educational technology (Ed-tech) in higher education, encompassing technological, accessibility, administration support, technical support, and computer self-efficacy challenges. Technological challenges involve issues like infrastructure limitations, compatibility concerns, and the need for continuous updates and maintenance. Additionally, accessibility presents its own set of challenges. Abdul Lasi (2021), Alhabeeb and Rowley (2017) and Cheawjindakarn et al. (2012) identified Critical Success Factors (CSFs) for Online Distance Learning (ODL) in Higher Education, covering the learning environment and navigation. Administrative support and teachers' ICT literacy Azlim et al. (2015), Joseph (2012) play crucial roles in shaping teachers' ICT competence, with lecturers' technology competence serving as a mediator (Baharuldin et al., 2020). Moreover, lack of technical assistance (Tong & Trinidad, 2005) and computer self-efficacy challenges (Alias, 2021) underscore the need to address these barriers to effectively integrate Ed-tech in higher education settings. Understanding these obstacles empowers educators and institutions to implement targeted strategies, fostering successful technology integration and enhancing language teaching and learning outcomes.

3 Method

3.1 Design of the study

The aim of this study is to assess the effectiveness of computer-assisted language teaching (CLT) through university platforms for online teaching and learning in two universities in Indonesia, and Malaysia, specifically from the perspective of students. This study is part of a collaborative international research initiative involving one of the Islamic State Universities in Indonesia and Malaysia, sponsored by MORA (Ministry of Religious Affairs) Republic of Indonesia. The study will utilize the CIPP appraisal framework developed by Stufflebeam (1971), which includes the evaluation of context, input, process, and product (Stufflebeam & Coryn, 2014; Taridi & Sanjaya, 2019). The target population for this study includes students who are enrolled in the English Department Program and English lecturers at both universities. The researchers employed a stratified random sampling approach, ensuring

a diverse representation of students. This approach helps to ensure that the sample is representative of the overall population.

Data for this evaluation collected using quantitative methods. Quantitative data were collected from students using a modified questionnaire. The questionnaire consists of 63 items divided into six sections, with five score scales. The questionnaire was distributed online through the Survey123 program. The data collected from the questionnaire have been analyzed using descriptive and inferential statistics to provide a comprehensive evaluation of the efficacy of CLT in online teaching and learning.

Overall, this study aims to assess the effectiveness of CLT through university platforms in online teaching and learning in two universities in Indonesia, and Malaysia. By utilizing the CIPP appraisal framework and employing quantitative methods, the researchers hope to provide valuable insights and recommendations for enhancing the quality of online language education in these institutions.

A conceptual model was constructed to investigate the barrier elements influencing EFL (English as a Foreign Language) instructors' viewpoints. The study utilized Smart-PLS for examination, and a causal predictive analysis was conducted employing PLS-SEM. Both reflective and formative factors were taken into account during the analysis process. (Erdfelder et al., 2009). In this study, a nonparametric approach was employed, which does not make any assumptions about the underlying data distribution. For the analysis of variance-based structural equation models, especially in the social sciences, PLS-SEM was chosen as the widely used multivariate analytic technique (Ahmed & Mehedi Masud, 2014). Figure 1 shows the conceptual model, demonstrating the link between the exogenous and endogenous latent components. The following are the research hypotheses:

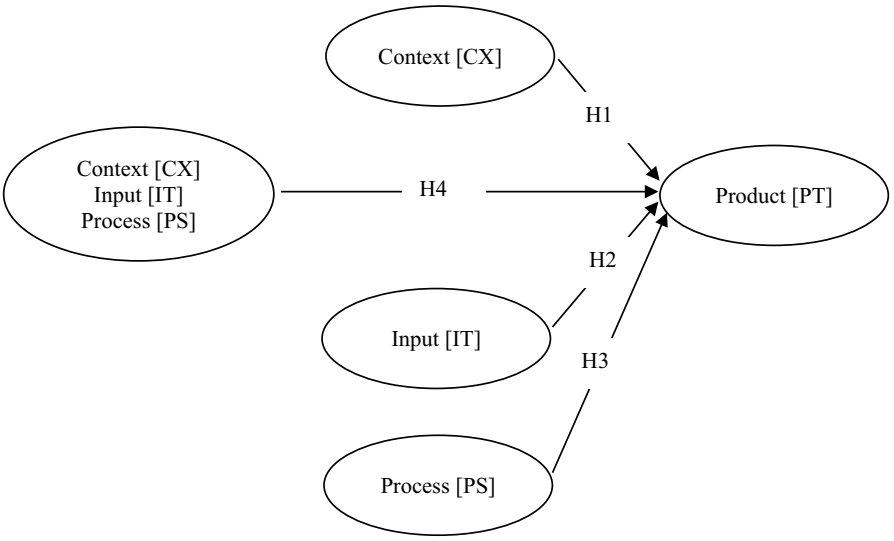


Fig.1 A proposed structural model

(H1): Context has a positive and significant effect on products.
(H2): Input has a positive and significant effect on the product.
(H3): The process has a positive and significant effect on the product.
(H4): Context, input, and process have a positive and significant effect on the product.

3.2 Data collection procedure

Three hundred sixteen participants, including lecturers and students enrolled in the English Education Program Study, Faculty of Education, and Teacher Training in Indonesia and Malaysia, were involved in this study. Sampling techniques employed stratified random sampling to select participants, specifically lecturers and students in the busy semester during the academic year 2021–2022, who were taking language courses in the faculty.

The data in this study collected from target university, both lecturers and students, by distributing the link to online questionnaires through WhatsApp groups. The questionnaire items used in this study also used by different researchers Ali, Guma et al. (Ali Guma Haolader & Khushi 2013) and Azlim et al. (2015) focused on aspects related to online educational technology, such as technological support, technical support, administration support, computer self-efficacy, and accessibility.

To evaluate the educational model, the study adopted the CIPP evaluation model by Stufflebeam (2003a, 2003b). The instrument items were modified and expanded to align with the model's concept. The study addressed four main aspects of the CIPP model: context, input, process, and product. Each aspect was assessed using different indicators, totaling 71 items during the establishment process. However, after careful consideration and expert consultations with three educational technology experts from Malaysia and Indonesia through video conferences Tojib and Sugianto (2012), only 19 items were selected for the final instrument. The revision process involved adjusting the instrument to suit the research's context and setting, as well as ensuring the measurement of the intended concept (O'Leary-Kelly & Vokurka, 1998).

The questionnaire utilized a five-point Likert scale, ranging from 1 (absolutely disagree) to 5 (absolutely agree), to allow respondents to indicate their level of agreement or disagreement with various statements (Taherdoost, 2019). Likert scales have been widely used since their development in 1932 by Rensis Likert (Jebb et al., 2021; Norman, 2010; Taherdoost, 2019). Such scales usually offer either five or seven response alternatives, and the choice of scale does not significantly impact the quality of psychometric measurements (Colman & Norris, 1997; Menold & Bogner, 2016).

