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A Phenomenographic Study of Engineering Students' Conceptions of Learning English as a Foreign Language

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Abstract

English is widely recognised as the language of science in the globalised world, with many higher education institutions in the United Arab Emirates (UAE) adopting it as their medium of instruction. This study used the qualitative research approach of phenomenography to investigate engineering students' experiences and conceptions of learning English as a foreign language at a university in the UAE. Four distinct conceptions of learning English as a foreign language emerged: Learning English as cultural experience, learning English as reward, learning English as global opportunity, and learning English as compliance. The findings revealed variations across four themes of expanding awareness within the phenomenon: the value of English as a foreign language, the nature of language, the source of language, and the role of others in language learning. The implications of these conceptions and variations in designing teaching and learning that engages students in deep approaches to learning are discussed, particularly in the context of mandatory courses in English as a foreign language.

Keywords

Learning, English as a Foreign Language (EFL), phenomenography, engineering students, UAE\

I Introduction

Despite not being the most widely spoken language globally, the significance of teaching English as a foreign language has increased markedly in recent times. In our interconnected world, English is the predominant language of trade and commerce in numerous non-English-speaking countries. The role of English as a communicative, interactive mediator has contributed to its emergence as a *lingua franca*, influencing a range of sectors and transnational organisations, as well as the tertiary and quaternary sectors (Michaud & Colpitts, 2015). Beyond the forces of globalisation, English serves as the official or primary language in several nations (Adawiyah & Gumartifa, 2022). The United Arab Emirates (UAE) stands out as a unique case within this trend. Despite its advanced economy and population, of which a significant majority are expatriates, Arabic remains the official language. In a contrasting move, many UAE higher education institutions have implemented policies favouring English-medium instruction for their undergraduate programmes and degrees (Solloway, 2016; Lauder, 2022). Apart from mathematics, English is still considered the language of science; hence, it is the motivation for its

adoption by many institutions as a language of study. This approach has introduced a level of linguistic tension and dualism and has shaped varying attitudes towards English language learning (Al-Bataineh, 2020). Many higher education institutions expect students to be fluent in English and Modern Standard Arabic and to attain competency for academic purposes. The concerns which arise from an English-medium instruction policy and the portrayal of subject content in English have been researched and include Arabic-language loss, students' limited proficiency in English, and the threat that English poses to the identities of local students (Solloway, 2016; Macaro et al., 2017; Al-Bataineh, 2020). Based on his 'ethnographic-like' study of female Emirati higher education students, Solloway (2016) has called for a shift in language policy in higher education in UAE to designating Arabic as the primary medium of instruction. It suggests a less positive experience of learning English for students, although the participant variation in the study was limited. Indeed, the limited empirical research conducted into the experiences of Arabic students learning English as a foreign language in mandatory courses in the UAE raises important questions about students' experiences and their interests, challenges, and aspirations in this context and how these impact their motivation and engagement with learning.

The relationship between students' motivations and their approaches to learning in higher education has previously been established and explored in various academic disciplines (Duff & McKinstry, 2007; Barattucci & Bocciolesi, 2018). Still, Arabic students' approaches to learning English as a foreign language have been largely undiscussed in the context of the United Arab Emirates. Qualitative studies of students' learning in higher education have revealed variations in outcomes and approaches to learning, which suggests that Arabic students may also exhibit differences in how they approach learning and, in their ability, to speak, write, and listen to instruction in English. These differences are critical for understanding the variation between learners in performance outcomes when learning English.

Unlike prior research that focuses on enumerating themes or developing statistical models of student learning, this study adopts a comprehensive approach to investigate group-level variations in English language learning experiences. To achieve this, we employ the qualitative research method of phenomenography, which has application as a research approach in exploring various aspects of higher education student learning (Chan, 2017; Lundqvist et al., 2021; Kim Pham et al., 2023). Learning studies conducted using phenomenography reveal that different people may experience the same aspect of reality in different ways, leading to individuals conceptualising and talking about the same phenomenon in slightly different ways. By focusing on the nature of experiences, the relationship between learners and the phenomenon within the broader context of the learning environment, research can shed light on the ways in which students respond to instruction and how university teachers can arrange learning experiences to improve student performance. Phenomenography offers a suitable empirical research approach and methodology to elicit Arabic students' conceptions of learning English as a foreign language and to understand and map the variation in the nature of their experiences to engage students in language learning and promote their success in their primary discipline and degree course.

In the phenomenographic tradition, data collection focuses on gathering students' utterances to explore qualitative variations in their conceptions of perceiving and learning an aspect of the world. These are the aspects of a phenomenon in the world which are perceived or apprehended by individuals and are talked about or conceptualised in slightly different ways by different people. In eliciting their conceptions, research can access the various ways students conceive of learning through their descriptions. These provide a window into the learner's way of learning and studying and may reveal aspects of their motivation and what they perceive and notice during the act of learning. Using this approach and focus, we aim to reveal the educationally critical aspects of learning, which teachers can use to support the design of teaching and learning activities. This study aimed to shed light on how the phenomenon is understood and, in this case, how a group of engineering students learnt English as a

foreign language (EFL) in a mandatory course while studying in Abu Dhabi. The research questions guiding this study are formulated as follows to align with the phenomenographic method.

- 1) What are Arabic Engineering students' conceptions of learning English as a foreign language in a mandatory language course?
- 2) What are the hierarchical relationships among those conceptions and categories of description?

This article begins by providing an overview of what is known in the literature about students' conceptions of and approaches to language learning, specifically English. It then elaborates on the defining features of the phenomenographic method to demonstrate the suitability of this approach for investigating students' conceptions of learning EFL. Next, it describes the research design of this qualitative study, including the approach to sampling, the profile of the participants, and data analysis procedures. The results and findings of the study are presented in the form of phenomenography, followed by a discussion of the implications for English language learning and teaching.

II Literature review

I Conceptions of English language learning

Previous researchers have used qualitative and quantitative approaches to investigate learners' conceptions and beliefs about language learning in various languages, in different language-learning settings and from various perspectives with varying emphasis. In language learning, the beliefs underlying conceptions of learning have received specific attention (Fletcher, 1993; Benson & Lor, 1999; Polat, 2013), and this has extended to explore the association between student conceptions of language learning, which focuses on the *how* of learning and their approaches to learning which focuses on *what* is learned (Hassan et al. 2022; Fu & Liu, 2024). In analysing conceptions and approaches to learning languages, studies have attempted to understand how students conceptualise language learning, including the learning activities and structures that support language acquisition and what they focus on when learning a language.

Whilst there is extensive knowledge on language learning, students' domain-general beliefs (Muis et al., 2006) and conceptions of language learning, few studies have focused on domain-specific beliefs and conceptions about EFL and learning English as a second language (ESL). Despite differing focuses, both research areas are instrumental in revealing complex cognitive and affective factors influenced by conceptions of English language learning and acquisition, along with the sociocultural contexts of learning. The literature review examines broader beliefs and conceptions about language learning and then turns to studies addressing students' conceptions of learning EFL and ESL. The final sections extend this study to consider the sociocultural context of English language learning, the interplay between emotions and cultural needs, and the relationship between teachers' and students' conceptions of language learning and teaching. Studies discussing conceptions of learning reveal aspects of epistemological beliefs encompassing the nature of knowledge and the process of understanding language and developing English language proficiency.

