Better Speed Better Comprehension:
Introducing “Integrated Reading Comprehension Strategy”

سرعة أفضل استيعاب أفضل: تقديم "الإستراتيجية المتكاملة لفهم القراءة"

by

NISHAD CHATHAMKULAM ABDULRAHMAN

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Abstract

Reading skills are assessed in many standardized English language proficiency tests, such as IELTS, TOEFL, FCE, CAE and CPE. Therefore, test-takers are required to employ effective strategies to perform well in the reading components of these tests. Taking this into account, this study introduces 'Integrated Reading Comprehension Strategy' (IRCS) and examines its effectiveness on participants' reading comprehension, reading speed and reading test-anxiety. The study adopts a non-equivalent quasi-experimental embedded mixed-methods design and uses a sample of 30 teachers selected through convenience sampling from a private Indian school in Ajman, UAE. These participants are divided into two almost equal groups (experimental & control). Both quantitative and qualitative data are collected by means of pre and post-reading comprehension tests, pre and post-reading test-anxiety surveys and semi-structured post-production interviews. After three weeks of intervention, the quantitative data are analyzed using descriptive (frequency count, percentage & effect size) as well as inferential (independent & paired samples *t* tests) statistics, whereas content analysis is used for the purpose of analyzing the qualitative data. The findings of the study indicate that IRCS has no statistically significant effects on participants' reading comprehension and reading speed although all the participants interviewed agree that IRCS enable them to read better and faster. On the other hand, the results of both quantitative and qualitative analyses reveal that IRCS plays a significant role in reducing participants' reading test-anxiety levels. The study thoroughly discusses these findings, expounds its limitations, and offers suggestions for teachers, course material writers and future researchers.

Keywords: reading comprehension, reading speed, reading test-anxiety, reading models, (meta) cognitive strategies, non-equivalent quasi-experimental design, mixed-methods study, IELTS

Abstract in Arabic

نبذة مختصرة

يتم تقييم مهارات القراءة في العديد من اختبارات إتقان اللغة الإنجليزية القياسية ، مثل IELTS و TOEFL و FCE و CAE و CPE. لذلك ، مطلوب من المتقدمين للاختبار استخدام استراتيجيات فعالة لضمان تقديم اداء جيد في االجزء المتعلق بالقراءة. وتقدم هذه الدراسة "إستراتيجية فهم القراءة المتكاملة (IRCS) "فحص مدى القدرةعلى فهم القراءة لدى المشاركين ، وسرعة القراءة ، بالإضافة إلي اختبار مدي القلق. تتبنى الدراسة تصميمًا غير متساوٍ شبه مدمج للتطبيقات المختلطة ، وتستخدم عينة من 30 معلمًا تم اختيارهم من خلال أخذ عينات ملائمة من مدرسة هندية خاصة في إمارة عجمان (الامارات العربية المتحدة) ينقسم هؤلاء المشاركون إلى مجموعتين متساويتين تقريبا (التجريبية والتحكمية). يتم جمع كل من البيانات الكمية والنوعية عن طريق اختبارات الفهم قبل وبعد القراءة ، و دراسة استقصائية لاختبار القلق قبل وبعد الاختبار ويتم تحديد المقابلات شبه المنظمة بعد الإنتاج. بعد ثلاثة أسابيع من التدخل ، يتم تحليل البيانات الكمية باستخدام وصفي (عدد التكرارات ، النسبة المئوية وحجم التأثير) بالإضافة إلى إحصاء (إحصائية مستقلة) في حين يتم استخدام تحليل المحتوى بهدف تحليل البيانات النوعية .تشير نتائج الدراسة إلى أن IRCS ليس له تأثيرات ذات دلالة إحصائية على فهم القراءة لدى المشاركين وسرعة القراءة على الرغم من أن جميع المشاركين الذين تمت مقابلتهم يتفقون على أن IRCS تمكنهم من القراءة بشكل أفضل وأسرع. من ناحية أخرى ، تكشف نتائج التحليلات الكمية والنوعية أن IRCS تلعب دورًا مهمًا في الحد من مستويات اختبار القلق. تناقش هذه الدراسة بدقة هذه النتائج وتكشف حدودها وتقدم اقتراحات للمعلمين وكتاب مادة الدورة والباحثين المستقبليين.

كلمات البحث: القراءة والفهم ، وسرعة القراءة ، والقراءة اختبار القلق ، ونماذج القراءة ، (الفوقية) الاستراتيجيات المعرفية ، التصميم الشبه تجريبي غير المكافئ ، دراسة الأساليب المختلطة IELTS.

Dedication

I dedicate this dissertation to my loving parents, **Mr. Abdulrahman and Mrs. Sainaba Abdulrahman**, whose endless love, inspiration and prayers guided me to where I am today. This dissertation is also dedicated to my dearest wife and soulmate, **Najiya Kader**, whose unconditional love, support, encouragement and sacrifices were vital to the successful completion of this dissertation. Finally, I dedicate this dissertation to my beloved children, **Zainab and Zane**, who proved to be my staunch supporters by sacrificing their outdoor play time without a word of complaint.

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List of Abbreviations

BUID	: The British University in Dubai
CAE	: Certificate of Advanced English
CPE	: Certificate of Proficiency in English
EFL	: English as a Foreign Language
EMSAT	: The Emirates Standardized Test
ESL	: English as a Second Language
FCE	: First Certificate in English
GMC	: General Medical Council
iBT	: Internet-Based Test
IELTS	: International English Language Testing System
IRCS	: Integrated Reading Comprehension Strategy
MEd	: Master of Education
NCERT	: National Council of Educational Research and Training (India)
OET	: Occupational English Test
PET	: Preliminary English Test
PTE	: The Pearson Test of English
TESOL	: Teaching English to Speakers of Other Languages
TOEFL	: Test of English as a Foreign Language
UK	: United Kingdom

Chapter One: Introduction

1.1. Background

Reading is considered one of the most essential language skills (Alroud 2015; Gilakjani & Sabouri 2016; Paulston & Bruder 1976). The act of reading is seen as a complex mental activity (Sonmez & Sulak 2018) which requires the ability to comprehend and interpret ideas presented in written texts (Iqbal et al. 2015). Reading is a purposeful activity, and therefore each reader has a different purpose for reading. While some read for pleasure, others read for information or research (Grabe 1991). Reading skills are taught not only in schools but also in colleges and universities (Che 2014) as they help students become familiar with the subjects they study, acquire new knowledge, and improve their language skills (Gilakjani & Sabouri 2016). Furthermore, Reading plays a crucial role in English language teaching and learning (Che 2014). English language learners can benefit greatly from reading. For example, it enables them to think in English, expand their vocabulary, develop their writing skills and understand new ideas, facts and experiences. Furthermore, reading provides an excellent opportunity to ESL / EFL learners to practise their English and prepares them for education in countries where English is the first language (Mikulecky & Jeffries 1996).

Reading is also an important component of many English language tests (Feng & Chen 2016). For instance, it is assessed in placement, diagnostic, formative and summative tests (Grabe 2009). Many standardized English language proficiency tests, such as IELTS, TOEFL, FCE, CAE and CPE also assess test-takers' competence in reading (Grabe & Jiang 2014). These proficiency tests aim to measure individuals' overall language skills (Thornbury 2006), and for this reason, test-takers need to perform as well in the reading part as they do in other components of a proficiency test (Powers 2010).

It is important to note that individuals flexibly use a wide range of reading strategies, such as skimming, previewing and predicting (See 2.2.4) for efficient reading (Grabe 1991). Each time they read, they are required to choose different strategies depending on their reading purposes (Kutluturk & Yumru 2017). Strategies are, therefore, central to effective reading (Grabe 1991). The current study deals with reading in standardized English language proficiency tests. It introduces 'Integrated Reading Comprehension Strategy' (IRCS) that facilitates efficient reading

in English language proficiency tests. The current study tests the effectiveness of IRCS on IELTS Academic Reading Test (See 1.3).

1.2. Problem and Rationale

As mentioned above reading is one of the main components of many standardized English language proficiency tests. In order to do well in the reading component of proficiency tests, test-takers are required to read different kinds of passages and accurately answer questions about them (Ozuru et al. 2008). Furthermore, tests in general have time limits (Bridgeman, McBride & Monaghan 2004), and this is true for language proficiency tests as well. As an example, IELTS test-takers are only allowed to take a maximum of 60 minutes to complete the reading test, which contains three different reading passages with a total of approximately 2750 words (Jakeman & McDowell 2008).

Individuals usually take proficiency tests either to enter higher education institutions or to find jobs (Nuttall 2005). For example, to enter the MEd in TESOL program at the British University in Dubai, UAE, one has to obtain an overall IELTS band score of 6.5, a TOEFL iBT score of 92, or an equivalent score in other English language proficiency tests, such as City & Guilds or PTE (Buid 2018). Likewise, if non-UK doctors want to apply for GMC registration to practice in the UK, they have to achieve an overall 7.5 in the IELTS academic test with no less than 7 in each component (listening, reading, writing and speaking) or a grade 'B' in every component (speaking, listening, reading and writing) of the medical version of OET (GMC 2018). Such circumstances require test-takers to perform well in the reading part of such language proficiency tests.

Furthermore, many candidates who take English language proficiency tests, such as IELTS, tend to prioritize the reading part of the test above listening, writing and speaking components (Sorrenson 2012) as they achieve lower scores in this part (McCarter & Ash 2001). Test-takers tend to get lower scores in reading because: (1) they panic when they have to read a passage on a topic they are not familiar with, (2) they often spend too much time on certain question types and fail to complete the test on time (McCarter & Ash 2001), (3) they hurry and make mistakes due to time constraints, (4) they do not understand the meanings of certain words or phrases in the questions or the text (Slater, Millen & Tyrie 2003), and (5) they have test-anxiety (Dawood et al.

2016). Taking these issues into account, it is understandable that Effective reading strategies are necessary for test-takers to complete a reading test successfully in a language proficiency test.

Studies have also found that strategy instructions have positive effects on reading comprehension (Soleimani, Zandiye & Esmaeili 2014), reading speed (Alarfaj & Alshumaimeri 2012) and reading anxiety (Marashi & Rahmati 2017). As mentioned in 1.1, the current study introduces IRCS and tests its effectiveness on IELTS Academic Reading Test. At this stage, it is important to note that speed reading is a necessary skill for effective reading (Mikulecky & Jeffries 1996). However, speed reading should not be accomplished at the expense of comprehension (Just & Carpenter 1987). Furthermore, test-takers with lower levels of test-anxiety are likely to score high in reading comprehension tests (Nazarinasab, Nemati & Mortahan 2014). IRCS, which is an original strategy introduced in this paper, has been designed to help test-takers to strike an effective balance between speed reading and comprehension as well as reducing test-anxiety in relation to reading.

1.3. Purpose and Research Questions

The purpose of the current study is to examine the effectiveness of IRCS on the participants' reading performance in relation to speed, comprehension and reading test-anxiety. In order to achieve this purpose, the current study will consider the following research questions.

Research Questions

1. Does IRCS have any significant effects on the participants' reading comprehension and reading speed?
2. Does IRCS have any positive impacts on the participants' reading test-anxiety levels?
3. What are the participants' opinions about the effectiveness of IRCS on their reading comprehension, reading speed and levels of reading test-anxiety?

1.4. Scope of the Study

The study was carried out in a private Indian school in Ajman, UAE. The school follows NCERT curriculum approved by the Central Board of Secondary Education in India, and the medium of instruction in the school is English. Thirty teachers from this school showed their willingness to participate in the study. The teachers were all from the Indian subcontinent, from India or

Pakistan, and the majority of them were female. The participants were divided into two groups: experimental and control groups. Both the groups took a 3 week long reading course which was part of a 36-hour free IELTS preparation program. All the 30 teachers were enthusiastic about participating in the study as it was mandatory for them to achieve a specific band score in the IELTS academic test to obtain the UAE teaching licence.

A non-equivalent quasi-experimental embedded mixed-methods design was adopted for this study, and the participants were chosen through convenience sampling method. Both quantitative (pre and post-tests & pre and post-surveys) and qualitative data (post-production interviews) were gathered and carefully analysed (Chapter 3). The results of the current research are discussed in light of the related studies critically analysed in the literature review section of chapter 2.

1.5. Significance of the Study

The findings of the current study examining the effectiveness of IRCS on participants' reading comprehension, reading speed and test-anxiety levels will be of great importance to teachers, course material writers and researchers. Teachers who prepare students for the IELTS exam can make use of IRCS to improve their students' reading speed, accuracy of answers and confidence levels. Teachers preparing students for other English language proficiency tests, such as EMSAT or CAE, can also adopt the strategy for the same purpose. Furthermore, ESL or EFL teachers can adapt the strategy to suit their teaching contexts in order to improve their students' reading comprehension skills. The findings will also inform material writers of the importance of designing reading activities that facilitate students' use of cognitive, metacognitive and organized reading comprehension strategies. Being a non-equivalent quasi-experimental study, one of the major limitations of the current study is that its findings cannot be generalized to a larger population (Shadish, Cook & Campbell 2002). However, the current findings will guide the future researchers to conduct large scale studies using random sampling in order to obtain more accurate results to be able to generalise their findings.

1.6. Structure of Dissertation Chapters

The introductory chapter (Chapter One) outlined the importance of reading skills and reading strategies before clearly stating the research problem and presenting the rationale for the current

study. Chapter one then stated the purpose of the current study and the three research questions the researcher sought to answer. After that, it expounded the scope and significance of the study as well as how this dissertation was structured.

Chapter two includes two important sections, theoretical and conceptual framework and related studies. The theoretical and conceptual framework includes the concepts and theories that the current study is rooted in, while the related-study section contains an analytical review of the studies relevant to the present research.

The third chapter first clearly outlines the research design and research variables, and then discusses the internal validity threats and steps taken to control for these threats. The study sample, data collection methods, and validity and reliability measures are also carefully discussed in this chapter. After that, the chapter thoroughly introduces and explains all the three parts of IRCS and the intervention stage. Finally, the chapter explains the data analysis methods.

Chapter four analyses the data collected quantitatively and qualitatively and discusses the three research questions the current study seeks to answer under three sub-sections.

Chapter five concludes this dissertation with a recapitulation of the current study, its limitations as well as recommendations for teachers, course material writers and future researchers.

Chapter 2: Literature Review

2.1. Introduction

The literature review of this dissertation is divided into two major parts, theoretical and conceptual framework, and related studies. In the theoretical and conceptual framework section, the researcher first defines the concept of reading comprehension and then discusses three models of reading (bottom-up, top-down & interactive models) and schema theory. After that, reading strategies (cognitive & metacognitive), test-anxiety, explicit instruction and IELTS are explained. Finally, in the related study section, the researcher provides a study by study review of the literature relevant to the current study grouped under four broad themes: reading strategies and comprehension, reading speed and comprehension, reading strategies and reading speed and reading anxiety and comprehension.

2.2. Theoretical and Conceptual Framework

The theories and concepts discussed in this section are in line with all the three research questions the current study seeks to answer. Table 1 shows how the three research questions of the study are aligned with the sub-sections below.

