# Exploring the academic reading challenges of graduate students of applied linguistics

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#### **Abstract**

Academic reading and writing abilities are prerequisites for success in postgraduate programmes. These are particularly important domains of competence for students in applied linguistics, whose studies and future performance require insight into these skills. A validated self-assessment questionnaire was administered to 194 graduate students of applied linguistics, who assessed their own academic reading skills. In addition, open-ended questions added to the questionnaire and interviews with 14 students were analyzed, yielding eight domains identified as particular challenges. The results revealed that students assessed their information literacy to be the weakest domain. The eight areas of challenge included: shortage of time, information literacy, content knowledge, critical literacy, writers' language styles and generic features of texts, teachers' high expectations and vague instructions, insufficient statistical literacy and insufficient interaction with peers. The implications for English for Academic Purposes (EAP) instruction are discussed.

**Keywords:** academic literacy, applied linguistics, graduate students, academic reading, literacy.

#### Resumen

Explorando los desafíos de la lectura académica para los estudiantes de posgrado de lingüística aplicada

La posesión de habilidades para la lectura y escritura de textos académicos es un requisito para concluir con éxito un programa de posgrado. Estos son tipos de competencias especialmente importantes para los estudiantes de lingüística aplicada, quienes durante sus estudios y en su futuro académico y profesional requerirán estas destrezas. Se administró un cuestionario de autoevaluación validado a 194 estudiantes de posgrado de lingüística aplicada con el que estos valoraron sus propias destrezas de lectura académica. Además del cuestionario, los participantes respondieron diferentes preguntas de respuesta libre y 14 de ellos participaron en sendas entrevistas. Su análisis evidenció la existencia de ocho aspectos de especial dificultad. Los resultados ponen de manifiesto que los estudiantes consideran que su alfabetización informacional es el aspecto en el que creen tener menores habilidades. Las ocho áreas que suponen un mayor desafío para los estudiantes son las siguientes: la falta de tiempo, la alfabetización informacional, el conocimiento del contenido, la alfabetización crítica, el estilo de cada autor y aspectos relativos al género de cada texto, las altas expectativas de los profesores y la existencia de instrucciones imprecisas, una insuficiente alfabetización estadística y una insuficiente interacción con sus pares. Por último, se discuten las diferentes implicaciones de estos hallazgos para el ámbito del inglés para fines académicos.

Palabras clave: alfabetización académica, lingüística aplicada, estudiantes de posgrado, lectura académica, alfabetización.

## 1. Introduction

The English language, the dominant language used for disseminating and ratifying knowledge, requires learners to develop an understanding of academic literacy that allows them to "engage with the academy" (Canagarajah, 2002, p. 41). However, it appears that a proportion of students who study academic sources in English have neither sufficient English language proficiency nor adequate familiarity with the literacies required for successful learning (Murray, 2010). Therefore, it is important to equip students with the required academic literacies in order to help them succeed in their studies and work. Among the literacies that are valued, students should be able "to define problems, make claims, situate research, and argue for findings and interpretations through academic reading and writing practices" (Ferenz, 2005, p. 340).

In most cases, the scope of studies dealing with academic literacy has been limited to writing (e.g., Lea & Street, 1998; Lillis & Scott, 2007). Reading has also been studied and understood under the academic literacy umbrella (Jo,

2021; Kalbfleisch et al., 2021), and is considered to be the key to opening doors to all students (Hirai et al., 2010), but it has received less attention (Abbott, 2013; Kalbfleisch et al., 2021). Accordingly, the goal of this study was to investigate MA students' assessments of their academic reading skills and explore their challenges when reading academic sources. Considering the fact that both native and non-native students are novices when they start dealing with academic disciplinary texts (Thesen & van Pletzen, 2006) and the fact that English for Specific Academic Purposes (ESAP) modules are rarely offered in MA programmes to prepare the students for reading disciplinary texts, the findings of this study have implications for university teachers, curriculum developers, and course designers by shedding light on students' experiences, challenges, and needs.

# 2. Academic literacy and academic reading

Braine (2002) cogently argues that academic literacy is more than reading and writing. It also includes students' need to develop interaction with their peers and teachers, develop their writing and research strategies, and adapt to the cultural and social environments of their institutions. Similarly, we consider reading a multidimensional and discipline-specific skill that cannot be captured solely as language proficiency or knowledge about generic features of different text types. Furthermore, we argue that academic reading cannot be seen purely as a cognitive process. Reading includes personal, sociocultural, and political aspects. It can range from strategy use to familiarity with academic language and genres, interaction with teachers and peers, information literacy, and critical literacy.

In the two-year-long graduate programmes in applied linguistics in Iran, students generally need to pass 32 credits, all in English, dealing with teaching/testing the English language and learning how to do research on teaching/testing issues. Some writing support is given, which mainly focuses on general essay writing skills and ignores higher-level generic features of academic scholarly writing and more importantly academic literacy skills such as selective reading, information literacy, and critical literacy. On the other hand, similar to many international programmes, there is no ESAP reading course in the MA curriculum to prepare students for advanced academic literacy and reading skills/strategies. Students' academic literacy needs including their problems and struggles in reading typically go

unnoticed and students are left to their own devices in doing their reading and acquiring the academic literacies required to succeed in their mainstream applied linguistics programmes. As in Canada (MacMillan & Mackenzie, 2012) and Britain (Lillis & Scott, 2007), access to higher education in Iran has broadened recently, with a huge number of students pursuing university studies. In the 1980s and 1990s, as a result of the Islamic revolution and also in line with the globalization processes which thematized education as a crucial prerequisite to economic growth, Iranian higher education witnessed a sharp increase in the number of colleges and universities (Tavakoli & Hasrati, 2015). As a result, the number of students in MA programmes in applied linguistics increased from around 50 in 1994 to more than 1200 in 2014 in the public sector. This drastic increase raises the question of whether students possess and/or gain during their MA studies the academic literacies needed to deal with the requirements of their applied linguistics programmes. Here we focus specifically on academic reading by investigating MA students' self-assessments of their academic reading and the challenges they face during their studies (Hirai et al., 2010). The findings may have implications for designing or renewing applied linguistics programmes in Iran and similar contexts.

