EUSTRESS, LEARNING ENGAGEMENT, AND WORKABLE STRATEGIES OF DCBLT IN ENGLISH FOR ENGINEERING

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Abstract: Attention to eustress related to learning engagement among ESP learners utilizing Digital Content-Based Language Teaching (DCBLT) remains notably insufficient. This research aims to identify the levels and relationships between eustress and learning engagement, as well as the identification of workable teaching strategies when implementing DCBLT. Employing a mixed-method approach, this study utilizes quantitative data (questionnaire responses) from 43 students and qualitative data (in-depth interviews) from three English for Engineering language instructors. The analysis procedure for quantitative data employed the Spearman rank correlation test, while qualitative data was analyzed using thematic analysis. The results indicate that the levels of eustress and learning engagement among students are highly satisfactory. Moreover, eustress correlates positively and strongly with increased learning engagement. The data also reveals the existence of several workable DCBLT teaching strategies, encompassing the pre-teaching phase (stimulating idea generation, fostering brainstorming, establishing connections, and motivating learners), the whilst-teaching phase (employing a student-centered learning approach, including individual tasks, group work, and quizzes via the DCB platform), and the post-teaching phase (assessing, verifying, and reviewing learners' comprehension). Research recommendations are also presented in the concluding section to fortify and extend the findings of this study.
Keywords: *DCBLT; eustress; learning engagement.*

INTRODUCTION

English for Specific Purposes (ESP) continues to face several unresolved issues. Among these challenges are teaching pedagogy, the role of teachers, learning design, learner abilities, and learner needs (Anwar & Wardhono, 2019). The pedagogy of teaching is still characterized by ineffective learning outcomes. ESP instructors still require enhanced skills, knowledge, and experience. Additionally, the ESP course design still lacks a well-defined, comprehensive syllabus based on thorough needs analysis, including the provision of suitable materials and assessments. Furthermore, student needs frequently evolve, presenting distinct challenges to ESP teacher expectations. Affective concerns also persist and receive limited attention, encompassing aspects

such as motivation, anxiety, efficacy, distress, and eustress (Fitria, 2023).

Additionally, affective factors, consisting of anxiety, motivation, self-efficacy, distress, and eustress, are emotional elements that significantly impact the learning process (Anwar, 2020). These affective dimensions tend to receive limited attention due to the predominant focus of ESP on cognitive and linguistic aspects alone, such as grammar, vocabulary, genre, and discourse. English educators have yet to receive comprehensive training in effectively addressing these affective factors, particularly within blended and online learning contexts. Moreover, cultural and peer influences contribute to the insufficient emphasis on sharing affective experiences among learners (Anwar, 2020). Among the various

mentioned affective factors, eustress remains a relatively neglected aspect in ESP learning. However, eustress, characterized as positive stress with advantageous effects on mental health, performance, emotional well-being, and motivation, bears significant relevance. Eustress proves beneficial within ESP by heightening student motivation towards mastering both the subject matter and language under study (Mulyadi et al., 2020; Pérez-Llantada & Swales, 2016).

Certain ESP teaching strategies have evolved to address barriers by enhancing students' knowledge and interest, and by tailored learning models for adults (Evans & Green, 2007; Yu, 2018). The creation of activities that seamlessly integrate science and language has also been undertaken, focusing on lexis, grammar, student learning skills, genres, and specific discourse. This also includes instructor training in areas such as designing lesson plans, creating syllabus, selecting resources, and evaluating learning outcomes. Nevertheless, despite these efforts, the reduction of ESP-related challenges has not been achieved significantly, as indicated by the persistent occurrence of learners with subpar achievements and low learning enthusiasm (Alm, 2016; Alzeebaree & Hasan, 2020; Miglani, 2017).

Another factor that significantly impacts the effectiveness of ESP is the level of learner engagement (Gabarre et al., 2016; Kubischta, 2014; Wu, 2019). Learning engagement represents both a challenge and an opportunity. It maintains the involvement and interest of learners in the learning process. The primary determinants of ESP student learning engagement encapsulate the presence of learners' goals, needs, and interests; pedagogy tailored to these needs; and an adequate learning environment, materials, resources, and assessment methods (Ahmed, 2014; Rica et al., 2018).