In general, the methods employed in this study are well-suited for assessing the efficiency of communicative language instruction CLT in online educational settings at institutions in Indonesia and Malaysia from the student's perspective. The option of questionnaires, and SmartPLS analysis aligns precisely with the study goal, allowing for a complete evaluation of CLT efficacy. Stufflebeam's implementation of the CIPP evaluation paradigm offers a systematic and thorough approach to

assessing the many components of online teaching and learning, offering a complete evaluation of CLT's impact. The use of stratified random sampling ensures a representative sample of English Education Program Study professors and students, increasing the reliability and generalizability of the findings—the mixed-methods technique, which combines qualitative and quantitative questions.

3.3 Data analysis

The information obtained from the adjusted survey was gathered, and it will be analyzed utilizing the PLS-SEM online instrument with smartPLS 3. The analyst used graphic insights to characterize the information, highlighting the key characteristics of the first study. Each frequency implies rates, and standard deviations are presented. Survey questions are classified as free factors to produce precise measurements, and clear categories are created from the information. Additionally, statistical methods are employed by the analyst, and descriptive information is utilized.

Smart-PLS version 3 was employed for statistical estimation to determine the effect of observable factors and associated latent constructs on EFL lecturers' perception (Hair et al., 2020; Sarstedt et al., 2017) PLS-SEM is most typically used in exploratory investigations to develop theories (Hair et al., 2020). One of the most prominent SEM applications is path analysis. Some of the most common applications of SEM include path analysis, confirmatory factor analysis, second-order factor analysis, regression models, covariance structure models, and correlation structure models (Hair et al., 2020). Furthermore, SEM enables the investigation of linear relationships between latent components and explanatory variables. It may also generate parameter estimates for variable connections that have not yet been detected. In general, SEM permits various relationships to be evaluated concurrently in a single model with multiple relationships rather than analyzing each interaction individually.

The suggested structural model in Fig. 3 was analyzed using Smart-PLS version 3.3.3, which outperforms regression-based techniques in assessing multiple latent components with various observable variables (Hair et al., 2020). According to Henseler et al. (2009), PLS utilizes a two-step approach that comprises evaluating the outer measurement model and the inner structural model. Furthermore, PLS-SEM is now recognized and used in social science studies as the best acceptable method for multivariate analysis (Hair et al., 2020; Sarstedt et al., 2017).

Overall, the methods employed in this study are suitable as they align with established statistical techniques, demonstrate a clear and systematic approach, and have been supported by relevant literature in the field (Table 1).

4 Findings

4.1 Descriptive statistics

SmartPLS software (ver. 3.3.3) was utilized in the data analysis process to interpret the distribution of data (non-parametric data) that was distributed normally. It was used

Table 1 Detail of participants (No. of participants = 316)

Category	Subcategory	Subcategory	No. of Participants	[%]	Total	[%]
Gender	Lecturer	Male	15	57.69	26	8.23
		Female	11	42.31		
	Students	Male	84	28.97	290	91.77
		Female	206	71.03		
Institution		UIN Sulthan Thaha Saifuddin	101	31.96		
		UUM	215	68.04		

to evaluate measurement models linked to instrument validity and reliability and then proceeded by evaluating structural models related to hypothesis testing, as mentioned in (Anderson & Gerbing, 1988). Table 2 provides descriptive statistics, such as mean, standard deviation, kurtosis, and skewness. Skewness and kurtosis are assessed to check the normality of the data. The ideal range for these two measures lies between -2 to + 2 (Dash & Paul, 2021; Hu & Bentler, 1999).

We converted the data to a Microsoft Excel spreadsheet throughout the preparation process. Outliers and incomplete data were updated in accordance with Hair et al. and's (2010a, b) recommendations. The data was prepared to verify its completeness and quality, as well as the absence of statistical outliers, incomplete data, complete non distributions, or other data entry errors, as recommended by Hair et al. (2014) and Chin (2010). A box plot was used to identify outliers for each component. In the current study, the amount of missing data varied from 0 to 0.5 (%) for any single item. The lack of data was completely random (Hair et al., 2010a, b),

4.2 Assessment of measurement model

In the second stage of our study, we evaluated the measurement model (Fig. 2) using various metrics to ensure its reliability and validity. We utilized composite reliability to demonstrate internal consistency, individual indicator reliability, and average variance extracted (AVE) to verify convergent validity. Additionally, we employed the Fornell-Larcker qualifying measure and cross-loadings to evaluate discriminant validity, following the approach by Hair et al. (2016).

Based on the results presented in Table 3, the composite reliability (CR) for each construct ranged from 0.873 to 0.954, exceeding the required threshold of 0.7. This finding indicates that the items used to define the constructs were internally consistent and reliable. To assess convergent validity, we considered factor

Table 2 Likert scale's value

	Responses				
	Absolutely Agree	Agree	Neither Agree nor Disagree	Disagree	Absolutely Disagree
Rank Scale	5	4	3	2	1

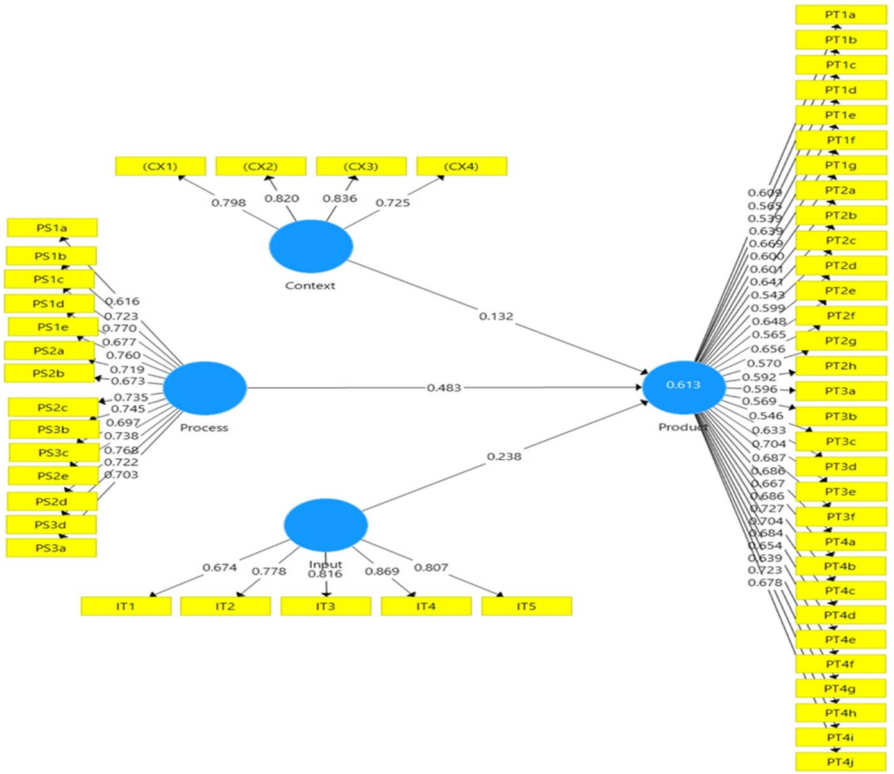


Fig. 2 Structural model

loadings, CR, and AVE, with higher values indicating better construct reliability and validity, consistent with the approach by Hair et al. (2016) and Dash and Paul (2021). The factor loadings for all components, as shown in Table 4, exceeded the threshold cut-off value of 0.5, in line with the guidelines provided (Hair et al., 2010a, b).

