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Research Article

Mediating Effects of Communication Language Anxiety and Prior Learning Experience on Academic Listening of Libyan Students in Malaysian Higher Education

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Abstract
There are many international students in Malaysia, which is ranked among the top ten destinations for international students, globally. Libyan EFL students were reported in 2017 as being the seventh biggest ethnic group enrolled in Malaysian higher education institutions. Malaysian universities use English in instruction, thus providing Libyan students opportunities to gain knowledge and develop their fields of study. However, to achieve academic success in such environments, intellectual engagement is essential, and listening and speaking challenges associated with language anxiety and prior learning experience could impede Libyan students' communication abilities. In response to these factors, the students develop mediating learning strategies. Therefore, this study investigated Libyan students' academic listening challenges and the strategies used to counter them. Using an explanatory, mixed-mode, sequential research design, the researchers conducted a questionnaire survey among 223 participants and performed 15 interviews and focus group discussion with collection of field notes and member checks. It was found that academic listening strategies are influenced by language challenges when communication language anxiety and prior learning experience mediate the effects of listening challenges and the implementation of strategies meant to overcome them. From the results of the study, the researchers believe that stakeholders should seriously consider the challenges that Libyan international students face due to their negative prior learning experience, and future researchers should focus more in-depth on the roles of prior learning and emotional factors to provide more insight about the reasons for and understanding of international students' learning experiences in ESL international institutions.

Introduction

Internationalization has become a significant as well as desirable trend among higher education institutions. A critical component for the success of this trend is the effectiveness of scholarly communication in English as a second language (ESL) and English as a foreign language (EFL) context. However, interaction among colleagues with diverse educational backgrounds in various academic settings is challenging, especially for international students from EFL backgrounds who have had little prior experience with spoken interaction in English. These students often have a limited understanding of English because they have had little or no practical experience with English communication in authentic or natural situations (Juan & Abidin, 2013). As a result, they may lack knowledge and skills in English language usage and communicative competence, vocabulary, and phonology as well as awareness of language variation needed in academic contexts when conversing with interlocutors from unfamiliar cultural, social, and linguistic backgrounds. These limitations may then result in listening comprehension problems that could impede their academic success.

International students' listening comprehension challenges involve such basic academic communication skills and communicative competence as identifying differing ideas or views and understanding questions (Manjet, 2016; Singh et al., 2013). These challenges often lead to consequential problems with tasks, such as participating in discussions, taking notes on the content of lectures or discussions and subsequent review of information related to exams or coursework. While students may attempt to overcome these problems, some affective factors may impede their success in doing so. These include their lack of prior experience, as mentioned above, and psychological factors such as embarrassment, anxiety, frustration, and level of motivation (Brown, 2008; Oxford & Ehrman, 1992; Rechards & Al-Zubaidi, 2010; Wolf & Phung, 2019). When met with such challenges, the students need to resort to certain language learning strategies to overcome them. Language learning strategies are intended to enhance and improve learners' communicative competence. The types of strategy have been variously classified in previous studies, such as Oxford's (1990), which proposed six categories of language learning strategy. They are cognitive, memory-related, compensatory, metacognitive, affective, and social strategies, which are the main categories chosen for this research. These strategy categories are further classified into two main categories with complementary subcategories, which are direct strategies (i.e., cognitive, memory-related, and compensatory strategies) and indirect strategies (i.e., meta-cognitive, affective, and social strategies).

Direct listening strategies

Memory-related listening strategies involve creating mental linkages, application of images and

sounds, reviewing affectively, employing actions, and strategies for memory retrieval (O'Malley et al., 1989; Oxford, 1990). Cognitive listening strategies, according to O'Malley et al. (1990), "involve active manipulation of the learning task" (p. 423). This type of strategy is characterised by practicing, receiving, and sending messages, analysing, and reasoning. Tsai (2017) found these strategies to be "key to one's listening comprehension" (p. iii) and that note-taking can improve the retrieval of information from long-term memory. Compensatory strategies are used by learners to overcome limitations in knowledge gained through listening. These strategies involve intelligent guessing by using linguistic clues. Rubin (1975) emphasises the importance of this strategy in stating, "The good language learner may be a good guesser" (p. 43). The use of these strategies has been found important in studies on improving academic listening skills (Cross, 2010). However, previous research found these strategies were used by Chinese university students studying in Malaysia, who relied on asking questions and pictures to improve listening skills (Juan & Abidin, 2013). Research has also found that Asian international students who lacked prior knowledge and practical experience in English used memory-related strategies more than metacognitive and socio-effective strategies (Tuengkun, 2014).

Indirect Listening Strategies

Metacognitive listening strategies "are higher-order executive skills" (O'Malley et al., 1990, p. 44). These strategies facilitate learning through arranging and planning learning activities and information and the evaluation of learning (Oxford, 1990). Research on Iranian students found this type of strategy was more frequently used than cognitive and socio-effective strategies and was positively correlated with the students' listening proficiency (Bidabadi & Yamat, 2011; Kazemi & Kiamarsi, 2017). Affective listening strategies rely on cooperative processes to achieve goals. This involves psychological and motivational factors such as lowering anxiety, seeking encouragement, and tracking emotional states. Learner practices are adopted to reduce communication anxiety, such as progressive relaxation, deep breathing, meditation, listening to music, and laughter. Motivation has been categorised into two types: instrumental and integrated (Gardner & Lambert, 1959). Tracking emotional states in relation to these strategies is a self-assessment approach for getting in touch with one's feelings, motivation, and emotional attitude while taking control over these factors through self-awareness during interactions with others and taking notice of anxiety or fear as well as acting on the other factors mentioned above. This may be done by maintaining checklists or diaries and through discussions with others for support and gauging the severity of problems or level of improvement. Social strategies are realised in three main ways: asking questions, cooperating with others, and empathising with others. These strategies are employed to improve listening skills and understanding and are used in cooperation with peers and professionals (Rubin, 1975). Some previous research has shown the importance of socialising strategies in improving international students' abilities to pay attention and listen carefully, and their effectiveness in various socio-cultural contexts has been reported (Ngo, 2019). However, other findings on the extent of their adoption has shown them to be the least used among listening strategies (Tuengkun, 2014).

Proposed Research Model

The above studies have reported various findings on students' difficulties with understanding speakers such as peers, supervisors and lecturers in academic settings and on the implementation of communication strategies to mediate these challenges. However, due to the lack of consensus on the findings from previous research, more research is needed on factors such as emotion, prior learning experience and other factors affecting the relations between academic English listening challenges and the implementation of mediating listening strategies.