Despite the shift of ESP learning towards online platforms, numerous strategies fall short in fostering active engagement due to the mismatch between online teaching approaches and learners' preferences, expectations, and needs (González et al., 2019; Plastina, 2015; Rahman, 2015). This discrepancy is marked by insufficient feedback, interaction, and peer support, as well as a dearth of metacognition, self-regulation, and student motivation within the learning management process.

Considering the evolving demands of ESP learning, particularly in the post-COVID-19 era, Digital Content-Based Language Teaching emerges as a promising avenue. This approach amalgamates content knowledge and language skills through the utilization of digital technology

(Kirkham, 2015; Monica & Vianty, 2019; Villalobos, 2013). However, current research underscores the need for strengthening this approach, as discrepancies between student learning styles and teacher teaching methods can lead to frustration, demotivation, and learning setbacks (Iakovos et al., 2011; Villalobos, 2013). Therefore, dependable, and practical strategies are essential in digital content-based ESP learning to aid learners in enhancing their technological proficiency (digital literacy), fostering innovation, and honing problem-solving skills. Digital content-based approaches should facilitate learners in overcoming challenges in interaction between students, teachers, the learning environment, and other factors.

English for Specific Purposes (ESP) is a subset of English Language Teaching (ELT) that is tailored to the requirements of learners, whether they maintain to professional or academic contexts (Aksornjarung, 2017; Kirkham, 2015; Yumnam & Yumnam, 2021). Content-Based Language Teaching (CBLT) endeavors to fuse content and language instruction through the utilization of tasks and authentic materials (Amutha, 2017; Karim & Rahman, 2016). While CBLT within ESP has garnered increasing adoption by educators, certain limitations persist. These primarily encompass challenges in securing qualified instructors equipped with both content-related and linguistic expertise, as well as fostering collaboration between content and language educators. Furthermore, difficulties endured in the development of teaching materials that effectively align with learners' interests, needs, and competencies, while simultaneously adapting to the existing educational context (Nurjannah, 2020; Tahir et al., 2021). Similarly, the assessment of content and language learning outcomes does not consistently correspond to the requirements for comprehensive feedback, nor does it adhere to unequivocal and coherent criteria. Digital Content-Based Language Teaching (DCBLT) plays a pivotal role in ESP as it enables learners to cultivate language proficiencies while acquiring knowledge of language and content in a meaningful and integrated manner. Moreover, DCBLT significantly contributes to enhancing communicative competence that is pertinent and specific for both professional and academic endeavors. DCBLT encompasses tasks and authentic materials meticulously tailored to real-life needs and contexts (Frolova et al., 2020; Jabbour et al., 2020). Nevertheless, the implementation of DCBLT in language classes can result in various disruptions, such as students

being tempted to visit unrelated websites, loss of student interest, and avoidance of oral interactions among students (Calabrich, 2016). Research conducted by Salloum et al. (2019) revealed that, despite students perceiving DCBLT as fairly effective they remained unconvinced about its simplicity and practicality for their needs.

The implementation of DCBLT has been undertaken by certain educators across diverse contexts; however, as of yet, an optimal procedure has not been conclusively established for ESP (Serra-Cámara (Universitat Politècnica de & València), 2013; Gutiérrez-Porlán et al., 2022). Specific steps have been identified in a general sense, starting with a needs analysis to discern the interests, objectives, and proficiency levels of learners in terms of both content and language. Subsequent curriculum design should seamlessly integrate content and language objectives, tasks, instructional materials, and assessment methodologies. The implementation of the curriculum follows an interactive and communicative approach, fostering feedback provision, collaborative efforts, and learner independence (Balasubramanian, n.d.; Whyte, 2019). Furthermore, curriculum evaluation applies principles rooted in competency-based assessment to gauge language and content outcomes.

Yet, it is noteworthy that several factors contribute to the challenges faced by DCBLT in ESP (Mirani et al., 2019). Paramount among these is the dearth of support and comprehensive training for educators in DCBLT, especially concerning content knowledge, assessment techniques, and curriculum design. Furthermore, difficulties arise from the misalignment between the expectations and needs of participants regarding materials, curriculum, tasks, and DCBLT resources. There is also a deficiency in the adaptation of authentic and contextually relevant tasks and materials to the domains of language and content. Moreover, reluctance persists among both teachers and students when it comes to the adoption of DCBLT approaches

Eustress is a form of positive stress that impacts the emotional well-being of ESP learners (Bienertova-Vasku et al., 2020; Branson et al., 2019a; Mesghina, 2021). Eustress within ESP proves advantageous in enhancing motivation towards achieving both content and language objectives, alleviating negative effects, and augmenting learner satisfaction. Various strategies can be employed to cultivate eustress in ESP, including aligning goals with interests and objectives, delivering positive feedback, fostering positive emotions and student experiences, and implementing controlled techniques to boost motivation and learning outcomes.