The earlier literature on language learning focuses on students' general perceptions of language learning. Using a thematic analysis approach, Fletcher (1993) studied South African rural college students' conceptions of language and learning with an emphasis on English, revealing that students' conceptions of learning were naïve and focused on communication. The central theme across this and other studies is that students vary from naïve to more sophisticated conceptions of learning. However, Fletcher's (1993) thematic analysis revealed that many students assume learning language is about acquiring language structures through formal teaching, in a repetition or rote learning approach. The acquisition process involves practice, imitation, listening, and committing to memory, as well as noticing language structures such as vowels, grammar, and tense. Whilst Fletcher interpreted students'

conceptions as naïve, some described language learning as about expression, liberation, understanding and culture building, which suggests they perceive language learning as a pathway to the world beyond.

Benson and Lor's (1999) research on students' perceptions of language and language learning revealed that learners viewed the process as requiring effort, practice, and time. They believed that having a teacher, building a strong foundation, and being attentive were the fundamental components of the learning method. This study's participants perceived that language learning required intrinsic and extrinsic motivation. Intrinsic motivation is grounded in the belief that identifying one's needs is crucial. Being attentive to language use in the environment around the learner and exposing oneself to language were considered essential beliefs.

Furthermore, Noor (2023) proposes a framework for language learning based on empirical evidence, a socio-psychological process that takes into account the learner's unique social context and individual motivations. This research expands on Benson and Lor (1999) by advocating for adaptive language teaching methodologies that address learners' emotional, cultural, and social needs. According to Noor, in order to redefine language learning, teaching should incorporate real-life social interactions and cultural experiences to facilitate language acquisition.

In their study of college students' conceptions of learning English, Lin (2017), deploying the conceptions of Learning English Survey and using a factor analysis approach, identified seven similar factors, including memorisation, testing, drill and practice, increasing knowledge, understanding, and seeing in a new way. The factor structure and perceived hierarchy of beliefs mirror students' conceptions of learning, as revealed in Marton, D'Alba and Beaty's (1993) phenomenographic study. This finding suggests that generic beliefs about learning are similar across cultures and subjects.

Fu and Liu's (2024) investigation of English language learning among secondary school students employed an exploratory factor analysis, which uncovered eight underlying factors in students' conceptions of English language learning. These factors encompassed seeing in a new way, understanding, applying, increasing knowledge, drills and practice, testing, memorising, and meeting the requirements. The researchers identified associations between naïve and sophisticated conceptions of learning, noting that testing and meeting the requirements were significantly associated with surface approaches to learning. Conversely, conceptions of memorising, drills and practice, increasing knowledge, applying, understanding and seeing in a new way, were strongly associated with both deep approaches to learning English as defined by Marton and Säljö (1976). They suggest that repetition and memorisation are the foundation strategies for acquiring a foreign language.

Hassan et al. (2022) investigated undergraduate students' perceptions of English as acquiring English as a foreign language within a flipped learning environment. Using a mixed-methods research approach, they identified four conceptions of learning: collaboration, improvement in relationships, increased technology use, and a favourable learning environment. The students' conceptions emphasised acquiring grammar proficiency, distinguishing key aspects such as the acknowledgement of heightened cooperation and collaboration facilitated by group work and pair activities as a means of language acquisition, and increased peer interaction and engagement. The flipped learning approach and enhanced technological integration offer flexibility both within and beyond the classroom setting, thereby fostering the deeper comprehension and adaptability afforded by video resources in supporting English language learning.

In addition, studies of students' conceptions of language learning reveal distinctive aspects of their approaches to study, including *what* they focus on during the act of learning. Polat's (2013) research, conducted using the phenomenographic approach, centred on learners' perceptions of second language acquisition. The results demonstrated that this methodological approach was successful in exploring the different ways learners experience the 'what' of second language learning. Through analysis, four categories emerged: atomistic-extrinsic, atomistic-intrinsic, systemic-extrinsic and systemic-intrinsic. The continuum from atomistic to systemic illustrated a developmental distinction, while extrinsic-intrinsic referred to a contextual or cognitive style. Polat categorised students who

perceived language as consisting of parts such as words, grammar, and structures that the learner assembles as atomistic. This view represents a naïve conception of language, contrasted with students' descriptions of language as a whole system and those who see or discern grammar and words as elements of the language system. Students who described language learning as extrinsic did so concerning using language for communication with friends or professional development purposes beyond the classroom. This finding is consistent with other studies, which highlight the significance of culture as a medium for understanding or perceiving the world. However, Polat (2013) also identified a duality between intrinsic and extrinsic experiences of language learning. Those who experienced language learning intrinsically perceived it as an entity that reflects the term acquisition. Once acquired, it can be a source of power for the user and influence others.

Another significant aspect of conceptions of language learning is the association between students' conceptions and capabilities when learning a language. A study of first-year university students learning journals by Mendoza et al. (2022) concentrated on the qualitative differences in their understanding of their second language self-concept and self-efficacy in academic writing. Despite already having acquired a second language, the study uncovered considerable variance among learners in their capacity to employ academic English. This variance suggests that further support is necessary for higher education to help all students feel confident and acquire proficiency, regardless of their background and prior experience. The study highlighted that learner individuality implies that various support strategies are required to accommodate learners studying through their second language. This study demonstrated that language courses intended for academics ought to place greater emphasis on writing, provide customisable elements, offer individualised feedback, encourage reflection, and offer opportunities for learners to exercise their agency.

These findings indicate that students' conceptions of English language learning are associated with their engagement in activities and interaction with knowledge sources, subsequently influencing their English language acquisition efficacy. This observation has significant pedagogical implications for English language instruction and student learning, suggesting that teachers should foster students' intrinsic motivation for learning, which may lead to the adoption of deep approaches to learning (Fu & Liu, 2024).

This observation aligns with Claxton's (2002) work on students' learning power and Dai's (2015) concept of English learning power that manifests in teaching activities and the learning of English. These encompass communication, interaction, and cooperation when learning English, and are associated with their learning strategies, including the capacity to persevere and demonstrate enterprise. More broadly, in education, Claxton (2002) defines learning power as the qualities of the mind, including the learning habits that all students possess and can be cultivated. Lonka et al. (2020) identified three epistemic profiles that influence university students' beliefs about learning and academic achievement: pragmatic, reflective-collaborative, and fact-oriented. These were associated with conceptions of learning describing the use of knowledge, construction of knowledge, and intake of knowledge. Overall, the students in the reflective-collaborative group achieved enhanced academic outcomes.

Exploring teachers' conceptions of teaching and language learning provides insight into students' conceptions of English language learning. Chan (2014) identified four conceptions of English language teaching: cultivation, knowledge delivery, ways of teaching, and nature of teaching. The first two conceptions reflect a constructivist approach, emphasising positive growth and change in learners, whereas the latter two represent a traditional focus on knowledge transmission. These conceptions align with Qi (2022), indicating that Chinese EFL teachers and learners share constructivist conceptions, although students' hold stronger constructivist conceptions than teachers. Across various studies, teachers predominately hold constructivist conceptions of language learning (Biçer & Yildirim, 2023) rather than traditional conceptions associated with knowledge transmission.