The present study integrates constructs and affective variables from previous research into a mixed-methods research design to examine the types of academic English listening challenge most often experienced by Libyan international students enrolled in Malaysian universities and the strategies they employ to overcome these challenges. The study further seeks to explain the effects of communication language anxiety and prior learning experience on these students' listening challenges and strategies. The following are the specific research questions addressed in this study:

RQ1: What are the academic listening challenges Libyan students face while studying in Malaysian universities?
RQ2: What are the academic listening strategies implemented by Libyan students while studying in Malaysian universities?
RQ3: What are the effects of prior learning experience and communication language anxiety on academic listening and speaking challenges and strategies among Libyan students studying in Malaysian universities?
RQ4: To what extent does prior learning experience and communication language anxiety affect Libyan students' academic listening and mediating strategies when studying in Malaysian universities?

Six hypotheses on the relations between the main constructs of the research were investigated.

H1: Listening challenges significantly influence communication language anxiety among Libyan international students.
H2: Communication language anxiety significantly influences listening strategies among Libyan international students.
H3: Learning experience significantly influences listening challenges among Libyan international students.
H4: Learning experience significantly influences listening strategies among Libyan international students.
H5: Communication language anxiety has a mediation effect between listening challenges and listening strategies.
H6: Prior learning experience has a mediation effect between listening challenges and listening strategies.

Research Methodology

An explanatory, sequential, mixed-methods research design was implemented in two phases. An online questionnaire (i.e., conducted via email) was the research instrument for the first phase. Descriptive and inferential statistics including correlational procedures and bootstrapping resampling path analysis using structural equation modelling was used for the relations between variables, the validity of the study model, and hypothesis testing. The second stage data were acquired through interviews and focus group discussions with participants chosen from the survey respondents through purposive snowball sampling. This qualitative analysis was explanatory in nature and focused on participants' experiences with listening challenges and their use of related mediating listening strategies.

Population and Sampling Procedures

As this study was designed to focus on Libyan international students enrolled in Malaysian universities, it was first necessary to determine the size and availability of that target population. This was determined from data obtained through official sources with the cooperation of the Libyan embassy in Malaysia. It was reported that in the year 2020, there were 257 Libyan students studying in five Malaysian universities: Universiti Malaya (UM), University Putra Malaysia (UPM), Universiti Kebangsaan Malaysia (UKM), Universiti Teknologi Malaysia (UTM), and Universiti Teknologi Mara (UiTM). They were 18 years of age and above and were enrolled in Bachelor's, Master's, and PhD programmes. Students from this population comprised the target respondents for the study's questionnaire survey and the participants for interviews and focus group discussion. The human subject's approval was secured BY Ethic Committee for Research Involving Human Subject) JKEUPM at UPM.
Survey response rates are often more dependent on sampling than other factors (Sax et al., 2003); therefore, with this information, the valid sample size for first phase of the study involving the questionnaire survey was determined. While Krejcie and Morgan's (1970) recommended sample sizes are n =155 and N = 260, Cochran's formula was also used for calculating the sample size, which resulted in a recommended sample size of 154 from the total population of 257. Oversampling by as much as 40–50% has also been recommended to compensate for questionnaires that are not returned or have no responses (Salkind, 2012). Therefore, the optimal

sample size for the quantitative phase of the study was determined as 216 (i.e., 154 * 0.40 = 62; 154 + 62 = 216).
The participants for the qualitative phase of the research involving interviews and focus group discussion were selected using a purposive sampling approach. Non-discriminative snowball sampling, or chain sampling, was employed. Key respondents from the questionnaire survey who met the criteria of the study were chosen for individual face-to-face interviews. These informants recommended other key informants based on their knowledge of the subjects covered by the research. This was also done for the focus group discussion. This resulted in the selection of 15 participants for the interviews with four informants in the focus group discussion. NVivo analysis confirmed data saturation for this phase of the research.

Survey Questionnaire

To ensure the reliability and validity of the study's instrumentation and that the newest available content was used, items from previous research were selected for adoption in the study's survey questionnaire. These sources included Oxford's (1990) Strategy Inventory for Language Learning Strategies (SILLS) and Setiyadi's (2016) Language Learning Strategies Questionnaire (LLSQ). Items were also adapted from a) Evans and Green's (2007) listening and speaking challenges, d) Oxford's (1990) and Setiyadi's (2016) listening and speaking strategies, e) Horwitz et al.'s (1986) research on language anxiety, and f) Bennui's (2007) research on prior learning experience.
The survey questionnaire items were grouped into two main categories, those on listening challenges experienced by the respondents and items on mediating listening strategies. These were further categorised into subcategories covering the types of challenge encountered and the various mediating strategies used. The questionnaire items are referred to in brief below and in the discussion of the research results.
Eight-point Likert scales were included for each item in the questionnaire. Responses on listening challenges encountered by the respondents were 0 = Never face this challenge, 1 = Rarely face this challenge, 2 = Occasionally face this challenge, 3 = Sometimes face this challenge, 4 = Frequently face this challenge, 5 = Often face this challenge, 6 = Usually face this challenge, and 7 = Every time face this challenge. The questionnaire items for the respondents' use of mediating listening strategies were 0 = Never use this strategy, 1 = Rarely use this strategy, 2 = Occasionally use this strategy, 3 = Sometimes use this strategy, 4 = Frequently use this strategy, 5 = Often use this strategy, 6 = Usually use this strategy, and 7 = Every time use this strategy. Data from these responses were the basis for the descriptive and inferential statistics results on the study constructs covered by the questionnaire.
The questionnaires were distributed via email with the assistance of the Libyan embassy in Malaysia to 257 Libyan students, and reminders were sent when responses were not received. Also, in contrast to the usually recommended duration of an online survey (Creswell & Creswell, 2018), the questionnaire survey was allowed to proceed for three months. As a result of these measures, 246 respondents returned questionnaires. After the data from these questionnaires was cleaned and screened for bias, 223 questionnaires were accepted for the final data analysis. The overall respondent rate for the survey was 86% with rates of 74%, 98%, 91%, 97%, and 100% for the five individual universities.

Interviews and Focus Group Discussion

Face-to-face interviews of 30–40 minutes each were conducted with the 15 informants. Protocol questions on the study constructs were prepared for the interviews based on the questionnaire results and validated through a pilot study. Four informants participated in the focus group discussion, which was 90 minutes in duration. Documentations, such as transcripts and field notes, were prepared for both phases of research, and member checks were performed. Sequential triangulation was used to confirm data saturation was achieved, thus ensuring the reliability and internal validity of the data collected. The data from these interviews and discussion are used in the qualitative analysis to support and explain the quantitative analyses of the study constructs in the following discussion of results.