## 3. Literature review

Based on our literature review, we can divide the studies on academic literacy into three main groups. The first group aims at uncovering the literacy practices that help learners to acquire academic literacy and explores how academic literacy is perceived by professors and students (Bhat & Samanhudi, 2022; Ferenz, 2005; Green & Agosti, 2011; Lea & Street, 1998). Overall, the results of these studies suggest that literacy practices and interactions between teachers and students help students acquire the literacies required to succeed in academia. The second group includes those studies which investigate the role of genre in students' academic literacy development and their socialization into their discourse communities (Andrew & Romova, 2012; Hedgcock & Lee, 2017; Roald et al., 2021). These studies confirm that explicit teaching of academic genres has a positive role in helping novices to acquire academic literacy to flourish in their disciplines. The third group includes studies on students' academic reading (Atai et al., 2018; Kuzborska, 2015; Mann, 2000). Their results indicate that students' metacognitive awareness and literacy practices are important factors in their

academic reading, showing that academic reading needs to be understood as a personal and socially situated skill. Compared to academic writing, academic reading has received less attention (see Abbott, 2013; Hirvela, 2016; McGrath et al., 2016), especially at graduate levels. Despite our best efforts, we have not located any studies that examined students' assessment of their academic reading and the challenges they faced in this regard at graduate levels of applied linguistics. We sought answers to the following questions:

- 1) How do MA students of applied linguistics evaluate their ability to read academic sources?
- 2) What are the most frequent academic reading challenges faced by MA students of applied linguistics?

## 4. Method

A questionnaire developed by Nejadghanbar (2019) was used to collect both qualitative and quantitative data. The questionnaire was developed based on a thorough review of the relevant literature (e.g., Abbott, 2013; Braine, 2002; Dhieb-Henia, 2003; Hirai et al., 2010; Hirvela, 2016; Kuzborska, 2015; Mann, 2000; McGrath et al., 2016; Neely, 2005; Ohata & Fukao, 2014) and interviews with experts who were assistant/associate/full professors in applied linguistics and were teaching and researching reading comprehension. A preliminary theoretical framework was proposed based on the literature and experts' comments and an instrument with 50 items was developed. The instrument was validated by conducting exploratory factor analysis (EFA) with 345 participants and further confirmatory factor analysis (CFA) with 207 participants (Nejadghanbar, 2019). More specifically, before evaluating the reliability of the questionnaire and conducting factor analysis, the normal distribution of the data was checked. In order to ensure that low rankings on all items indicated poorer preparation or less self-reported competency, items with 'never' to 'always' scale needed to be reverse coded. To measure and ensure the 'internal consistency' of the newly developed questionnaire, Cronbach alpha coefficient was obtained (Dörnyei, 2003). The reliability index of the instrument was .807, indicating high reliability and internal consistency of the items in the questionnaire (Cohen et al., 2007). The results of principal axis factoring, parallel analysis, and rotated component matrix led to retaining 8 factors which explained 47.77% of the total variance.

Before conducting CFA on the eight-factor structure emerging as the result of EFA, data screening was done and normality of the data and sampling adequacy was checked. Subsequently, the factor structure obtained in EFA was set up and run in AMOS. The model fit was assessed in accordance with the combination of goodness-of-fit indices including RMSEA, CFI, and SRMR (Lei & Wu, 2007). The model fit was reviewed by evaluating the following components against the best-fit criteria (Lei & Wu, 2007):

- 1. SRMR with values  $\leq .08$ ,
- 2. RMSEA with values  $\leq .06$
- 3. CFI with value greater than the .90s (or more desirably  $\geq$ .95).

The CFA model showed that the eight-factor model with 37 items produced a good fit with SRMR = .066, RMSEA = .055, and CFI = .901. The eight components that emerged were labelled: reading strategies, English language proficiency, content knowledge, statistical literacy, genre awareness, information literacy, interactive reading, and critical literacy.

An open-ended question was included to elicit the most frequent problems that students faced in doing their academic readings. Among all the participants, 113 answered this question. Furthermore, to triangulate our data and gain more insights into their answers, semi-structured interviews were conducted with 14 volunteers who agreed to participate.

# 5. Participants and instrumentation

The validated questionnaire was administered to 194 participants aged 20-42 and chosen based on availability sampling. There were 119 (61.3%) female and 75 (38.7%) male participants. All of the participants were doing their MA studies at universities. Around one quarter of the participants (47; 24.2%) were in the second semester of their MA studies, about two-thirds of them (116; 59.8%) in their third semester, and the rest (31; 16.0%) in their fourth semester.

Two sources of data were collected to answer the second research question: 113 written answers to the open-ended question added to the questionnaires and 14 student interviews. The age range of the 113 participants answering the open-ended question was 22-39, with 69 (61.06%) female and 44 (38.93%) male participants. The age range of those 14 students who were interviewed was 24-36, with 8 (57.2%) female and 6 (42.8%) male participants.

# 6. Data analysis

SPSS software version 22 was used to calculate frequencies and percentages of students' responses and qualitative data was processed using thematic analysis (Creswell, 2007). The first author read and reread the responses to the open-ended question asking participants to report their most frequent problems in reading to identify general themes. These initial themes were then refined and themes that referred to similar concepts were clustered together. Since the participants had reported their problems in a list-wise manner, their responses could easily be assigned to different themes. For example, one respondent reported that "my first problem is lack of time, the second one is my lack of enough background content knowledge, and the third one is my difficulty in understanding statistics". His response was assigned to three different themes including shortage of time, content knowledge, and statistical literacy. After finishing the data analysis, a Ph.D. holder in applied linguistics, with experience in content analysis, analysed the whole data set following the same procedure. He agreed with the researcher in 97.3% cases.