The relationship between teachers' perceptions of the teaching environment, their conceptions of teaching and their approaches to teaching is well established in the literature (Prosser & Trigwell 1997), as is its impact on students' approaches to learning (Trigwell et al., 1999). Overall, these research findings point towards the impact of the teaching context, including the teacher's approach to teaching on language learners' approaches to learning.

Along the same lines, Krogager Andersen (2021) explored the role of language teachers' beliefs about learning in bilingual settings through a plurilingual approach and learning English L2 and German L3. It revealed a set of implicit, professed, and enacted beliefs that revealed teachers' beliefs about language learning, among others, which underly practice and are centred on learning as a pleasant experience, language teaching at the level of the learner, learning as construction, the need for explicit instructions, and a need for formal correctness in language. Notably, the teacher's role in learning was to oversee language construction and provide multiple entry points for language in the classroom. Moreover, teachers' ability to offer various affordances for language learning varied between teachers and classrooms and was connected to their beliefs about language teaching.

These studies reveal that students' conceptions of language learning range from naïve to more sophisticated levels, indicating that learning English is a developmental process of understanding the nature of the language, which has some relationship to the learner's approach to learning English. On the continuum of conceptions and beliefs about language learning, naïve comprehension focuses on language learning as a taught process that introduces the various aspects of the English language in formal educational settings. This perception contrasts sharply with the more sophisticated conceptions that have emerged from research and describe English language learning and language as an authentic social process and way of understanding. However, the evidence suggests that the pace and progress of developing as a language learner depends on the learners' motivation, self-concept and self-efficacy. Given this, our discussion now turns to the current study and its phenomenographic exploration of Arabic-speaking students' experiences of learning English as a foreign language. We commence by discussing the essential features of the phenomenographic approach and why these are suitable for the investigation of language learning.

II Using phenomenography to understand the experience of learning

Phenomenographic theory was developed as a research approach, focusing on the interaction between the learner and the world to understand how the learner perceives, experiences, and conceptualises different phenomena in the academic context (Marton & Säljö, 1976). As its name suggests, phenomenography focuses on a second-order perspective and analysis of a phenomenon of interest, emphasising not just the description of it but how it is experienced by the people involved (Ashworth & Lucas 1998; Marton 1981).

Phenomenographers take a second-order perspective when seeking to make sense of people's experience of the world; in doing so, the aim is to describe the different ways in which people experience a facet of reality (Marton & Pang, 1999). In studies of student learning, phenomenography has been used to explore students' experiences of different educational phenomena as aspects of the academic world. These explorations of the world involve gathering individuals' descriptions of the world as they appear to and are experienced. The core assumption of phenomenography is that the relationship between the individual and the world varies as their experience of the world varies. As the relationship varies, what is experienced in the world varies, leading to qualitative variation in individuals' descriptions of the world. Thus, an individual may have different experiences of the same phenomenon over time, applying different meanings and understandings to it.

In exploring students' conceptions of learning educational phenomena, phenomenography allows us to examine the variation in their understandings and approaches to learning (Marton & Säljö, 1976). The phenomenographic researcher seeks to gain insight into the world by capturing the different ways people experience and conceptualise a phenomenon or a particular aspect of reality and the

meanings they ascribe to these experiences (Marton & Pang, 1999). These descriptions of phenomena enable us to understand why individuals perceive and comprehend the world differently, as expressed in the qualitative differences or variations amongst their descriptions of the world. By mapping the variation in experiences of phenomena through students' conceptions, we can gain a deeper understanding of the different ways in which individuals experience learning (Yates et al., 2012; Joseph-Richard & Jessop, 2018; Stamouli & Huggard, 2007). These variations in experience of phenomena have been causally linked to qualitative differences between individuals in how they develop knowledge about the world and approach learning. The phenomenographic research approach uses the participant's utterances and their descriptions of their reality to constitute the conceptions of a phenomenon, revealing the qualitatively different ways of experiencing a phenomenon. Phenomenographic results do not describe the experiences of individuals; instead, the phenomenographic outcome space and categories present a distillation of the collective awareness of the group through their experiences.

Phenomenographic studies have revealed that when learners approach an object of study (the phenomenon), they learn different things (the *what* aspect) and learn things in different ways (the *how* aspect) (see Marton & Booth 1987). The phenomenon, as seen by the individual, drives their actions. The process of coming to know or perceive the phenomenon in a new, more complete way is the process of learning. Thus, the differences between the ways of experiencing the same phenomenon and the completeness of understanding achieved are a feature of the learner's awareness and discernment at a certain point in time and represent a particular way of seeing the world and experiencing reality.

For reality to be experienced in a certain way, critical aspects of the phenomenon (those which define it) must be simultaneously present in the learner's focal awareness while less critical elements recede (Marton et al. 2004). Discerning critical aspects of the phenomenon in a certain way represents a particular way of seeing the phenomenon. The researcher seeks to identify and describe these as categories of description which collectively define the outcome space. Variations about the critical aspects and across the categories are used to logically and empirically link and separate the categories by themes of expanding awareness (Åkerlind, 2002). A way of experiencing represents the structure of the learner's awareness. Further, the perceived and learned content is intimately connected to how the learner approaches a task and the quality of the act of learning (Marton & Säljö, 1976). The qualitative differences in ways of experiencing learning reflect differences in what is discerned during the act of learning (Runesson & Mok, 2004).

According to Lam (2022), traditionally, phenomenographic researchers have viewed learning as a process of changing people's way of seeing the world to learn new things. Decades of research in the phenomenographic tradition have demonstrated that students experience educational phenomena in a limited number of qualitatively different ways (Runesson & Mok, 2004; Durden, 2018; Lundqvist et al., 2021; Almansoori, 2024), some of which are more powerful than others. Powerful ways of understanding or seeing the world are intimately connected to powerful ways of acting in the world (Marton et al., 2004). Therefore, there is a decisive role to play in experiencing and seeing educational phenomena in more sophisticated ways. To help people understand and appropriate phenomena (i.e., to see them through a specific lens) and understand phenomena fully, researchers must identify the critical aspects of a phenomenon that are often overlooked but require attention. In phenomenography, it is crucial to uncover the original characteristics of the phenomenon as they appear to individuals during its occurrence. This mapping helps us understand how others perceive the phenomenon; further, it is necessary to 'bracket out' one's preconceived notions and prejudices (Marton 1981, 1986, 1988). Rather than categorising the data, the researchers allow meaning to emerge naturally from the data in phenomenography.

III The methodology

1 The study context

The study was conducted at a private university in Abu Dhabi, UAE. The study involved first-year undergraduate students pursuing a bachelor's degree and enrolled in a mandatory English for Engineering course during the foundation year of the degree programme. The course focused on building and sharpening basic English language knowledge for students in grammar, reading, writing, and speaking. The course aims to enhance learners' proficiency so that they are adequately prepared to handle further studies in English as a second language in successive classes.