However, we observed that the AVE value for the product was 0.404, which is lower than the values ranged between 0.517 and 0.633 for other constructs. The minimum criterion for adequate convergent validity is typically set at 0.5, as suggested by Henseler et al. (2009). To assess discriminant validity, we applied the "Fornel-Larker criteria" as outlined in the literature, and the results in Table 5 showed that the correlation for each variable was less than the square root of the average variance extracted from the indicators assessing that variable. This finding supports the presence of strong discriminant validity in our measurement model.

In conclusion, our measurement model demonstrates acceptable discriminant and convergent validity, aligning with the findings of previous studies by Chin (2010) and Hair et al. (2019). These results provide confidence in the reliability and validity of the constructs measured in our investigation.

Table 3 Variables, items, loading, cronbach alpha, CR, and AVE

Construct		Items	Loading	Cronbach Alpha	CR	AVE
Context	CX1	• The aspect of achieving the objectives of Communicative Language Teaching and learning	.798	**.806**	**.873**	**.633**
	CX2	• In teaching and learning environment enables interactions between instructor and learner	.820			
	CX3	• E-learning platform satisfies the Learners' Needs in learning and teaching for communicative language teaching	.836			
	CX4	• The Organizational Culture performances affects teaching and learning	.725			
Input	T1	• Your college/ university has regulations related to online learning	674	**.849**	**.893**	**.626**
	T2	• Lecturer support and optimize e-learning rather than only uploading their course material or lecturer notes	.778			
	T3	• Lecturer explains that content in e-learning support and relevant with its course	.816			
	T4	• Through instructional design, e learning has innovation and improvement inside it	.869			
	T5	• Through structure, it explains how learning environment and evaluation affect lecturer in e-learning activity, such as university infrastructure and internet connection	.807			
Process		*Educational Supervision*		**.928**	**.937**	**.517**
	PS1a:	• E-learning platform can be done anywhere and anytime	.616			
	PS1b:	• Easy to interact and discuss with students in giving a supervision	.723			
	PS1c:	• Reports on the performances of academic monitoring are released and evaluated effectively and consistently	.770			
	PS1d:	• A useful way to minimize miscommunication among teachers and students	.677			
	PS1e:	• Using technology generates obvious supervision outcomes for the teacher	.760			
		Teaching Activities and interaction				
	PS2a:	• Students can reach teachers whenever they want	.719			
	PS2b:	• When Students have a question, they can easily ask teachers	.673			
	PS2c:	• Students can express their ideas in the lesson without hesitation	.735			
	PS2d:	• Students' ideas are taken into consideration in organizing classroom activities	.768			
	PS2e:	• Students can easily reach the teachers' account platform	.738			
	PS3a	• The Technical support becomes a supporting factor in online learning	.703			
	PS3a	• The administrator support (manager support) becomes a supporting factor in online learning	.745			
	PS3a	• Computer self-efficacy becomes a supporting factor in online learning	.697			
	PS3a	• Accessibility support becomes a supporting factor in online learning	.722			

Table 3 (continued)

Construct		Items	Loading	Cronbach Alpha	CR	AVE
Product		*Lesson Material Usage*		**.950**	**.954**	**.404**
	PT1a:	• Speaking practice	.609			
	PT1b:	• Reading texts	.565			
	PT1c:	• Listening CDs / DVDs	.539			
	PT1d:	• Writing materials	.639			
	PT1e:	• Grammar materials	.669			
	PT1f:	• Audio-visual materials to improve speaking skills	.600			
	PT1g:	• Reading, writing, speaking, and listening materials including topics related to our daily lives	.601			
		Method of Teaching				
	PT2a:	• Students asking questions	.641			
	PT2b:	• Role Play	.543			
	PT2c:	• Group work	.599			
	PT2d:	• Teacher's lecture	.648			
	PT2e:	• Pair work	.565			
	PT2f:	• Students answering questions	.656			
	PT2g:	• Discussion	.570			
	PT2h:	• Students making presentations	.592			
		Evaluation/Assessment				
	PT3a:	• The exams applied reflect the content of the lessons	.596			
	PT3b:	• Midterm exams and quizzes help me learn better	.569			
	PT3c:	• Difficulty of applied exams in general consistent with each other	.546			
	PT3d:	• Class report is a good criterion for evaluating my class performance	.633			
	PT3e:	• Development file (Porto folio)	.704			
	PT3f:	• The exams administered are sufficient in number	.687			
		Lecturers' and Students' Perspective				
	PT4a:	• Enhance students' performance	.686			
	PT4b:	• Easy to interact with students	.667			
	PT4c:	• Students easy to understand	.686			
	PT4d:	• Increase student interest	.727			

Table 3 (continued)

Construct	Items	Loading	Cronbach Alpha	CR	AVE
PT4e:	• Easy to achieve objectives	.704			
PT4f:	• Diversifying learning activity	.684			
PT4g:	• Fun learning environment	.654			
PT4h:	• Student more focus	.639			
PT4i:	• Perceived easy to deliver material	.723			
PT4j:	• Perceived easy to discuss with each other	.678			

4.3 Reflective indicator loadings

Reflective indicator loadings across all four variables, with fifty-four sub-variables, were determined using PLS-SEM. As a consequence of the procedure, the majority of items among all variables matched the suggested loading criterion (>0.708) Hair et al. (2019). However, 16 values (PS4a, PS4b, PS4c, PS5a, PS5a, PS5b, PS5c, PS6a, PS6b, PS6c, PS6d, PS6e, PS6f, PS7a, PS7b, and PS7c) were found to have a loading value less than 0.708; therefore, they were deleted due to their low loading. All the remaining items have a loading of more than 0.6, which is widely accepted as the benchmark (Dash & Paul, 2021; Hair et al., 2010a, b; Malhotra et al., 2006).

4.4 Internal consistency reliability

In this study, internal consistency reliability was utilized to assess the consistency of the instrument items' results Hair et al. (2019). It is important to report both Cronbach's Alpha (CA) and composite reliability (CR) Hair et al. (2019), where CA and CR should be equal to or above (≥ 0.700) Hair et al. (2019). Table 3 illustrates CA and CR values, revealing that for the majority of variables, these show adequate internal consistency reliability levels, with CA and CR ranging from 0.806 to 0.950 and 0.873 to 0.954, respectively.