Results and Findings

The results reported below are from the analyses of data collected in two main phases of research:

the quantitative and qualitative phases. The preliminary results of the analyses of quantitative data from the survey questionnaires are presented along with discussion of the findings from qualitative results gathered from the interviews and focus group discussion. The qualitative results complement the discussion of the quantitative data analyses, allowing for more in-depth explanation of the findings to support conclusions on the participants' experiences with listening challenges and their use of strategies to mediate these difficulties. This discussion is followed by the results of structural equation modelling of the relations of communication language anxiety and prior learning experience with listening challenges and strategies. Hypothesis testing based on correlational analyses of the study constructs follows, and bootstrapping resampling analysis results from testing of mediating effects of constructs are discussed in the final subsection.

Questionnaire Data Analysis

A total of 257 Libyan international students studying in Malaysia responded to the online survey questionnaire. Exploratory data analysis was then conducted to check and clean the questionnaire data. This involved checks for missing data and outliers and verifying the normality of the data distribution. These procedures resulted in the acceptance of 223 valid responses.
The questionnaire data were analysed using SPSS Statistics version 25, AMOS version 24, and NVivo version 10 along with manual thematic analysis. The data were prepared for analysis with the variables transformed from an eight-point radial scale to continuous data. This was to categorise the data into low, medium and high levels for listening challenges, listening strategies, communication language anxiety, and prior learning experience. Similar classification of data has been used in previous research (Bao, 2017; Mohammadipour et al., 2018) to facilitate the interpretation and explanation of descriptive and inferential statistics results. More specifically, the results below are organised according to the constructs of the study comprising listening challenges, communication language anxiety, prior learning experience, and listening strategies. The levels of the endogenous and exogenous variables of the study (listening challenges, listening strategies, communication language anxiety, prior learning experience) with summary results of the correlational analysis on the constructs are presented in Table 1. This is followed in the table by the summary descriptive statistics for these constructs.

Table 1
Construct correlational analysis results and descriptive statistics

Construct		1	2	3	4
1.	Listening challenges	1			
2.	Listening strategies	.515**	1		
3.	Communication language anxiety	.672**	.579**	1	
4.	Prior learning experience	.653**	.624**	.731**	1
Mean		2.98	3.68	3.35	3.87
SD		1.52	1.48	2.01	3.87
Skewness		.328	.131	.169	-.053
Kurtosis		-.420	-.243	-1.099	-.985
Level		M	M	M	M

**Correlation significant at the p < 0.01 level (2-tailed); n, sample size; M, mean; SD, standard deviation; L, level

The correlations between the constructs ranged from .515 to .713 ($p < 0.001$). Following Hair (2019), no multicollinearity was found among the variables in the listening measurement model. The variables communication language anxiety and listening challenges were moderately correlated with listening strategies as were learning experience and listening challenges with listening strategies, indicating substantial relationships according to Guilford's Rule of Thumb (Cowles, 1974). Furthermore, communication language anxiety was found to be highly correlated with learning experience, indicating a marked relationship. This result, with support from the interviews and focus group discussion, may indicate generalisability to the total population of Libyan international students.

Descriptive Results for Academic Listening Challenges and Strategies

The descriptive statistics for the listening challenge and listening strategy constructs are discussed below along with supporting data collected from the interviews and focus group discussion during the qualitative phase of the study. The specific types of challenges and strategies and their frequency of use by respondents are discussed with reference to usage described by the Libyan student participants.

Academic Listening Challenges

As shown in Table 2, which summarises the descriptive data for listening challenges, 81 (38.1%) respondents reported a low level of experience with listening challenges, 114 (51.1%) reported a moderate level, and 28 (12.6%) reported challenges at a high level. The overall mean result for academic listening challenges is 2.98 with a standard deviation of 1.52.

Table 2
Listening challenge levels

Level ***Subjective norm***		**Frequency (n) & Percentage (%)**	***M***	***SD***
Low (0.00 – 2.339)		81 (36.3%)	2.98	1.52
Moderate (2.34 – 3.669)		114 (51.1%)		
High (4.67 – 7.00)		28 (12.6%)		
Listening challenges	*Total*	*n* = 223 (% = 100.0)		

n, sample size; M, mean; SD, standard deviation

Most respondents reported experiencing a moderate level of difficulty with academic listening, while few students expressed that they had high levels of such difficulty. The descriptive statistics results show that most respondents (17.9%) often faced challenges in understanding their peers' accents in English. Most of the respondents reported sometimes having trouble understanding academic questions (21.1%) and taking brief academic notes (21.5%) and only occasionally found it difficult to recognise different views in academic discussions (22.0%), understand the speech content of their lecturers' or supervisors' (23.8%), or comprehend the speech in English TV programs (18.8%). The majority responded that they were rarely challenged in their comprehension of terms in their fields of study (20.2%) or in utilising apps or online resources to improve their listening skills (18.8%). Thus, the level of challenge associated with understanding peers' accents for the highest percentage of respondents on that type of challenge indicates that this is a serious obstacle to their listening comprehension in academic contexts. Previous research has also exposed listening comprehension challenges associated with the accents of international students' peers and academic staff (Mehar Singh, 2019; Singh et al., 2013). These studies suggest that understanding accents presents challenges to students' academic engagement in educational environments.

Analysis of qualitative data gathered through the interviews and focus group discussion provided more depth of understanding to the quantitative phase of the research reported above. Three main themes were thus identified confirming the identification of listening challenges experienced by Libyan students: a) accents, b) unfamiliarity with academic terminology in English language content, and c) understanding in relation to cultural differences. These themes are discussed in detail below.

Accents

Respondents reported difficulty understanding the accents of their peers, lecturers, and supervisors as the greatest listening comprehension challenge they faced. This finding agrees with Juan and Abidin's (2013) qualitative study on Chinese international students in Malaysian universities. This is also supported by participants' interview responses that emphasised accents as challenging to their understanding of peers and university academic staff. These challenges were characterised as anxiety inducing, as well. This was brought on, as one participant in the interviews commented, because "the overlapping of the accent of lecturers" caused a "lack of focus." This finding agrees with Brunton and Jeffrey's (2014) study on international students in New Zealand,

which found that the accents of peers and university staff hinder understanding, which results in demotivating them and raising their anxiety levels. The results further suggest that the Libyan students were experiencing the effects of language distance as a result of unfamiliarity with the accents of people with whom they had to interact. This lack of familiarity was a result of the distance between their first language (Arabic) and English, their second language (Ringbom, 1983). Language distance affects the amount of transfer possible between the two languages, thus leading to the anxiety resulting from an inability to perform in academic settings.