Both researchers were university teachers; the lead researcher was a bilingual speaker of Arabic and English, teaching English as a foreign language; the second researcher was English-speaking and teaching in the field of academic development. Their professional backgrounds and research interests underpinned their objective to investigate learners' experiences and conceptualisations of English language learning, as manifested in students' meaning-making and discourse about the phenomenon. The study was conceived based on the researchers' empirical observations of the various levels of engagement and outcomes amongst learners. By examining the differences in learners' experiences of acquiring English as a foreign language, the researchers aimed to elucidate variations in their motivations, learning interests, challenges, and aspirations in the study context.

2 Sampling

The researchers chose the phenomenographic approach to understand the collective variations between student conceptions of the phenomenon of interest. Due to the emphasis on variation, it is necessary to observe qualitatively different experiences of phenomena, regardless of whether they occur across participants or within them (Go & Pang, 2021). Thus, the participants were selected in a manner that ensured the highest level of diversity possible, and the emphasis was placed on achieving depth of understanding rather than broad generalisability (Åkerlind, 2005). This approach to sampling is substantiated by the understanding that the participants' discernment of the phenomenon encompasses how the whole relates to the context and how the parts relate to the whole (Marton et al., 2004). The aim is to recruit participants who represent the totality of experiences and the full range of possible ways of experiencing a phenomenon within the study context. In this study, the focus is on first-year engineering students' experiences and conceptions of learning English as a foreign language. This methodological approach is essential in phenomenographic research, which aims to identify qualitative variations in participants' experiences and, in this particular investigation, different language learning experiences (Polat, 2013).

Indeed, sample sizes in phenomenographic studies are contested and vary in quantity (Taylor-Beswick & Hornung, 2024). In her review of data analysis in phenomenographic studies, Åkerlind (2005) posits that the focus is on participants' collective experiences and in-depth insights rather than sample numbers or generalisations (Barnard et al., 1999). Notably, Åkerlind (2005) does not specify the number of participants for a phenomenographic study. Instead, the emphasis is placed on the diversity of experiences captured, as the quality of the outcome space is evaluated based on the distinctiveness of the categories of conception, the logical relationships between the categories and the variation represented by as few a set of categories as possible. Trigwell (2006) and Stenfor-Hayes et al. (2013) suggest that a sample size of between 10 and 30 participants is typically sufficient to reveal significant variations in understanding. In this study, nine students were selected and categorised into three groups based on English proficiency levels: beginner, intermediate, and advanced. Each group comprised three students, intentionally chosen to represent the range of variation of proficiency within the population. While the sample size is on the lower end of the recommended range, it is considered sufficient to achieve this study's objectives based on the study context. The three students in each group were selected to represent the range and variation in English proficiency levels, aiming to maximise differences between participants and effectively capture the unique experiences of these groups. Upon completion of the interviews with the nine participants, the researchers determined that data saturation

had been achieved, as no additional categories emerged from the participants' responses, given the in-depth nature of the nine interviews. A homogenous and specific sample (e.g., a particular professional group) can yield more comprehensive and pertinent data, thereby reducing the necessity for larger sample sizes (Malterud et al., 2016).

3 Participants

The study was approved by the AAU Research Ethical Committee (Reference No.: COP/AREC/AD/13) at Al Ain University and the School of Arts, Culture and Language Ethics Committee at Bangor (AO1 202223). The research was conducted with nine first-year students from an Abu Dhabi higher education institution. Interviewees were selected from a pool of 90 first-year students enrolled in the Cyber Security/Engineering bachelor's course. Arabic was the native language of the students and the lead researcher.

In terms of the phenomenographic nature of this study, students were purposefully sampled with the aim of revealing the maximum variation in students' experience of learning English as a foreign language (Åkerlind, 2005). The researchers achieved this variation by including participants with a broad spectrum of experiences learning English as a foreign language. By ensuring this range of diversity, the study aimed to elucidate and document the broadest possible array of conceptions regarding learning English within this specific academic and cultural context. Furthermore, the selection process considered a range of variables to maximise conceptual variation. As shown in Table 1, the study participants were selected based on a range of personal characteristics, including the medium of instruction they experienced in their formative schooling, the curriculum they had studied at high school before entering university and their level of English proficiency on entering the mandatory course.

The researchers employed a strategy to ensure maximum variation in English language proficiency by selecting participants with low, medium, and high levels of proficiency and diverse educational backgrounds. Specifically, participants were drawn from various schooling systems, including those with English-medium and Arabic-medium instruction, and had experienced varied curricula such as American, British, Canadian, and UAE Ministry of Education programmes.

The English proficiency levels of participants—high, medium, and low—were determined using a validated university placement test designed by the English Language Department of the university, an accredited and globally recognised institution. The test was developed by five PhD holders, who are teaching staff at the university and graduates of top-ranked institutions worldwide. It was externally reviewed and was scaled against the IELTS Academic test, developed and administered by the British Council and approved by the UAE Ministry of Education. The placement test assessed overall language skills with the following scale and was scored out of 50: high proficiency (scores 40–49, equivalent to Band 6 on IELTS Academic), intermediate proficiency (scores 30–39, equivalent to Band 5), and low proficiency (scores 10–29, equivalent to Band 4). This test ensured systematic and internationally aligned measurements of English proficiency, designed to support students' success in the college-mandated English for Engineering course, a requirement for all students in the Cyber Security/Engineering major. Three students from each English proficiency level were selected based on the university placement test.

Table 1. Participants' profiles.

Participants	School medium of instruction	Age (years)	Curriculum	Gender	English proficiency	Major
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1	English	18	American	Female	High	Cyber Security/Engineering
2	English	20	Canadian	Male	High	Cyber Security/Engineering
3	English	19	American	Female	High	Cyber Security/Engineering
4	Mainly Arabic	19	Ministry of Education, UAE	Female	Medium	Cyber Security/Engineering
5	English	19	British	Female	Medium	Cyber Security/Engineering
6	Mainly Arabic	18	Ministry of Education, UAE	Male	Medium	Cyber Security/Engineering
7	Mainly Arabic	20	Ministry of Education, UAE	Female	Low	Cyber Security/Engineering
8	Mainly Arabic	19	Ministry of Education, UAE	Female	Low	Cyber Security/Engineering
9	Mainly Arabic	21	Ministry of Education, UAE	Male	Low	Cyber Security/Engineering

4 Data collection

Nine students participated in a writing task and semi-structured, in-depth interviews. In phenomenography, semi-structured and in-depth interviews are the most common methods of collecting data using open-ended questions (Hajar, 2021). In addition to these methods, other approaches, e.g. written expositions, may also be employed. Bowden (2000) describes and distinguishes phenomenographic interviews as follows:

“It is important to maintain a focus throughout the phenomenographic interview in order to ensure that the experience of the interviewees is reflected in how they understand the chosen concept. We encourage interviewees to express the extent to which they understand the phenomenon under examination in terms of their qualitative understanding. In order to clarify the meaning of the interviewee's statement, the researcher may ask them to clarify what they said.” (pp. 9–10)

Initially, participants were required to write a 150-word composition detailing their ways of learning English. This composition contributed an essential component of the data collection methodology, designed to elicit students' reflective accounts of their strategies and experiences in learning English. The instructions provided to the students were as follows:

"Please write a short composition (approximately 150 words) describing how you go about learning English. Include details about any techniques, strategies, or resources you use, as well as your personal experiences and challenges in learning English."