Table 1. Alignment of research questions with sub-sections

No.	Research Questions	Sub-sections
1.	Does IRCS have any significant effects on the participants' reading comprehension and reading speed?	2.2.1; 2.2.2**;** 2.2.3**;** 2.2.4; 2.2.6; 2.2.7
2.	Does IRCS have any positive impacts on the participants' reading test-anxiety levels?	2.2.5; 2.2.6; 2.2.7
3.	What are the participants' opinions about the effectiveness of IRCS on their reading comprehension, reading speed and levels of reading test-anxiety?	2.2.1**;** 2.2.2**;** 2.2.3**;** 2.2.4; 2.2.5

2.2.1. Reading Comprehension

As discussed in chapter one, reading is an integral part of an individual's personal, academic and career growth. However, the concept of comprehension needs to be clarified as it is the very purpose of reading (Mckee 2012; Ur 1996). In other words, the process of reading achieves its intended goal only when the reader understands what they read (Sonmez & Sulak 2018), and

therefore if comprehension is not the purpose of reading, the act of reading becomes pointless (Madlambayan et al. 2017).

What is reading comprehension then? It is a process in which readers extract and construct meaning at the same time (RRSG 2002) as efficiently as they can (Grellet 1981). They do this by actively interacting with the text through asking and modifying questions based on their prior knowledge (Thornbury 2006). This process also demands complex thinking abilities (Grabe 1991). For instance, readers require the ability to breakdown, analyze and re-organize ideas or information in their efforts to comprehend a written text (Madlambayan et al. 2017). The following section (2.2.2.) discusses three reading models that are relevant to the current study.

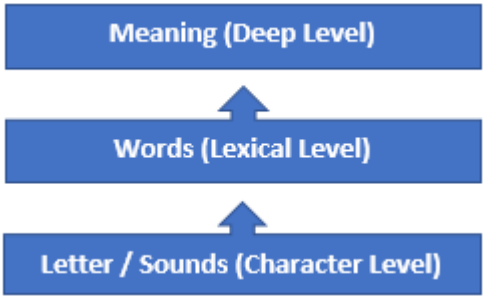
2.2.2. Reading Comprehension Models

This section expounds three models of reading comprehension: bottom-up model (2.2.2.1.), top-down-model (2.2.2.2.) and interactive model (2.2.2.3.).

2.2.2.1. Bottom-Up Model

In the bottom-up model of reading, the reader comprehends a text using linguistic clues (Skudiene 2002), such as the letters, words and grammatical structures (Hedge 2000; Thornbury 2006). This model of reading is viewed as a serial process in which the reader constructs letters into words, words into sentences, and sentences into paragraphs to decode meaning (Alderson 2000; Angosto et al. 2013; Li, Wu & Wang 2007) (Figure 1). Each stage of this process builds on the prior stage (Alderson 2000). For example, the reader comprehends paragraphs in a text based on their previous understanding of sentences which are the outcomes of their interpretation of words (Angosto et al. 2013). Therefore, the process of comprehension starts with words, which is the bottom, and moves upward to paragraphs and whole text (Alderson 2000). During this process, the readers are expected to understand the meaning naturally as they break the code by making good use of their prior knowledge of different features of language, such as vocabulary and syntactic structure. For this reason, it is very important for the reader to understand accurately these linguistic features for effective comprehension (Li, Wu & Wang 2007).

Figure 1: Bottom-up Model



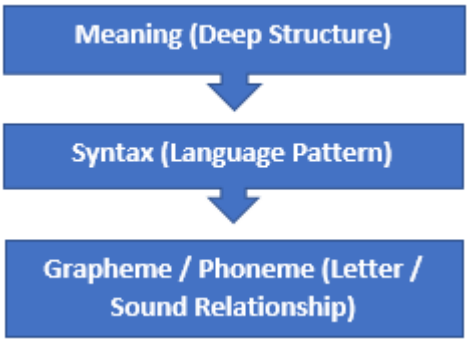
(Liu 2014, p. 1086)

From the bottom-up point of view, lower level processing is an essential reading skill (Li, Wu & Wang 2007), and it helps the reader better parse sentences and understand semantic meaning (Rau & Jacobs 1988). However, this very feature of the bottom-up model is its main disadvantage (Pardede 2010). Over-reliance on linguistic features certainly affects not only the reading speed (Che 2014) but also the reading comprehension itself (Li, Wu & Wang 2007). A top-down model that proceeds from higher mental stages to the text (Barnett 1989) will overcome this limitation (Pardede 2010). The top-down model of reading is discussed in the following section.

2.2.2.2. Top-Down Model

Unlike the bottom-up model (2.2.2.1.) in which the reader begins with the written text, and moves from part to whole (Fatemi, Vahedi & Seyyedrezaie 2014), the top-down model is regarded as a psycholinguistic guessing game (Goodman 1967) in which reading proceeds through an interaction between language and thought (Che 2014; Goodman 1967). In the top-down model, the reader brings their prior or background knowledge to the text they read for a better comprehension of the same (Grabe 2009; Paige et al. 2002; Villanueva de Debat 2006). Here, it is the reader who decides how to approach and interpret a written text (Grabe 2009; Smith 2004) by making conscious use of their experience and intelligence (Nuttall 2005). They begin reading with a set of expectations about what they read, and collect sufficient information to confirm their expectations. In order to do this effectively, they direct their eyes to where they most likely find relevant information (Grabe 2009). For example, the reader might start with more general aspects, such as the title or the main idea of a paragraph and then move on to smaller linguistic items, such as sentences and words as in Figure 2 (Angosto et al. 2013).

Figure 2: Top-down Model



(Liu 2014, p. 1086)

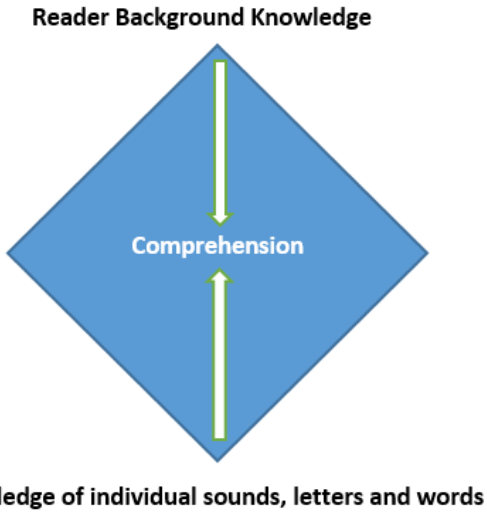
Being a schema theoretic model (Alderson 2000) (2.2.3), the top-down processing certainly plays a major role in language comprehension (Dambacher 2010) because it enables the reader to plug gaps in their language (Field 1999). For example, with the top-down processing, the reader can overcome unfamiliar vocabulary or unknown grammatical items while reading a text. However, if the information provided in the text is unexpected or uncommon, the top-down model cannot produce any useful results (Rau & Jacobs 1988). In this case, the reader has to resort to the bottom-up processing (Paige et al. 2002). This demands an interactive model, an integration of both bottom-up and top-down approaches, that can facilitate more effective reading (Rau & Jacobs 1988). The following section (2.2.2.3.) discusses the interactive model of reading.

2.2.2.3. Interactive Model

As discussed in the previous sections (2.2.2.1. & 2.2.2.2.), both the bottom-up and the top-down models have their own limitations. While the bottom-up model ignores the significance of higher level processing, the top-down model does not recognize the role of the lower level knowledge (Che 2014). As a result, neither is considered an adequate model of reading. A more acceptable model of reading is the interactive model (Alderson 2000), which is the combination of both the bottom-up and the top-down processes (Ahmedi, Ismail & Abdulla 2013; Gamboa-Gonzalez 2017; Grabe 2009; Nuttall 2005; Rumelhart & McClelland 1981). In the interactive model of reading, the reader uses both these processes consciously, and he/she continuously moves from one approach to another in their efforts to comprehend a written text (Nuttall 2005) (Figure 3). For example, they might employ a top-down method to make predictions from the text, and then make use of the bottom-up approach to confirm, revise or reject their predictions (Nuttall 2005;

Li, Wu & Wang 2007). The interplay of these two processes makes reading a less complex activity (Gamboa-Gonzalez 2017).

Figure 3: Interactive Model



(Adapted from Murtagh 1989, cited in Ching 2011)

Having discussed the three different models of reading comprehension so far (2.2.2.1, 2.2.2.2 & 2.2.2.3), it is now time to deliberate on an important theory of reading called schema theory. The schema theory is discussed in the following section.

2.2.3. Schema Theory

Schema theory holds a psycholinguistic view of reading (Carrell & Eisterhold 1983). According to this theory, individuals acquire knowledge and interpret texts by activating their schemata (Alderson 2000). Schema (plural schemata) is a person's mental structure of background or prior knowledge, which he/she uses to process new information (Nuttall 2005; Wang 2014). In order to comprehend new information, the reader activates only those schemata that are relevant to what they read. This indicates that the success of reading largely depends on to what degree these schemata are compatible with the new knowledge (Alderson 2000; Carrell 1983). The three important schemata closely associated with reading comprehension are: linguistic schemata, formal schemata and content schemata (Li, Wu & Wang 2007).

Linguistic schemata account for the reader's background knowledge of grammar, syntax, vocabulary, meaning and pragmatics (Carrell 1990; Wiseman 2008; Zhao & Zhu 2012).

Linguistic schemata play a crucial role in comprehending a text (Li, Wu & Wang 2007) as this allows the reader to successfully decode and understand a text (An 2013). Having more linguistic schemata will also facilitate faster processing of information and better understanding of the text (Alhaisoni 2017).

Formal schemata refer to the reader's prior knowledge of different text types, and how these texts are normally organized and structured (Carrell 1985, 1990). A text, be it a novel or a scientific journal, has its own conventions (Carrell 1984). For example, an internet article may consist of shorter sentences and paragraphs and include more graphic illustrations (Anderson et al. 2012). The knowledge of such characteristics of texts enables the reader to effectively understand a text and recall it later (Carrell 1984).

Content schemata refer to the reader's background knowledge of the topic of a text, their world knowledge and knowledge of the culture (Alderson 2000). Content schemata have profound effects on reading comprehension (Carrell 1990). For example, the reader can use their existing world, topic and cultural knowledge to make up for their language deficiencies (Li, Wu & Wang 2007).

After elucidating the three reading models of reading (bottom-up model (2.2.2.1.), top-down model (2.2.2.2) and interactive model (2.2.2.3.) and schema theory (2.2.3.), the paper will now discuss reading strategies in the following section.

2.2.4. Reading Strategies

For the purpose of this study, reading strategies are seen as actions the readers take consciously to achieve particular goals and objectives (Carrell 1998) when they read difficult texts (Nuttall 2005). This definition is used to distinguish the term 'reading strategy' from the concept of 'reading skill' that is defined as the reader's ability to process information automatically (Tindale 2003). Reading strategies consist of a wide range of tactics the reader employs to understand a reading passage, such as skimming (2.4.1.1.), scanning (2.4.1.2.) and making predictions (2.4.1.4.) (Carrell 1998). The following sections discuss the reading strategies that are relevant to the current study.

2.2.4.1. Cognitive Strategies

Cognitive strategies are mental processes employed by learners to comprehend new information or to solve problems (Hedge 2000; O' Malley & Chamot 1990). Learners use cognitive strategies directly in their efforts to learn new materials. They analyze, transform and synthesize the information drawing on their prior knowledge and long term memory (O' Malley & Chamot 1990). Cognitive strategies are very important for learners in order to acquire new knowledge (Davis 2011). Both bottom-up (2.2.2.1) and top-down (2.2.2.2) models of reading involve various levels of cognitive processes (Mishan & Timmis 2015). Cognitive strategies that are pertaining to the current study are elucidated below.

2.2.4.1.1. Skimming

Skimming, being a top-down strategy (2.2.2.2) (Mishan & Timmis 2015), is a high-speed reading strategy that is used to find the main or overall idea of a text (Nuttall 2005; Scrivener 2005). When skimming, readers read only those words that will help them get a general sense of the passage and save a lot of time (Mikulecky & Jeffries 1996). By skimming a text, readers are creating a macrostructure with limited information from a written text (Krishnan 2011).

2.2.4.1.2 Scanning

Scanning is also a high-speed reading strategy used by readers to find a particular piece of information – for example, a number, a name or a date in a text (Fry 2000; Krishnan 2011). Readers start scanning with a question in mind and they read very fast without reading every word in the reading material (Mikulecky & Jeffries 1996; Nuttall 2005). Like skimming, scanning is also a top-down strategy (Mishan & Timmis 2015).

2.2.4.1.3. Careful Reading

Careful reading is of two types. (1) global and (2) local. At the global level, reading involves understanding general ideas and supporting detail that are clearly stated in a reading passage, making propositional inferences and discovering how ideas and detail are linked to one another either in the whole text or across the text (top-down strategy). On the other hand, local careful reading refers to the comprehension of main ideas and supporting detail within a specific sentence, comprehension of syntax and identification of vocabulary (bottom-up strategy) (Weir

et al. 2006; Weir, Huizhong & Yan 2000). Careful reading is sometimes an interactive process (2.2.2.3.) as it involves both bottom-up and top-down processes (Weir, Huizhong & Yan 2000).

2.2.4.1.4. Previewing and Predicting

When previewing, the reader looks at the text before reading it. For example, they examine its cover, title, photographs or pictures to predict the content of the written text (Mikulecky & Jeffries 1996; Ostrowska 2014). By looking at the test, the reader might be able to make an educated guess about the genre of the text. Prediction is an important top-down strategy as it helps the reader activate their schemata (2.2.3.). By activating the relevant schemata, the reader will be able to comprehend the text more easily (Nuttall 2005).

2.2.4.1.5. Making Inferences

Authors might not explain every detail about characters or situations in their writing. Therefore, readers are required to infer what the author means from the descriptions and dialogues provided by the writer (Mikulecky & Jeffries 1996). In order to make good inferences of unfamiliar words or the assumptions of the writer, readers have to make use of relevant schemata and contextual clues, which are the text surrounding the unknown words (Hedge 2000; Hempenstall 2016; Nuttall 2005; Thornbury 2006). Inferencing is the key to better comprehension and faster reading, and is also regarded as a top-down strategy (Nuttall 2005).

2.2.4.1.6. Recognizing Text Organization

It is important to understand how texts are organized and how the ideas are linked to one another. A thorough awareness of paragraph organization is essential for readers as this will help them interpret sentences that are difficult to comprehend. It is also important to look at the organization of the text above the paragraph level as it permits readers to understand the author's argument better, do more selective reading and find information required for their specific reading purpose (Nuttall 2005). Recognizing the organization of written texts is a top-down strategy (2.2.2.2.) as text organization interacts with readers' formal schemata (2.2.3.) (Carrell 1990). Readers lacking this awareness may not be able to get the overall picture of a text (Nuttall 2005).

2.2.4.1.7. Exploiting Structural Clues

Structural clues are of two kinds: (1) grammatical clues and (2) morphological clues. Readers can understand the meaning of an unfamiliar word by looking at its grammatical function. For example, by looking at the position of a word, they can determine whether it is a noun or a verb, and subsequently guess the meaning of the word (Nuttall 2005). Readers can also make sense of unfamiliar words by analyzing morphological clues, such as affixes (Nuttall 2005), which are the elements placed at the beginning (prefix) or at the end (suffix) of a word (Thornbury 2006) (See Table 2). Knowledge of how compound words and phrasal verbs are created will also help readers understand the meaning of unknown words (Nuttall 2005). Using structural clues for better comprehension is a bottom-up strategy (Cameron 1999).