Subsequent interviews were conducted to elicit elaboration and details about respondents' answers to the qualitative question in the questionnaire. These interviews did not lead to the emergence of new themes. For instance, in the interview, we asked the same respondent mentioned above what he meant by lack of time and he reported that "my main problem is the volume of readings that I have to do every week ... I never find time to do them completely. We have to read many book chapters and articles per week and we simply cannot cover them all."

## 7. Results

## 7.1. Students' evaluation of their academic reading (RQ1)

In this section, the results related to the first research question are presented. Frequencies, percentages, and descriptive statistics related to each of the 37 items of the questionnaire are reported.

#### 7.1.1. Reading strategies

In order to explore the students' perceptions of their use of reading strategies, we asked them to show whether, when reading the assigned academic texts, they drew visual maps to chart the progression of ideas, noticed how parts were arranged to make a unified whole and present ideas, pulled an idea or argument apart to look at it more closely, made a logical connection among various sources, compared and contrasted ideas mentioned in different sources, synthesized previously unrelated ideas, related new information to background knowledge, and finally connected different parts similar to reading a story.

No.	Item	Strongly- Disagree	Disagree	No idea	Agree	Strongly- Agree	Agree/ disagree ratio		
1	I draw a visual map to chart the progression of ideas.	47 (24.2%)	43 (22.2%)	47 (24.2%)	37 (19.1%)	20 (10.3%)	0.63		
2	I notice how parts of texts are arranged to make a unified whole and present ideas.	13 (6.7%)	46 (23.7%)	50 (25.8%)	72 (37.1%)	13 (6.7%)	1.44		
3	I pull an idea or argument apart and look at it more closely.	12 (6.2%)	52 (26.8%)	47 (24.2%)	71 (36.6%)	12 (6.2%)	1.29		
4	I make a logical connection between different ideas	14 (7.2%)	60 (30.9%)	34 (17.5%)	72 (37.1%)	14 (7.2%)	1.16		
5	I make connections among different sources.	6 (3.1%)	49 (25.3%)	35 (18.0%)	83 (42.8%)	21 (10.8%)	1.87		
6	I compare and contrast ideas mentioned and discussed in several sources.	16 (8.2%)	54 (27.8%)	46 (23.7%)	62 (32.0%)	16 (8.2%)	1.11		
7	I synthesize (integrate) previously unrelated ideas.	31 (16.0%)	75 (38.7%)	46 (23.7%)	31 (16.0%)	11 (5.7%)	0.40		
8	I relate new information to my background knowledge.	14 (7.2%)	46 (23.7%)	27 (13.9%)	80 (41.2%)	27 (13.9%)	1.78		
9	I connect different parts to each other similar to when I read a story.	17 (8.8%)	49 (25.3%)	32 (16.5%)	70 (36.1%)	26 (13.4%)	1.45		
Mean	Mean (ratio)								

Table 1. Students' self-assessment of their use of reading strategies.

In reporting results, for clarity and simplicity of presentation, we combine 'agree' with 'strongly agree' and 'disagree' with 'strongly disagree' in this report and report a ratio of agree totals/disagree totals. We do the same for never/always and very familiar/unfamiliar scales. For example, in item one, we have divided the sum of 'strongly agree' (10.3%) and 'agree' (19.1%) by the sum of 'strongly disagree' (24.2%) and 'disagree' (22.2%). Table 1 shows the agreement ratio for the item about drawing a visual map was 0.63, indicating that more students disagreed (46.4%) than agreed (29.4%) with the claim that they used this strategy; it was even lower (0.40) for synthesizing ideas. High agreement ratios were found for making connections between different sources (1.87) and relating new information to background knowledge (1.78). Other items fell closer to the 1.0 ratio indicating approximately equal agreement and disagreement.

#### 7.1.2. English language proficiency

In order to investigate students' self-assessments of their English language proficiency in doing their readings, they were asked to indicate if their levels of general and academic English proficiency were sufficient for doing their readings.

No.	Item	Strongly- Disagree	Disagree	No idea	Agree	Strongly- Agree	Agree/ disagree ratio
10	My general English proficiency is sufficient for understanding academic texts.	9 (4.6%)	34 (17.5%)	27 (13.9%)	92 (47.4%)	32 (16.5%)	2.88
11	My academic English proficiency is sufficient for understanding academic texts.	14 (7.2%)	37 (19.1%)	44 (22.7%)	80 (41.2%)	19 (9.8%)	1.94
Mean	(ratio)						2.41

Table 2. Students' self-assessment of their proficiency.

As Table 2 indicates, the agree/disagree ratio was 2.89 for the claim that general language proficiency was sufficient for their readings, and 1.94 for sufficiency of academic English proficiency, indicating low levels of difficulty with regard to language proficiency.

## 7.1.3. Content knowledge

In order to examine the students' self-assessment of their content knowledge, the respondents were asked to indicate how often the readings assigned for their MA programmes were negatively affected by their 'insufficient background knowledge' and 'low understanding of concepts and terminologies used in the texts'. In addition, they were required to indicate how familiar they were with 'research paradigms'.

No.	Item	Never	Rarely	Sometimes	Usually	Always	Never/ always ratio	
12	Insufficient background knowledge.	27 (13.9%)	62 (32.0%)	81 (41.8%)	19 (9.8%)	5 (2.6%)	3.70	
13	Low understanding of concepts and terminologies used in the texts.	30 (15.5%)	66 (34.0%)	72 (37.1%)	21 (10.8%)	5 (2.6%)	3.69	
No.	Item	Not- familiar	Slightly- familiar	Somewhat- familiar	Familiar	Very- Familiar	Familiar/ unfamiliar ratio	
20	research paradigms (i.e., qualitative, quantitative and mixed methods).	14 (7.2%)	49 (25.3%)	65 (33.5%)	52 (26.8%)	14 (7.2%)	1.04	

Table 3. Students' self-assessment of their content knowledge.