This investigation aimed to elicit initial insights into participants' conceptions of English language learning, which subsequently informed the design of the semi-structured interview questions. Students composited their texts in class under the supervision of the lead researcher. This controlled environment ensured consistency across participants and minimised the influence of extraneous factors. Students were permitted to utilise dictionaries (predominately on their mobile devices) for lexical assistance. However, they were encouraged to draw primarily on their knowledge and experiences for content. The compositions were handwritten.

Next, the lead researcher scheduled individual interviews with each participant, which were conducted in his office on the university campus. The interviews lasted for an average duration of about 40 minutes. The interviews were conducted mainly in English with little use of Arabic when needed to explain some points in case the participants did not understand. With the consent of all participating students, the researcher recorded the interviews, which were later transcribed verbatim by the researcher.

A series of open-ended questions and probes were used to understand the participants' backgrounds, experiences, and contexts of learning English. These were structured as follows:

1. Can you start by telling me a little bit about why you're enrolled in this English class?
2. Do you enjoy learning English?
3. Are there any specific aspects of the English language that you find particularly interesting or challenging?
 - Can you tell me about some of the challenges you face in learning English?
4. Have you tried any techniques for improving your pronunciation?
5. Are there any other challenges that you're currently facing in your English studies?
 - Can you tell me more about what you do to overcome these challenges?
6. Have you found any strategies or resources that have helped you with grammar?
7. Do you have any plans to continue studying English beyond this class?

During the discussion, students were encouraged to speak in depth about what they had written in their compositions. This approach allowed the interviewer to probe further and facilitated a continuous, information-rich conversation with each student.

5 Phenomenographic analysis

The phenomenographic method and analysis mean that the researcher can explore the *what* that is being focused on (the content) and the *how* it is being focused on (the act of learning) aspects of participants' understandings and experiences of learning English as a foreign language. In phenomenography, researchers use a hypothetical 'outcome space' to present the different ways of experiencing the phenomenon (Marton & Booth, 1997). In the outcome space, there is a set of categories of descriptions, usually arranged hierarchically, indicating each category's relationship with the others. Each category describes a certain way of understanding the phenomenon of interest, and the result is a finite set of qualitatively different categories.

To create categories and conceptions corresponding to various descriptions of how students learned English in a structured manner, the researchers searched for underlying foci and meaning in the handwritten compositions and the interview transcripts and reviewed and iteratively reread them to develop the categories. The researchers earnestly practised bracketing, aiming to focus strictly on the phenomena as described by the participants rather than interpreting their experiences through the lens of existing theoretical or personal frameworks.

In the first phase of analysis, the focus was on identifying and describing the range of ways students experienced learning English as a foreign language in broad terms. The lead researcher iteratively read the transcriptions, looking for 'qualitative similarities within and differences between the emergent categories and trying to ascertain the foci of these (Hathaway & Fletcher, 2018: 123). This process included identifying the critical aspects in each category, defining the groupings, and separating the different ways of experiencing the phenomenon. From this, a pool of meanings was created by identifying extracts from the transcript that represented facets of ways of experiencing the phenomenon that the researcher ordered into incipient categories. The researcher then ordered the categories to reflect the representation of the participants' expanding awareness to define the outcome space.

In the second phase, the ordering of categories was interrogated to analyse the structure of the outcome space in terms of the educationally critical aspects that appeared most important to grouping and separating the different ways of learning English as a foreign language. Once the researcher has developed an outcome space, they then ordered the categories hierarchically by increasing sophistication and completeness of the description of the phenomenon and separated by the critical aspects of variation in meaning, bearing in mind that some ways of experiencing a phenomenon are better than others (Marton & Pang, 1999).

In the third phase, the second researcher interactively read the transcripts and interrogated the outcome space, focusing on the critical aspects of each category and the themes of expanding awareness to test the linkage and separation of the categories and the hierarchical ordering (Åkerlind, 2005). The second researcher revised the original category structure by providing her perspective and experience to the analysis, extending the categories from three to four. A dialogic reliability check was undertaken, and the percentage agreement with the lead researcher's analysis was calculated. This process of interjudge reliability, as described by Sandberg (1997), created an ongoing dialogue between the researchers, which improved their understanding of the data. The resultant outcome space represented an agreed interpretation of the data, which remained faithful to the participants' conceptions of reality.

IV Results

1 Findings: an outcome space for learning English as a foreign language

In this phenomenographic study, learning English as a foreign language in the context of a mandatory course is conceived of through four qualitatively different experiences. The categories (of conception) describing the variation in students' experiences are:

Category A: Learning English as cultural experience.

Learning English is a conduit to various cultural experiences, where the student achieves language fluency through developing personal meaning.

Category B: Learning English as reward.

Learning English is a process of meaningful inquiry, where the student experiences rewards and joy in overcoming language learning challenges.

Category C: Learning English as global opportunity.

Learning English is a process of acquiring the core concepts of the English language, where the student, by attaining language competency, generates global career prospects.

Category D: Learning English as compliance.

Learning English is a process of compliance-driven repeated practice and mastery, where the student uses language learning tools to master the functional components of language.

Table 2 summarises the characteristics and meanings of the four qualitatively different ways of experiencing learning English as a foreign language in the context of a mandatory course.

Table 2. Categories of the experiences of learning English as a foreign language in the context of a mandatory course.

Category	Description	Representative quotations
A. Learning English as cultural experience.	Students experience learning English as a conduit to various cultural experiences, where the student achieves language fluency through developing personal meaning.	Using interpersonal skills to build relationships with native speakers is a great way to improve my language skills, practice listening to native speakers, and trying to understand what they're saying. This will help you to improve your comprehension and vocabulary, showing interest in their culture, being respectful and polite will help them be more willing to help you out with your language learning. (7)
B. Learning English as reward.	Students experience learning English as a process of meaningful inquiry, where the student experiences rewards and joy in overcoming language learning challenges.	Well, I find the grammar to be a bit challenging at times, but I think that's just because English has so many rules and exceptions to those rules. But overall, I really enjoy learning new vocabulary and practicing my speaking and writing skills. (1) It can be a challenge to balance everything, but I try to make language learning a part of my daily routine. For example, I read an English article during my lunch break. I always have this concept of reading for pleasure. I Read for pleasure to increase my motivation and interest in the language, and make reading feel less like a chore. (3)
C. Learning English as global opportunity.	Students experience learning English as a process of acquiring the core concepts of the English language, where the student, by attaining language competency, generates global career prospects.	I enjoy learning English because it's such an important language in today's world. It's the language of science, especially engineering and I feel like it opens up a lot of opportunities for me in the future. (2) Actually, I do enjoy learning English. I've always been interested in languages and I think English is a really important language to know, especially in today's global society. (1)
D. Learning English as compliance.	Students experience learning English as a process of compliance-driven repeated practice and mastery, where the student uses language	I'm more interested in my major courses and don't have a particular interest in learning English...(4)

learning tools to master the functional components of language.

I try to practice as much as possible by doing exercises and reviewing my notes...(4)

The following sections explore each of the four categories in greater depth, detailing the relationship between categories of description, critical aspects, and the themes of expanding awareness. We then describe the relationship between the categories and present the outcome space.