Table2: Examples of affixes

Affixes	Examples
Prefixes: Un; Dis; Pre	**Un**happy; **Dis**agree, **Pre**fix
Suffixes: Ness; Ment; Ation	Unwilling**ness**; disagree**ment**; Examina**tion**

2.2.4.2. Metacognitive Strategies

The term metacognition refers to an individual's awareness of his/her own thinking and learning (knowledge of cognition), and how he/she controls these processes (regulation of cognition) (Carrell 1989; Davis 2011; Flavell 1979; Grabe 1991). When using metacognitive strategies, learners plan, monitor and evaluate their own progress (Hedge 2000). During planning, learners organize their learning activities, and while monitoring, they check, verify or correct their understanding or performance during an activity. Using evaluation strategies, they check the results of their own learning against afore set standards (Chamot & O'Malley 1994). As related to reading, metacognitive strategies allow readers to choose right strategies at the right time to accomplish a specific reading goal. For example, they will know when to scan for specific information, when to skim for main ideas, or when to read fast or carefully (Grabe 1991). Metacognitive strategies are regarded as higher order strategies (Sahan 2012) and are indispensable for effective reading (Grabe 1991).

The following sections in the theoretical and conceptual framework part deal with test-anxiety (2.2.5.), explicit instruction (2.2.6) and IELTS (2.2.7).

2.2.5. Test-Anxiety

Anxiety is an extremely worrying anticipation of an ambiguous threat and a feeling of uncomfortable suspense (Rachman 2004). Anxiety is caused by internal feelings as a reaction to a supposed threat (Casbarro 2005). One of the most frightening events that triggers anxiety is testing. When students are anticipating poor performance in a test or similar situations, they start experiencing test-anxiety. Test-anxiety consists of three main elements: cognitive, affective and behavioral. Cognitive dimension of test-anxiety refers to worries due to a lack of self-confidence (Harris & Coy 2003). Affective test-anxiety causes worriers to experience certain physiological discomfort, such as accelerated palpitation, nausea, increased sweating, tense muscles, dry mouth and frequent urination. From the behavioral perspective, worriers procrastinate and demonstrate poor study and exam-taking abilities (Zeidner 1998, cited in Harris & Coy 2003). Although many students can perform well on exams, they often do badly due to their high levels of test-anxiety (Zeidner & Matthews 2003).

2.2.6. Explicit Instruction

In the explicit model of instruction, reading strategies are taught in a step by step manner (Gersten & Carnine 1986). Using clear and unequivocal language, teachers instruct the content or skill directly. At the very beginning of each lesson, students are made aware of the lesson objectives and what they are required to do (Archer & Hughes 2011). Students are taught how to do a task before they actually do it on their own (Marchand-Martella & Martella 2013). Students are also provided with sufficient opportunities for practice, and as soon as they produce relevant outcomes, specific feedback is given. Interactions between teachers and students are exceptionally high in direct instruction model of teaching (Archer & Hughes 2011).

2.2.7. IELTS

IELTS is an English language proficiency test which has two versions: Academic and General modules. IELTS Academic module assesses test-takers' proficiency in English language required for academic or higher education purposes, while the General module gauges English language proficiency in social and work place contexts. Both the modules assess test-takers' listening,

reading, writing and speaking skills. Individuals take either Academic of General module depending on their requirements, for example, to study in a university or to obtain visas. Both the tests are marked out of an overall IELTS band score of 9. The IELTS Academic Reading Test comprises three long reading passages that may include descriptive, factual, discursive or analytical text types. These are authentic texts taken from books, journals, magazines and newspapers and are on academic areas of general interest. These topics have been chosen for a non-specialist audience (IELTS 2018).

2.3. Related Studies

The studies reviewed in this section are organized into four broad themes: reading strategies and comprehension (2.3.1), reading speed and comprehension (2.3.2), reading strategies and reading speed (2.3.3) and reading anxiety and comprehension (2.3.4).

2.3.1. Reading Strategies and Comprehension

Zare and Othman (2013) conducted a quantitative study on 95 Malaysian ESL learners (50 males and 45 females) with the goal of examining the frequency of reading strategy use among ESL learners in Malaysia, the effect of reading strategy use on reading comprehension and the gender influence on reading strategy use. The participants were selected through convenience sampling. A reading strategy inventory and an IELTS reading test were administered to collect data. The study utilized descriptive statistics, independent samples t-tests and Pearson correlation coefficient to analyse the data. Results indicated that Malaysian ESL learners are high strategy users, and female participants outperformed their male counterparts in terms of the strategy use. Although the study found a strong positive correlation between participants' reading strategies and their reading comprehension achievement, it could also have elucidated the types of reading strategies employed by the participants.

Unlike Zare and Othman's (2013) study, the qualitative study carried out on 35 male IELTS test-takers by Ahmadian, Poulaki and Farahani (2016) explored the differences in the types of reading strategies used by Iranian high and low achieving IELTS candidates and their frequency of strategy use. Participants were selected through purposive sampling. Participants were required to think aloud while reading two IELTS academic reading texts. A follow up interview was also employed to collect useful data. The research found that while all the participants in the

study used a wide range of cognitive strategies, high achievers employed metacognitive strategies more often than the low achievers. However, adding female participants in the study would also have allowed the researchers to compare the reading strategy types in relation to gender along with reading levels.

Abdelaal and Sase's (2014) quantitative study examined the influence of prior knowledge on ESL reading comprehension. Participants were 20 post graduate students from University Putra Malaysia, and these students were selected through convenience sampling. A prior knowledge questionnaire and an IELTS reading test were used to select the participants. Two reading passages were employed to assess the effect of participants' prior knowledge on their reading comprehension. A correlation analysis was carried out to find the relationships between these two variables. The study concluded that having higher prior knowledge leads to better comprehension. However, the study made an important observation that low levels of background knowledge cannot be considered an indicator of poor reading comprehension as long as readers have high linguistic competence.

Abdelaal and Sase's (2014) observation that linguistic competence has positive effects on reading comprehension is supported by Zhang (2012) who studied the effects of lexical and grammatical knowledge of 190 Chinese advanced EFL learners using structural equational modeling analysis. A vocabulary levels test and a word associate test were used to assess the participants' lexical knowledge. A timed grammaticality judgement task was used to measure participants' implicit knowledge of grammar, while a grammatical error correction task was administered to assess their explicit knowledge of grammar. The researchers administered six reading passages with three multiple choice questions for each passage to test participants' reading comprehension. Descriptive statistics and bivariate correlations were employed for data analysis. Results indicated that vocabulary knowledge was significantly correlated to reading comprehension, and participants' implicit knowledge of grammar had greater effects on learners' reading comprehension achievement.

Rozimela's (2014) qualitative study explored the effect of genre awareness on reading comprehension. The study was carried out in an Indonesian university on 34 randomly selected students to know how the participants of the study understood the conventions of ten reading texts of five different genres. Participants were asked to answer 60 questions designed to assess

their genre knowledge and 80 questions that test their reading comprehension. The results found a strong correlation between genre knowledge and reading comprehension. Participants having strong knowledge of text types comprehended the texts better. However, the study also indicated that participants' prior knowledge about the topic of the texts and topic-related vocabulary also play a crucial role in facilitating better comprehension. This observation goes in line with Abdelaal and Sase's (2014) finding that high levels of background knowledge facilitate better comprehension.

2.3.2. Reading Speed and Comprehension

Abdelrahman and Bsharah's (2014) quantitative experimental study examined the effectiveness of speed reading strategies on reading comprehension. Forty-two students from a secondary school in Jordan participated in the study, and they were randomly assigned to two groups: experimental and control groups. Participants in the experimental group were trained to use speed reading strategies, such as skimming and scanning. Both experimental and control groups were required to take a pre-test and post-test. A t-test was used to analyse the data collected from both pre and post-tests. The results of the study revealed that speed reading strategies had a significant effect on reading comprehension. This finding is further supported by Naseri, Maghsoudi and Rajabi (2014).

Naseri, Maghsoudi and Rajabi (2014) also investigated the relationship between speed reading and reading comprehension. However, unlike Abdelrahman and Bsharah's (2014) study, they also considered examining the effects of gender on reading comprehension. One hundred and twenty students from six different institutes from Iran were chosen as the participants of the study based on Nelson Proficiency test. They were divided into experimental and control groups. Both experimental and control groups took the pre-test. Treatment was given to the experimental group. After administering the post-test, the scores were compared. Like Abdelrahman and Bsharah's (2014) study, this study also found a strong relationship between speed reading and reading comprehension. However, the research found that the gender had no significant effect on reading comprehension.

2.3.3. Reading Strategies and Reading Speed

It is also important to know when to read a text fast or carefully. Weir et al. (2006) investigated the activities and sequences that typified reading for the purpose of doing an IELTS Academic Reading exam. The mixed-methods study involved 352 participants who were on IELTS preparation, university pre-sessional and advanced general English classes in the UK and Taiwan. Participants had to do one part of an IELTS Academic Reading test, and respond to a concise retrospective protocol form regarding the kinds of reading they had employed. The results revealed that speed reading skills play an important role in the way the participants sought to answer the questions. However, speed reading skills are not tested separately form careful reading skills. The study also revealed that IELTS candidates have greater chances for careful reading, and they also have more opportunities to read the text or parts of it many times to find the right information to answer the questions given. Having an awareness of this will enable test-takers to control their reading rates in line with the questions they are to answer.

Like Weir et al. (2006), Krishnan (2011) also did a mixed-methods study investigating the item types in the IETLS reading tests. Following Urquhart and Weir's (1998) four-cell matrix on reading types and Khalifa and Weir's (2009) reading model, the researcher conducted an item analysis of 14 IETLS reading exams. Two informed participants were part of the study. The results indicated that 77% of the items in the IELTS exam tested the participants' careful reading skills as opposed to speed reading skills (23%). This supports Weir et al.'s (2006) earlier finding that IELTS test-takers have greater opportunities for careful reading. However, this imbalance means that the focus of IELTS is more on careful reading than on speed reading.

Two studies, Abdelrahman and Bsharah (2014) and Naseri, Maghsoudi and Rajabi (2014), reviewed earlier investigated the effect of speed reading strategies on reading comprehension only. However, Fauzi's (2018) study tested the effectiveness of two speed reading strategies, skimming and scanning, not only on reading comprehension performance but also on reading speed. The researcher adopted a pre and post-test control group design to achieve the purpose of his research. Fifty-four third-year students from the English Study Programme of FKIP Palangka Raya University participated in the study. The participants were equally divided into an experimental and a control group. Both the groups were considered homogeneous based on the pre-test results. The participants' reading comprehension skills were assessed using pre-tests and

post-tests, while their reading speed was measured through a separate reading rates test administered after the pre-test and post-test. According to the results of independent samples *t* tests, both skimming and scanning strategies had positive impacts on the participants' reading speed as well as their reading comprehension.

2.3.4. Reading Anxiety and Comprehension

Lien's (2011) quantitative study examined how reading anxiety affects EFL learner's strategy use and gender. One hundred and eight EFL freshmen were the participants of the study. The instruments employed by the researcher for data collection were a survey of Foreign Language Reading Anxiety Scale (FLRAS), and an adapted Survey of Reading Strategies (SORS). Descriptive statistics were used for data analysis. The results showed that reading anxiety was negatively correlated to reading strategies used by the participants. While less anxious participants used higher level reading strategies, participants with high anxiety levels depended on basic support mechanisms. The study also found that female participants were slightly more anxious than their male counterparts. Similar findings are also found in Mohammadpur and Ghafournia's (2015) study.

Mohammadpur and Ghafournia (2015) studied foreign language anxiety in relation to reading comprehension performance of Iranian EFL students based on their reading abilities. The sample included 100 BA students who were taking General English Courses at Islamic University of Neyshabur. A placement test containing 60 items was used to select participants. The participants took a TOEFL test and did an anxiety questionnaire, and both descriptive and inferential statistics were used to analyse the data collected. Like Lien's (2011) finding, this study also indicated a strong negative correlation between the participants' reading and test-anxiety levels, and concluded that the more anxious the readers are, the less efficient they are in reading exams. The study also suggests that if readers are highly proficient in reading, they experience less exam stress. However, the researchers did not examine the relationship between anxiety and gender.

Javanbakht and Hadian (2014) examined test-anxiety in relation to Iranian EFL learners' performance in reading tests. The study adopted a quantitative method, and thirty-four male students at the intermediate level between the ages of 12 and 22 participated in the study. A test-

anxiety scale (TAS), a Foreign Language Reading Anxiety Scale (FLRAS) and two reading comprehension tests adapted from Longman's Preparation Course for the TOEFL test with a total of 61 multiple choice items were employed for data collection. One-Sample Kolmogorov-Smirnov Test was used to investigate the normality of the variable distributions. Results derived from Pearson product-moment correlation coefficient are opposite to what Lien (2011) and Mohammadpur and Ghafournia (2015) discovered. Findings showed that the participants did not experience any anxiety during the reading test, and therefore the study concluded that there was no correlation between test-anxiety and reading comprehension test performances.

Unlike Lien (2011), Mohammadpur and Ghafournia (2015) and Javanbakht and Hadian (2014) who investigated reading anxiety in relation to participants' reading strategy use, gender and reading performance, Marashi and Rahmati (2017) quantitatively examined whether teaching reading comprehension strategies would have any positive effects on EFL learners' reading anxiety. The participants were 55 intermediate EFL learners over the age of 18 from a private language centre in Tehran, Iran. Following the administration of Cambridge ESOL PET, they were divided into control and experimental groups. The Foreign Language Reading Anxiety Scale (FLRAS) was used to measure the anxiety levels of the participants. The experimental group then received the treatment. FLRAS was administered again to see the difference after the intervention. Descriptive statistics, a Mann-Whitney test and an independent samples *t* test were administered to analyse the data collected. The results revealed that the reading strategy instruction substantially reduced EFL learners' reading anxiety.

2.4. Conclusion

This chapter discussed the concepts and theories underpinning the current study. Reading comprehension; bottom-up, top-down and interactive reading models; schema theory; cognitive and metacognitive strategies; test-anxiety; explicit instruction; IELTS were explained in the theoretical and conceptual framework section. These concepts and theories played a pivotal role in the design of IRCS (See Chapter 3). The research reviewed in the related study section was carefully selected by the researcher with the aim of exploring how different researchers approached the three variables (reading comprehension, reading speed & reading anxiety) under scrutiny in the current study. Although these three variables were thoroughly examined in this studies reviewed in this section, none of them investigated the effectiveness of reading strategies

on these three variables in a single study. Therefore, the current study is significant that it tries to bridge this gap by introducing IRCS and testing its effectiveness on reading comprehension, reading speed and reading test-anxiety.

Chapter 3: Methodology

3.1. Introduction

This chapter describes the methodology used in examining the effectiveness of IRCS on the participants' reading comprehension, reading speed and reading test-anxiety levels. While clearly explaining the research design of the current study, the chapter focusses on the threats to internal validity and the measures taken to address them. Furthermore, the study sample, data collection methods, and validity and reliability measures are carefully considered in this chapter. This chapter also introduces and describes IRCS in detail as well as expanding on the intervention stage and the methods for analysing both quantitative and qualitative data.

3.2. Research Design and Variables

The current study adopted a non-equivalent quasi-experimental embedded mixed-methods design. This research design can be represented as Figure 4 below. The symbol O_1 in Figure 4 denotes the pre-test taken by the experimental group, and X refers to the intervention given to them, while O_2 signifies the post-test the experimental group took after the intervention. The dashed lines dividing the experimental and control groups in Figure 4 suggest that randomization was not used to equalize these two groups in the current study. Therefore, the present study was non-equivalent and used convenience sampling method to select its participants. O_3 represents the pre-test taken by the control group, whereas O_4 refers to the post-test administered to the control group. Both experimental and control groups received the same pre and post-tests. It is also important to note that the control group did not receive the intervention (Cohen, Manion & Morrison 2018).