As Table 3 indicates, students generally reported little difficulty with background knowledge or understanding the concepts referred to in the texts they read (never/always ratios of 3.70 and 3.69 respectively), but many reported being unfamiliar with the research paradigms used (1.04).

## 7.1.4. Statistical literacy

In order to investigate students' self-assessments of their statistical literacy, we asked them to indicate how often their reading of texts assigned for their MA programmes was negatively affected by 'difficulty in interpreting the statistical data presented in academic texts', 'difficulty in understanding statistics presented in tables', 'difficulty in interpreting information presented in graphic and visual format'. They also indicated their familiarity with 'statistical analysis tests'.

No.	Item	Never	Rarely	Sometimes	Usually	Always	Never/ always ratio
14	Difficulty in interpreting the statistical data presented in academic texts.	27 (13.9%)	58 (29.9%)	51 (26.3%)	37 (19.1%)	21 (10.8%)	1.46
15	Difficulty in understanding statistics presented in tables.	25 (12.9%)	53 (27.3%)	57 (29.4%)	38 (19.6%)	21 (10.8%)	1.32
16	Difficulty in interpreting information presented in graphic and visual format.	19 (9.8%)	43 (22.2%)	69 (35.6%)	41 (21.1%)	22 (11.3%)	0.98
No.	Item	Not- familiar	Slightly- familiar	Somewhat- familiar	Familiar	Very- Familiar	Familiar/ unfamiliar ratio
21	statistical analysis tests (t-test, ANOVA, etc.).	26 (13.4%)	54 (27.8%)	45 (23.2%)	39 (20.1%)	30 (15.5%)	0.86
Mean	(ratio)						1.15

Table 4. Students' self-assessment of their statistical literacy.

As Table 4 shows, students reported little difficulty in interpreting statistical data (1.46) and understanding statistics presented in tables (1.32). They appeared to have more difficulty in interpreting information presented in graphic/visual format (0.98) and statistical analysis tests (0.86).

#### 7.1.5. Genre awareness

The next section of the questionnaire examined students' self-assessments of their genre awareness. This section required respondents to show if they had difficulty in recognizing the functions of various sections of academic texts, distinguishing different organizational features of genres, and finally noticing how authors use meta-discourse features.

No.	Item	Never	Rarely	Sometimes	Usually	Always	Never/ always ratio
17	Difficulty in recognizing the functions of different sections of academic texts	23 (11.9%)	62 (32.0%)	54 (27.8%)	46 (23.7%)	9 (4.6%)	1.5
18	Difficulty in distinguishing different organizational features of genres	17 (8.8%)	36 (18.6%)	76 (39.2%)	54 (27.8%)	11 (5.7%)	0.82
19	Difficulty in noticing how authors use metadiscoursal features	33 (17.0%)	56 (28.9%)	65 (28.9%)	32 (16.5%)	8 (4.1%)	2.22
Mean	(ratio)						1.51

Table 5. Students' self-assessment of their genre awareness.

As Table 5 indicates, while students reported more difficulty in distinguishing different organizational features of genres (0.82), they reported less difficulty in recognizing the functions of different sections of academic texts (1.5) and in noticing how authors use metadiscoursal features (2.22).

## 7.1.6. Information literacy

The next section of the questionnaire examined students' self-assessment of their information literacy. Items probed their familiarity with differences between academic websites/databases and non-academic ones, credibility, accuracy, the relevance of the online sources, credible online databases of applied linguistics/TEFL, the peer review process, and techniques for finding relevant articles online.

No.	Item	Not- familiar	Slightly- familiar	Somewhat- familiar	Familiar	Very- Familiar	Familiar/ unfamiliar ratio
22	Differences between academic databases and non-academic ones.	27 (13.9%)	74 (38.1%)	57 (29.4%)	30 (15.5%)	6 (3.1%)	0.36
23	Credibility, accuracy, relevance, etc. of the online sources.	38 (19.6%)	78 (40.2%)	50 (25.8%)	20 (10.3%)	8 (4.1%)	0.24
24	Credible online databases.	33 (17.0%)	84 (43.3%)	44 (22.7%)	26 (13.4%)	7 (3.6%)	0.28
25	Peer review process.	43 (22.2%)	73 (37.6%)	55 (28.4%)	19 (9.8%)	4 (2.1%)	0.19
26	Right techniques for finding relevant articles online.	18 (9.3%)	79 (40.7%)	42 (21.6%)	39 (20.1%)	16 (8.2%)	0.56
Mean	(ratio)						0.33

Table 6. Students' self-assessment of their information literacy.

As Table 6 indicates, students reported low levels of information literacy. The familiar/unfamiliar ratio was 0.36 for knowing the differences between academic websites or databases and non-academic ones, 0.24 for familiarity with credibility, accuracy, and relevance of online sources, 0.28 for their familiarity with credible online databases, 0.19 for their familiarity with the peer review process, and 0.56 for their familiarity with right techniques for finding relevant articles online.

## 7.1.7. Interaction with teachers and peers

This section of the questionnaire was designed to explore if, while doing their readings, students consulted their teachers or peers to ask for their viewpoints and clarifications, and whether they openly discussed disciplinary conventions with their teachers or peers.

No.	Item	Strongly- Disagree	Disagree	No idea	Agree	Strongly- Agree	Agree/ disagree ratio
27	I refer to my teachers to ask for their viewpoints and clarifications.	14 (7.2%)	59 (30.4%)	58 (29.9%)	54 (27.8%)	9 (4.6%)	0.86
28	I refer to my peers to ask for their viewpoints and clarifications.	11 (5.7%)	55 (28.4%)	52 (26.8%)	65 (33.5%)	11 (5.7%)	1.15
29	I openly discuss disciplinary conventions with my teachers.	13 (6.7%)	55 (28.4%)	63 (32.5%)	49 (25.3%)	14 (7.2%)	0.93
30	I openly discuss disciplinary conventions with my peers.	16 (8.2%)	45 (23.2%)	51 (26.3%)	61 (31.4%)	21 (10.8%)	1.34
Mean	(ratio)						1.1

Table 7. Students' self-assessments of their interaction.