4.5 Convergent and discriminant terms validity

The analytical model employed in this current research entails assessing convergent and discriminant validity, as recommended by Fornell and Larcker (1981). Convergent validity measures the correlation between items with the same dimension and detects the average variance extraction (AVE) (Huang, 2021). The recommended value needs to be greater than 0.500 Hair et al. (2019), explaining fifty percent or more of the

Table 4 The value of variance inflation factor (VIF) / Collinearity analysis and model fit

Construct	CX	IT	PS	PT
Context				2.027
Input				2.822
Process				2.696
Context, Input, Process				1.000

Table 5 Path coefficient (Relationship among constructs)

Hypotheses	Path	β	SD $[\delta]$	t-statistic	p-value	Significance
1 (H1)	CX = > PT	.132	.072	1.826	.069	[+, No]
2 (H2)	IT = > PT	.238	.071	3.353	.001	[+, Yes]
3 (H3)	PS = > PT	.483	.073	6.583	.000	[+, Yes]
4 (H4)	CX, IT, PS = > PT	.783	.028	28.347	.000	[+, Yes]

variance in a variable item, revealing good convergent validity (Huang, 2021). Three out of four constructs, context (0.633), input (0.626), and process (0.517), had an AVE score that is above 0.500, but Product < 0.500 (Table 6). Convergent validity is recommended if each item has outer loadings > 0.70 (Hair et al., 2014, 2010a, b), confirming all constructs.

On another note, the authors address discriminant validity to verify the relationship between items with different aspects by measuring the square root value of AVE. Discriminant validity is the extent to which a variable in the structural model is clearly distinct from other variables, as described by Hair et al. (2019). There are three criteria to assess discriminant validity: cross-loading, Fornell and Larcker, and heterotrait-monotrait ratio of correlations (HTMT) criteria (Hossan et al., 2020).

Based on the current study's findings, the AVE value of each construct is less than its shared variance (Table 6). As a result, by evaluating the Fornell Larcker criteria, the discriminant validity was determined. It is called discriminant validity if a loading quantity on one construct is more prominent than any of the cross-loading values on the other constructs, as demonstrated in Table 6 where each value of construct's outer loading indicator (bold) remained more prominent than any other cross-loadings. The investigation confirms discriminant validity.

When the HTMT level exceeds 0.900, discriminant validity issues arise (Hair et al., 2017; Henseler et al., 2009; Saputri et al., 2020; Sarstedt et al., 2017). The concept can be compared if the heterotrait-monotrait ratio of correlations (HTMT) is higher than 0.900 and has no discriminant validity. In Appendix S1, Table 4, all HTMT values are < 0.900. In conclusion, values that vary considerably from 1 are not confirmed.

Table 6 R^2 Value

	R^2	Consideration
Product	.613	*Moderate*

4.6 Model of structure

The structural model phase commenced with a study of collinearity issues. The structural model connection was then presented using path coefficients (β), *t*, and *p* values. According to Hair et al. (2019), the coefficient of determination (*R*2), and effect size (*f*2), were all analysed.

4.6.1 Collinearity

Collinearity should ascertain and check the set of predictors out. VIF values > 5.00 indicate collinearity among the predictor constructs. However, if it is < 5.00, it suggests that collinearity is not at a critical level or will not be an issue (Hair et al., 2019, 2021; Sarstedt et al., 2017). Hair et al. (2021) sums up critical concerns to arise if VIF ≥ 5; the problems are usually uncritical if VIF = 3–5, and collinearity is not problematic if VIF is less than 3. Context is a predictor of product intention (VIF = 2.027). Input is the predictor of the product (VIF = 2.822), and Process is the predictor of the product intention (VIF = 2.696). Eventually, Context, Input, and Process are the predictor of product intentions (VIF = 1.000). All variable values of VIF are lower than five (Table 3). The current study concludes that collinearity is not a major concern because all VIF values were much less than five. (Hair et al., 2017; Hair et al., 2021).

4.6.2 Structural model relationship

A bootstrapping procedure (Figs. 3, 4 and 5) was applied with 3,000 sub-samples to determine the significance of the link. Most variables are strongly connected at the 5% level of significance. The strongest correlations occurs on hypothesis (H4) CT, IT, and PS altogether to PT (β = 0.783; t = 28.347; *p* = 0.000), and the highest single driver shows on (H3) PS and PT (β = 0.483; t = 6.583; *p* = 0.000), (whereas the least statistically significant correlation develops between CX and PT (β = 0.132; t = 1.826; *p* = 0.069). However, another pathway is positive and significantly related: (H2) IT = > PT (β = 0.238; t = 3.353; *p* = 0.001). The results of the bootstrapping are shown in Table 5.

4.6.3 Coefficient of determination (R^2)

R^2 is the value required to calculate the model's accuracy. Each dependent variable's variance is explained by R^2, and the model's explanatory power is measured as per Hair et al. (2019) and Nitzl (2014). R^2 values range from 0 to 1, with a larger number indicating a better level of prediction accuracy (0.750 = significant, 0.500 = moderate, and 0.250 = weak) (Hair et al., 2019). Table 5 shows a high level of R^2. The moderate R^2 is Product (0.613).