Figure 4: Non-equivalent quasi-experimental design

Experimental	O_1	**X**	O_2
	---	---	---
Control	O_3		O_4

(Cohen, Manion & Morrison 2018, p. 407)

Like randomized experiments, quasi-experiments are also used to demonstrate casual relationships between interventions and outcomes, but without randomization (Harris et al.

2006). An embedded mixed-methods design permits the collection of both quantitative and qualitative data. However, one of these only plays a supportive role (Creswell 2002). Although the current study collected data both quantitatively and qualitatively, it was majorly quantitative (See Table 6 in 3.5). The independent variable in this study was IRCS, and the dependent variables were 1) reading comprehension, 2) reading speed and 3) reading test-anxiety.

It is important to note that being a quasi-experimental study, the current study was prone to a range of validity threats, both internal and external. The following section presents the factors affecting the validity and the steps taken to address them.

3.3. Threats to Validity

As mentioned in 1.5 earlier, the results of the current study cannot be generalized to a larger population. Therefore, only those variables affecting the internal validity were controlled for this study. Moreover, Internal validity threats are the most serious of all the threats to validity as "they can compromise an otherwise good experiment" (Creswell 2002, p. 304). The threats to internal validity for this study can be classified into two: selection bias threats and social threats.

3.3.1. Selection Bias Threats

Since the current study was a non-equivalent quasi-experimental study with an experimental group and a control group, the selection differences were likely to interact with other extraneous variables and affect the outcomes of the study (Campbell & Stanley 1963). The Selection bias threats relevant to the present study and the steps taken to address them are given below.

3.3.1.1. Selection History Interaction

The selection history interaction threat to internal validity refers to events, which take place in the period between the pre-test and post-test, that influence the outcome of a study. As the current study adopted a non-equivalent quasi-experimental design, it was likely that both control and experimental groups varied in some manner. As a result, the participants in both control and experimental groups were likely to experience different events that might affect the outcome of the study (Trochim 2006).

Although it is impossible to create a tightly controlled environment and observe every event that takes place (Creswell 2002), the researcher has tried to control for selection history interaction as

much as possible. First of all, all the participants in both the experimental and control groups were teachers from the same school, and both these groups took the training programme in the afternoon from 1 pm to 2.30 pm three times a week, although on different days, for the same number of hours (13.5 hrs). Furthermore, both the experimental and control groups received their lessons in the media room of the school. Therefore, both the groups enjoyed the same facilities, such as the furniture, light and air ventilation systems, IT devices and teaching aids.

3.3.1.2. Selection Maturation Interaction

A selection maturation threat takes place when the participants in both experimental and control groups mature at different rates (Creswell 2002; Trochim 2006). However, in the current study, the participants were all adults, with the mean age of 30.80 for the experimental group and 32.26 for the control group (See Table 3). Furthermore, the intervention period was also very short, just 3 weeks. For these reasons, this threat of internal validity was controlled for this study.

Table 3: Mean age (experimental & control groups)

	Experimental	**Comparison**
Mean	30.80	32.26
N	15	15
Std. Deviation	6.53	5.44

3.3.1.3. Selection Testing Interaction

A selection-testing interaction happens when both the experimental and control groups perform differentially on the post-test as a result of taking the pre-test. The differences in their post-test scores were the result of their differential learning from the pre-test (Trochim 2006). To control for this situation, both pre and post-tests were administered once only. The post-test was different from the pre-test, both in terms of the content and questions (See Appendices 3 & 4).

3.3.1.4. Selection Instrumentation Interaction

Selection-instrumentation threat occurs when data collection instruments change differently for experimental and control groups. (Campbell & Stanley 1963). As a result, the post-test results may be due to these differences, not to the intervention (Trochim 2006). To correct this potential problem, a pilot study (See 3.6) was carried out in order to standardize the procedures, and the

same instruments (See 3.5) were used throughout the study to collect data from both the groups, experimental and control.

3.3.1.5. Selection Mortality Interaction

Selection-mortality interaction refers to the varying degrees of nonrandom drop-outs from both experimental and control groups. More participants might quit from one group than the other. The outcomes might be the results of these drop-outs, not of the intervention (Trochim 2006). As all the participants in the current study had to take the IELTS Academic Test in order to complete their teacher licensing procedures, all the participants were very serious about completing this course. Hence, there were no drop-outs during the study.

3.3.1.6. Selection Regression Interaction

Selection-regression interaction takes place when participants in one of the two groups have more extreme scores on the pre-test than the other. For example, if participants in the experimental group have more extreme lower scores, their post-test scores will regress towards the mean showing greater progress than the control group. However, this is the result of selection-regression interaction, not of the intervention (Creswell 2002; Trochim 2006). A Levene's test done on the pre-test scores of both experimental and control groups revealed that there was no statistically significant difference between the two groups (all p values > 0.05) (See Table 5).

3.3.2. Social Threats

Certain social factors may be the cause of differences in the post-test results rather than the intervention itself (Trochim 2006). The social threats that the current study was prone to and the measures taken to address them are given below.

3.3.2.1. Diffusion of Treatments

This happens when participants in both experimental and control groups know each other, and therefore the control group has a chance to learn the intervention information from the experimental group. This is likely to affect internal validity (Creswell 2002). To control for this threat, the researcher did not inform the participants whether they were in experimental or

control groups, and the participants were also requested not to share the information they were given with the members of the other group.

3.3.2.2. Compensatory Rivalry

When the control group comes to know that the experimental group receives special treatment, participants in the control group may feel jealous, and therefore they might try to do as well as the experimental group by working extra hard. This rivalry might affect the post-test scores (Trochim 2006). To control for this threat, as mentioned in the previous section (3.3.2.1.), none of the participants were informed whether they were in control or experimental groups. Furthermore, the participants in both the groups were not given any idea as to how much the members of the other group would benefit from the training they were receiving.

3.3.2.3. Resentful Demoralization

When participants in the control group happen to know that the experimental group is benefitting far more than they are, instead of developing rivalry (3.3.2.2.), they might feel discouraged or upset. As a result, they might even give up, and this will eventually affect the post-test outcomes (Trochim 2006). To control for this situation, the researcher provided the control group with the same amount of training on reading as the experimental group although they received different materials and strategies (See 3.8).

3.3.2.4. Compensatory Equalization

When the participants become aware of what is happening in each other's groups, they might want to join the other group thinking they might benefit more from it. As a result, they might ask the administrators, who assist the researcher to manage the research context, to reassign them to the other group. Although the administrators might not reassign participants to new groups, they will think of compensating one group for the supposed benefit of the other (Trochim 2006). To manage such situations, the researcher promised to the school principal that if any such complaints arose, he would run a six-hour reading course after the intervention period just to cover what the participants thought they had missed out on.

Having discussed the internal validity threats and the measures taken to address them so far, the chapter will discuss the study sample next.

3.4. The Study Sample

As mentioned in 1.4, the current study was conducted in a private Indian school in Ajman, UAE. Prior to the study, the researcher contacted the management of the school to seek their permission to conduct the research in the school. The researcher briefed one of the directors, the principal and the vice-principal of the school about the research purpose, duration and procedure. Following this, the school principal issued a no-objection letter (See Appendix 1) allowing the researcher to conduct his study in the school. After that, the researcher met the potential participants and informed them about the purpose of the study, timeline and the procedures involved in the research. They were also promised that the data collected from them during the study would be confidential and only be used for the research purpose. They were also informed that anyone who wanted to quit could leave freely at any time during the study without having to face any consequences. Finally, a research consent form (See Appendix 2) was circulated among the potential participants in order to obtain their consent formally, and 30 of them showed their willingness to participate in the study.

The sample consisted of both male and female Indian and Pakistani teachers from primary and middle school sections of the institution where the study was conducted. However, the majority of the participants were female and of Indian nationality. The school, according to the availability of teachers, had divided the participants into two almost equal groups, Group A and Group B, prior to the commencement of the study. The researcher then randomly chose Group A as the experimental Group, and group B as the control group. Each group comprised 15 participants. Table 4 below displays the distribution of participants by gender, nationality and sections of the school they teach in.

Table 4: Experimental & control groups

Groups	**Gender**		**Nationality**		**School Section**	
Experimental	Male	2	Indian	13	Primary	8
	Female	13	Pakistani	2	Middle School	7
	Total	**15**	**Total**	**15**	**Total**	**15**
Control	Male	3	Indian	14	Primary	8
	Female	12	Pakistani	1	Middle School	7
	Total	**15**	**Total**	**15**	**Total**	**15**

As Table 4 above shows, both the groups are similar. However, to statistically ensure the equality and homogeneity of the experimental and control groups, a Levene's test was administered. Along with gender, nationality and school section, pre-test scores of three dependent variables (reading comprehension, reading speed & reading test-anxiety) were also computed (See Table 5). The Levene's test results (all *p* values > 0.05) did not indicate any

Table 5: Levene's test (equality and homogeneity**)**

Test of Homogeneity of Variances	Levene Statistic	df1	df2	Sig.
Sections (Primary & Middle school)	.000	1	28	1.000
Nationality (Indian & Pakistani)	1.463	1	28	.237
Gender (Male & Female)	.924	1	28	.345
Pre-test (Reading Comprehension)	.599	1	28	.446
Pre-test (Reading Speed)	.890	1	28	.353
Pre-survey (Reading Test-Anxiety)	.516	1	28	.478

statistically significant differences between the two groups. The Levene's test results, therefore, confirmed the homogeneity and equality of both groups.

The following section will now discuss the methods and instruments the current study employed with the aim of collecting both quantitative and qualitative data.

3.5. Data Collection Methods

The current study adopted an embedded mixed-methods approach with the aim of investigating the effectiveness of IRCS on three dependent variables: reading comprehension, reading speed and reading test-anxiety (See 1.3). In order to achieve the purpose of the study, both quantitative and qualitative data were collected. Table 6 below shows the data collection instruments employed in the current study.

Table 6: Research questions, instruments, methods & sample size

No.	Research Questions	Instrument	Method	Sample Size
1	Does IRCS have any significant effects on the participants' reading comprehension and speed?	Pre & Post-tests (IELTS Academic Reading Tests).	Quantitative	30

2	Does IRCS have any positive impacts on the participants' reading test-anxiety levels?	Pre & Post-surveys (Test-Anxiety Inventory).	Quantitative	30
3	What are the participants' opinions about the effectiveness of IRCS on their reading comprehension, reading speed and levels of reading test-anxiety?	Semi-structured post-production Interview.	Qualitative	7

Academic reading test 1 from Cambridge IELTS 6 (See Appendix 3) was used as the pre-test, while test 2 from the same source was employed as the post-test (See Appendix 4). Neither the pre-test nor the post-test was modified for the purpose of the study. Each test contained 40 reading comprehension questions. It is important to note that Cambridge IELTS raw scores, not band scores, were utilized to determine the changes in the participants' reading comprehension abilities (See Appendix 5). In order to calculate the raw scores, the participants were asked to write the answers on IELTS sample reading answer sheets (See Appendix 6). Although the duration of the IELTS Academic Reading Test is just 60 minutes, it was not strictly followed in both the pre and post-reading comprehension tests in order to be able to record their reading speed accurately. The participants were informed that they should finish the test as fast as they could even though they were not able to finish the test in the given time, 60 minutes. The participants were also advised to mention when they started and finished their reading test in the table on the cover sheets of both pre and post-tests (See Appendices 7 & 8) so as to able to calculate the differences between their pre and post-test reading speeds. The pre-test was administered the week before the intervention started, while the post-test was conducted the week after the completion of the intervention (See Table 9 in 3.8).

With the aim of evaluating the effectiveness of IRCS on the participants' reading test-anxiety levels, an adapted version of a test-anxiety inventory originally developed by Nist and Diehl (1990) was used as both pre and post- reading test anxiety surveys. Both pre and post-test questionnaires were adapted considering the pre and post-survey conditions. Both the questionnaires contained 10 items describing different aspects of test-anxiety (See Appendices 9 & 10). In order to complete the questionnaires, the participants were advised to read each statement carefully and reflect on their prior testing experiences, either all or on a particular

subject. They were then asked to tick one of the five points on a scale from 1 (*never*) to 5 (*always*) in order to indicate their anxiety levels. Total scores range from 10 to 50, and 10-19 points indicate no test-anxiety, 20-35 points represent a mild but healthy level of test-anxiety, and more than 35 points indicate an unhealthy level of test-anxiety (Nist and Diehl 1990). The participants' consent had been sought prior to the administration of the questionnaires. The pre-survey was administered along with the pre-test the week before the intervention started, while the post-survey was conducted the week after the intervention along with the post-test (See Table 9 in 3.8).

Qualitative data were collected through administering semi-structured interviews. These interviews were conducted to know the participants' views about the effects of IRCS on their reading comprehension, speed and reading test-anxiety levels. The interviewer had prepared an interview guide prior to conducting the interviews, and the guide contained 10 open-ended questions addressing the three dependent variables the current study is examining (See Table 7).

Table 7: Semi-structured post-production interview questions

No.	Semi-Structured Post-Production Interview Questions
1	Did you use the integrated reading strategy in the post-reading test?
2	How is it different from the one you used in the pre-test? Could you please explain?
3	Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?
4	Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?
5	How did you feel right before the post-test?
6	Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?
7	Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?
8	How did you feel as soon as you'd finished your exam? Could you please explain?
9	Do you think you will continue to use this strategy in the future? Why / why not?
10	What is your overall impression of the integrated reading strategy?

Seven participants from the experimental group were interviewed. The interviews were conducted in the 5th week of the study (See Table 9 in 3.8). Before he began the interview, the researcher promised to the interviewees that the information collected from the interview will be treated confidentially and obtained their consent to record the interview on the researcher's mobile phone. All the seven interviews were transcribed later for the purpose of analysis and discussion (See Appendices 11-17).

A demographic information form, which was part of the research consent form, was utilized to collect basic information about the participants. The participants were required to mention their names, nationality, age, sex, educational qualification, profession and total work experience (See Appendix 18). A list of the participants provided by the school informed the researcher about the sections of the school in which the participants worked in (See Appendix 19).

The following section will explain the measures taken to check the validity and reliability of the data collection instruments for the current study.

3.6 Validity and Reliability Measures

Both pre and post-reading comprehension tests were past IELTS Academic Reading exams taken from Cambridge IELTS 6 (See Appendices 3 & 4). As stated in 3.5, these two tests were used without making any changes to the content or the question types. As these tests are past IELTS Academic Reading Tests, the validity and reliability of these tests had already been tested by the test developer (IELTS) before their first administration (IELTS 2018). The pre and post-survey questionnaires were adapted versions of test-anxiety inventory originally developed by Nist and Diehl (1990). The questionnaire developed by Nist and Diehl has been widely used by researchers (e.g. Duraku 2017; Mathur & Khan 2011; Reyes & Castillo 2015; Salehi, Ghanizadeh & Rostami 2017). However, instead of using the same questionnaire, the researcher modified it to suit the context of the study. Since the items of the pre and post- surveys were similar, they were shuffled for the post-test to minimize the influence of any pre- survey experience. The only qualitative data collection tool, the semi-structured interview having 10 open-ended questions, was designed by the researcher himself. Both the interview and survey questions were reviewed by three English language instructors before piloting them.