As Table 7 shows, students reported higher levels of interaction with their peers than with their teachers. The agreement ratios for the items about consulting their peers to ask for their viewpoints/clarifications and discussing disciplinary conventions with them were 1.15 and 1.34 respectively. On the other hand, the agreement ratios were lower for consulting their teachers to ask for their viewpoints/clarifications or discussing disciplinary conventions with them (0.86 and 0.93 respectively).

## 7.1.8. Critical literacy

This section evaluated students' self-assessments of their critical literacy. Items asked the respondents to show if they involved themselves in the text by thinking of their own views, adopted a critical stance toward academic conventions, (dis)agreed with the ideas presented, read between the lines and noticed the writers' underlying assumptions, knew that there could be other supporting and contrasting ideas and compared/contrasted different positions and ideas expressed in different sources.

No.	Item	Strongly- Disagree	Disagree	No idea	Agree	Strongly- Agree	Agree/ disagree ratio
31	I involve myself in the text by thinking of my own views.	19 (9.8%)	55 (28.4%)	40 (20.6%)	62 (32.0%)	18 (9.3%)	1.08
32	I adopt a critical stance toward academic (e.g., reading) conventions.	26 (13.4%)	51 (26.3%)	56 (28.9%)	43 (22.2%)	18 (9.3%)	0.79
33	I try to (dis)agree with the ideas presented, even texts written by famous scholars.	22 (11.3%)	49 (25.3%)	40 (20.6%)	64 (33.0%)	19 (9.8%)	1.7
34	I can read between the lines and notice the writers' underlying assumptions.	16 (8.2%)	62 (32.0%)	65 (33.5%)	43 (22.2%)	8 (4.1%)	0.65
35	I remind myself that these are the ideas of this author; there could be other supporting/contrasting ideas, too.	25 (12.9%)	44 (22.7%)	34 (17.5%)	69 (35.6%)	22 (11.3%)	1.31
36	I compare/contrast different positions and ideas expressed in different sources.	24 (12.4%)	65 (33.5%)	43 (22.2%)	47 (24.2%)	15 (7.7%)	0.7
37	For checking the credibility of a journal, I use different criteria	28 (14.4%)	51 (26.3%)	57 (29.4%)	37 (19.1%)	21 (10.8%)	0.73
Mean	(ratio)						0.99

Table 8. Students' self-assessment of their critical literacy.

As Table 8 indicates, students reported low levels of critical literacy. Items such as involving themselves in the text by thinking of their own views and reminding themselves that the ideas mentioned in texts are the ideas of the author fell close to 1.0 ratio showing roughly equal agreement and disagreement. The agreement ratio for the item about (dis)agreeing with the ideas presented was 1.7 indicating that more students do this. On the other hand, lower agreements were observed for items such as adopting a critical stance (0.79), reading between the lines (0.65), comparing/contrasting different positions and ideas (0.7), and checking the credibility of journals by using different criteria (0.73) indicating that students had more struggles in these areas.

Figure 1 summarizes students' assessments of their academic reading skills based on the average ratio of each component. Information literacy appeared to be the area in which students had the most difficulty. Critical literacy was the second most difficult area. The third area was interaction

with teachers and peers, followed by statistical literacy, reading strategies, genre awareness, English language proficiency, and finally content knowledge.

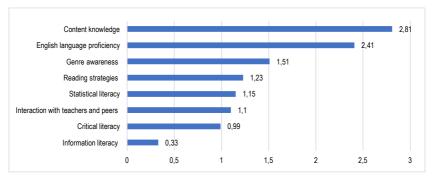


Figure 1. Students' assessments of their academic reading skills.

# 7.2. Students' perceptions of their most frequent problems in academic reading (RQ2)

In this section, the results related to the second research question, which aimed at exploring the most frequent problems that students faced during their MA programmes with regard to their reading assignments, are presented. A total of 8 themes emerged which are discussed in the following sections.

	Theme	Frequency
1	Shortage of time	61 (21.63%)
2	Information literacy	58 (20.57%)
3	Content knowledge	54 (19.15%)
4	Critical literacy	34 (12.05%)
5	Writers' language style and generic features of texts	28 (9.93%)
6	Teachers' high expectations and vague instructions	20 (7.10%)
7	Statistical literacy	16 (5.67%)
8	Insufficient interaction	11 (3.90%)
		282 (100%)

Note:113 students answered the question. The total does not add up to this number because many respondents reported only one or two problems

Table 9. Students' most frequent problems in academic reading.

As Table 9 indicates, shortage of time was the most frequent problem, reported 61 (21.63%) times by the participants. Generally, students referred to the large amount of reading that they had to do and the shortage of time that they faced in this regard. For example, student 3 (S3) mentioned that "My main problem is the volume of readings that I have to do every week ... I never find time to do them completely. We have to read many book chapters and articles per week and we simply cannot cover them all and this leads to disappointment and anxiety" (excerpt 1). A group of students appeared disappointed and demotivated by the huge amount of material that they were required to read and this had made them feel helpless and incompetent. S6 mentioned that "Because we are bombarded with books and articles. I do not have time to read them. This makes me feel confused and prevents me from catching up" (excerpt 2). S1 argued that she does not enjoy the way reading works at MA level in that "You do not stick to a few sources throughout the semester", rather "you have to deal with different articles and book chapters which is time-consuming". She went on to argue that "I am used to reading books from the beginning to the end. That's why I do not particularly enjoy it when many chapters from a variety of sources are introduced" (excerpt 3).