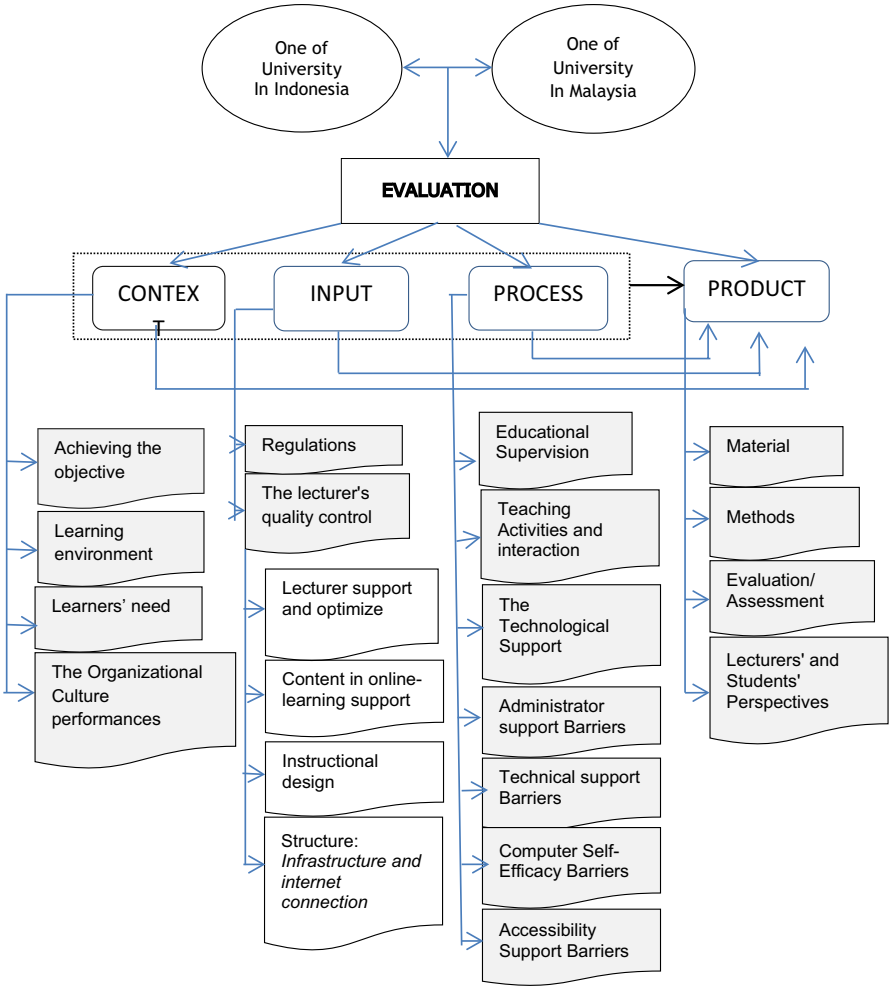


Fig. 3 The model of CIPP evaluation through the university's online platform

4.6.4 Effect size (f^2)

The effect sizes *(f^2)* assess the influence of a driving variable on a dependent variable (Nitzl, 2014). F^2 *evaluates* the change in R^2 values when an independent variable is removed from the model (Cohen, 1988). This is to assess the true influence of the independent variable on the dependent variable utilising the guideline values (0.020 = low, 0.150 = medium, 0.350 = large) (Hair et al., 2019). Table 7 exhibits f^2 effect size. Two drivers have small effect such as Context (0.022) and Input (0.052), while Process = > Product (0.224) has large effects on endogenous variables.

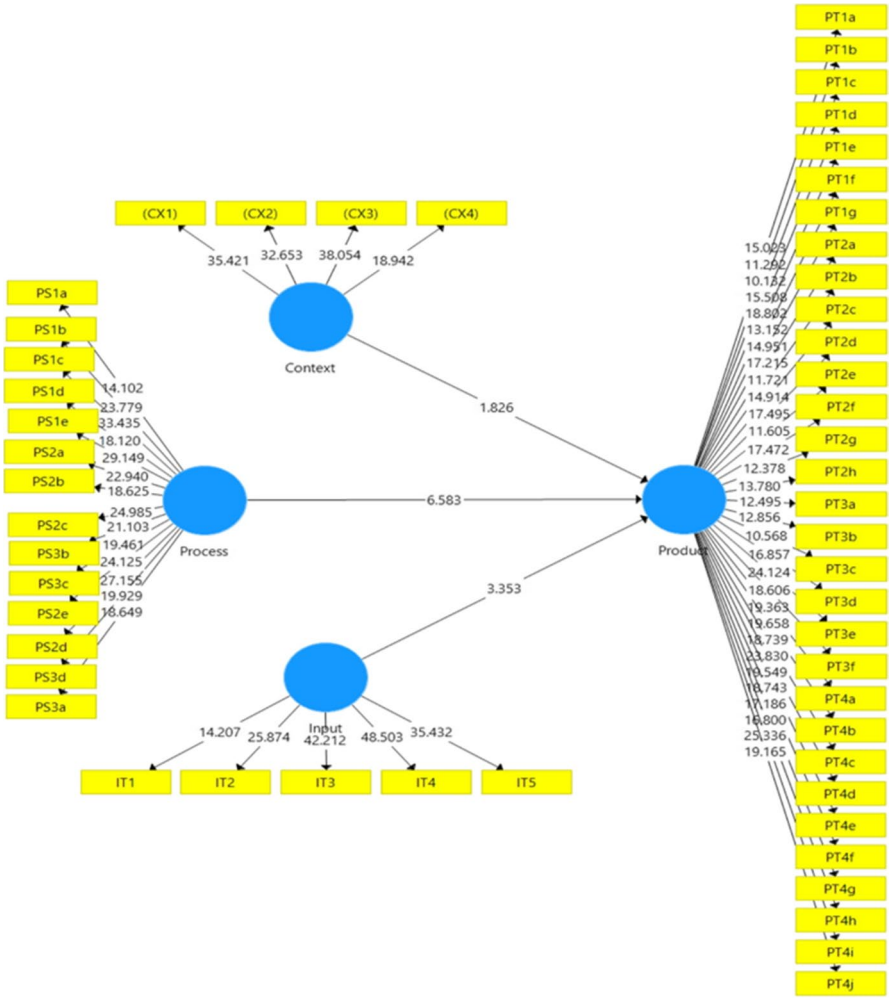


Fig. 4 Path coefficient (Construct Relationships)

5 Discussions

The present study sought to evaluate the effectiveness of communicative language teaching (CLT) on online teaching and learning platforms in higher education in Indonesia and Malaysia. This investigation utilized the Stufflebeam model, incorporating context, input, process, and product levels of the CIPP model, to conduct a comprehensive teaching and learning evaluation. This study represents a pioneering effort in a developing country, as it is the first of its kind to examine the impact of communicative language teaching (CLT) on online education in higher education settings in Indonesia and Malaysia. By leveraging online learning platforms

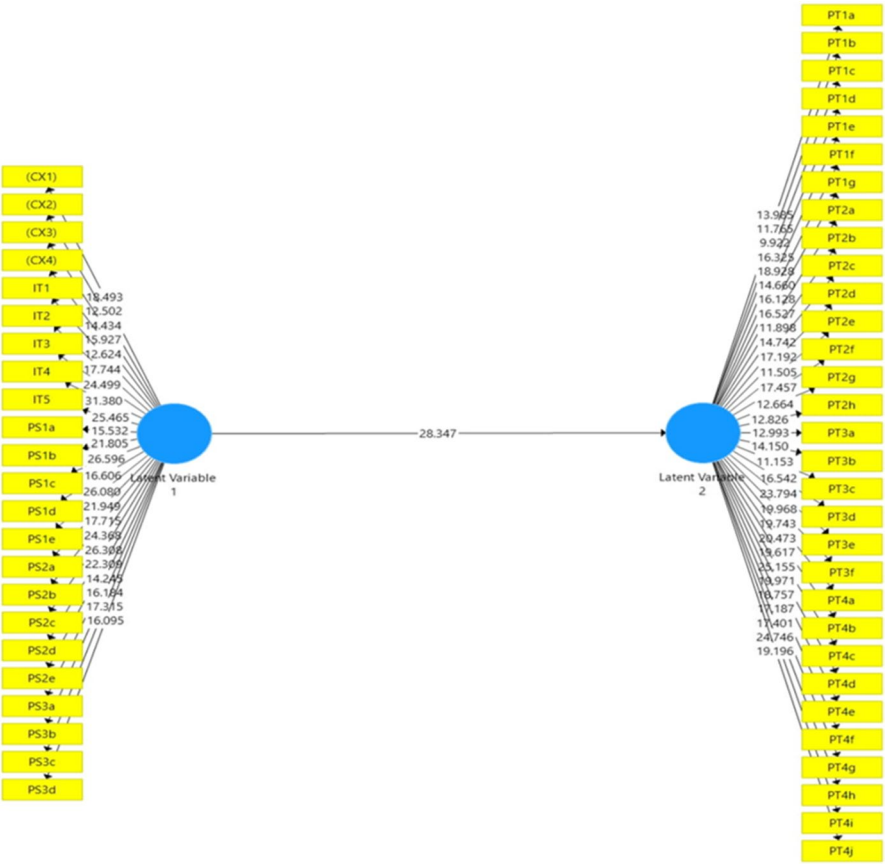


Fig. 5 Path coefficient (Construct relationships)