Furthermore, learning engagement characterizes the active participation of learners throughout the language learning process (Zainuddin et al., 2020; Novianti & Garzia, 2020). This engagement encompasses the emotional, cognitive, social, and behavioral dimensions of learning. Of course, the extent of learning engagement depends on numerous factors, such as learners' goals, emotions, attitudes, interactions, strategies, and motivation. Conversely, language learning engagement may wane due to factors like limited interaction and participation between students and instructors, stemming from cognitive, affective, environmental, and linguistic barriers. Additional factors that can contribute to reduced engagement include a perceived lack of relevance and significance in the learning content or tasks, as well as insufficient feedback (Lee et al., 2019a; Zainuddin et al., 2020; Zainuddin et al., 2020).

A recommended strategy to increase language learning engagement involves cultivating a classroom culture that is secure, supportive, and comfortable. Nonverbal cues and tone of voice also play a pivotal role in conveying interest and enthusiasm, thereby motivating learners. Employing a variety of tasks and activities that cater to students' preferences, learning styles, and proficiency levels is essential. Emphasizing the real-world relevance of content and learning tasks is crucial in making them meaningful to students' lives (Lee et al., 2019b; Nadeem, 2019).

While existing research has not extensively examined the relationship between learning engagement and eustress within the context of ESP, referring to theoretical perspectives advanced by experts suggests a potential reciprocal link between eustress and learning engagement. In this proposed relationship, eustress serves to enhance learning engagement while mitigating negative stress. An understanding of eustress and learning engagement aids in accurately identifying the needs and effective communicative practices within the realm of ESP.

Thus, this study seeks to explore three points that have not received attention from previous research, namely: (1) How is the level of Eustress and language learning engagement in digital content-based learning in English for Engineering? (2) How is the correlation between the level of eustress and student engagement when using digital content based? (3) What are the workable strategies for implementing digital content based to English for Engineering classes?

METHOD

This study aims to address three primary questions: What is the level of eustress among engineering students? What is their level of learning engagement? How do eustress and learning engagement correlate? Additionally, the study seeks to identify suitable workable strategies for teachers when employing DCBLT, particularly in the context of teaching English for Engineering. To respond to these inquiries, it is evident that two distinct types of data are required. Quantitative data is utilized to ascertain the levels of stress and learning engagement and to establish the correlation between these two factors. alternatively, in-depth interviews with several teachers were conducted to obtain descriptive and narrative data, enabling the exploration of effective strategies employed when teaching English for Engineering through DCBLT. As such, a mixed-method research strategy proves to be the most appropriate choice for this study. The combination of quantitative and qualitative approaches serves to ensure the validity of the study findings by encompassing a comprehensive range of data (Aloraini & Cardoso, 2020).

This mixed-method study utilized data obtained from a questionnaire administered to 43 engineering students who had participated in a D1 equivalent English program, specifically within the Faculty of Engineering at the University of Muhammadiyah Gresik. The total enrolment in this program consists of 70 students. However, only 43 students returned the questionnaire. Additionally, three out of the six teachers instructing engineering classes were selected as participants because they demonstrated consistent application of DCBLT. All 43 respondents were enrolled in the English for Engineering program that utilized Digital Content-Based Language Teaching (DCBLT) during the 2022-2023 academic year. The respondents included 25 women and 18 men, with 16 hailing from urban areas and 27 from rural areas. On average, the respondents had been studying English for 7 years, and their ages ranged between 19 and 21 years. Additionally, the study also involved 3 English for Engineering instructors who possessed more than 4 years of teaching experience and had implemented DCBL for a period of 1 year.