A pilot study was also conducted where the researcher works with the aim of testing and correcting the data collection instruments. The pilot study was done in an IELTS class with 12 students. The researcher had sought verbal consent from the university management and used a pilot study consent form (See Appendix 20) to obtain the permission of the participants formally. The participants were 12 teachers from a private school in Dubai, UAE. After the pilot study, the researcher had thorough discussions with three colleagues, who had previously reviewed the survey and interview questions for the researcher, and accordingly modified the data collection tools to better meet the purpose they had been designed for. In addition to the pilot study, the data collection instruments were evaluated and approved by 3 experts in the field of education.

The next section will introduce IRCS which is the independent variable of the current study.

3.7. Introducing IRCS

As discussed in 1.2., when taking language proficiency tests, test-takes are required to read faster due to time constraints. However, their reading fast must not affect their reading comprehension. At the same time, they need to control their test-anxiety as this is important to score higher. IRCS is introduced with the aim of improving test-takers' reading comprehension and reading speed as well as lowering their reading test-anxiety levels.

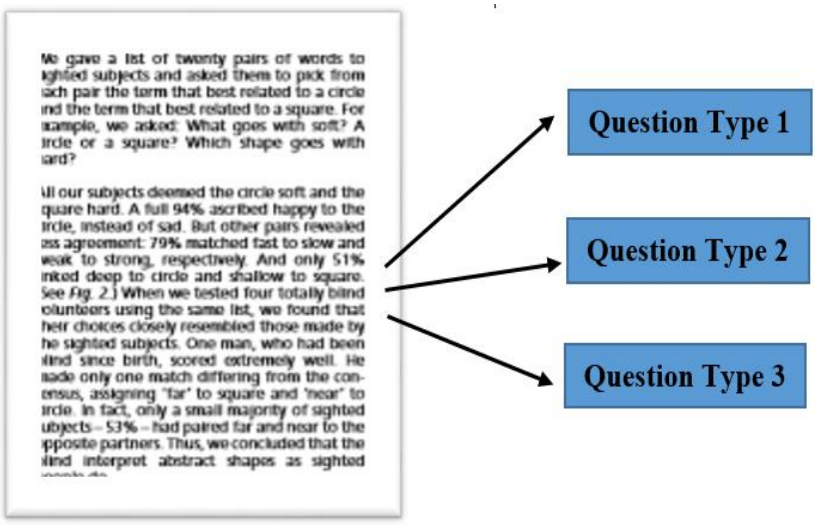
IRCS has three important components: 1) a cognitive component, 2) a metacognitive component and 3) an organized reading component (See Figure 5).

Figure 5*:* IRCS

The cognitive component involves cognitive reading strategies, both bottom-up and top-down, which are used interactively (2.2.4.1.). The metacognitive component includes choosing the right

cognitive strategies and employing them appropriately to achieve particular reading goals (2.2.4.2). The third component, organized reading, has two parts. The first part comprises deciding, prior to reading the text, on the number of questions to read from each question type given depending on whether the questions are in the same order as the information in the reading text or not. For example, if questions are *always* in text order (e.g. multiple choice question type in the IELTS reading test), candidates do not need to read all the questions from that particular question type. Instead, they only need to start off with the first two questions at a time. Upon finding the answers to these two questions, they can then move on to the next two. If questions are *usually* in text order (e.g. summary completion task in the IELTS reading test), candidates are advised to read all the questions given in that particular question type quickly and focus on three questions at a time while reading the text. If questions are *never* in text order (e.g. matching features task in the IELTS reading test), candidates are advised to read all the questions included in that specific set of questions. The second part of organized reading encourages candidates to look for answers to different question types almost at the same time in each paragraph they read instead of answering different question types separately one after another (See Figure 6). For example, if a reading passage has three different question types, candidates will first decide on the number of questions they should read in each question type given based on whether they come in text order or not and then try to locate answers to these three types in each paragraph they read. They try to answer as many questions as they can from each paragraph before moving on to the next.

Figure 6*:* Answering different question types from one paragraph



In the current study, the effectiveness of IRCS is tested on IELTS Academic Reading Test. The strategy is taught to 15 teachers in a private school in Ajman for a period of three weeks (13.5 hrs). The next section will discuss the intervention stage of the study that includes the duration, materials and procedures.

3.8. The Intervention Stage: Duration, Materials and Procedures

The intervention stage lasted for 3 weeks (13.5 hrs.). The participants in the experimental group took IELTS Academic reading lessons for 1.5 hours, 3 days a week. During the intervention stage, the experimental group was taught IRCS (See 3.7). As discussed in 3.7, IRCS has three important components: cognitive strategies, meta cognitive strategies and organized reading. These three components were carefully taught to the participants in the experimental group.

A range of worksheets was employed to raise the participants' awareness of (meta) cognitive strategies (See Appendix 21). Two types of reading texts were used to help the participants learn and practise the third component, organized reading strategy. For example, a set of easier reading texts with single and multiple (2 or 3) question types (See Appendices 22 & 23) was used each time the participants were introduced to a new strategy. Once they became confident of using the strategy independently, they were given more challenging reading texts for further practise. Like the easier texts, the more challenging ones were also adapted to include single and multiple question types (See Appendices 24 & 25). These adaptations were also made with the purpose of introducing the participants to all parts of the IELTS Academic Reading Test and familiarizing them with every question type (See Table 8) that appears in each section of the test as recommended by Burgess and Head (2005).

Table 8: IELTS reading question types**.**

In text order	Usually in text order	Not in text order
1. Multiple choice 2. Sentence completion 3. True-False-Not given 4. Yes-No-Not given 5. Short answer questions	6. Summary, note, table and flow chart completion 7. Diagram label completion 8. Pick from a list	9. Matching information 10. Finding information in paragraphs 11. Matching headings to Paragraphs

An explicit instruction model was adopted to teach IRCS. Therefore, the teacher modelled each strategy before the participants started doing it on their own, and provided adequate support until they were confident of using it independently. The participants were first taught how to use IRCS to answer question types that come in passage order. After that, strategies to answer individual question types that may not or do not come in text order were taught (See Table 8).

It is important to note that the participants were taught how to answer individual question types before moving on to the mixed ones. For example, they were first taught to answer multiple choice questions and sentence completion questions individually before they were trained to answer these two question types together. Table 9 below displays a synoptic view of the intervention schedule which continues along the second, third and fourth weeks and includes the strategies taught each week.

Table 9: Intervention schedule with strategies

Weeks	**Content**	
Week 1	**Pre-test (IELTS Academic Reading Test)** **Pre-survey (Reading Test-Anxiety Questionnaire)**	
Week 2	Cognitive Strategies	Skimming & Scanning / Previewing & Predicting / guessing meaning from context.
	Metacognitive strategies	Raising awareness of when to use the above mentioned cognitive strategies.
	IRCS	Question types **in** text order / single tasks / multiple tasks (two tasks together)
Week 3	Cognitive Strategies	Inference / recognizing text organization / recognizing grammatical structures / using lexical clues
	Metacognitive strategies	Raising awareness of when to use the above mentioned cognitive strategies.
	IRCS	Question types **not** in text order / single tasks / Multiple tasks (two tasks together)
Week 4	Cognitive Strategies	Morphological & grammatical clues / guessing meaning from context.
	Metacognitive strategies	Raising awareness of when to use the above mentioned cognitive strategies.
	IRCS	Question types **usually in** text order / single tasks / Multiple tasks (two & three tasks together)
Week 5	**Post-test (IELTS Academic Reading Test)** **Post-survey (Reading Test-Anxiety Questionnaire)** **Semi-structured Post-production Interview**	

Having discussed the intervention received by the experimental group, the following section will now deal with the training program given to the control group.

3.9. Training Programme for the Control Group

The control group also took IELTS Academic Reading lessons for the same period of time as the experimental group (See 3.8). However, they were not taught IRCS. Instead, they were trained on skimming and scanning strategies (See 2.2.4.1.1 & 2.2.4.1.2) only. As Table 10 below shows, the participants in the control group were encouraged to skim and scan in order to answer different IELTS Academic Reading question types (See Table 8). Unlike what was done for the experimental group, the materials were not simplified for the control group. Reading materials adapted from Cambridge IETLS past test papers (See Appendix 26) were exploited to provide the participants with sufficient reading practice.

Table 10: Control group: course schedule and strategies

<table>
<tr><th>Weeks</th><th colspan="2">Content</th></tr>
<tr><td>Week 1</td><td colspan="2">Pre-test (IELTS Academic Reading Tests)
Pre-survey (Reading Test-Anxiety Questionnaire)</td></tr>
<tr><td></td><td></td><td>Strategies</td></tr>
<tr><td>Week 2</td><td>Question types in text order / single tasks / multiple tasks (two tasks together)</td><td rowspan="3">Skimming
&
Scanning</td></tr>
<tr><td>Week 3</td><td>Question types not in text order / single tasks / Multiple tasks (two tasks together)</td></tr>
<tr><td>Week 4</td><td>Question types usually in text order / single tasks / Multiple tasks (two & three tasks together)</td></tr>
<tr><td>Week 5</td><td colspan="2">Post-test (IELTS Academic Reading Tests)
Post-survey (Reading Test-Anxiety Questionnaire)</td></tr>
</table>

The current chapter will now explain the data analysis and display methods in the following section.

3.10. Data Analysis Methods

After collecting the data, the next step was to analyse the data collected. Since the current study was an embedded mixed-methods one, both quantitative and qualitative data were collected.

Both descriptive and inferential statistics were utilized for the purpose of analysing the quantitative data collected from both pre and post reading comprehension tests and pre and post-reading test anxiety surveys. These quantitative analyses were done using the data analysis software, SPSS. On the other hand, the qualitative data gathered from the post-production interview was subjected to content analysis.

The next section provides the conclusion of the current chapter of this dissertation.

3.11.Conclusion

As discussed in the previous sections, the current study adopted a non-equivalent quasi-experimental embedded mixed-methods design which is majorly quantitative. In order to achieve the best results, the researcher identified the potential threats to internal validity and took effective measures to control for them. Both the experimental and control groups were homogeneous, and while the experimental group received the intervention, the control group also took reading lessons for the same period of time as the experimental group. Both quantitative and qualitative data were collected through pre and post-reading comprehension tests, pre and post-reading test anxiety survey and a semi-structured post-production interview. Data analysis and display methods were also discussed. The next chapter (Chapter 4) will expand on the findings of the current study.

Chapter 4: Findings and Discussions

4.1. Introduction

The current study examines the effectiveness of IRCS on the participants' reading comprehension, reading speed and reading test-anxiety levels. The current study collected both quantitative and qualitative data through pre and post-reading comprehension tests, pre and post-reading test-anxiety surveys and semi-structured post-production interviews. The data gathered through the pre and post-reading comprehension tests and pre and post-reading test anxiety surveys were analyzed quantitatively using descriptive and inferential statistics. On the other hand, the data collected from the semi-structured post-production interviews were analyzed qualitatively through content analysis. The three research questions (Table 11) that the current study seeks to answer are discussed in 4.2 under three sub-sections (4.2.1, 4.2.2 & 4.2.3). Each sub-section includes the analyses and discussions of both quantitative and qualitative data.

4.2. Data Analysis and Discussion

This section analyzes the data and discusses the results of the analyses with the aim of answering the three research questions of the current study. Table 11 below shows the research questions and their corresponding methods of data analysis.

Table 11: Research questions & data analysis methods

No.	Research Questions	Data Analysis Methods
1	Does IRCS have any significant effects on the participants' reading comprehension and speed?	Quantitative (Descriptive & Inferential statistics)
2	Does IRCS have any positive impacts on the participants' reading test-anxiety levels?	Quantitative (Descriptive & Inferential statistics)
3	What are the participants' opinions about the effectiveness of IRCS on their reading comprehension, reading speed and levels of reading test-anxiety?	Qualitative (Content analysis)

The analyses and discussions are expounded in the following sub-sections (4.2.1., 4.2.2 & 4.2.3).

4.2.1. The Effects of IRCS on Reading Comprehension

This section seeks to answer whether IRCS has any significant effects on the participants' reading comprehension performance. In order to answer this question, the data collected from both pre and post-reading comprehension tests were first statistically analyzed. The initial comparison of means of reading comprehension scores revealed that both the experimental and control groups improved their reading comprehension performance (See Table 12). While the experimental group's mean score grew from 20.40 (*SD* = 3.74) in the pre-test to 26. 67 (*SD* = 4.37) in the post-test, the control group's mean score rose from 20.53 (*SD* = 4.36) in the pre-test to 22.20 (*SD* = 7.28) in the post-test. On the other hand, the experimental group's post-test mean score (*M* = 26.67, *SD* = 4.37) was higher than that of the control group (*M* = 22.20, *SD* = 7.28), which therefore indicated a possible relationship between IRCS and the experimental group's reading comprehension performance.

Table 12: Comparison of means of pre & post-reading comprehension tests (experimental & control groups)

		Experimental	**Control**
Pre-test Score (Reading Comprehension)	**Mean**	20.40	20.53
	N	15	15
	Std. Deviation	3.74	4.36
Post-test Score (reading Comprehension)	**Mean**	26.67	22.20
	N	15	15
	Std. Deviation	4.37	7.28

This initial finding needed to be further verified before concluding that IRCS had significant effects on the experimental group's reading comprehension performance. For this purpose, an independent samples *t* test of the post-reading comprehension test scores for both experimental and control groups was administered (Table 13). The results of the independent samples *t* test indicated a mean difference of 4.47, t (28) = 2.04 and p = 0.051. However, since the p value (0.051) was greater than 0.05, the difference between the experimental and control groups could not be regarded as statistically significant. For this reason, it could not be categorically concluded that the progress in the reading comprehension ability made by the members of the experimental group was due to IRCS.

Table 13: Independent samples *t* test of post-reading comprehension tests (experimental & control groups)

		Experimental	Control
Post-test Scores (Reading Comprehension)	**Mean**	26.67	22.20
	Std. deviation	4.37	7.28
	Mean Difference	4.47	
	t	2.04	
	df	28	
	Sig (2- tailed)	0.051	

A qualitative content analysis was then carried out to find out the experimental group's opinions about the effectiveness of IRCS on their reading comprehension performance. According to the results of content analysis, every participant interviewed agreed that IRCS enabled them to answer the questions better in the post-reading comprehension test than they did in the pre-test. One of the participants expressed her views as follows:

> *I was aware of the question types... first I read the instructions ... what type of questions I need to answer. Then, I followed the strategy ... like, [I was] very much comfortable in answering the questions after knowing this strategy.*

Another candidate pointed out:

> *... Because see when in the pre-test, when we took the paper, I was like what to do now. I was really blank. even though I was giving the answers, ... But in the post-test, I was very assured that yes I can give the answers.*

A third respondent said:

> *... I don't need to read the whole paragraph and then the whole of questions. I just need to take one question so as to find the answer and especially, marking the keywords. That helped me a lot.*

Another participant commented:

> *I feel confident that I will score more. My score will be better than like the previous. Maybe because last time I took more time and this time I came to know how to answer. This time I was like pretty much confident.*

As explained in section 3.2, the current study is majorly quantitative, and the qualitative aspect of it only plays a supportive role. According to the results of the quantitative analyses, IRCS did not have any statistically significant effects on the participants' reading comprehension performance although a strong positive correlation between these two variables had been expected by the researcher at the onset of the study. One of the possible reasons for this insignificant outcome may be that the intervention, which lasted only for 13.5 hours, may have been too short to produce any significant results. Zare and Othman (2013) observe that more frequent and wide use of reading strategies facilitates better reading comprehension. Since the intervention of the current study was probably short as mentioned above, the participants in the experimental group may not have had sufficient time to practise using IRCS more frequently and intensively, which therefore may have affected their reading comprehension performance.