and employing the CIPP model with PLS-SEM for statistical analysis, this research aimed to shed light on the efficacy of CLT in the context of digital education.

The validity and reliability of the suggested model were assessed through a meticulous measurement model evaluation. The data underwent thorough processing in Smart-PLS, enabling the exploration of the structural model, coefficient determination, effect magnitude, and predictive relevance. Following the assessment procedures proposed by Hair et al. (2019) for studies utilizing PLS-SEM, the analysis yielded valuable insights into the relationships between the variables. According

Table 7 F^2 Effect size

	Original f^2	Effect Size
Context	.022	Small
Input	.052	Small
Process	.224	Large
Product	-	-

to the findings, three out of four hypotheses were confirmed, signifying significant relationships. Notably, PT significantly predicted IT (H2), PS (H3), and the combined effect of CX, IT, and PS (H4). These results provide compelling evidence of the influence of communicative language teaching on various dimensions of online teaching and learning platforms.

Context evaluations played a crucial role in identifying needs, problems, and opportunities, ultimately aiding in the establishment of clear targets and priorities. *Input* evaluations assessed diverse strategies for meeting these needs, contributing to the effective planning and implementation of educational programs. *Process* evaluations, on the other hand, focused on the actions and interventions put into practice, offering valuable insights into the factors influencing improved outcomes. Lastly, *product* evaluations delved into investigating the project's overall outcomes, providing a comprehensive understanding of the effects of communicative language teaching on online education. By referencing relevant studies (Agustina & Mukhtaruddin, 2019; Purwaningsih & Dardjito, 2021; Stufflebeam, 2003a, 2003b), the present research aligns its findings with existing knowledge in the field. The following sub-section will delve deeper into the implications of the study's results, providing valuable contributions to the literature on communicative language teaching, online education, and higher education in the context of Indonesia and Malaysia.

5.1 Context

The findings of the study revealed interesting findings regarding participants' perceptions and attitudes towards the e-learning platform's effectiveness. *Firstly,* it was evident from the data that most participants (57%) agreed that the e-learning platform effectively satisfies learners' needs in the context of communicative language teaching. This agreement percentage was higher than those who strongly agreed (16.14%) and those who remained neutral (neither agreed nor disagreed) (21.52%). This finding indicates that the e-learning platform is generally perceived as meeting the learning and teaching requirements for communicative language teaching, suggesting a positive response from the participants.

This finding aligns with the study by (Alkraiji & Ameen, 2021), which examined the impact of service quality, trust, and satisfaction on young citizens' loyalty towards government e-services. The study found that service quality and citizen satisfaction play a significant role in developing citizen loyalty to e-services. Trust in government was identified as having the strongest direct effect on citizen loyalty to e-government services (Alkraiji & Ameen, 2021). However, Alkraiji and Ameen (2021) point out that it will be important to note that there may be challenges in aligning the learning outcomes with the broader objectives of communicative language teaching.

Moreover, the analysis delves into the relationship between context (H1) and the product (PT). According to the computation's findings, the study revealed that context does not significantly affect the product. The correlation between context (CX) and the product (PT) was found to be statistically insignificant ($\beta = 0.132$; $t = 1.826$; p-value > 0.05). This result suggests that different

institutions and participants in the course may approach the objectives, needs, and learning environment differently, leading to varying outcomes in the teaching and learning process.

In addition, the analysis of the relationship between context and the product highlights the importance of considering the diverse contexts and perspectives in e-learning. The studies by Mohmmed et al. (2020) and Britwum et al. (2020) provide relevant insights into the impact of context and external factors on teaching and learning outcomes. These findings emphasize the need for flexibility and adaptability in e-learning approaches to accommodate the diverse needs and objectives of learners and institutions. By understanding the contextual factors and considering the experiences and perspectives of participants, educators and institutions can enhance the effectiveness of e-learning and promote positive learning outcomes.

In summary, the research findings demonstrate favorable perceptions of the e-learning platform's efficacy in facilitating communicative language teaching. The study emphasizes the importance of service quality, satisfaction, and trust in e-services, and it underscores the need to consider diverse contexts to enhance e-learning results. These insights offer valuable guidance to educators and institutions in optimizing e-learning practices and customizing them to effectively meet the diverse needs of learners.

5.2 Input

The findings of the study reveal that program development in online learning is determined by issuing regulations and ensuring lecturer quality control. The analysis of the questionnaire responses indicates that participants generally agreed with the campus regulations related to online learning, with a majority agreeing (60.44%) and a significant number strongly agreeing (21.20%). This suggests that the participants perceive the campus regulations as effective in guiding the online teaching and learning process.

The study also found a significant effect of IT on the product ($\beta = 0.238$; $t = 3.353$), indicating that the use of information technology positively influences the outcomes of online learning. These findings align with the study by Bahasoan et al. (2020), Hockaday et al. (2022), and Vilchez et al. (2021), which emphasizes the importance of implementing regulations and guidelines for online learning during the COVID-19 pandemic. The policies of both countries for the implementation of online learning activities to ensure the continuity of education are also emphasizing the significance of quality control in ensuring the effectiveness of e-learning. Furthermore, the role of stake holder in promoting quality assurance has been found to have a significant correlation with perceived effectiveness (60,13%). The finding of the study also underscores the importance of ensuring quality control measures are in place to enhance the overall success of online learning initiatives (58,22%). This finding in line with a study by Martin et al. (2019) who highlight that the importance of authentic assessments and the use of rubrics to assess students and maintain quality control.

The study's findings highlight the importance of integrating regulations and quality control measures as positive inputs to enhance the effectiveness and quality of online learning. By implementing these measures, institutions can better guide the online

learning process and improve the learning experiences of participants, especially during challenging times like the COVID-19 pandemic.