Unfamiliarity with English Academic Terminologies

The Libyan students were found to lack familiarity with academic terminologies in English. This deficiency, like the challenge of understanding accents, was a source of anxiety and hesitation that led to problems in understanding academic discussions. This view is supported by student responses in the interviews. One informant who complained of this challenge said that the lack of knowledge of terms in English caused hesitation "to engage in an effective and meaningful academic discussion." Another noted that this lack of knowledge was a "large barrier" between interlocutors and made the informant feel "confused and less focused" as a result of "fear and anxiety." This finding is similar with those of Juan and Abidin (2013) and Brunton and Jeffrey (2014) on international students' unfamiliarity with certain content and how it effects their ways of listening and understanding. Familiarity with academic terms has been found to motivate interest in academic pursuits and produce positive effects on listening comprehension.

Cultural Differences

As stated by De Jesus (2014), the "perception of cultural differences" is a contributing factor to international students' academic communication challenges (p. 93). As the participating Libyan students were socially inhibited as a result of perceived cultural differences between them and the local community, they were impeded in the use of social strategies to improve their listening comprehension skills. This dilemma was illustrated in informants' interview responses, one of whom commented on having had "a hard time understanding the Malaysian culture," while another participant attributed problems in understanding academic content to a "lack of knowledge of peoples' culture." This was explained as detrimental to their ability to understand discussions or content in academic contexts.

Academic Listening Strategies

The summary descriptive statistics on listening strategies usage from the survey are presented in Table 3. The categories are classified according to low, moderate, and high levels of use. The strategy results have an overall mean of 3.68 with a standard deviation of 1.48. These results show that 46 (20.6%) respondents reported low levels of listening strategy use, while 127 (57.0%) reported moderate use of these strategies, and 50 (22.4%) reported high use. Thus, the majority reported moderate use of listening strategies.

Table 3
Listening strategy levels

Level of listening strategies	**Frequency (n) & percentage (%)**	***M***	***SD***
Low (0.00 – 2.339)	46 (20.6%)	3.68	1.48
Moderate (2.34 – 3.669)	127 (57.0%)		
High (4.67 – 7.00)	50 (22.4%)		
Total	n = 223 (% = 100.0)		

n, sample size; M, mean; SD, standard deviation

The types of strategy are classified into six sub-constructs: metacognitive, cognitive, compensatory, affective, memory-related, and social listening strategies. The descriptive statistics results for these constructs are shown in Table 4. Based on the mean of each sub-construct, it was found that the students most often emphasised metacognitive strategies (*M* = 3.98, *SD* = 1.63). The

other strategies in order of importance were cognitive, compensatory, affective, memory-related, and finally, the least used, social strategies (*M* = 3.43, *SD* = 1.64).

Table 4
Listening strategy descriptive statistics

Total n	Construct	*M*	*SD*	L	R
223	Metacognitive listening strategies	3.98	1.62	M	1
	Cognitive listening strategies	3.83	1.65	M	2
	Compensatory listening strategies	3.83	1.64	M	3
	Affective listening strategies	3.51	1.68	M	4
	Memory-related listening strategies	3.45	1.68	M	5
	Social listening strategies	3.43	1.64	M	6
	Overall	3.68	1.48	M	

n, sample size; M, mean; SD, standard deviation; L, level; l, low; M, moderate; H, high; R, rank order

The results for these constructs support the conclusion that the students preferred self-reliance, employing metacognitive and cognitive strategies rather than social exposure in improving their listening strategies. This conclusion is further supported by qualitative data gathered through the interviews with the study participants and their focus group discussion. One participant, for example, reported feeling "more comfortable and confident" when watching TV or listening to other media featuring native speakers, explaining this allowed taking notes to refer to in subsequent revision. In active discussion with academic staff, however, the participant reported it was "embarrassing to ask for clarification." Considering this disparity, reliance on metacognitive and cognitive strategies could be indicative of low self-confidence or fear of authority figures. The constructs are further discussed in the following sections in the order in which they are presented in Table 4.

Metacognitive Listening Strategies

As shown in Table 4, the most frequently used types of listening strategy of the Libyan students in the study were metacognitive. This type of strategy relies on assessment of learning resources to find important and relevant information. All metacognitive listening strategies were used at the medium level. The most used strategy was attentiveness when listening to native speakers in academic contexts (*M* = 4.28, *SD* = 1.98), which was often used by a majority of 17.5%. Taking every opportunity to listen to other educators or scholars speaking in English was second in frequency of use (*M* = 4.05, *SD* = 2.21) and used every time by a majority of 17.9% of respondents. However, utilising apps to improve listening skills (*M* = 3.87, *SD* = 1.89) was only sometimes used by a majority of 23.8%, while identifying mistakes in understanding academic discussions for future reference (*M* = 3.74, *SD* = 2.00) was only sometimes done by a majority of 18.8%.
The qualitative results revealed study participants relied on metacognitive strategies to improve their listening comprehension while becoming accustomed to academic discussion in English. For example, an interview participant reported trying to listen to and "understand the supervisor and staff's discussion" to improve listening skill, while another informant would "listen more than speak to understand the discussion of the academic content and to get use to the accent" as a way of improving understanding. One informant mentioned that listening involved "focusing carefully" on the academic content of discussions and "asking for clarification" if problems in comprehension occurred. Similar use of strategies was revealed through the focus group discussion.
These results indicate that Libyan students are autonomous learners who assume responsibility for improving their academic listening skills. This finding is supported by Victori and Lockhart's (1995) view that metacognitive strategies are aspects of learner autonomy that enable learners to assume independent responsibility in learning.

Cognitive Listening Strategies

Cognitive listening strategies were reported as the second most frequently used strategy by the Libyan students (Table 4). Learning from TV or YouTube was the cognitive listening strategy with the highest mean for reported usage (*M* = 4.16, *SD* = 2.00) and was used every time by most respondents (16.6%). Trying to understand every word of academic discussions (*M* = 3.94, *SD* =

2.02), summarising content of academic discussions (*M* = 3.91, *SD* = 1.97), and using notetaking to understand terms (*M* = 4.03, *SD* = 2.10) were used frequently by most respondents at 20.6%, 18.4% and 17.0%, respectively. Translating academic staff's speech into the participant's native language had the lowest resultant mean (*M* = 3.12, *SD* = 2.34), with 18.4% of respondents reporting they had never used the strategy.

Data from the interviews and focus group discussion also support the quantitative results for watching TV and YouTube content on academic topics. During the interviews, an informant noted that this was "one of the most effective strategies" as frequent re-watching allowed listening to and repeating the relevant content, while another commented on this strategy as being "faster and easier" as peers were not "available at all times." In the focus group discussion, participants explained this strategy as helpful in improving listening and reducing anxiety about academic encounters. One participant noted this as a powerful means to improve the understanding of "academic content more easily." Previous research supports these views on watching videos and television (Aboudahr, 2020; Polat & Erişti, 2019; Rizkan, et al., 2019). Abdoudahr (2020) found that Arab international students significantly improved listening skills through such exposure to the target language as a self-learning strategy.