Category A: Learning English as cultural experience.

Learning English is a conduit to various cultural experiences, where the student achieves language fluency through developing personal meaning.

This category's distinguishing characteristic is its focus on seeking out native language practice partners beyond the classroom. The focus is on intrinsic curiosity about the English language and developing fluency in another language. Students make considerable efforts to practice speaking and listening with native English speakers to create personal meanings of culture. This conception emphasises English language learning as a conduit to various cultural experiences, as learners intertwine relationship building with native speakers and understanding of cultural idioms. In this way, learners can achieve comprehension of the English language.

Category B: Learning English as reward.

Learning English is a process of meaningful inquiry, where the student experiences rewards and joy in overcoming language learning challenges.

The essential characteristic of this category is that learning English is meaningful inquiry, a process during which overcoming obstacles and challenges the learner encounters makes the process enjoyable. This persistence is rewarded as there is a perception of the value of English in global society. Students achieve their goals through a considered engagement process with tasks and activities during language classes. They perceive language as socially communicated in the classroom. The teacher and other learners offer an interactive experience that provides challenges and feedback. Learning English is a dual reward process, as there is congruence between intrinsic and extrinsic motivational factors.

Category C: Learning English as global opportunity.

Learning English is a process of acquiring the core concepts of the English language, where the student, by attaining language competency, generates global career prospects.

The key characteristic of this category is that learning English and developing language competency is about acquiring and gaining command of the language's core concepts. Explicit references are made to building vocabulary, syntax, and grammar skills. These English language skills are perceived as a gateway to employment opportunities, specifically those related to English as the language of Science and Engineering. Students' ability to create personal goals and career prospects is generated in response to their perception of the practical value of English. A level of English language proficiency was perceived as an instrumental tool in today's interconnected world and a way of establishing global connections. They perceive English as obtainable from multi-media resources, including reading, writing, listening and interaction with these sources. In the classroom, interaction with their peers and teachers is a source of practice and exposure to variation in the English language.

Category D: Learning English as compliance.

Learning English is a process of compliance-driven repeated practice and mastery, where the student uses language learning tools to master the functional components of language.

The core characteristic of this category is that learning English is compliance-driven and externally forced through enrolling in the engineering degree programme. Learning English is framed by a utilitarian perspective rooted in the external regulation of language courses. Thus, motivation and compliance drive how students approach learning English. The students' experiences emphasise repeated practice as a way of mastering the functional elements of the language. The primary source of language is the curriculum. Students perceive language and its components as an acquirable entry that is received from a variety of media. They frequently describe using language learning tools such as pronunciation apps, quizzes, and exercises.

2 The Outcome Space

Similar to other phenomenographic analyses, the resulting categories of description appear to form an inclusive hierarchy. In this study, the lowest category, D, represents a unistructural constitution of language learning, category C represents a more complex multistructural constitution, and the higher category B represents an increasingly complex and relational constitution. The highest category A represents the most complex and extended abstract constitution.

The referential aspect of the categories attends to the '*what*', and the structural is the '*how*', referred to by the students. Category A refers to learning English as constituted in a holistic process of engagement with culture and the discourse amongst people. Although Category B is less holistic than that constituted in Category A, it is relational when compared to Category C, as it refers to learning English as it is constituted amongst people in a variety of contexts and is internalised and formed by the learner. Category C is distinguished from category B as it focuses on language as an entity and refers to English as it is constituted in core elements the learner brings together to support fluency. On the other hand, Category D is structurally separate from Category D as it is unistructural. It refers to English as comprised of functional elements from which students can acquire learning. The structural relationships between the categories of description are summarised in Table 3.

Table 3. Categories of description of the object of study (learning English as a foreign language).

Structural		Referential		
		Learning is about developing the self	Learning is about furthering one's career prospects	Learning is about compliance and ensuring progression
Extended abstract	Holistic focus on the whole of language and embodied enactment	A		
Relational	Language is internalised and formed by the learner	B		
Multistructural	Focus on the core elements required for fluency		C	

Unistructural	Discrete knowledge and functional elements	D
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3 Themes of expanding awareness

In line with phenomenographic research regarding the interrelated natures of the categories, we identified relationships between the various categories – or the outcome space that elucidates how students experience learning English as a foreign language. The categories are identified through the qualitatively different ways of experiencing the critical aspects of the phenomenon, the learning of English as a foreign language in the context of a mandatory course. Four themes of expanding awareness were discerned, which relate to the critical aspects that define the phenomenon and the structural relationships which connect and separate the categories of description (Table 4). These focus on the contemporaneous variation about the critical aspects and represent the structural groupings of dimensions of variation (Åkerlind 2005a, b). Each theme of expanding awareness shows variation in the critical aspects of the phenomenon, which constitutes qualitatively different ways of experiencing the phenomenon. The categories of conception illustrate how collective awareness might be expanded along the themes, enabling learners to move from the less complete and partial ways of experiencing the learning of English as a foreign language to the more sophisticated or complete. At the top is category A, which represents the most sophisticated conception of learning English as a foreign language. The least sophisticated conception is the bottom category, D.

Variations in students' experience of learning English as a foreign language are discerned as the *what* aspect of experiencing the phenomenon. The categories of conception show a gradual shift from learning English as a way of experiencing culture and generative learning and personal growth to a learning experience that is instrumental and focused on acquiring language components and reproduction. While all students are mandated to learn English, they assign different values to the results of their learning, which is reflected in their qualitatively different understandings. In the most sophisticated conceptions, the English language has personal value due to its value in society and globally; for others, value is integral to fulfilling individual goals and is experienced and enjoyable. Then, value is discerned through English as a gateway to more career opportunities. In its least sophisticated form, the value of English was perceived as minimal.

Further variations in experience, as delineated in the themes of expanding awareness, manifest as aspects of epistemological frames for experiencing the learning of English. While all students engage in English language acquisition, they exhibit variation in their understandings of the nature of knowledge, i.e. the elements of a language and their organisation, and the process of knowing, i.e. how the learner achieves fluency, when learning a language. The two themes map the critical changes of understanding that denote increases in awareness from less complete to more complete ways of experiencing the learning of English. Furthermore, the hierarchical categories indicate that with increasing awareness of the structural aspects of the phenomenon (the *what*), the more complete their representations of learning English become.

In its most sophisticated form, the nature of language was perceived as embodied through authentic speech and cultural idioms, which are a culture's mediating artefacts. These are perceived as part of social interactions and the process of sense-making. The less sophisticated conceptions described language as part of social interactions. Students can gain these from interactions in language learning settings and components expressed in course content and through books and similar. In its least sophisticated form, language was perceived as a set of components that related to the perception of learning a language through memorising elements. Similarly, in the most complete conceptions, the source of language was culture, and coming to know a language was synonymous with developing

comprehension. Less complete conceptions described the source of language as being formal instructional settings and from various interactions with writings, audio and other students. In its simplest form, the source of language was conceived of as external, received from multiple media, which were an extension of the formal curriculum, such as related exercises.