This study employed three instruments, consisting of two questionnaires and one interview. Initially, a questionnaire pertaining to eustress was utilized, which had been developed by Branson et al. (2019a). The items in this questionnaire underwent validity and reliability testing with a sample of 981 respondents, utilizing a test-retest reliability approach. The resultant questionnaire is referred to as the Adolescent Distress-Eustress Scale (ADES). The internal consistency of this instrument was assessed using Cronbach's alpha to ascertain and forecast its reliability. The obtained correlation coefficient exceeded 0.8, indicating a commendable temporal stability. Construct validity verification was further carried out through two approaches: (1) measures aimed at gauging the same construct (convergent validity) and (2) measures encapsulating other constructs unrelated to stress (discriminant validity). The outcomes of the convergent validity assessment revealed a notably strong positive correlation (Branson et al., 2019a)

The second instrument is the learning engagement questionnaire developed by Al Bogami (Al-Bogami & Elyas, 2020). It was verified by a group of TESOL (Teaching English to Speakers of Other Languages) professionals, consisting of two assistant professors and two expert lecturers and has also been modified. respondents provide satisfactory and internally consistent results; so that the questionnaire adopted can be stated as a reliable measure.

The third instrument is an interview about the workable strategy in using DCBLT which has been developed from Cahyono, et al. (Cahyono & Khotimah, n.d.). The interviews conducted included strategies applied to each of the three stages of teaching (pre, while, and post).

Upon data collection, the analysis process comprises three distinct phases. The initial phase entails conducting statistical descriptive analysis, focusing on measures of central tendency, dispersion, and normal distribution, applied to both eustress analysis and learning engagement. The subsequent phase involves utilizing Spearman rank correlation analysis through SPSS software. Finally, the third phase includes data reduction, data visualization, and the description of findings. Method should make readers be able to reproduce the experiment. Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described. Do not repeat the details of established methods. The method section covers: Respondents, Instruments, Procedures, and Data analysis.

RESULTS AND DISCUSSION

This section explains the proposed research findings, namely the level of eustress, engagement, correlation between the two, and applicable strategies used in learning CBLT.

The levels of eustress and learning engagement

The results of the level of eustress, engagement, and applicable strategies are illustrated in table 1.

Table 1. *Descriptive statistics*

		Motivated in CBLT	Equal results from individual effort	Satisfaction in learning stress	Self determination	Satisfaction with learning challenges	CBLT motivates ESP learning	Learning Participation in CBLT	Task orientation in CBLT	Group works in CBLT	Acceptability in Pre-activities using explanantion and vocab building	Acceptability in Pre-activities using Q&A and practices	Acceptability in Whilst-activities using Q&A and individual assignment	Acceptability in Whilst-activities using group works	Acceptability in Post-activities using practices and quiz	Acceptability in Post-activities using summary	Average
N	Valid	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		4,0465	4,1395	3,7674	4,0698	4,1395	4,0930	3,9767	4,0930	4,1395	4,0000	4,0930	4,0930	3,9070	4,0233	3,9767	4.037
Median		4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4
Mode		4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4
Std. Deviation		,72222	,63925	,81174	,73664	,67547	,71760	,80144	,71760	,70984	,72375	,68362	,64785	,92102	,73964	,85880	,740
Variance		,522	,409	,659	,543	,456	,515	,642	,515	,504	,524	,467	,420	,848	,547	,738	,553
Minimum		2,00	3,00	2,00	2,00	3,00	2,00	2,00	3,00	3,00	2,00	3,00	3,00	1,00	3,00	1,00	2.333
Maximum		5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5
Sum		174,00	178,00	162,00	175,00	178,00	176,00	171,00	176,00	178,00	172,00	176,00	176,00	168,00	173,00	171,00	173.6

Table 1 above explains that the average value of the level of eustress, engagement, and applicable strategies is 4.037. Thus, the students' acceptance value is very good. This means that students not only accept the CBLT-based learning process, but their eustress and learning engagement are also very good. Furthermore, the description of each aspect is in table 2.

Table 2. *Descriptive statistics of each aspect*

	N	Minimum	Maximum	Mean	Std. Deviation
Motivated in CBLT	43	2.00	5.00	4.0465	.72222
Equal results from individual efforst	43	3.00	5.00	4.1395	.63925
Satisfaction in learning stress	43	2.00	5.00	3.7674	.81174
Self determinantion	43	2.00	5.00	4.0698	.73664
Average		2.25	5	4.0058	.727
Satisfaction with learning challenges	43	3.00	5.00	4.1395	.67547
CBLT motivates ESP learning	43	2.00	5.00	4.0930	.71760
Learning Participation in CBLT	43	2.00	5.00	3.9767	.80144
Task orientation in CBLT	43	3.00	5.00	4.0930	.71760
Group works in CBLT	43	3.00	5.00	4.1395	.70984
Average	43	2.6	5	4.0084	.724
Acceptabllity in Pre-activities using explanantion and vocab building	43	2.00	5.00	4.0000	.72375
Acceptabllity in Pre-activities using Q&A and practices	43	3.00	5.00	4.0930	.68362
Acceptabllity in Whilst-activities using Q&A and individual assignment	43	3.00	5.00	4.0930	.64785
Acceptabllity in Whilst-activities using group works	43	1.00	5.00	3.9070	.92102
Acceptabllity in Post-activities using practices and quiz	43	3.00	5.00	4.0233	.73964
Acceptabllity in Post-activities using summary	43	1.00	5.00	3.9767	.85880
Average	43	2.166	5	4.0155	.762