The second theme referred to the problems that students confronted regarding information literacy, 58 (20.57%). Within this category, we included their difficulty in finding access to relevant materials, their inability to find what they were looking for, and their inability to check the credibility of a given source. For example, S11 argued that "I always have difficulty finding access to the articles I find relevant to my study. It is not possible for me to have access to the online materials" (excerpt 4). S11 was not aware of the fact that her university had provided access to those articles and she could access most of those articles via her university. Many students referred to their own inability in finding what they were looking for. They argued that they did not know how to find the articles they needed. As S13 explained, "it is not easy to find what you are looking for. I have difficulty finding the topics that I want' (excerpt 5). Likewise, S4 put an interesting argument forward by saying "I have problem finding what I am looking for. In fact, my problem is that I am not sure if there are not many sources in my area of investigation or simply it is because I am not good at doing academic searches..." (excerpt 6).

A considerable number of students also referred to their difficulty in assessing the credibility of the online sources they were using. S8 argued that

her unfamiliarity with different journals had led her to publish with a predatory journal. Feeling embarrassed and ashamed of what she had done unintentionally, S8 reasoned that "I had no idea of predatory journals. This semester, I was very happy of publishing my first article. Just a few weeks ago, I found out about predatory journals. I had published with one such journal ... I feel embarrassed" (excerpt 7). The same sentiment was reflected by S1, who was unhappy with her experience of gaining the literacy she had at the time of this research. She argued for early and explicit education of the literacies that she had learned 'painstakingly' by herself. She went on to argue that "You cannot imagine how hard it was for me to learn the ABC of an academic search and the very basic difference between academic and nonacademic or fake databases. Nobody taught me" (excerpt 8).

The third most frequently reported theme was students' lack of enough content knowledge (19.15% of reported problems). This had prevented not only their understanding but also blocked their motivation to search or their willingness to play a more active role in their classes. For example, S10 put it this way "Some ... articles are too specific and academic and I cannot comprehend them. For example, we studied systemic functional linguistics for several sessions. I simply do not know what it is" (excerpt 9). S7 put it this way "I really like to cooperate more in classroom discussions; however, I cannot because of my weak background knowledge" (excerpt 10). Similarly, S2 explained that "Due to insufficient background knowledge, sometimes I cannot get the main point of the article and it stops me from further reading" (excerpt 11).

A considerable number of students, 34 (12.05%), mentioned critical literacy as a problematic issue. They criticized the way they had received education and the way they were tested as the main reasons for their attested inability to critically read their assignments. For instance, S2 argued that "most teachers have always, directly and indirectly, persuaded us to do description rather than critical analysis" (excerpt 12). Arguing along the same lines, S12 noted that "I have not been properly educated on critical thinking techniques. I do not know what my teachers mean by critical reading. For this reason, I cannot question ideas" (excerpt 13). A few students argued that the way they were expected to take exams had left them with no option but to memorize for exams which prevented them from adopting critical perspectives toward what they read. For instance, S6 said that "Most of our exams look for descriptive accounts of what we read and this has led me to get used to memorizing not analysing." (excerpt 14).

Almost a tenth of all reported problems referred to the difficulties that respondents had with the writing style of authors and generic features of texts. They highlighted the authors' use of language as hard to understand. For instance, S14 argued that "It is difficult for me to understand the conventions of introducing subjects." (excerpt 15). Likewise, S7 held that "It is difficult to understand the way writers form ideas and present them. The points are not usually straightforward" (excerpt 16). Some students' comments were more related to the genre and organizational conventions of their readings. S1 noted that "It seems impossible to recognize different genres. I cannot even understand what different sections of an academic paper are designed for" (excerpt 17). S4 argued that she was good at talking about genres theoretically, but had problem noticing generic features. She put it this way "I have been told about genre, move, steps, but I have never been able to practically notice them in my readings. At the theory level, I can talk about genres, however, in practice, I have difficulty noticing moves and steps" (excerpt 18).

In their answers, 20 students (7.10%), referred to their teachers' high expectations and vague assignments as important sources of the problem. Elaborating on teachers' high expectations, S2 explained "We are expected to do a lot of readings and writings and to do a research project from the very first semester; not just one but at least four, which is an impossible task" (excerpt 19). Likewise, S10 argued that "I am not yet used to the conventions of academic reading and writing. I have not been given enough time to practise them. However, I am bombarded with a huge amount of reading and writing" (excerpt 20). Students also elaborated on their teachers' vague instructions. For instance, S11 stated that "there have been many occasions where I was reading the assignments but I did not know why I was reading them and what I was expected to accomplish ... Ambiguity in the description of the tasks is a big issue" (excerpt 21). On the other hand, there were reports where students appreciated their teachers' help in assisting them to understand their readings. In fact, they highlighted the significance of teachers' guidance. S9 put it this way "Some sources were hard to read through but when described and explained by the teachers, all ambiguities were resolved" (excerpt 22).

Some students, 16 (5.67%), explicitly mentioned the problems they had with statistics either within texts or presented in tables and figures. S9 argued that "I have been taught about statistics, but I have very much difficulty with papers that use statistics to report their findings" (excerpt 23). Similarly, S12

noted that "methods used in analysing the data and also interpreting tables are the most difficult parts. I never imagined dealing with statistics again" (excerpt 24). Some students referred to their difficulty in analysing the statistics presented in tables and figures, as S1 explained "understanding information presented in tables and figures is not an easy task" (excerpt 25).

Finally, 11 (3.90%) students referred to their peers' unwillingness to cooperate, arguing that they could understand much better if there were more cooperation. For example, S8 who was unhappy with her relationship with her classmates noted that "my classmates are too conservative and busy to share their understandings of the materials with me ... the problem is that they see themselves in competition with each other" (excerpt 26). Likewise, S3 said that "my classmates are not accessible for studying and reviewing in pairs/groups. If we could initiate studying in groups, our learning could increase for sure" (excerpt 27).