Summarising and taking notes are useful strategies used by the participants for structuring linguistic input as well as output. As supported in the interviews, the strategy allowed "focusing on aspects" and then students could "rearrange and summarise it in an orderly manner" to "consolidate the information" with translation into the first language playing a part in the process. Previous research has also found that international students rely on translation for understanding vocabulary (Setiyadi, 2016; Li, 2016).

Interview participants mentioned their reliance on "electronic translation" to confirm that their "understanding of the information or discussion is correct." In the focus group discussion, participants mentioned the use of "electronic translator[s]," which were claimed to reduce anxiety by raising "the level of trust of [their] understanding." Moreover, the interviews revealed that translation into a "close meaning in Arabic" to "understand a little bit of the academic discussion" was implicitly related to the students' unconscious understanding of academic terms caused by first language interference.

Rubin (1981) described cognitive strategies as operating directly on incoming information, which would be acted upon to enhance learning, although this might be limited to certain aspects of learning activities. The above qualitative results indicate that the Libyan students relied heavily on cognitive strategies. This was a result of their anxiety, inadequate prior English language preparation, and the realisation that they required understanding of spoken academic language, which depends on language proficiency.

Compensatory Listening Strategies

The questionnaire data revealed that compensatory listening strategies were the third most used strategies (see Table 4). The Libyan students were found to rely heavily on this type of strategy. The results show that preparing topics for discussions or lectures was the most used compensatory strategy with the highest recorded mean (*M* = 3.91, *SD* = 2.00).

From the interviews and discussions, it is apparent that the preparation facilitated guessing the meaning of content from their peer discussions, which was the compensatory strategy used the least by the respondents (*M* = 3.71, *SD* =1.88). One informant, for example, noted that "pre-preparing" for lectures helped "to guess the meaning of the academic content" by relating it to what was prepared in advance. Another participant claimed that the embarrassment caused by repeatedly asking for clarification led to trying to "guess the content" of discussions by remembering common words learned from "previous discussion."

The above findings are consistent with a study by Hong-Nam and Leavell (2006) conducted among 55 ESL students from different cultural and linguistic backgrounds, which reported compensatory strategies as the third most implemented strategy type employed by the learners. Moreover, Tsai (2017) (2017) found that note taking was used to compensate for students' lack of understanding, improving their academic listening comprehension. However, the findings of the present study are not aligned with studies by Mohammadipour et al. (2018) and Tuengkun (2014), which found compensatory strategies were the most used among the participants in their research. These results may thus suggest that differences in learners' educational backgrounds affect the listening strategies they employ.

Despite the lower ranking of compensatory strategies in the present study, the top-down nature

of these strategies (Fathi et al., 2020) allowing the learner to predict and infer the meaning of unknown content provides a chance for the learner to communicate despite gaps in his linguistic knowledge (James, 2013). This is supported by the present study's results as discussed above.

Affective Listening Strategies

Affective listening strategies were reported as the fourth most used out of the six types of strategy covered in the survey (Table 4). This result corresponds to other studies' (Alhaysony, 2017; Fu et al., 2018; Kazemi & Kiamarsi, 2017; Lan & Oxford, 2003) findings that this type of strategy is not often used by learners.

The present study's survey item on motivating oneself to listen to academic discussion despite lack of understanding of the content had the highest frequency of use result (*M* = 3.92, *SD* =2.04), while rewarding oneself for understanding academic matters or discussion resulted in the lowest reported frequency of use (*M* = 3.02, *SD* = 2.18). This result corresponds to participant responses from the qualitative research phase regarding self-motivation.

One participant remarked that when she could not understand the content of a discussion, she would try to "get calm and motivate [herself] to focus and try to guess the meaning" of the content of the discussion. Another participant explained that his/her self-motivation was used to encourage taking advantage of opportunities "to listen more than speak to get more understanding" from discussions. These results indicate an association between the cognitive and affective strategies that has been observed in previous studies. For example, Fu et al. (2018) found evidence of "using cognitive strategies to reduce memory workload and affective strategies to alleviate anxiety in English communication" (p. 1905). Furthermore, Rost (2014) found that correspondence strategies "concern development of resilience in order to maintain long-term motivation and investment of identity as an active user of the L2" (p. 131).

The above results suggest that affective strategies promote a sense of agency and aspiration to learn in the face of challenges and obstacles. It is thus apparent that the cognitive approach cannot function to improve linguistic proficiency and academic competence without the supportive function of motivation in lowering anxiety and increasing self-confidence.

Memory-Related Listening Strategies

The memory-related strategies were the fifth most frequently used listening strategies by the participating Libyan students (Table 4). Of four sub-categories of this type of strategy included in the survey questionnaire, recalling previous terms to understand the content of academic discussions was the most frequently used (*M* = 3.91, *SD* = 2.10), while the least frequently used was drawing images to represent words (*M* = 2.87, *SD* = 2.36).

The qualitative phase of the study revealed interrelationships between cognitive strategies and memory strategies, thus confirming that memory-related strategies are a type of cognitive strategy. Participant interview responses explain their use of these strategies, mentioning that this was often meant to avoid asking speakers to repeat or clarify their utterances to aid in understanding.

The strategy was reported as employed by the study participants to "memorise and repeat academic information" and apply it in "following discussion and academic meetings." The strategy also involved note-taking to improve memorisation when the participants felt it was needed. Thus, an interview informant explained he/she would "take notes in both Arabic and English about the content … rearrange it in an orderly manner … translating and then memorising it." This was explained as helping to understand terms and generally understand ideas from discussions. Regarding this strategy, another participant said, "I try to relate between what I am listening to and the simple knowledge I have…." The student would also "draw an image beside the … notes to understand and feel more confident" regarding the content. These findings support the conclusion that the Libyan students relied on memory-related strategies such as memorisation from notes to compensate for the lack of prior knowledge and their consequential communication language anxiety.

In relation to other studies in this area, the finding that memory-related strategies were among the least frequently used contrasts with previous research such as Hong-Nam and Leavell's (2006) study finding this type of strategy was used the most frequently. However, Kunasaraphan (2015) and Mohammadipour et al. (2018) found that memory strategies were the least frequently used by their study's participants, which somewhat supports the present study's finding on these

strategies. The findings of the present study on memory and social strategies agree with those of Gilakjani and Sabouri (2016), who found that participants used "memory strategies most frequently and social strategies least frequently" (p. 125). The results from the present study on social listening strategies are discussed in the following section.

Social Listening Strategies

Social listening strategies involve seeking support from peers and lecturers and usually play an important role in improving language proficiency, providing "increased interaction and more empathetic understanding" (Alhaysony, 2017, p. 20). However, in the present study, the strategy was reported to be the least used among the Libyan international students (Table 4). According to the descriptive statistics data from the questionnaire survey, listening to presentations in conferences and workshops was the most frequently used of the four sub-categories of social listening strategies (*M* = 3.92, *SD* =2.08), while asking a speaker to repeat their utterance or speak more slowly was the least used by the Libyan students (*M* = 2.96, *SD* = 2.15).