Table 2 presents that the level of eustress among students is 4.0058, categorized as excellent. The learning engagement level is 4.0084 (excellent), and the applicable strategies level is 4.0155 (excellent). This study also found that eustress and learning engagement exhibit a very strong correlation with a P value of .800. This correlation implies that a high level of student eustress is positively and strongly correlated with an increase in student learning engagement. The data for this correlation result can be found in Table 3.

Table 3. *Correlation of eustress and learning engagement*

			Eustress	Learning Engagement
Spearman's rho	Eustress	Correlation Coefficient	1.000	.800
		Sig. (2-tailed)	.	.200
		N	4	4

Learning Engagement	Correlation Coefficient	.800	1.000
	Sig. (2-tailed)	.200	.
	N	4	5

The data in Table 2 above also indicates that strategies in each learning phase are diverse and acceptable to students. Among these, in the pre-teaching phase, several teaching strategies were highly desired, namely explanation, vocabulary building (with an acceptance level score of 4,000), followed by Q&A and practices at 4,093. Meanwhile, in the whilst-teaching phase, the applicable strategies are Q&A and individual work with a score of 4.093, and group work at 3.907. Moving on to the post-teaching stage, the most accepted strategies are practices, exercises, and quizzes at 4.023, and summary techniques at 3.976.

Teachers' teaching strategies in implementing digital content based
This section provides a detailed account of the workable strategies adopted by instructors. The information gathered from interviews conducted with three teachers (referred to as T1, T2, T3) has been synthesized into the subsequent compilation of teaching strategies used in English for engineering classes. The strategies have been categorized according to each phase of teaching (Pre-While-Post). Additionally, factors such as classroom dynamics, learners' capabilities, lesson duration, and more, which played a role in guiding teachers' selection of these strategies, have also been addressed.

Table 4. *Summary of teachers' strategies*

No	Part of Teaching Activity	Strategies
1	Pre-Teaching	Brainstorming Giving simple Q&A Mini classroom discussion Playing short audio or video Reviewing materials in the previous meeting
2	While-Teaching	Explaining materials Giving individual task Giving group task Conducting Quizzes Playing long audio or video
3	Post-Teaching	Asking the students to construct a writing Asking the students to record themselves in practicing speaking Giving individual task or group task Giving conclusion or summary

As demonstrated in Table 4, a multitude of strategies and activities can be integrated into the teaching and learning process through a digital content-based approach. These strategies indicate a strong emphasis on student - centered learning. The aforementioned evidence finds substantiation through excerpts extracted from interviews with a sample of teachers. These interview segments are also provided for reference.

Pre-teaching
In the pre-teaching phase, the outcomes of the interviews revealed that three instructors (T1, T2, T3) employed various methods to stimulate idea generation, foster brainstorming, establish connections, and motivate learners in relations to the upcoming subject matter. The corresponding interview transcripts are provided below.

"In some cases, I provide the students with short audio or YouTube video related to the topic. At first, I hope they can watch and listen it so that they can know what they will learn". (T1)

"I think the first thing that important is brainstorming the students about the topic. Usually, I give them mini question such as 'mention some civil engineering tools that you know. (if the topic is civil engineering tools)' then sometimes I also conduct them to do mini group discussion to build their knowledge about the topic". (T2)

"Motivating students in learning is the main thing to do at first. After reviewing previous materials, sometimes I provide them with entertaining audio or video, but still related to the topic. For me, motivation is a key of successful teaching and learning. If the students are being well-motivated, they will easily engage in learning activity. So, the first thing that need to be built before starting the teaching process, is motivating." (T3)

While-teaching
During the while-teaching phase, the interview transcripts revealed that all three teachers had adopted strategies aligned with a student-centered learning approach. They incorporated individual tasks, group work, and quizzes via the digital content-based (DCB) platform, streamlining the process of answer submissions and enabling efficient correction and feedback from teachers. The relevant excerpts are presented below.