Another reason for the statistically insignificant effects of IRCS on the participants' reading comprehension performance may be that the participants may not have had sufficient vocabulary knowledge to be able to comprehend the reading texts more effectively. In his 2012 study, Zhang discovered that learners' knowledge of vocabulary had significant effects on their reading comprehension. Rozimela (2014) further confirmed the finding of Zhang (2012) with her observation that field-related vocabulary had a positive effect on students' reading comprehension. The fact that vocabulary knowledge plays a major role in comprehending reading texts effectively indicates that the experimental group's reading comprehension performance may have been affected by their lack of adequate command of vocabulary. Furthermore, contrary to what the researcher had initially expected, IRCS might not have helped the participants to effectively cope with the unknown words they encountered in the post-reading comprehension test as a result of the intervention.

Rozimela (2014) pointed out that genre knowledge had a significant role in reading comprehension. Those having high genre awareness comprehend a reading text better than those with low genre knowledge. She also mentioned that readers' prior knowledge about the text-topics contributes to their reading comprehension. The current study employed two IELTS Academic reading tests (Appendices 3 & 4) to assess the participants' progress in their reading comprehension. The IELTS academic reading passages are adapted from different sources, such as books, magazines, journals and newspapers and are on academic subjects (IELTS 2018). The

participants in the experimental group might not have had good knowledge of these genres, which therefore may have affected their reading comprehension performance. Another reason for the statistically insignificant effects of IRCS on the participants' reading comprehension may be that the participants might have been unfamiliar with the topics of the reading passages in the post-reading comprehension test as observed by Rozimela (2014)

The statistical insignificance of IRCS on the participants' reading comprehension performance may also be due to the fact that there are other reading strategies that effectively promote better reading comprehension. For example, the study conducted by Abdelrahman and Bsharah (2014) revealed that skimming and scanning strategies had significant effects on the participants' reading comprehension. In the current study, the control group was taught only skimming and scanning as reading strategies. However, according to the quantitative findings, along with the experimental group, the control group also made some progress in their reading comprehension abilities by using only skimming and scanning strategies to answer the reading comprehension questions. The control group's progress in their reading comprehension performance might have made the achievement of the experimental group insignificant.

Unlike the quantitative findings, the results of the qualitative analysis revealed that the participants in the experimental group felt that they were able to answer the questions better in the post-reading comprehension test than in the pre-test. However, this finding was not supported by the quantitative analysis done earlier. At this point, it is important to note that studies with larger samples tend to obtain statistically significant results (Mertens 1998). For example, Zare and Othman's (2013) study using a fairly large sample (50 males & 45 females) found a positive correlation between the participants' strategy use and their reading comprehension achievements. The quantitative analyses done in the current study to examine the effectiveness of IRCS on the participants' reading comprehension performance might have had a positive outcome if the study had used a larger sample as Zare and Othman (2013) had done.

Having discussed the results of both quantitative and qualitative analyses to investigate the effectiveness of IRCS on the participants' reading comprehension performance thus far, the chapter will now examine the effectiveness of IRCS on their reading speed in the following section.

4.2.2. The Effects of IRCS on Reading Speed

This section investigates whether IRCS has any significant effects on the participants' reading speed. In order to test the effectiveness of IRCS on the experimental group's reading speed, the participants' reading rates recorded on the coversheets of both pre and post-reading comprehension tests (Appendices 7 & 8) were first analyzed quantitatively. The means of reading speed for both experimental and control groups were compared (See Table 14). The results showed that both the groups managed to read faster in the post-reading comprehension test. The pre-test reading speed mean was 85.80 (*SD* = 5.62) for the experimental group, while their post-test mean was 69.73 (*SD* = 8.99). On the other hand, the control group's reading speed mean decreased from 85.13 (*SD* = 7.23) in the pre-test to 73.20 (*SD* = 11.18) in the post-test. Although there were clear differences between the pre and post-reading speed means for both the groups, the experimental group read faster (*M* = 69.73, *SD* = 8.99) than the control group (*M* = 73.20, *SD* = 11.18) in the post-test, suggesting a possible relationship between the IRCS and the experimental group's reading speed.

Table 14: Comparison of means of pre & post-test reading speed (experimental & control groups)

		Experimental	**Control**
Pre-test Score (Reading Speed)	Mean	85.80	85.13
	N	15	15
	Std. Deviation	5.62	7.23
Post-test Score (Reading Speed)	Mean	69.73	73.20
	N	15	15
	Std. Deviation	8.99	11.18

However, with the aim of confirming the possibility of a positive correlation between IRCS and the experimental group's reading speed, an independent samples *t* test of the post-test reading rates for both experimental and control groups was conducted (See Table 15). The results of the independent samples *t* test showed a mean difference of 3.47, $t(28) = -0.94$ and $p = 0.357$. The p value = $0.357 > 0.05$ means that there was no statistically significant difference between the experimental and control groups in terms of their post-test reading speeds. As a result, any progress in the reading speed of the experimental group could not be attributed to IRCS.

Table 15: Independent samples *t* test of the post-test reading rates (experimental & control groups)

		Experimental	Control
Post-test (Reading Rates)	**Mean**	69.73	73.20
	Std. deviation	8.99	11.18
	Mean Difference	3.47	
	t	-.936	
	df	28	
	Sig (2- tailed)	0.357	

As is the case with reading comprehension, the quantitative analyses done on the participants' reading speed failed to prove that IRCS had any statistically significant effects on their reading speed. However, a qualitative content analysis was conducted to know the opinions of the participants in the experimental group about the effectiveness of IRCS on their reading speed. The findings revealed that all the 7 participants interviewed agreed that IRCS helped them read faster in the post-reading comprehension test than in the pre-test. One of the respondents said:

> *In fact, in the pre-test, I just tried to read the whole passage and then I go to the questions and then again come back to the whole passage and then go back to the questions so it took a long time for me … It [IRCS] has like made the reading very easy for me and very fast …*

Another participant pointed out "…So definitely it is very good. it takes less time and it saves the time… and a third one mentioned "… it like it helped me in reading like faster and with more focus…

Some participants even pointed out which aspects of IRCS helped them read faster. One of them said as follows:

> *Of course. That's just before I told you the skimming and scanning is the most important strategy to read easily and faster and I used it in my post-test…*

Another participant stated:

> *Because in the pre-test ... I was taking one question and I was answering that only, but after that now in the post-test, I used to do like two questions at a time which were like MCQs and matching .... completion of the sentences. So I was trying to complete two different questions at the same time, which also helped me in reducing my time and*

finishing my test… like, skimming ... that you know ... scanning process helped me in reading…

Looking at the results of both quantitative and qualitative analyses, it is clear that the outcomes of quantitative analysis did not prove that IRCS had any statistically significant effects on the experimental group's reading speed. This finding was against the researcher's initial expectation that IRCS would be positively correlated to the experimental group's reading speed. One of the reasons for this insignificant outcome may be that IELTS reading tests contain more items that test careful reading skills than speed reading skills. According to Krishnan (2011), while 77% of the items in the IELTS reading exams are used to test the candidates' careful reading skills, only 23% of the items test their speed reading skills. In an earlier study, Weir et al. (2006) had observed that IELTS reading-test takers have more chances to read a text or parts of it carefully and multiple times in order to answer the comprehension questions. However, careful and speed reading skills are not tested separately in the IELTS reading tests (Weir et al. 2006). This makes it necessary for the test-takers to know when to read a text fast and when to read it carefully. The fact that IELTS reading tests contain more items that require careful reading might have affected the experimental group's reading speed. The participants may have spent more time reading the text or part of it carefully without realizing that they had to strike a balance between careful reading and speed reading in order to complete the test successfully within the given time.

It is also evident from the statistical analyses that both experimental and control groups showed progress in their reading speed. As is the case with reading comprehension (4.2.1), the control group's progress in their post-test reading speed might be another reason for the statistically insignificant effect of IRCS on the experimental group's reading comprehension performance. According to a very recent study done by Fauzi (2018), two reading strategies, skimming and scanning, are unquestionably effective in improving the participants' reading speed as well as their reading comprehension. As mentioned in 4.2.1, the only reading strategies that were taught to the control group in the current study were skimming and scanning. Therefore, these two strategies might have helped them to read almost as fast as the experimental group in the post-reading comprehension test.

At the same time, it is important to note that the experimental group was also taught skimming and scanning along with the other cognitive and meta cognitive strategies as well as organized

reading as part of IRCS (See 3.7). with this combination of strategies, IRCS should have enabled the participants in the experimental group to read considerably faster than those in the control group. However, the results of quantitative analyses were insignificant as shown in Table 15 (p. 57). A possible reason for this may be that, as stated in 4.2.1, the participants in the experimental group might not have employed IRCS effectively in the post-reading comprehension test due to their lack of sufficient time to practice it during the intervention stage. Having a longer intervention period may have provided the participants with sufficient time to practice IRCS, which eventually might have had a positive effect on their reading speed. In addition, reading comprehension issues, such as difficulties with items of grammar and vocabulary, might also have slowed them down apart from the above mentioned reasons.

Contrary to the findings of quantitative analysis discussed above, the results of qualitative content analysis of the post-production interview data provided positive results. All the seven participants interviewed agreed that IRCS helped them read faster in the post-reading comprehension test than they did the pre-test. As mentioned in the earlier section (4.2.1), if the current study had used a larger sample size, the quantitative analyses may also have produced positive results as the qualitative content analysis did in investigating the experimental group's opinions about their reading speed.

The following section discusses the results of both quantitative and qualitative analyses with the aim of examining the effects of IRCS on the participants' reading test-anxiety.

4.2.3. The Effects of IRCS on Reading Test-Anxiety

This sections first provides an account of the proportion of participants with reading test-anxiety in both experimental and control groups. According to the pre reading test-anxiety survey, while 40% of the participants in the experimental group showed no signs of test-anxiety, 60% of them suffered from mild anxiety. In the control group, the figure for participants with no test-anxiety was 26%. While 66.7% of the participants in the control group suffered from mild levels of test-anxiety, only 6.6% of them experienced severe test-anxiety (See Table 16).

Table 16: Levels of reading test-anxiety (experimental & control groups)

	Experimental		Control	
Frequency & Percentage	**Freq.**	**%**	**Freq.**	**%**
No anxiety	6	40%	4%	26.7%
Mild Test-Anxiety	9	60%	10%	66.7%
Severe Test-Anxiety	0	0%	1%	6.6%
Total	**15**	**100%**	**15**	**100%**

In order to test whether IRCS helped the experimental group to reduce their reading test-anxiety or not, a mean comparison of both pre and post reading test-anxiety survey scores for experimental and control groups were first administered (See Table 17). The results suggested that both experimental and control groups experienced much less anxiety during the post-reading comprehension test than they did in the pre-reading comprehension test. The Experimental group's pre-survey mean was 21.20 (*SD* = 5.28), but their post-survey mean was 15.27 (*SD* = 2.81). A considerable decrease was evident in their reading test-anxiety levels after the intervention. The pre-survey mean for the control group was 23.60 (*SD* = 7.14), whereas their post-survey mean was 22.93 (*SD* = 8.22). However, the difference between the pre and post-survey means were not significant for the control group. This initial comparison of means of both pre and post reading test-anxiety survey scores clearly indicated a possible strong correlation between IRCS and the experimental group's reading test-anxiety levels.

Table 17: Comparison of means of pre & post reading test-anxiety survey scores (experimental & control groups)

		Experimental	Control
Pre-survey (Reading Test-Anxiety)	Mean	21.20	23.60
	N	15	15
	Std. Deviation	5.281	7.139
Post-survey (Reading Test-Anxiety)	Mean	15.27	22.93
	N	15	15
	Std. Deviation	2.815	8.216

To confirm the results of the comparison of means further, an independent samples *t* test of the post reading test-anxiety survey scores for both experimental and control groups was carried out (Table 18). The results of the *t* test indicated a mean difference of -7.67, $t(28) = 3.42$ and $p = .002$. Since the *p* value (.002) was less than 0.05, it was concluded that the difference between

the experimental and control groups in terms of their reading test-anxiety levels was statistically significant. Therefore, the reduction in the reading test-anxiety levels of experimental group was considered to be the effect of IRCS.

Table 18: Independent samples *t* test of post reading test-anxiety scores (experimental & control groups)

		Experimental	**Control**
Post-test Score (Reading Test-Anxiety)	**Mean**	15.27	22.93
	Std. deviation	2.815	8.216
	Mean Difference	-7.667	
	t	-3.419	
	df	28	
	Sig (2- tailed)	.002	

Additionally, a paired samples *t* test of the pre and post reading test-anxiety survey scores for the experimental group was administered to further strengthen the findings of the independent samples *t* test (Table 19). The results of the paired samples *t* test showed a significant reduction in the reading test-anxiety levels of the experimental group. According to the results, the experimental group's pre-survey mean was 21.20 (*SD* = 5.28), while their post-survey mean was 15.27 (*SD* = 2.81). The paired samples *t* test also showed a mean difference of 5.93, *t* (14) = 5.61 and *p* = .000. The *p* value (.000) suggested that IRCS had statistically significant effects on the experimental group's reading test-anxiety.

Table 19: Paired samples *t* test of pre & post-reading test-anxiety survey scores (Experimental Group)

		Pre-survey	**Post-survey**
Reading Speed	Mean	21.20	15.27
	Std. deviation	5.281	2.815
	Mean Difference	5.933	
	t	5.610	
	df	14	
	Sig (2-tailed)	.000	

Although the *p* values of both independent and paired samples *t* tests indicated that IRCS had significant effects on the experimental group's reading test-anxiety levels, an effect size was calculated to examine the size of the difference between experimental and control groups. Both Cohen's (d) and effect size (r) were calculated using the mean and standard deviation values of

the independent samples *t* test done on the post-survey data (Table 20). The results showed a large effect size for reading test-anxiety levels. While Cohen's d was 1.25, the effect size r was 0.52. Based on these results, it could be positively concluded that the experimental group felt considerably less anxious during the post-reading comprehension test as an effect of IRCS.

Table 20: Effect size (experimental & control groups)

	Effect Size (ES)	
Reading Test-anxiety (Post-reading test-anxiety survey)	Cohen's d	1.25
	Effect size r	0.52

The findings of qualitative content analysis done to explore the experimental group's opinions about the effectiveness of IRCS on their reading test-anxiety levels also supported the results of quantitative analyses. Almost all the participants interviewed stated that they felt more confident in the post- reading comprehension test than in the pre-test.

When asked about their feelings before the post-test, one of the participants interviewed commented: '*[I was] a bit nervous, like, but as soon as I received the paper, I was much more confident after seeing the questions and the passages.'*

Another participant stated: '*I was a bit tensed but when I got the question paper, I got lots of confidence and I have lots of ideas to use the strategy in the post-test.'*

Yet another participant pointed out: '*I don't feel much tension about the post-test because it was like a bit relaxing. Yes, we have already learned so many techniques to complete our tasks, so it was not that … a bit of tension.'*

When asked whether they were more confident and relaxed during the post-test than in the pre-test, one of the respondents said:

In the pre-test, I have some nervousness because I take a lot of time to finish the test. That kind of frustration. I can't be able to finish within the time period. But in the post-test, I think I am more comfortable and more confident because I can make it within the time. So I was more confident.