These results may be explained by the anxiety expressed by participants in the qualitative phase of research regarding social situations. One respondent, for example, explained that he/she would attend conferences and workshops and sometimes ask for "repetition and clarification" but would "feel ashamed of asking many times." Cultural differences were also a factor in the use of social listening strategies. For example, a participant commented about having "a hard time understanding the Malaysian culture." This perception of cultural differences was thus a demotivating factor affecting the use of social interaction as part of an academic listening strategy. This conclusion is supported by Ellis (2013), who found that social factors influence the selection of learning strategies used by learners. The Libyan students were reluctant to expose the English language listening comprehension challenges they experienced through interaction in academic settings and were thus compelled to rely more on themselves and their metacognitive and cognitive strategies.

Path Analysis and Hypothesis Testing

This section discusses the results of structural equation modelling. Path analysis was performed on the quantitative data to determine model fit based on the principal constructs of the study, and discriminant validity analysis was done for relations between latent and model constructs. This is followed by results of hypothesis testing relying on correlational analyses of the study constructs. Finally, results are discussed from the bootstrapping resampling analysis used to determine the mediating effects of prior learning experience and communication language anxiety between listening challenges and strategies.

Model Fit of The Listening Measurement Model

The results of the goodness-of-fit (GOF) testing for the study's listening measurement model are shown in Table 5. The values of the incremental fit indices (CFI, IFI and TLI) are all above 0.9, indicating adequacy of fit for the listening measurement model.

Table 5
Goodness-of-fit (GOF) indices of listening measurement model

GOF index	CMIN(χ^2)	χ^2/df	CFI	IFI	TLI	RMSEA
Value	441.081	2.194	.951	.951	.944	.081

The relative chi-square (χ^2/df) result of below 5.0 indicates acceptable fit between the hypothetical model and the study data (Marsh & Hocevar, 1985), while the RMSEA value (0.81) indicates evidence of absolute fit. The overall GOF results are shown in Fig. 1.

Discriminant Validity

Discriminant validity of the relationships between latent constructs and model constructs involves determining the average variance extracted (AVE) for each latent construct in the model. In this

test, the AVE for any latent construct should be greater than the squared correlation of any pair of latent constructs in the model, thus indicating discriminant validity. The *R* correlation coefficient is also obtained, and if the value of *R* is greater than .90, there is a violation of discriminant validity. The squared correlations between communication language anxiety, prior leaning experience, listening challenges, and listening strategies constructs were all below .90, indicating discriminant validity of the constructs, as shown in Table 6.

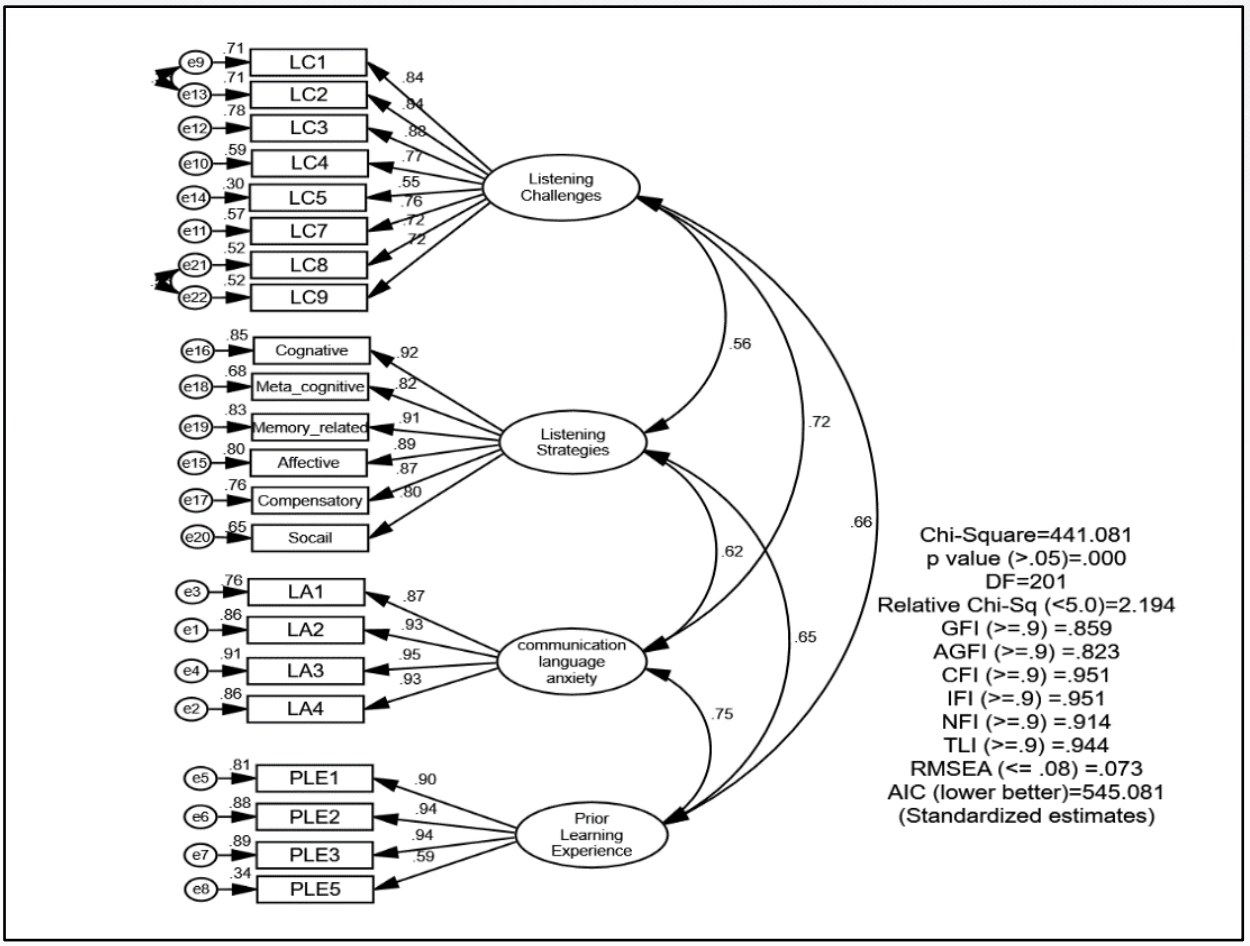

Fig. 1. Overall measurement model for listening

Table 6 Correlation matrix for all constructs

	Constructs	CR	CLA	PLE	LC	LS
L1	Communication language anxiety (CLA)	0.957	0.847			
L2	Prior learning experience (PLE)	0.914	0.567	0.732		
L3	Listening challenges (LC)	0.918	0.513	0.441	0.589	
L5	Listening strategies (LS)	0.950	0.382	0.416	0.312	0.760