"Usually, I give them group task. So, I randomize them into some groups, then ask them to discuss something. A representative from the group need to submit the result of the discussion into the DCB. In my opinion, when

we face a large number of students, group task and discussion will be helpful and efficient for both teacher and learner". (T1)

"I explain and ask the students to read the materials, then I provide them with longer audio or video then give them quizzes in digital content based, sometimes the quizzes are in the form of fill in the blank, multiple choices, and essay. Then I will directly give them score and feedback through DCB". (T2)

"Most of the students are passive, so I give them quizzes through DCB. Then after I give them feedback and score, sometimes I conduct an online meeting (zoom or google meet) to discuss with the students about their progress and ask them about what makes them stuck with no improvement". (T3)

Post-teaching
During the interview session, strategies were executed in the post-teaching phase aimed at assessing, verifying, and reviewing the learners' comprehension of the materials. These tasks were assigned to both individual and group work using the DCB approach. The post-teaching activity primarily tested the productive English skills of writing and speaking. The relevant excerpts are provided below.

"In the end of teaching activity, I prefer to ask them construct a writing or record them in practicing speaking. So that I can know and evaluate their English ability especially in productive skills. In my point of view, asking the learners to construct a writing at the end of teaching process is a good way because writing is a complex productive skill. So, if the students successfully construct their writing, it means their English ability is quite good". (T1)

"A quiz is given to the students to evaluate their understanding. Then I ask them to practice speaking or having individual presentation". (T2)

"I review or make summary about the topic, then I give them an individual or group task to make sure that they already understand about the topic". (T3)

The factors influencing the chosen strategy
Several strategies have been employed by teachers to address the challenges faced by both students and instructors, which arise from external and internal influences. Factors such as class size, classroom dynamics, students' English proficiency, passivity among students, time constraints, and students with limited motivation to learn English collectively serve as barriers or challenges for both educators and learners. Detailed accounts of teachers' experiences can be found in the accompanying interview transcripts below.

"My class consist of more than 30 students. So, when giving a task, I prefer to give group work. To be efficient in time for the students in doing the task, and for me as a teacher in correcting and giving feedback. Regarding to the limitation of the given time". (T1)

"I give them basic things and short audio or video (max 2 minutes). Because in my class, the students' ability in English are still basic. Then, they are passive students, so I always ask them question to discuss so that they can be active". (T2)

"The main problem in my class is passive and lack of motivation students. So, in the beginning of the class, I always give entertaining thing such as audio, video, or even a song. As long as it can make them be motivated and interested with the topic". (T3)

The data derived from interviews with multiple educators consistently aligns with the data gathered from students. More precisely, the findings of these interviews underscore the multitude of viable strategies available in the domain of Content-Based Language Teaching (CBLT) of English for Engineering, from which instructors can make informed selections. Specifically, within the pre-teaching phase, a range of recommended strategies emerged, encompassing brainstorming, conducting simplified Q&A sessions, facilitating mini classroom discussions, utilizing concise audio or video materials, and revising content from prior sessions. During the whilst-teaching stage, effective strategies include the explanation of materials, assignment of individual tasks, allocation of group assignments, and utilization of extensive audio or video materials. Post-teaching activities encompass quizzes and summaries. Concurrently, during the post-teaching phase, actionable strategies include assigning writing tasks to students, having students record themselves while practicing speaking, assigning tasks either individually or within groups, and providing conclusive summaries or conclusions.

This study has yielded three significant aspects, particularly the levels of eustress, learning engagement, and workable strategies within the context of English for Engineering instruction. Based on the findings, the students' level of eustress is highly satisfactory, as evidenced by the excellent level of acceptance

(level 4). The acceptance of learning engagement is also very satisfactory (level 4). The data also reveals a strong and positive correlation between eustress and learning engagement, indicated by a correlation coefficient of p = .800. This implies that higher eustress values among students are predicted to lead to an increase in their engagement in the learning process. This signifies a linear relationship between these two variables. Meanwhile, the workable strategies are identified between the student and the instructor demonstrating versions of similarity in the types of strategies used. Among them, in the pre-teaching strategy, activities such as brainstorming in the form of simple question and answer sessions, mini classroom discussions, short videos, and reviewing previous materials were found. In the whilst-teaching phase, more interactive strategies are required, such as individual and group work, and reviewing longer videos, to assess the success of learning mastery. As for post-teaching activities, they revolve around providing quizzes and summaries. Specifically for English for Engineering instruction, additional workable strategies in Digital Content-Based Language Teaching (DCBLT) that can be chosen by instructors include having students write on their own, recording students' speaking performances, and engaging in individual and group work activities.