In the theme that captures the role of experts and others in language learning, it is apparent that the more sophisticated the conceptions of language learning, the more interactions with experts and others are associated with understanding, which is key to fluency. The *how* is experienced as generative interpersonal relationships that facilitate learning. In the lower categories, experts offer collaborative interaction and increasing exposure to the components of language. In the least sophisticated conceptions, expert practice is emphasised as teaching and instrumental, offering in-class collaboration and opportunities to practice. Technologically mediated tools are perceived as being able to replicate and substitute for interactions with experts and other language practice partners.

The hierarchical structure and relationships between the categories and themes of expanding awareness demonstrate the difference in learners' ways of experiencing the learning of the English language in a mandatory course. Ways of experiencing in the higher categories lead us to assert that this structure can be used as an underlying framework for designing learning structures and pedagogical approaches to support students in developing more sophisticated ways of learning English.

Table 4. Ways of experiencing the learning of English as a foreign language; the categories of description, described in terms of themes of expanding awareness.

Categories of description				
	A	B	C	D
	Learning English as cultural experience.	Learning English as reward.	Learning English as global opportunity.	Learning English as compliance.
Themes of expanding awareness				
Value of English	English has personal value.	English is important and valued in society and globally.	English opens opportunities, career prospects and practical/functional value.	English is compulsory; it is a forced part of a degree.
Nature of language	Language is embodied in culture and cultural idioms.	Language is socially communicated	Language is obtainable from multi-media sources	Language and its components are an acquirable entity
Source of language	Language is intertwined with coming to understand through interaction with others (cultural sources).	Language is realised through engagement with language classes, which include tasks and activities.	Language is gathered through reading, writing, listening and interaction with others.	Language is received/obtained through a variety of media, extension of content, and the curriculum, including

Role of experts/others in language learning	Attaining comprehension through interpersonal relationships	Offering interaction, feedback and challenge	Interaction with peers and teachers increases the exposure to and variation in language elements	Language is based on practice and interaction with testing and practice facilities.
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V Discussion

1 Implications for teaching and learning

Our results offer critical insights into Arabic first-language students' experiences and conceptions of learning the English language in a mandatory course. The phenomenographic outcome space and categories of description provide an empirically based framework for guiding teaching practice in similar settings. Further, four themes of expanding awareness and experience of the object of learning are revealed. The first demonstrates the value of English as a foreign language; the second theme describes the nature of language, and the third explains what learners perceive as the different sources and locations where a foreign language (English) resides, as experienced in a language learning context. The fourth theme describes the role of experts in language learning.

It should be noted that although the phenomenographic outcome space reveals a hierarchy of increasing sophistication in conceptions of learning English as a foreign language, each conception represents the collected experiences of learners. Learners may use different aspects of language learning at other times during their learning experience.

What are the critical ways in which we want students to experience learning English as a foreign language?

The four categories of description suggest that learning English as a foreign language occurs both in the formal instructional setting and in the informal beyond the classroom. In the formal setting, learners experience similar activities in different ways depending on how they go about learning and their relationship to the context (Polat, 2013). For some, practising speaking the English language in the classroom is a primary method of acquiring English, whilst for others who experience agency in their learning, similar to the learners in Polat's (2013) study, who experienced language learning that has the inherent power to change their lives, their emphasis is on seeking out native speakers beyond the classroom. Therefore, teachers may wish to design learning experiences that bring native English speakers into the classroom and in smaller tutorial groups, thus providing a full range of learning opportunities open to all learners in mandatory university courses. The hierarchy of categories reveals the expanding awareness, or external horizon, from Category D to A, as experienced by learners. In Category D, learning English is approached through a limited perception that sees the language as comprised of discrete functional elements, which may limit the learner's ability to use English in social settings. These findings suggest that teachers may wish to emphasise the applied and situated nature of learning English using communicative and task-based learning activities, as indicated by Qi (2022), to create student-centred learning environments. Teachers can increase opportunities for active learning through changes to the language learning context. Learners can be encouraged to develop more sophisticated ways of experiencing language learning. Learning contexts such as authentic learning, role-play learning, scenario learning and simulation-based learning, augmented with input from native speakers, can encourage learners to develop different and more holistic ways of learning English.

What are the implications of certain ways of experiencing the act of learning English as a foreign language?

The findings of this study show that value, motivation, and goals are all perceived aspects of learning English as a Foreign language. It is, therefore, conceivable that teachers could alter the learning environment to promote the value of the English language to learners, engender learners' intrinsic motivation for learning English, and inspire and encourage students to work towards increasing their competency in English. For instance, a focus on interacting with native speakers and cultural artefacts might be needed, with native speakers introducing cultural idioms to help learners perceive the connections between language and culture. Studies in a range of countries where English is taught as a foreign language in higher education indicate that students' motivation ranges from integrative to instrumental (Nguyen, 2019; Zhuang, 2023) and is influenced by a range of factors, with experiential learning opportunities and parental attitudes appearing most influential.

Students who perceive learning English as purely an act of meeting external compulsory requirements may only seek to develop personal meaning if they are learning discrete functional elements of language to complete class tasks and outside-of-class exercises. However, Fu and Liu (2024) reveal that some students' strategies for repetition and memorising the components of the English language are critical to understanding and improving learning. The efficacy of a student's memorisation approach to learning vocabulary is dependent on the student's perceptions of the value of memorisation. Positive perceptions were associated with using a greater range of language learning strategies. These perceptions suggest that when advancing to later courses, students may need to be challenged to expand their awareness of the interconnected functional elements of language and have a limited range of tools available to help them learn.

In contrast, when learners experience language learning to develop fluency, they perceive the parts and the whole of the English language and attempt to make connections between them. They create the personal meaning of culture from their learning, an act in which their energy is focused on the enjoyment of learning. In seeking out native language speakers, they extend themselves beyond the directed tasks to further develop their understanding of the language elements they are presented with and to augment and imbue these with cultural experiences. In this way, they may progress between different levels of language learning with a command and understanding of the cultural idioms and essential building blocks of the language.

How can we help students move to more sophisticated conceptions and ways of learning?

The findings of this study illustrate students' conceptions of learning English as a foreign language, which can be used as a basis for fostering students' intrinsic motivation (Benson & Lor, 1999). English teachers need to adapt their methods of instruction in two ways. First, they should rethink their interactions with students, focusing on their dialogue and the entry points they offer students to learn English. Second, they need to widen their range of resources and tools for teaching to include more authentic learning opportunities and interactions with native speakers. Through both approaches, teachers can introduce variation around the phenomenon of interest and expose their students to different ways of seeing the learning of English. At the same time, variation through authenticity in learning and interaction with other characters demonstrates the value of English and engages students' intrinsic motivation for learning. By increasing the number of learning interactions with various language sources, variation reveals the full range of critical aspects of the experience and the nature of language. In simple terms, encouraging students to rethink the learning design widens their experiences of learning English, as described in Categories A and B. It may be unrealistic to expect students who are only focused on passing a mandatory course in English to be engaged in learning English. Thus, a significant design feature of learning activities should focus on engaging learners' intrinsic interest in becoming speakers of English (Fu & Liu, 2024).