Hypothesis Testing

Hypothesis testing of the study's six hypotheses was based on the structural model of the relationships of communication language anxiety and prior learning experience with listening challenges and strategies. The structural model fit, which is assessed separately from other possible models, was utilised to determine how well the theory of the research fit the sample data model (Hair, 2019). Regression analysis results for the listening structural model indicate absolute model fit (ρ = 0.000, χ^2/df = 2.343, RMSEA = 0.078, CFI = 0.945, IFI = 0.954, TLI = 0.937, GFI = 0.853 and AGFI = .814) (Fig. 2). Results of the correlation analysis on all constructs (Table 7) comprise the data used for the following discussion on the hypotheses of this study. This is followed by the results of the bootstrapping resampling analysis for determination of the mediating effects of prior learning experience and communication language anxiety between listening challenges and strategies.

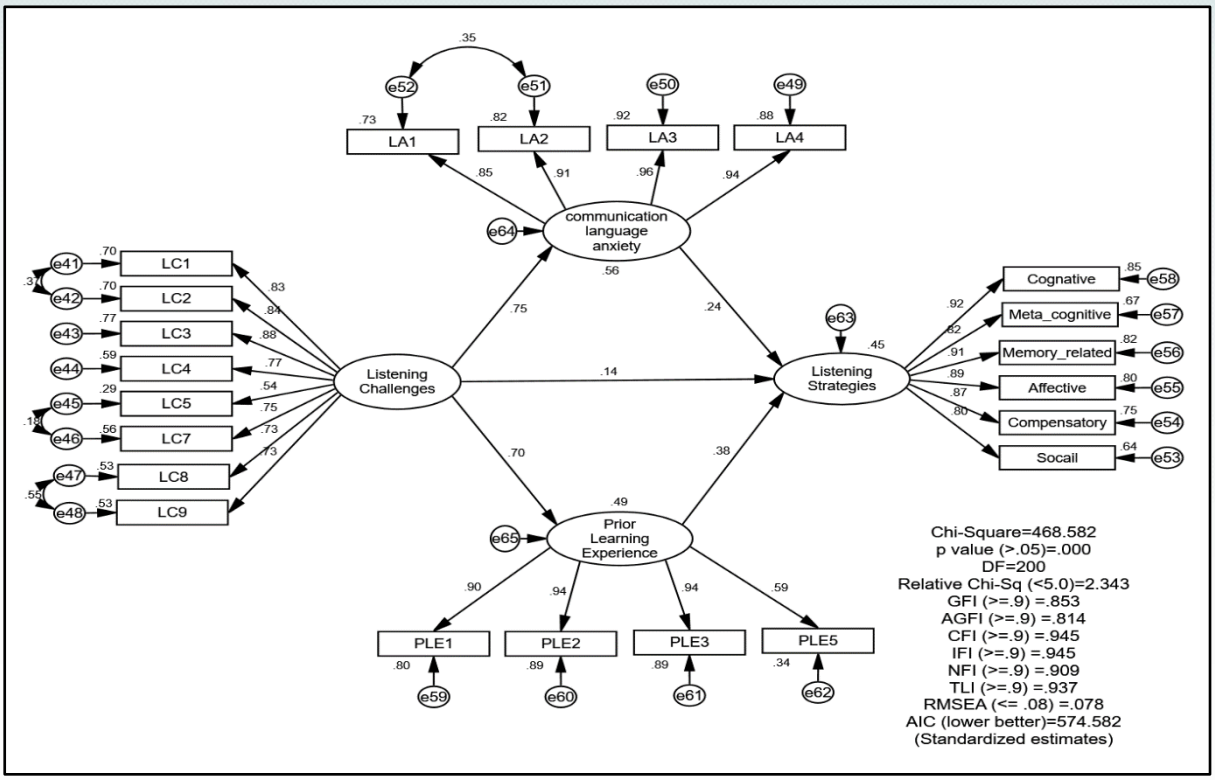

Fig. 2. Listening structural mediation model

Table 7
Effects of communication language anxiety and learning experience on listening challenges and strategies

Hypothesized relationship	B	SE	Beta	CR	P
Communication language anxiety					
Listening challenges	0.932	0.084	0.749	11.139	***
Listening strategies	0.191	0.069	0.243	2.759	0.006
R = .74					
R^2 = .56					
Prior learning experience					
Listening challenges	0.904	0.085	0.698	10.635	***
Listening strategies	0.288	0.061	0.381	4.689	***
R = 0.70					
R^2 = 0.49					

B, unstandardized regression weight; SE, standard error; Beta, standardized regression weight; CR, critical ratio

Communication Language Anxiety's Influence on Listening Challenges and Strategies

Results presented in Table 7 on the contribution of communication language anxiety to listening challenges and strategies shows listening challenges were influenced the greatest (β = .749) followed by listening strategies (β = .243). The multiple correlation coefficient results reveal that communication language anxiety was highly correlated with listening challenges and strategies at R = .74, accounting for 56% of variance (R^2 = .56) in the constructs.

The results (Table 7) further show that the correlations between communication language anxiety and listening challenges (R = .74, p = .000) and between communication anxiety and listening strategies (R = .74, p = .006) were positive and statistically significant. Furthermore, according to Guilford's Rule of Thumb, communication language anxiety was highly correlated with both listening challenges and strategies. Moreover, the results reveal that communication language anxiety contributed significantly to the listening challenges of the Libyan students participating in

the study ($\beta = 0.749$, $p < 0.000$) as well as their language strategies ($\beta = 0.243$, $p < 0.006$), and these data are further supported by the qualitative results of the study. Therefore, both H1 and H2 are accepted.

Prior Learning Experience's Influence on Listening Challenges and Strategies

The results on the contribution of prior learning experience in listening challenges and strategies (Table 7) shows listening challenges were again influenced the greatest ($\beta = .698$) followed by listening strategies ($\beta = .381$). The multiple correlation coefficient for the relations between these constructs is moderate ($R = .70$), with prior learning experience accounting for 49.0% of the variance in listening challenges and strategies ($R^2 = 0.49$).

The correlation of prior learning experience with listening challenges and strategies was statistically significant ($R = .70$, $p = .000$), and according to Guilford's Rule of Thumb, this result indicates that prior learning experience was moderately correlated with listening challenges and strategies. Moreover, the results (Table 7) show that prior learning experience significantly influenced the listening challenges of the participants ($\beta = 0.698$, $p < 0.000$) as well as their listening strategies ($\beta = 0.382$, $p < 0.000$). Therefore, H3 and H4 are both accepted.