#### 8. Discussion

This study addresses the academic reading comprehension challenges faced by MA students of applied linguistics. Questionnaire results showed that information literacy was the most important factor impeding students' academic reading. This was followed by critical literacy, interaction with teachers and peers, statistical literacy, reading strategies, genre awareness, content knowledge, and English language proficiency. The quantitative findings were well-supported by the qualitative findings, as the problems and challenges that students reported in the qualitative part of the study were very similar to the quantitative findings from the questionnaire. The analysis of the qualitative data led to the emergence of identified shortcomings or challenges in the following areas: time, information literacy, content knowledge, critical literacy, writers' language style and genre, teacher expectations and instructions, statistical literacy, and peer interaction.

Students' self-assessments showed that reading strategies ranked fifth as a factor impeding successful academic reading. Moreover, in line with previous studies (e.g., Dhieb-Henia, 2003), the qualitative findings of this study highlight the problems that university students face with regard to the large number of readings that they need to do (see excerpts 1 to 3). This may be attributable to students' poor control over reading strategies. Dhieb-Henia

(2003, p. 387) rightly argues that "these problems pertain essentially to their inability to read selectively; that is, extracting what is important for the purpose of the reading and discarding what is insignificant". In line with Hirvela (2016), the qualitative findings indicated that teachers' high expectations, vague assignments, and poor feedback are important problems (see excerpts 20 to 23). University professors teaching in MA programmes might be assuming that their students either know how to manage all the assigned materials or will be able to find a way to manage them. However, expecting students to learn how to read scholarly articles on their own may lead to frustration and confusion because they may not be able to read strategically and selectively. In fact, from the comments (see excerpts 1 to 3), it can be concluded that these students had problems in the strategic reading of materials. Applied linguistics professors interviewed while developing the academic reading instrument used in this study (Nejadghanbar, 2019) repeatedly mentioned that they did not expect their students to read all the materials; they expected them to be strategic in selecting the most important parts or sources. However, this is apparently not well understood by the students, who think they need to read every word, which in turn might lead to anxiety and disappointment.

Students did not report serious problems with regard to their language proficiency. This is in line with the previous research revealing that MA students' problems do not necessarily lie in language (Abasi & Graves, 2008).

As the questionnaire results showed, content knowledge was the least challenging factor for students. Contrary to the quantitative findings, the qualitative findings identified content knowledge as the third most frequent problem. The reason for this contradiction could be the fact that a considerable portion of the qualitative data regarding the content knowledge problems was shared by students who had studied non-English or nonteaching majors for their BA studies (see excerpts 11/12).

Statistical literacy was the fourth most difficult factor. The qualitative data indicated that students struggle with understanding statistics presented in the sources they read (see excerpts 23 to 25). This finding echoes previous literature revealing that many MA students in the social and behavioural sciences have difficulty in understanding statistics (Onwuegbuzie, 2003), mostly presented in one statistics course or a quantitative-based research methodology course (Onwuegbuzie & Wilson, 2003). Graduate students'

difficulty in understanding statistics has led "two thirds and four fifths of graduate students ... to experience uncomfortable levels of statistics anxiety" (Onwuegbuzie, 2003, p. 1023).

As the quantitative results showed, genre awareness was ranked sixth in difficulty. The qualitative findings also pointed to difficulties with regard to genre (see excerpts 18/19). This is in line with the previous research showing that students are often unfamiliar with genre in academic texts (Hirai et al., 2010) which makes the process of comprehending academic texts difficult (Northedge, 2003). These findings suggest that students need practical, rather than theoretical, help and guidance in dealing with their reading and writing tasks.

Among all other factors, information literacy proved most difficult. Qualitative data confirmed the quantitative findings, where this was the second most frequently reported problem. One reason for students' low information literacy could be the fact that they may have not received previous education on information literacy. For example, publishing in predatory journals can be attributed to students' inability to tell credible databases from low credibility ones. It seems teaching information literacy is generally ignored. Although university teachers like their students to be competent in information literacy skills, they are not inclined to spend class time on information literacy skills (Bury, 2011).

Interaction with teachers and peers was rated as the third most challenging factor, showing students' low levels of interaction with their teachers and peers. This finding is consistent with previous literature showing students' lack of collaboration in doing their readings (McGrath et al. 2016). In line with Lea and Street (1998), we argue that the problems students face are not limited to the textual ones, but include the interactions with peers and teachers that can facilitate the acquisition of academic literacy (Ferenz, 2005; Atai et al., 2018).

Critical reading, as an indispensable part of good reading (Kuzborska, 2015), was the factor ranked second in difficulty in the questionnaire. The qualitative findings showed critical literacy as the fourth most frequently reported problem. Since critical literacy, as an important aspect of academic literacy (Roald et al. 2021), can be quite different across disciplines (Mann, 2000; Neely, 2005), students need to receive instruction from their subject matter instructors about what they mean by critical reading. This was reflected in the qualitative data where students mentioned the difficulty that they had in understanding what their teachers meant by critical reading. This finding is in line with Lea and Street (1998, p. 161), who argue that there are "differences between staff and students' understanding of the writing [or reading process at levels of epistemology, authority and contestation over knowledge rather than at the level of technical skill, surface linguistic competence or cultural assimilation".

#### 9. Conclusion

The findings of this study show that students' problems in academic reading are not primarily associated with or limited to language proficiency or generic features of different text types. The multidimensional skill of academic reading and its discipline-specific nature lead to different types of problems and challenges for students. These findings highlight the important role that teachers can play in helping their students adopt the right approach to academic tasks as well as the significant changes that they could make by formulating purposes for reading specific texts, providing guiding questions, and including structures to ease access to themselves and to promote student-student interaction across the curriculum.