Bringing the literature review findings into alignment with our phenomenographic inquiry, we find the manifold variety of conceptions of language learning, reported in other research, coalesce in the concrete experience of Arabic-speaking Engineering students learning English. Research reveals that conceptions of language learning range from language learning being considered the acquisition of grammatical structures to language learning being appreciated as an immersive, culturally, and socially integrated process (Fletcher, 1993; Noor, 2023). The phenomenographic results of our study also point to the fact that conceptions in the university context ranged, whereby motivation and goals, together with the perceived value of English, were an important factor for engaging students and learning the language. This finding demonstrates that pedagogical strategies must align with learners' emotional, cultural, and social needs (Noor, 2023), a principle evidenced in our study's implications. This alignment suggested a strong interaction relationship between the conceptions of the learning process and the learning context. This association is further supported by Krogager Andersen (2021), who holds that language teachers' beliefs and the opportunities they open for learning have far more significant influence in shaping the experiences they construct for students.

Notably, the phenomenographic study of variations in learners' conceptions of English language learning further develops a developmental continuum of language learning beliefs portrayed in the literature (Polat, 2013; Lin, 2017). They stress the call for building learning environments in which learners are able to develop sophisticated, culturally plausible conceptions of language learning through theoretical inquiry. The integration of the reviewed literature with the outcomes of this phenomenographic study narrates a comprehensive analysis and description. Thus, a deep understanding of the learners' conceptions of language learning emerged, which becomes necessary to develop pedagogical approaches above and beyond mere language acquisition. The social, cultural, and emotional facets of learning a language can help support the transition from these naive preconceptions to more sophisticated ones, allowing learners to journey toward being competent communicators in the English language. The authors approach it in a comprehensive way that resonates with the many conceptions revealed through phenomenography and the broader discourse on language learning being a multi-tentacled process.

VI Recommendations

In consideration of the potential contribution and practical implications of the findings from our study, the following recommendations for practice in English as a Foreign language teaching are proposed. Firstly, to enhance EFL teaching, our findings suggest expanding students' experiential space of learning by cultivating relationships with native English speakers. Qi (2022) noted that Chinese students' constructivist beliefs about learning reduce their reliance on teachers as authority figures, which has implications for their relationship with sources of language. Curricula should include regular opportunities for authentic conversations with native speakers to build confidence and deepen students' understanding of their roles in learning. Native speakers should be drawn from diverse age groups and backgrounds to meet students' individualised and liberal learning needs.

In addition, designing authentic learning experiences with native speakers mirrors suggestions from the literature for integrating real-life social interactions into language teaching. The proposal of experiential learning and interactive, authentic experiences in our study goes a long way to cement whatever the literature recommends about the integration of real-life social interactions. For example, these learning designs respond to intrinsic and extrinsic motivations, as noted by Benson and Lor (1999), in order to derive the broader, deeper, and holistic aspects of language in society, practised as a medium of culture.

Second, language teachers should conduct early diagnostic testing of students to ascertain their conceptions of and approaches to learning. A methodological approach to diagnostic assessment would involve English language teachers using instruments such as Oxford's (1990) Strategy Inventory for

Language Learning, which measures direct and indirect language learning strategies. By combining this with the application of specialised inventories such as the Approaches to Study Skills Inventory (Entwistle et al., 2000), teachers can implement early intervention strategies for students adopting surface approaches to learning.

Finally, to support students with surface learning approaches, such as memorisation and drill-based practice (Fu & Liu, 2024), early interventions are essential to encourage deeper engagement with English. Teachers can promote collaborative activities like group work and peer-pair tasks (Hassan et al., 2022; Lonka et al., 2020) to foster intrinsic motivation and deeper approaches to learning. Shifting the focus from assessment-driven approaches to emphasising the emotional and cultural value of learning English can help students develop higher-level conceptions (Fu & Liu, 2024). This strategy aligns with the findings linking intrinsic motivation to persistence and learner agency in language learning. These recommendations are particularly applicable to the university context in the Middle East.

VII Limitations of the study

Before presenting the conclusions of this study, it is necessary to acknowledge two limitations that need to be noted. Firstly, there exists a limitation regarding the respondents' expressiveness. In this study, participants articulated their utterances and reflections in English rather than Arabic, which potentially diminished the level of detail available. The extent to which the conceptions and outcome space represent the full variation of experiences necessitates further investigations conducted with data gathered in the participant's first language.

Secondly, a limitation of conducting a small-scale qualitative study approach in the phenomenographic tradition is that the results may not be generalisable beyond the Middle East. However, phenomenographic studies do not claim to be generalisable, as the findings are inherently contextual to the phenomenon of investigation and the study context. Given this limitation, it is recommended that similar studies be conducted with learners of English as a foreign language in different cultural contexts and universities. Such research would provide an opportunity to increase the number of participants and examine the variation in experience across several different samples.

A logical progression of this research is to examine students' approaches to learning English as a foreign language, including their strategies and intentions. To enhance understanding of this phenomenon in practice, researchers could integrate future phenomenographic research with a quantitative methodology to investigate the correlation between students' conceptions of learning and approaches to learning English. As part of this study, the data has already been collected and analysed for this sample, and a manuscript is being prepared for submission to an academic journal.

VIII Conclusion

This study aimed to develop an outcome space and categories of description that mapped the variations in Arabic Engineering students' conceptions of learning English as a foreign language in a mandatory language course and to examine the hierarchical relationship among those categories of conception. The findings revealed a limited number of qualitatively different ways of experiencing the phenomenon: (1) Learning English as cultural experience, (2) learning English as a reward, (3) learning English as global opportunity, and (4) learning English as compliance. The conceptual categories qualitative varied from each other and were linked and separated by four themes of expanding awareness within the phenomenon. The variation in students' perceived value of English, the nature of language, the source of language, and the role of experts and others in their language learning revealed differences in their relationship to the phenomenon within the study context. In the phenomenographic sense, the findings reveal differences in learners' ability to perceive and discern the phenomenon's critical aspects, which support learners in moving from naïve to more sophisticated conceptions. When perceived in the most complete of sophisticated forms, learning English becomes focused on the holistic

development of the self. Partial perceptions of language learning limit learners to conceptions focused on compliance and language as discrete functional elements, reminiscent of the atomistic-extrinsic conceptions in Polat's (2013) study. This variation in experience amongst learners in a group supports Mendoza et al. (2022) findings that language learning courses need to recognise and holistically respond to individual needs. As Noor (2023) asserts, language learning is a socio-psychological process, and this study reveals that the role of others in language learning needs to be actively designed for in-the-classroom and out-of-the-classroom learning opportunities.

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Author contributions

Amjad Owais was responsible for the conceptualisation of the study, data collection, initial data analysis and drafting of the first version of the manuscript. Dr. Tanya Hathaway contributed significantly to the revision of the manuscript, providing her expertise in phenomenography to extend the data analysis and critical feedback on the methodology and theoretical framework and leading the subsequent manuscript drafts. Both authors reviewed and approved the final version of the manuscript. Tanya Hathaway is faculty at the Doctoral School at Unicaf University, Cyprus. t.hathaway@faculty.unicaf.org

Statements and declarations

Declaration of conflicting interest

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The study was approved by the AAU Research Ethical Committee (Reference No.: COP/AREC/AD/13) at Al Ain University and the School of Arts, Culture and Language Ethics Committee at Bangor University (AO1 202223).

Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research, supporting data is unavailable.

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