Another participant said:

Definitely… because of … usually what I had in my mind was in the pre-test all the questions should be there and I have to answer all. Like even if I miss out the meaning of a word, vocabulary or something. I used to go like if I will be able to answer this. A confusion is there. But in this [post-test], I was sure that I need to mark the key words and it's ok if I don't understand a few words. I need to get the whole idea. That's it. It did help me.

A third participant commented *'Yes, I was confident … yea… pretty much'*. Yet another also pointed out *'yea … during the test, I was much relaxed'*.

When asked how they felt after the post-test, one of the participants said: '*I was confident that it was going good.'* Another stated: '*I was much more confident that I have given most of the answers correct….'*

A third responded:

… after the examination, I got a lot of expectations but I know I can score good marks, but I know I can score good marks than previous pre-test also and because we have used a lot of strategies and that's why we have confidence I will get good marks.

However, one of the participants stated that she felt unhappy after the post-reading comprehension test. According to her:

I was not so much happy. I was like thinking that. After going home also, I was not happy. I was telling my husband I could have done it better if I get the time or If give full concentration I could have done better.

As elucidated above, the results of both quantitative and qualitative analyses showed a substantial reduction in the experimental group's reading test-anxiety levels as a result of their use of IRCS in the post-reading comprehension test. This finding of the current study agrees with that of Marashi and Rahmati's (2017) study which revealed that strategy instruction had a significant effect on EFL learners' foreign language reading comprehension levels. Marashi and Rahmati (2017) also observe that teaching one particular reading strategy is not sufficient enough in order to help students cope with their reading test-anxiety. According to them, teaching a wide range of reading strategies is helpful to discourage reading test-anxiety. At this

point, it is important to note that IRCS, as explained in 3.7, is a combination of different reading strategies which can be applied to various reading situations and therefore helps reduce reading test-anxiety.

As stated in 2.2.5, testing, which is one of the most fear-provoking events, is regarded a prominent cause of anxiety (Harris & Coy 2003). As a result, despite the fact that many test-takers have the ability to perform well on exams, they tend to do badly due to their high levels of test-anxiety (Zeidner & Matthews 2003). Two earlier studies done by Lien (2011) and Mohammadpur and Ghafournia (2015) revealed that reading test-anxiety and students' reading performance were negatively correlated. Lien's 2011 study discovered that participants having higher levels of reading anxiety employed fewer reading strategies. This finding was further confirmed by Mohammadpur and Ghafournia (2015). According to their study, readers who were more anxious would perform less efficiently in reading tests. These findings indicate that if test-takers are less anxious, they will do better in reading tests. Since the current study discovered that IRCS was significantly effective in reducing the experimental group's reading test-anxiety levels, this may be a solution to test-takers' reading test-anxiety problems and may therefore facilitate better reading comprehension.

Although the current study found that IRCS had significant effects on the experimental group's reading test-anxiety levels, it does not claim that IRCS is the only factor that helped the participants reduce their anxiety levels. There might be other reasons that might have aided them to cope with their reading test-anxiety. For example, as observed by Lien (2011) a high proficiency in reading would result in reduced test-anxiety. If test-takers are able to comprehend a reading text easily and efficiently, the level of anxiety they might experience will be very low. Another factor that might have lowered the reading test-anxiety levels of the experimental group in the post-reading comprehension test maybe that the participants perhaps felt that the outcome of the post-reading comprehension test would not be significant for them and therefore did not feel the same levels of test-anxiety which they might otherwise have experienced in a real IELTS reading test.

After thoroughly discussing the three research questions (See Table 11) that the current study seeks to answer in the above sections (4.2.1., 4.2.2 & 4.2.3), the chapter will now move on to its conclusion in the following section.

4.3. Conclusion

This chapter analyzed both quantitative and qualitative data to answer the three research questions the current study is concerned with. While descriptive and inferential statistics were used to analyze the quantitative data, content analysis was employed to analyze the qualitative data. The results of quantitative analyses indicated that IRCS had no statistically significant effects on the participants' reading comprehension performance and reading speed. However, according to the qualitative content analyses of the post-production interview, all the participants agreed that IRCS helped them read much better and faster in the post-reading comprehension test than they did in the pre-test. These findings from the qualitative analyses indicated that with a larger sample, the current study would probably have found statistically significant differences between the experimental group and control group in terms of their reading comprehension performance and reading speed. On the other hand, the results of both quantitative and qualitative data analyses revealed that the experimental group experienced considerably less anxiety as an effect of IRCS. The next chapter (Chapter 5) will provide the conclusion of this dissertation.

Chapter 5: Conclusion

5.1. Introduction

This chapter, which is the concluding chapter of this dissertation, first summarizes the most important findings and discussions of the current study. It then discusses the limitations of the present research followed by recommendations for teachers, course material writers and future researchers.

5.2. Summary

Being able to read is a vital language skill. People read for different purposes, such as for pleasure, information or research. Reading plays a major role in English language teaching and learning, and is also tested in most standardized English language proficiency tests, such as IELTS and TOEFL. People generally take English language proficiency tests for academic and educational purposes. Standardized English language proficiency tests, for example IELTS, assess test-takers' overall language skills, which makes it crucial for them to perform equally well in all the components of the test. At this point, it is important to note that many candidates taking standardized English language proficiency tests such as IELTS show a tendency to prioritise reading above listening, writing and speaking as they often score very low in the reading component. Therefore, in order to score well in the reading component of English language proficiency tests, test-takers need to employ effective reading strategies which enable them to improve their reading comprehension abilities and reading speed as well as helping them to reduce their reading test-anxiety.

With the aim of helping test-takers to read effectively in English language proficiency tests, the current study introduced 'IRCS' and tested its effectiveness on three dependent variables: reading comprehension, reading speed and reading test-anxiety. The standardized English language proficiency test used to examine the effectiveness of IRCS in the current study was IELTS Academic Reading Test. The current study also drew on relevant theories, concepts and related studies. For example, the concept of reading comprehension, three models of reading (bottom-up, top-down & interactive models) and schema theory were thoroughly discussed along with cognitive and meta cognitive strategies, test-anxiety, explicit instruction and IELTS. Empirical studies relevant to the current research were also critically analysed in this

dissertation, which revealed that strategy instructions positively influence reading comprehension, reading speed and reading anxiety.

The current study was carried out in a private school in Ajman, UAE. Thirty teachers from this school participated in the study. Before the study began, the researcher had obtained a no-objection letter from the school management and sought the consent of the participants. The study adopted a non-equivalent quasi-experimental design, and the participants were selected through convenience sampling. The thirty participants were divided into two almost equal groups, experimental and control, with 15 members in each group, and a Levene's test revealed that both the groups were homogeneous. Being a non-equivalent quasi-experimental study, the current study was prone to two kinds of internal validity threats: selection bias threats and social threats. Both these types of internal validity threats were controlled for this study as much as possible.

The data were collected both quantitatively and qualitatively. The quantitative data were gathered through the pre and post reading comprehension tests and the pre and post reading test-anxiety questionnaires, while semi-structured post-production interviews were administered to collect the qualitative data. The validity and reliability of the data collection instruments had been measured prior to the commencement of the study. The current study introduced 'IRCS' and clearly explained its three components: cognitive strategies, meta-cognitive strategies and organized reading. The intervention stage lasted for 3 weeks (13.5 hours), and the experimental group was taught IRCS during the intervention period. The control group, however, was taught only skimming and scanning as their reading strategies for the same period of time.

In order to examine the effectiveness of IRCS on the participants' reading comprehension, reading speed and reading test-anxiety, the data collected quantitatively were analysed using descriptive and inferential statistics, while content analysis was utilized to analyse the qualitative data from the post-production interviews. The results of quantitative analyses did not indicate any positive correlation between IRCS and the participants' reading comprehension performance and readings speed. However, according to the results of content analysis, all the participants interviewed agreed IRCS enabled them to read better and faster, which gives the impression that if the study had used a larger sample, the quantitative results would have showed a significant difference between the experimental group and the control group in terms of their reading

comprehension performance and reading speed. Unlike the results of reading comprehension and reading speed, both quantitative and qualitative findings indicated that IRCS had significant effect on the experimental group's reading test-anxiety levels. The findings of the current study will be of great importance to teachers, course material writers and future researchers.

However, the current study is not free from its limitations. The following section will discuss the limitations of the study.

5.3. Limitations

One of the main limitations of the current study is that its findings cannot be generalised to a larger population due to a lack of random sampling and the internal validity threats that might have gone uncontrolled during the study (Creswell 2002) although the researcher had tried to address them as much as he could at the onset of the study. Another limitation is that the sample size for the current study might not have been large enough to produce statistically significant effects. For example, the quantitative analyses done to examine the effectiveness of IRCS on the participants' reading comprehension performance and reading speed did not provide any statistically significant results. However, the results of the qualitative analysis revealed that all the 7 participants interviewed felt that they were able to read better and faster in the post-reading comprehension test. This indicates that If the current study had had a larger sample, it might have produced statistically significant results (Mertens 1998).

A third limitation is that the intervention stage might have been very brief and too intensive. The intervention lasted for only three weeks (13.5 hours), which might not have been enough for the participants in the experimental group to master IRCS in order to be able to answer the questions more effectively. A fourth limitation of the current study is that the study was conducted during the month of Ramadan, the Islamic month of fasting. The participants of the study, both Muslims and non-Muslims alike, were exhausted due to the fact that Muslim participants were fasting, and non-Muslims restricted themselves from eating in solidarity with those who were fasting. This might have prevented them from performing to their maximum potential.

Having discussed the limitations of the current study, this chapter will now discuss the recommendations the current study suggests.

5.4. Recommendations

This section provides recommendations for teachers, course material writers and future researchers.

5.4.1. Recommendations for Teachers

With the findings of the current study in mind, teachers who teach IELTS preparation classes can make good use of IRCS to help their students improve their reading comprehension skills, reading speed and confidence levels. While teachers can employ IRCS to prepare their students for both IELTS Academic and General Reading Tests as the question types for these two tests are similar (Jakeman & McDowell 2008), those who train students for other English langue proficiency tests, such as EMSAT or CAE, can utilize IRCS for the same purpose. ESL or EFL teachers can provide better reading experiences to their students by freely adapting IRCS to suit their teaching contexts.

It is recommended that all the three parts of IRCS, cognitive strategies, meta-cognitive strategies and organized reading, be taught explicitly to students. Teachers need to model each strategy and provide enough support to their students until they are confident of using it independently. When teaching IRCS, it is a good idea to first teach how to answer questions that come in text order. Then, those strategies used to answer individual question types that may or do not come in text order can be taught. Likewise, students need to be taught how to answer individual question types (e.g. multiple choice questions) before they are taught mixed ones (e.g. matching headings to the paragraphs & multiple choice question types together).

It is also important to remember that students require sufficient practice opportunities to be able to use IRCS effectively as it involves a number of different strategies. Teachers may also consider raising their students' awareness of when to read a text carefully or expeditiously. A final point to note is that IRCS may not always compensate for readers' lack of linguistic knowledge (e.g. lexical or grammatical knowledge). Therefore, teachers are advised to take every step possible to improve their students' linguistic competence while training them on IRCS.

5.4.2. Recommendations for Course Material Writers

The study also has some suggestions for course material writers. Material writers may consider designing separate reading activities to raise students' awareness of cognitive and meta-cognitive strategies. This will help students employ IRCS more effectively. It is also recommended that they design reading comprehension tasks with increasing difficulty. For example, easier reading passages may be used when a new strategy is introduced, which will help students practise the strategy introduced to them with ease. The difficulty of reading comprehension tasks can be increased gradually to gently nudge students forward. Finally, material writers need to make sure they provide students with sufficient opportunities to practise individual question types before they are guided to mixed ones. For this purpose, they may design separate reading passages with either one, two or more question types according to the nature of the English language proficiency test they provide the materials for.

5.4.3. Recommendations for Future Researchers

The current study adopted a non-equivalent quasi-experimental mixed-methods design, and selected participants through convenience sampling. This makes it difficult for the researcher to generalize its findings to a larger population. Taking this into account, future studies may use larger samples selected through random sampling. While a larger sample size might lead to statistically significant results (Mertens 1998), selecting samples randomly will help researchers generalize their findings to a larger population (Creswell 2002).

The current study utilized the IELTS Academic Reading Tests to examine the effectiveness of IRCS. However, future studies may also consider testing the effectiveness of IRCS on other English language proficiency exams, such as EMSAT and CAE. Furthermore, unlike the current study, which used only teachers as samples, future studies may use different groups, for example high school students, nurses or doctors, as their samples to examine how effective IRCS is with these groups.

Future studies also need to consider possibilities of testing the effectiveness of IRCS on reading comprehension, reading speed and reading test-anxiety in comparison to other reading comprehension strategies. Moreover, whether IRCS facilitates both expeditious and careful

reading is worth investigating. Finally, it is also a good idea to consider lengthening the intervention period as participants require sufficient time to master IRCS.

5.5. Conclusion

In conclusion, this chapter provided a summary of the key findings and discussions of the current study. It also thoroughly discussed the limitations of the present research as well as making recommendations for teachers, material writers and future researchers.