Bootstrapping Mediation Analysis

The bootstrapping method for mediation analysis was used to assess the roles of communication anxiety and prior learning experience on the relations between listening challenges and strategies. Resampling and replacement from the original data sets ($N = 223$) was performed 4,000 times. Measurement of the indirect effect was based on a 95% confidence interval. As shown in Fig. 3, the resulting mediation model for academic listening has absolute model fit ($\chi^2 = 468.582$, $p = 0.000$, $\chi^2/df = 2.343$, RMSEA = 0.078, CFI = 0.945, IFI = 0.954, TLI = 0.937, GFI = 0.853, AGFI = 0.814). As shown in Table 7, the upper-bound and lower-bound standardised indirect effects of the mediation modelling are greater than zero (0.313, 0.598), which indicates bias-corrected statistical significance of the indirect effects at the 0.05 level.

Four mediation models produced through the bootstrap method are summarised in Table 8. The results for the direct model, where direct paths were set as constraints and paths set to zero, revealed a significant effect of listening challenges on listening strategies ($\beta = 0.557$, $p < 0.000$). For the three mediation models, the variables communication language anxiety (CLA) and prior learning experience (PLA) were tested individually, and both communication language anxiety (CLA) and prior learning experience (PLE) were also tested together as mediators in one model.

Table 8
Mediation effects of communication language anxiety and prior learning experience between listening challenges and listening strategies

					95% CI Bootstrap BC	
Model/hypothesized paths			Beta	P	LB	UB
Direct model						
Listening challenges	→	Listening strategies	0.557	***		
Mediation model						
(Partial) Listening challenges → CLA	→	Listening strategies	.241	0.006		
Standardized indirect effects			.317	0.000	0.190	0.447
(Partial) Listening challenges → PLE	→	Listening strategies	0.234	0.003		
Standardized indirect effects			0.324	0.000	0.220	0.437
(Full) Listening challenges → CLA & PLE	→	Listening strategies	0.140	0.203		
Standardized indirect effects			0.447	0.000	0.313	0.598

PLE, prior learning experience; CLA, communication language anxiety; CI, confidence interval; BC, bias-corrected; LB, lower bound; UB, upper bound

The model for listening challenges' partial mediating effects on listening strategies through communication language anxiety yielded a significant result ($\beta = 0.241$, $p < 0.006$). Furthermore, the bootstrapping resampling analysis revealed that CLA produced a significant mediating effect

as indicated by the standardised indirect effect (SIE) result (β = 0.317, p < 0.000). Based on these results, it may be concluded that communication language anxiety partially mediated the relationship between listening challenges and strategies.

The second mediation model for listening challenges' mediating effect on listening strategies on prior learning experience yielded a significant result (β = 0.234, p < 0.003). Furthermore, the bootstrapping resampling analysis confirmed communication language anxiety's significant moderating effect in the SIE result (β =0.324, p < 0.000). Thus, prior learning experience is found to have partially mediated the relationship between listening challenges and strategies.

In contrast to the above models, the initial results on the mediation model for listening challenges' effects through both communication language anxiety and prior learning experience on listening strategies were not significant (β = 0.140, p < 0.203). However, the SIE results from the bootstrapping resampling analysis indicate that communication language anxiety and prior learning experience had a significant mediation effect on the relationship between listening challenges and strategies (β =0.447, p < 0.000) with 95% upper- and lower-bound bias corrected limits of 0.313 and 0.598, respectively.

These results indicate that prior learning experience and communication language anxiety mediate the relationship between listening challenges and strategies. Therefore, both H5 and H6 are accepted.

Discussion and Conclusion

There were several academic listening challenges experienced by the participating Libyan international students studying in Malaysian higher education institutions. These included the problems of unfamiliarity with the accents of interlocutors encountered in academic settings, terminology used in academic contexts and perceived cultural differences between the students and their Malaysian counterparts and the academic staff.

The related results on the listening strategies adopted by the participants revealed the students most often employed metacognitive and cognitive compensatory strategies in their attempts to overcome their listening comprehension problems in academic contexts. Thus, they preferred self-reliance and when needed, watched media, such as YouTube, and took notes for reference and practice in improving their listening skills, sometimes resorting to translation into Arabic to improve their understanding. The students also depended to a lesser extent on compensatory and affective listening strategies, relying on guessing meanings in context and using self-motivation to overcome effects caused by performance anxiety related to inadequate language ability. Social strategies were used the least frequently, lending support to the conclusion that self-reliance outweighed socialisation as an option in improving listening comprehension, perhaps due to the students' social inhibitions regarding unfamiliar cultural differences, language distance as a result of being EFL speakers with little practical experience, and their fear of appearing less knowledgeable than their interlocutors.

The results from the correlational analyses on the relations of communication language anxiety and prior learning experience with academic listening challenges and strategies indicate that both are important factors affecting learners' listening comprehension abilities. The findings support the argument that prior learning experience "is a potentially important educational variable" (Dochy, 1988, p. 1) and that communication language anxiety plays an important role in the linguistic processing of information (Horwitz et al., 1986; MacIntyre & Gardner, 1994), which agrees with previous research that found relations between inadequate levels of listening and speaking skills and learner anxiety (Elkhafaifi, 2005; Fathi et al., 2020; Mehar Singh, 2019). This finding thus provides a useful perspective on the role of strategies in reducing levels of anxiety among EFL or ESL learners in academic situations. Moveover, the finding from the mediation analysis that both communication language anxiety and prior learning experience medate the relationships between listening challenges and strategies strengthens this conclusion.

As this research demonstrates the affective use of a mixed-method approach in studying affective factors in language learning and use, it is recommended that further research adopt similar methodology. It is recommended that similar research be carried out on Libyan international students in other locations such as the US and UK to compare the results of this research with data from similar students studying in native English-speaking countries. Moreover, research should be conducted on the factors affecting academic English learning and use among students of various cultures and social backgrounds. Finally, more research is needed on the factors that affect

learning challenges and their associated mediating strategies, as well.

In conclusion, this study found that communication language anxiety and prior learning experience have significant effects on communication and language learning. More specifically, the research revealed the importance of communication language anxiety and prior learning experience on academic listening comprehension skills and students' mediating listening strategies. The findings indicate that the consideration and appreciation of these factors and others such as emotional states and responses (Amiryousefi, 2019) may reveal their relations to language learning processes. Although this research may be generalisable to other international students enrolled in Malaysian universities, it may not be generalisable to similar populations in other countries because of variation in the influence of cultural and linguistic differences. Furthermore, the instrumentation of this study, although validated by experts and a pilot study, was specifically tailored to the parameters of this research, which could represent a limitation affecting replication of the study.

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