Eustress is a positive psychological phenomenon that holds significant importance in ESP (English for Specific Purposes) learning (Branson et al., 2019b; Mesghina, 2021). This is because it offers various benefits, including enhancing success and motivation in achieving learning objectives within the content and language realms of the field of English for Engineering. The improved emotional well-being of students can mitigate negative affective effects (Li et al., 2016). Certainly, a positive level of student eustress fosters satisfaction in ESP learning. The extended impacts of this eustress phenomenon are areas that have not been extensively explored. However, these findings suggest that eustress has the potential to enhance other affective factors, including learning engagement. Previous studies have highlighted a strong and positive relationship between eustress, distress, and academic achievement in the domain of English for Academic Purposes (EAP) (Anwar et al., 2023). As a result, this study provides positive support to the limited existing research.

Research on learning engagement becomes complex when linked to affective factors. Among numerous research findings, it is evident that one of the keys to learning success is the presence of learning engagement (Wu, 2019). Affective factors, in general, are identified to encapsulate motivation, attitudes, and emotions, which have been proven to influence learners in responding to and processing English language learning. Based on these findings, negative emotions such as anxiety, boredom, and frustration can decrease learning engagement, as a decline in interest and attention affects learning engagement (Jill et al., 2019; Nadeem, 2019; Saeed & Zyngier, 2012). Therefore, the findings of this research provide promising support, indicating that negative emotions can be reduced by cultivating learner eustress.

Up to the present moment, the utilization of Digital Content-Based Language Teaching (DCBLT) remains important and a choice of preference, as it integrates content and language learning (Amin & Paiman, 2022; Frolova et al., 2020; Stefanovic & Klochkova, 2021). Therefore, the successful implementation of DCBLT is contingent upon substantial needs analysis, the selection of more relevant and authentic instructional materials, the design of task-based assignments and activities, the provision of adequate feedback, and the clarity of diverse learning progress assessments. This study significantly contributes to the variety of varied activities, exercises, and task designs that can be adopted by ESP instructors in the field of English for Engineering. The strategies offered in this study can serve as references and options, as they have been reflected upon by English for Engineering educators thus far and have also been experienced by students.

CONCLUSION

This study aims to identify the levels of eustress, learning engagement, and workable strategies in DCBLT instruction in English for Engineering. The findings of this research demonstrate favorable outcomes, where the levels of eustress, learning engagement, and DCBLT strategies in English for Engineering all score at level 4 (excellent). The data also indicates that as students' eustress levels increase, so does the strength and intensity of the learning engagement occurring within the ESP classroom. This study also presents a range of DCBLT instructional strategies for ESP in engineering, offering procedures for the pre-teaching, whilst-teaching, and post-teaching stages.

This research contributes to the development of DCBLT instructional strategies within the ESP context, particularly focusing on the expansion of strategies that provide numerous options for instructors. These workable strategies are

essential in facilitating the achievement of ESP learner performance. A viable strategy of DCBLT can assist teachers in identifying learning techniques that can be tailored to specific needs. Additionally, teachers can effectively elaborate on and combine several techniques discovered in this research.

Subsequent research is greatly warranted to support this study. For instance, there is a need for experimental research in testing DCBLT products in other fields of Engineering (such as Mechanical Engineering, Chemistry, Industry, etc.). Furthermore, additional research exploring the role of eustress in enhancing other affective aspects (interest, motivation, attitude) is also crucial to gain deeper insights, thereby expanding the understanding of the benefits of eustress, learning engagement, and learning strategies in DCBLT across various disciplines for specific purposes.

Conclusions should answer the objectives of research. Tells how your work advances the field from the present state of knowledge. Without clear Conclusions, reviewers and readers will find it difficult to judge the work, and whether or not it merits

Abstract, or just list experimental results. Provide a clear scientific justification for your work, and indicate possible applications and extensions. You should also suggest future experiments and/or point out those that are underway.

ACKNOWLEDGEMENT

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