5.3 Process

In the context of process, the study confirms a significant link between process and product, with the hypothesis (H3) being accepted ($\beta = 0.483$; $t = 6.583$). The implementation of the teaching–learning process in an online learning environment is assessed through three indicators and fourteen aspect values: educational supervision, teaching activities and interaction, and technological support. Among these, technological support exhibited the highest reliability ($\alpha = 0.928$), meeting the threshold criteria as suggested by Hair et al. (2019).

The first indicator focuses on the usefulness of online learning platforms in minimizing miscommunication between teachers and students. Most participants (58.86%) agreed that online learning platforms were indeed a useful way to address this issue. This finding aligns with the study by (Coman et al., 2020; Jiang et al., 2022; Zacharis & Nikolopoulou, 2022), which emphasized the reliance on e-learning platforms for teaching and learning. Effective communication is crucial for successful learning outcomes, and the use of online platforms can facilitate this communication.

The second indicator examines the consideration of students' ideas in organizing classroom activities. A significant number of participants (56.33%) agreed that their ideas were considered in the organization of activities. This result is consistent with the findings of Ibrahim et al. (2019) and Gustian et al. (2023), who found that incorporating student ideas through advanced organizers in a flipped classroom setting enhanced active learning and performance. Other studies have also highlighted the positive effects of using online social networking platforms, such as WhatsApp, for student-instructor communication (Hidayati et al., 2022; Theocharis et al., 2021; Yeboah & Nyagorme, 2022).

The third indicator explores the importance of accessibility and technical support in online learning. The highest agreement score was for "accessibility support becomes a supporting factor in online learning" (55.70%), while "technical support becomes a supporting factor in online learning" received the lowest agreement score (50%). This finding emphasizes the significance of providing resources like internet access and supporting infrastructure for effective online learning. The study highlights the crucial relationship between accessibility and technical support in ensuring effective teaching and learning in an online setting.

In addition, the study's findings demonstrate the significant link between process and product in online learning. The indicators of educational supervision, teaching activities and interaction, and technological support play crucial roles in the implementation of the teaching–learning process. The findings align with previous studies that emphasize the usefulness of online platforms, the consideration of student ideas, and the importance of accessibility and technical support in online learning. These insights contribute to the understanding of effective

practices in online teaching and learning and can inform the development of strategies to enhance the quality of online education.

Overall, the study provides evidence of the connection between the teaching–learning process and its outcomes in online learning. It identifies key indicators, such as technological support and consideration of student ideas, which play vital roles in successful online education. The findings underscore the importance of effective communication through online platforms and the provision of accessibility and technical support to enhance the overall learning experience. These results offer valuable guidance for educators and institutions aiming to improve the quality and effectiveness of online teaching and learning practices.

5.4 Product

Based on the data finding, the current study's course evaluation results were influenced by four main factors: "lesson material usage," "method of teaching," "evaluation/assessment," and "lecturers' and students' perspective." Among these, the "lesson material usage" indicator emerged as a primary driver of the latent variable in the product. This indicator consists of seven aspects, with the highest score value obtained by respondents being for "reading texts" (61.39%). It is important to note that the current study is not directly linked to the study of Diana and Mansur (2018). However, their study revealed that reading skills were perceived as highly important for future careers, ranking second highest among several responses (53%). Moving on to the "lesson material usage" indicator, the last aspect score value pertained to "listening CDs / DVDs" (54.11%). In addition to this, other aspects received moderate responses from the participants, including audio-visual materials to improve speaking skills ($N = 184$), writing materials ($N = 182$), speaking practice ($N = 180$), reading, writing, speaking, and listening materials related to daily life topics ($N = 178$), and grammar materials ($N = 173$).

The second driver of the latent variable, "method of teaching" in product, reveals that the highest score value is associated with the method of "students asking questions," with 58.23% of respondents employing this approach during the teaching and learning process activities. On the other hand, the aspect of role play received the lowest agreement score, with only 47.78% of respondents expressing agreement. In addition to "students asking questions" and "role play," other teaching methods utilized by respondents include group work, teacher's lecture, pair work, students answering questions, discussion, and students making presentations. Among these, "group work" stands out as the second most used method through online learning platforms at each campus, with 55.70% of respondents opting for this approach.

The third driver of the latent variable, referred to as "evaluation/assessment," consists of six indicators. Among these, "The exams applied reflect the content of the lessons" received the highest score value from respondents, with 59.18% agreeing with this statement. This finding aligns with Gorres-Martens' (2020) perspective, which suggests that exam reflection assignments can effectively measure both content-based knowledge and critical-thinking abilities. The flexibility of the exams, which may include various question types such as multiple choice, true/false, short

answer, or essay, contributes to their effectiveness in assessing student learning. Conversely, the indicator "development file (portfolio)" obtained the lowest agreement score, with only 51.90% of respondents agreeing with this statement among all indicators. In the context of the third latent driver, the second-highest score value of respondents "agreed" to the statement "Midterm exams and quizzes help me learn better," with 58.54% of respondents expressing agreement.

There are a total of ten indicators in this section, encompassing various aspects such as enhancing students' performance, perceived ease of interacting with students, students' ease of understanding, increasing student interest, ease of achieving objectives, diversifying learning activity, creating a fun learning environment, students being more focused, perceived ease of delivering material, and perceived ease of discussing with each other. Among these indicators, the highest number of responses (56.96%) was for "enhancing students' performance," followed closely by the second-highest indicator, "diversifying learning activity" (54.43%). These findings align with the studies of (Allam et al., 2020; Castro & Tumibay, 2021; Gopal et al., 2021; Mulyadi et al., 2021; Phoeun & Sengsri, 2021). Those studies also reported that over half of the respondents agreed that they were fully attentive while participating in the teaching and learning process through the university's online platform application.

In summary, the research findings highlight significant factors that impact course evaluation outcomes in online learning. The effective utilization of lesson materials, varied teaching methods, and appropriate evaluation and assessment approaches play a crucial role in fostering student engagement and improving learning outcomes. Moreover, students' favourable perceptions of teaching and learning practices positively influence their performance and interest in the online learning setting. These valuable insights can serve as guidance for educators and institutions to optimize their online teaching strategies and elevate the overall quality of online education.

5.5 Implication and contribution

Online teaching has an expanded range of implications for pedagogy, teacher-student contact, assessment, and other campus-related issues such as social life and administration. While the designs, locations, and delivery procedures of online learning vary, the core premise stays consistent: students learn off-campus, generally in isolated circumstances.

Theoretically, the research represents a pioneering endeavor in assessing the effectiveness of communicative language teaching (CLT) on online platforms in Indonesia and Malaysia, addressing a significant void in the existing literature. By adopting the Stufflebeam model and encompassing context, input, process, and product levels, the study offers a comprehensive framework that can guide future research in evaluating educational programs. Utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM) enhances the credibility and dependability

of the proposed model, establishing a benchmark for rigorous statistical analysis in similar investigations.