The eight factors highlighted in the questionnaire, together with the qualitative data from this study, pinpoint areas in which MA students need help. Expecting students to know about these areas beforehand or to learn academic reading all on their own would lead to many students' demotivation, disappointment, and frustration. Furthermore, it might lead to unintentional acts of plagiarism and publishing with predatory journals (Babaii & Nejadghanbar, 2017). Students' unfamiliarity with these literacies leads to inefficient academic reading, which impairs their ability to participate in disciplinary practices.

The findings offer implications for university teachers, curriculum developers, and course designers in the field of applied linguistics. The problems reported by the students should encourage teachers to be realistic in their expectations; they should not assume that students start their MA studies equipped with the literacies that they require. These findings provide teachers with accounts of students' experiences, challenges, and needs which can be used to inform their practice. Based on the areas of importance and difficulty indicated in this study, curriculum developers and course designers could design academic literacy courses for MA programmes in applied linguistics, or add academic reading modules to the existing content courses.

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# Appendix: The Questionnaire

#### **Dear Participants**

This survey is intended to shed light on the reading literacy of MA students of Applied Linguistics (TEFL). Please take a few minutes to respond to this anonymous survey. Your honest responses to this survey will help improve teaching in MA programs.

#### Section 1:

This section of the survey will help us understand the ways in which you undertake/undertook your reading assignments in different courses.

For each statement, check the value that best describes your habits. Please report your own ACTUAL EXPERIENCES, not what you think is the 'right answer'. Your honest, anonymous responses will supply valuable information.

A: Now, please check the value that best describes your abilities in the following items.

	While reading assigned academic texts during my MA studies	Strongly	Disagree	No idea	Agree	Strongly Agree
1	I draw a visual map to chart the progression of ideas.					
2	I notice how parts of texts are arranged to make a unified whole and present ideas.					
3	I pull an idea or argument apart and look at it more closely.					
4	I make a logical connection between different ideas.					
5	I make connections among different sources.					
6	I compare and contrast ideas mentioned and discussed in several sources.					
7	I synthesize (integrate) previously unrelated ideas.					
8	I relate new information to my background knowledge.					
9	I connect different parts to each other similar to when I read a story.					
10	My general English proficiency is sufficient for understanding academic texts.					
11	My academic English proficiency is sufficient for understanding academic texts.					

#### Section 2:

This section of the survey aims at exploring the factors which might pose problems to you in reading academic

A: Read the following items carefully and check how often you think you come across these issues while reading academic texts.

	How often is your reading of texts assigned for your MA program negatively affected by the following issues	Never	Rarely	Sometimes	Usually	Always
12	Insufficient background knowledge.					
13	Low understanding of concepts and terminologies used in the texts.					
14	Difficulty in interpreting the statistical data presented in academic texts.					
15	Difficulty in understanding statistics presented in tables.					
16	Difficulty in interpreting information presented in graphic and visual format.					
17	Difficulty in recognizing the functions of different sections of academic texts (i.e., recognize what to expect while reading different parts of an academic text such as abstract, introduction, methodology).					
18	Difficulty in distinguishing different organizational features of genres (i.e., move-step structures).					
19	Difficulty in noticing how authors use metadiscoursal features e.g., transition (in addition – and) boosters (in fact, definitely), hedges (might, probably), attitudinal markers (I agree, surprisingly) etc.					

B: Read the following items carefully and report your familiarity with each item.

	How familiar are you with the	Not Familiar	Slightly Familiar	Somewhat Familiar	Moderately	Very familiar
20	research paradigms (i.e., qualitative, quantitative, and mixed methods).					
21	statistical analysis tests (t-test, ANOVA, MANOVA, factor analysis, etc.).					
22	differences between academic websites/databases and non-academic ones.					
23	credibility, accuracy, relevance, etc. of the online sources.					
24	credible online databases (of applied linguistics/TEFL/ TESOL/education).					
25	peer review process.					
26	right techniques for finding relevant articles online.					

#### Section 3:

This section seeks your perceptions/viewpoints on reading as a situated social activity. Please read each item carefully and then check the box that best describes your habits and abilities.

	While reading academic texts	Strongly Disagree	Disagree	No idea	Agree	Strongly Agree
27	I refer to my teachers to ask for their viewpoints and clarifications on different parts.					
28	I refer to my peers to ask for their viewpoints and clarifications on different parts.					
29	I openly discuss disciplinary conventions (i.e., how texts are written and organized in applied linguistics) with my teachers.					
30	I openly discuss disciplinary conventions (i.e., how texts are written and organized in applied linguistics) with my peers.					
31	I involve (see/find) myself in the text by thinking of my own views (which may be contradictory or similar to those of the author/s).					
32	I adopt a critical stance towards academic (e.g., reading) conventions.					
33	I try to (dis)agree with the ideas presented, even texts written by famous scholars.					
34	I can read between the lines and notice the writers' underlying assumptions.					
35	I usually remind myself that these are the ideas of this author; there could be other supporting and contrasting ideas, too.					
36	I compare/contrast different positions and ideas expressed in different sources.					
37	While reading to check the credibility of a journal, I use different criteria such as the journal index in different databases, its editors, reviewers, the authors, etc.					

What are three (or even more) most frequent problems you face(d) while reading your assignments in MA programs?
Any other point which would like to share:
We are looking for some volunteers for a short interview on this topic. If you are interested in participating and contributing to our study in this regard, please let us know how we can contact you.
Demographic Information:
Your age: 20-25 □ 25-30 □ 30-35 □ 35-40 □ above 40 □
Your gender: Female □ Male □
Your BA major: Linguistics □ Literature □ Teaching □ Translation □ Other □
Your MA major:
Type of academic institution of your MA: State □ Azad □ Payam Noor □ Other □
Your current semester of MA program: first semester ☐ second semester ☐ third semester ☐ fourth semester ☐ have finished MA ☐ Other ☐

So Many Thanks.