Practical implication shows that the study's context evaluations help identify the specific needs, challenges, and opportunities associated with online learning platforms in Indonesia and Malaysia. This understanding can inform effective planning and implementation of educational programs, allowing institutions to prioritize areas for improvement. Input evaluations highlight the importance of regulations and lecturer quality control in the development of online learning programs. Institutions can use these insights to establish clear guidelines and standards that effectively guide the online teaching and learning process. The study emphasizes the significant role of information technology (IT) as a positive factor influencing product outcomes in online learning. Educators and institutions can harness IT effectively to enhance the overall effectiveness of online education.

The study's findings encompass significant social and sustainable implications. In terms of social implications, the study highlights the potential of online education to address diverse learning needs, particularly in regions with limited traditional access to education like Indonesia and Malaysia. This underscores online learning's capacity to bridge educational disparities and extend opportunities to a broader audience. Moreover, the study emphasizes the critical role of trust in online education systems, drawing parallels with trust observed in e-government services. Trust is identified as pivotal in fostering engagement among students and educators, emphasizing the imperative of cultivating and maintaining trust to ensure sustained online education growth. Additionally, the study underscores the importance of flexibility and adaptability in online education, enabling it to cater to learners' unique needs and backgrounds, thus fostering inclusivity. Lastly, it highlights the potential for active student participation and creativity through various teaching methods, with the potential to enhance critical thinking and problem-solving skills, offering significant social benefits.

From a sustainable perspective, the study emphasizes the significance of regulations, quality control measures, and stakeholder engagement as pivotal elements in ensuring the longevity and effectiveness of online learning. Consistency in quality is identified as essential for bolstering the credibility and enduring relevance of online education. Efficient resource allocation, guided by an understanding of factors impacting online learning outcomes, is recognized as a sustainable practice that minimizes resource wastage while maximizing educational benefits. Furthermore, the study points out that effective online education has the potential to mitigate the carbon footprint associated with traditional educational institutions by reducing commuting and resource consumption. Additionally, online education's capacity to increase access, especially in remote areas, aligns with sustainable development goals by decreasing the demand for extensive physical infrastructure and optimizing the utilization of educational resources. Finally, the study's dedication to continuous improvement through the assessment of various facets of online education underscores the necessity of adapting to evolving needs and technologies, a fundamental aspect of sustainable educational practices.

In conclusion, the study sheds light on the multifaceted impact of online teaching, transcending pedagogy and delving into teacher-student interaction, assessment,

and campus-related issues. It underscores the consistent core premise of off-campus learning, often in isolated settings. Utilizing the Stufflebeam model and employing Partial Least Squares Structural Equation Modelling (PLS-SEM) elevates the rigor and credibility of the study's framework, setting a benchmark for robust statistical analysis in similar investigations. Practical implications include context evaluations that help pinpoint specific needs, challenges, and opportunities in online learning platforms, guiding informed planning and program implementation. Input evaluations emphasize the pivotal role of regulations and lecturer quality control, providing guidance for setting clear guidelines and standards for effective online education. Furthermore, the study underscores the influential role of information technology (IT) in enhancing product outcomes in online learning, urging educators and institutions to harness IT effectively for optimal educational outcomes. In addition, the study's findings extend beyond the academic realm, encompassing significant social and sustainable implications. It highlights the potential of online education to bridge educational gaps, foster trust, promote inclusivity, and enhance critical thinking skills. Overall, the research provides a comprehensive perspective on the transformative power of online teaching, both in terms of its educational and societal impact, as well as its potential to align with sustainable development goals.

6 Conclusions

6.1 Research conclusion

The CIPP Model benefits language instructors and language program management is adaptable, comprehensive, and based on ideals co-created by program stakeholders. It also correlates well with significant features of contemporary thinking in communicative language teaching (CLT), such as an emphasis on four evaluation components via CIPP. In addition to confirming the study's considerable reliability and validity, it also confirmed that there is no collinearity between the research facets while evaluating the structural model. Overall, the model in this study is well-fitted.

According to the data, the study discovered that the e-learning platform meets the demands of learners in learning, and communicative teaching language is the most dominating among others in this part. *Second*, it gives empirical data evidence of input to those rules and regulations and the lecturer's quality control in teaching and learning via the university's online platform. In contrast, regulations related to online learning and lecturer quality control are the most significant among other indicators. *Thirdly*, it provides empirical data evidence of the process of those educational supervisions, teaching activities, interaction, and technological support in teaching and learning through the university's online platform.

Moreover, the study also discovered that educational supervision has a practical way of minimizing miscommunication between teachers and students. In teaching activities and interactions, students' ideas are considered when organizing classroom activities. In technological support, participants significantly affirm that accessibility support becomes a supporting factor in online learning. *Fourthly*, it provides empirical data evidence of the products of those categories: lesson material usage, teaching

method, evaluation/assessment, and lecturers and students' perspectives on teaching and learning through the university's online platform. The data also revealed that the four indicators' most essential components are reading texts, students asking questions, using exams to assess students' understanding of the material, and improving student performance. Considering all of these supports when organizing teaching and learning interaction are the keys to getting lecturers and students to use the online university platform.

6.2 Limitations and suggestions

The current study recognizes a number of limitations that might influence future research in this area. *At first*, the research used the CIPP framework to evaluate the implementation of online learning using a university platform, with a sample size of 316 professors and students. subsequently might be suggested that future research increase the sample size to encompass a more varied and representative population. Increasing the sample size would allow quantifiable data to be collected with the objective to draw larger conclusions and promote macro-explorations of CLT in online education.

Second, because this study focused on a specific university's online courses and examined students' subjective perceptions of CLT's usefulness, caution should be given when applying the research findings to other educational environments. To improve the external validity of the findings, a future study might involve a wider range of universities and online learning platforms.

Third, the study conducted quantitative research, collecting data from students using a modified questionnaire. Future studies might benefit from more comprehensive quantitative and qualitative or mixed-method investigations to gain a better grasp of these elements, with in-depth interviews offering important insights into students' experiences and viewpoints, facilitating a more thorough evaluation of the issues impacting their learning experiences.

Future research might also look into methods to increase teachers' involvement in online learning. Investigating techniques to improve teacher readiness and responsiveness throughout the online learning process may result in improved learning outcomes and student engagement. Future research can expand our understanding of the efficacy of CLT in online education and contribute to the continual development of online teaching and learning methods by addressing these constraints and studying the proposed topics.

In conclusion, the study contributes to the advancement of language education in the digital age and offers valuable insights for educators, policymakers, and institutions aiming to enhance the effectiveness of online teaching and learning platforms. By leveraging the CIPP Model and addressing the study's limitations, future research can further refine and improve language education practices and outcomes in diverse higher education settings.

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Data availability The datasets generated and/or analyzed during this study are not publicly available because the data are part of an officially unfinished reported project to MORA but are available from the corresponding author upon reasonable request.

Declarations

Competing interests The authors declare that they have no competing interests.

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