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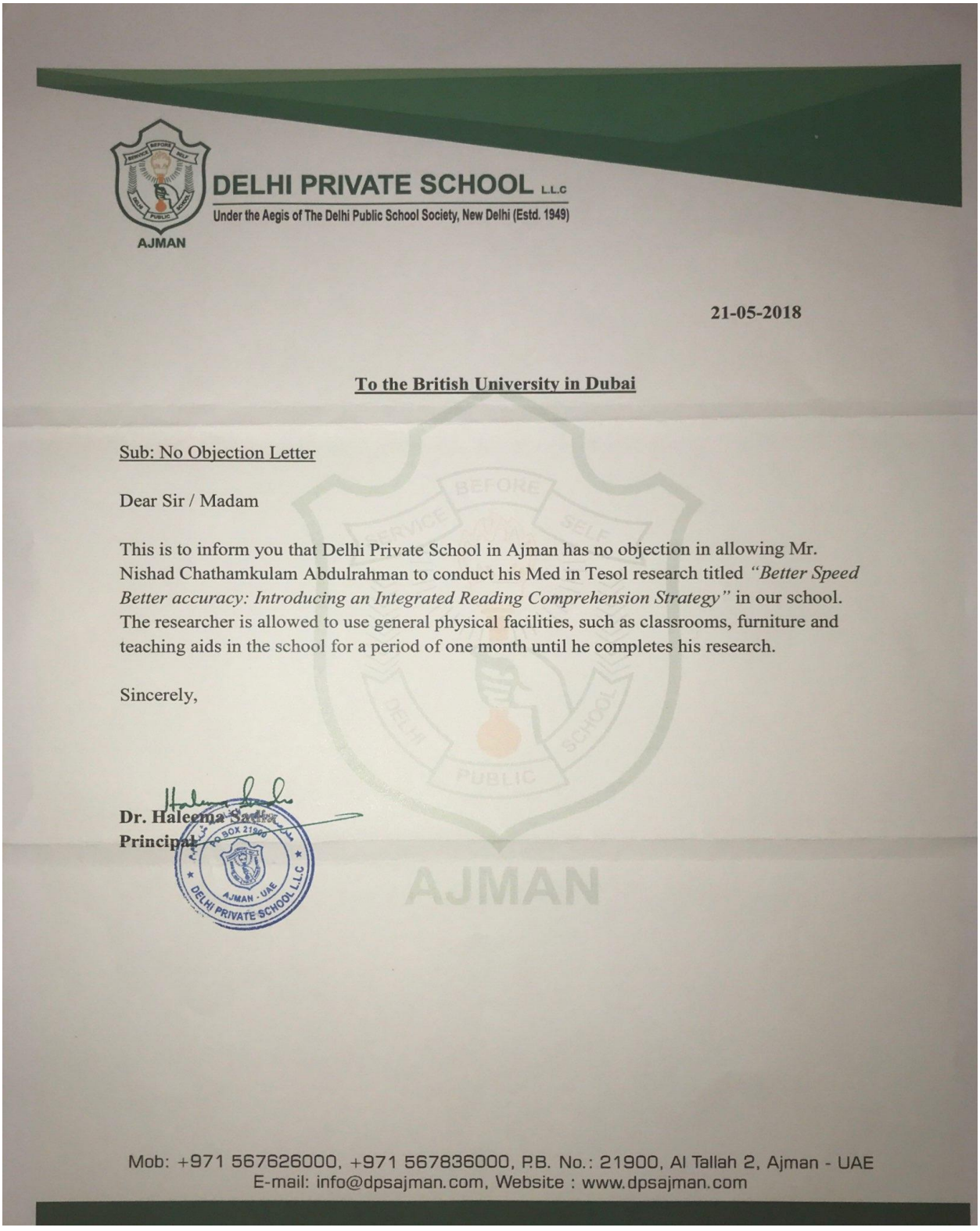
Appendices

Appendix 1: No Objection Letter



DELHI PRIVATE SCHOOL L.L.C
Under the Aegis of The Delhi Public School Society, New Delhi (Estd. 1949)
AJMAN

21-05-2018

To the British University in Dubai

Sub: No Objection Letter

Dear Sir / Madam

This is to inform you that Delhi Private School in Ajman has no objection in allowing Mr. Nishad Chathamkulam Abdulrahman to conduct his Med in Tesol research titled *"Better Speed Better accuracy: Introducing an Integrated Reading Comprehension Strategy"* in our school. The researcher is allowed to use general physical facilities, such as classrooms, furniture and teaching aids in the school for a period of one month until he completes his research.

Sincerely,

Dr. Haleema Sadia
Principal

DELHI PRIVATE SCHOOL L.L.C AJMAN - UAE P.O. BOX 21900

Mob: +971 567626000, +971 567836000, P.B. No.: 21900, Al Tallah 2, Ajman - UAE
E-mail: info@dpsajman.com, Website : www.dpsajman.com

Appendix 2: Research Consent Form

RESEARCH CONSENT FORM

Name of Researcher
Nishad Chathamkulam Abdulrahman
Title of study
Better Speed Better comprehension: Introducing an Integrated Reading Comprehension Strategy

Dear Sir / Madam,

The purpose of this study is to examine the effectiveness of an integrated reading strategy on Individuals' reading performance in standardized English language proficiency tests (e.g. IELTS) in relation to speed, comprehension and test anxiety.

The information collected from you is completely confidential and I assure you that your anonymity is guaranteed in the reporting of all data in any publications arising from this project.

Please read and complete this form carefully. If you are willing to participate in this study, ring the appropriate responses and sign and date the declaration at the end. If you do not understand any information, please feel free to ask. You can also contact Nishad Abdulrahman at nish62@hotmail.com

I have had the research satisfactorily explained to me in verbal form by the researcher.	YES / NO
I understand that the research will involve: a pre-survey, a pre-test, an intervention stage, a post-test, a post-survey and a post-production interview.	YES / NO
I understand that I may withdraw from this study at any time without having to give an explanation.	YES / NO
I understand that all information about me will be treated in strict confidence and that I will not be named in any written work arising from this study.	YES / NO
I understand that any audiotape material of me will be used solely for research purposes and will be destroyed on completion of your research.	YES / NO

I freely give my consent to participate in this study and have been given a copy of this form for my own information.

Signature: _____ Date: 21/05/2018

1 | P

Adapted from:
https://www.google.ae/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=0ahUKEwixqoGF_YTTAhUG0RQKHWbJDmEQFgg8MAY&url=https%3A%2F%2Fwww.yorksj.ac.uk%2Fmedia%2Fcontent-assets%2Fresearch%2Fdocuments%2FConsent-Form.doc&usg=AFQjCNEI-Rb7zzfovgBWv2qXou22lRufAQ&sig2=bjwWslMqPfRLJ_j8-MFrjQ

Appendix 3: Pre-Reading Comprehension Test

IELTS READING
PRE-TEST

CANDIDATE'S NAME:

Group : _____

Start Time	Finish Time

[Taken from Cambridge IELTS 6]

READING

READING PASSAGE 1

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage 1 below.

A They play hard, they play often, and they play to win. Australian sports teams win more than their fair share of titles, demolishing rivals with seeming ease. How do they do it? A big part of the secret is an extensive and expensive network of sporting academies underpinned by science and medicine. At the Australian Institute of Sport (AIS), hundreds of youngsters and pros live and train under the eyes of coaches. Another body, the Australian Sports Commission (ASC), finances programmes of excellence in a total of 96 sports for thousands of sportsmen and women. Both provide intensive coaching, training facilities and nutritional advice.

B Inside the academies, science takes centre stage. The AIS employs more than 100 sports scientists and doctors, and collaborates with scores of others in universities and research centres. AIS scientists work across a number of sports, applying skills learned in one – such as building muscle strength in golfers – to others, such as swimming and squash. They are backed up by technicians who design instruments to collect data from athletes. They all focus on one aim: winning. 'We can't waste our time looking at ethereal scientific questions that don't help the coach work with an athlete and improve performance,' says Peter Fricker, chief of science at AIS.

C A lot of their work comes down to measurement – everything from the exact angle of a swimmer's dive to the second-by-second power output of a cyclist. This data is used to wring improvements out of athletes. The focus is on individuals, tweaking performances to squeeze an extra hundredth of a second here, an extra millimetre there. No gain is too slight to bother with. It's the tiny, gradual improvements that add up to world-beating results. To demonstrate how the system works, Bruce Mason at AIS shows off the prototype of a 3D analysis tool for studying swimmers. A wire-frame model of a champion swimmer slices through the water, her arms moving in slow motion. Looking side on, Mason measures the distance between strokes. From above, he analyses how her spine swivels. When fully

developed, this system will enable him to build a biomechanical profile for coaches to use to help budding swimmers. Mason's contribution to sport also includes the development of the SWAN (SWimming ANalysis) system now used in Australian national competitions. It collects images from digital cameras running at 50 frames a second and breaks down each part of a swimmer's performance into factors that can be analysed individually – stroke length, stroke frequency, average duration of each stroke, velocity, start, lap and finish times, and so on. At the end of each race, SWAN spits out data on each swimmer.

D 'Take a look'. Says Mason, pulling out a sheet of data. He points out the data on the swimmers in second and third place, which shows that the one who finished third actually swam faster. So why did he finish 35 hundredths of a second down? 'His turn times were 44 hundredths of a second behind the other guy,' says Mason. 'If he can improve on his turns, he can do much better'. This is the kind of accuracy that AIS scientists' research is bringing to a range of sports. With the Cooperative Research Centre for Micro Technology in Melbourne, they are developing unobtrusive sensors that will be embedded in an athlete's clothes or running shoes to monitor heart rate, sweating, heart production or any other factor that might have an impact on an athlete's ability to run. There's more to it than simply measuring performance. Fricker give the example of athletes who may be down with coughs and colds 11 or 12 times a year. After years of experimentation, AIS and the University of Newcastle in New South Wales developed a test that measures how much of the immune-system protein immunoglobulin A is present in athletes' saliva. If IgA levels suddenly fall below a certain level, training is eased or dropped altogether. Soon, IgA levels start rising again, and the danger passes. Since the tests were introduced, AIS athletes in all sports have been remarkably successful at staying healthy.

E Using data is a complex business. Well before a championship, sports scientists and coaches start to prepare the athletes by developing a 'competition model', based on what they expect will be the winning times. 'You design the model to make that time,' says Mason. 'A start of this much, each free-swimming period has to be this fast, with a certain stroke frequency and stroke length, with turns done in these times.' All the training is then geared towards making the athlete hit those targets, both overall and for each segment of the race. Techniques like these have transformed Australia into arguably the world's most successful sporting nation.

F Of course, there's nothing to stop other countries copying – and many have tried. Some years ago, the AIS unveiled coolant-lined jackets for endurance athletes. At the Atlanta Olympic Games in 1996, these sliced as much as two per cent off cyclists' and rowers' times. Now everyone uses them. The same has happened to the 'altitude tent', developed by AIS to replicate the effects of altitude training at sea level. But Australia's success story is about more than easily copied technological fixes, and up to now no nation has replicated its all-encompassing system.

Questions 1-7

Reading Passage 1 has six paragraphs, **A-F.**

Which paragraph contains the following information?

*Write the correct letter, **A-F**, in boxes 1-7 on your answer sheet.*

NB *You many use any letter more than once*

1 a reference to the exchange of expertise between different sports
2 an explanation of how visual imaging is employed in investigations
3 a reason for narrowing the scope of research activity
4 how some AIS ideas have been reproduced
5 how obstacles to optimum achievement can be investigated
6 an overview of the funded support of athletes
7 how performance requirements are calculated before an event

Questions 8-11

Classify the following techniques according to whether the writer states they

A are currently exclusively sued by Australians
B will be used in the future by Australians
C are currently used by both Australians and their rivals

Write the correct letter, A, B, or C, in boxes 8-11 on your answer sheet.

8 cameras
9 sensors
10 protein tests
11 altitude tents

Questions 12 – 13

Answer the questions below.

*Choose **NO MORE THAN THREE WORDS AND /OR A NUMBER from** the passage for each answer.*

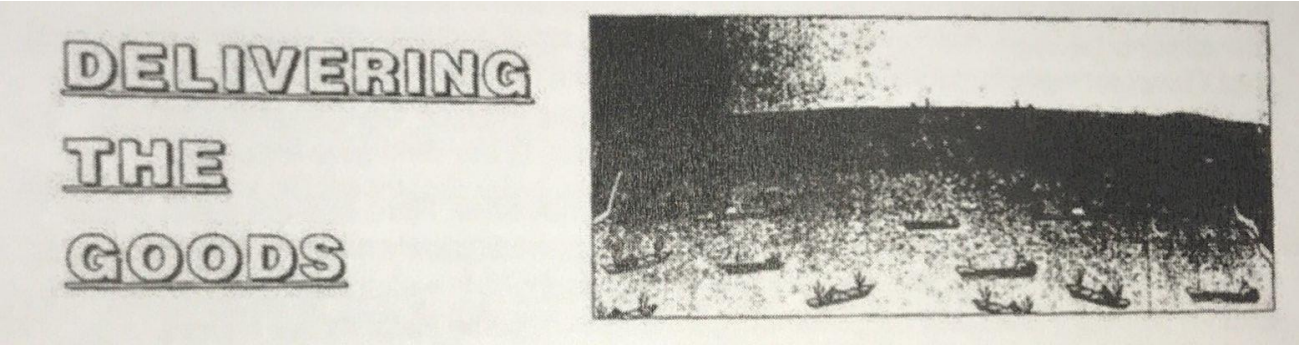
Write your answers in boxes 12 and 13 on your answer sheet.

12 What is produced to help an athlete plan their performance in an event?

13 By how much did some cyclists' performance improve at the 1996 Olympic Games?

READING PASSAGE 2

You should spend about 20 minutes on Questions 14-26, which are based on Reading Passage 2 below.



The vast expansion in international trade owes much to a revolution in the business of moving freight

A International trade is growing at a startling pace. While the global economy has been expanding at a bit over 3% a year, the volume of trade has been rising at a compound annual rate of about twice that. Foreign products, from meat to machinery, play a more important role in almost every economy in the world, and foreign markets now tempt businesses that never much worried about sales beyond their nation's borders.

B What lies behind this explosion in international commerce? The general worldwide decline in trade barriers, such as customs duties and import quotas, is surely one explanation. The economic opening of countries that have traditionally been minor players is another. But one force behind the import-export boom has passed all but unnoticed: the rapidly falling cost of getting goods to market. Theoretically, in the world of trade, shipping costs do not matter. Goods, once they have been made, are assumed to move instantly and at no cost from place to place. The real world, however, is full of frictions. Cheap labour may make Chinese clothing competitive in America, but if delays in shipment tie up working capital and cause winter coats to arrive in spring, trade may lose its advantages.

C All the turn of the 20th century, agriculture and manufacturing were the two most important sectors almost everywhere, accounting for about 70% of total output in Germany, Italy and France, and 40-50% in America, Britain and Japan. International commerce was therefore dominated by raw materials, such as wheat, wood and iron ore, or processed commodities, such as meat and steel. But these sorts of products are heavy and bulky and the cost of transporting them relatively high.

D Countries still trade disproportionately with their geographic neighbours. Over time, however, world output has shifted into goods whose worth is unrelated to their size and weight. Today, it is finished manufactured products that dominate the flow of trade, and thanks to technological advances such as lightweight components, manufactured goods

themselves have tended to become lighter and less bulky. As a result, less transportation is required for every dollar's worth of imports or exports.

E To see how this influences trade, consider the business of making disk drives for computers. Most of the world's disk-drive manufacturing is concentrated in South-east Asia. This is possible only because disk drives, while vulnerable, are small and light and so cost little to ship. Computer manufacturers in Japan or Texas will not face hugely bigger freight bills if they import drives from Singapore rather than purchasing them on the domestic market. Distance therefore poses no obstacle to the globalisation of the disk-drive industry.

F This is even more true of the fast-growing information industries. Films and compact discs cost little to transport, even by aeroplane. Computer software can be 'exported' without ever loading it onto a ship, simply by transmitting it over telephone lines from one country to another, so freight rates and cargo-handling schedules become insignificant factors in deciding where to make the product. Businesses can locate based on other considerations, such as the availability of labour, while worrying less about the cost of delivering their output.

G In many countries deregulation has helped to drive the process along. But, behind the scenes, a series of technological innovations known broadly as containerisation and inter-modal transportation has led to swift productivity improvements in cargo-handling. Forty years ago, the process of exporting or importing involved a great many stages of handling, which risked portions of the shipment being damaged or stolen along the way. The invention of the container crane made it possible to load and unload containers without capsizing the ship and the adoption of standard container sizes allowed almost any box to be transported on any ship. By 1967, dual-purpose ships, carrying loose cargo in the hold* and containers on the deck, were giving way to all-container vessels that moved thousands of boxes at a time.

H The shipping container transformed ocean shipping into a highly efficient, intensely competitive businesses. But getting the cargo to and from the dock was a different story. National governments, by and large, kept a much firmer hand on truck and railroad tariffs than on charges for ocean freight. This started changing, however, in the mid-1970s, when America began to deregulate its transportation industry. First airlines, then road hauliers and railways, were freed from restrictions on what they could carry, where they could haul it and what price they could charge. Big productivity gains resulted. Between 1985 and 1996, for example, America's freight railways dramatically reduced their employment, trackage, and their fleets of locomotives – while increasing the amount of cargo they hauled. Europe's railways have also shown marked, albeit smaller, productivity improvements.

I In America the period of huge productivity gains in transportation may be almost over, but in most countries the process still has far to go. State ownership of railways and airlines, regulation of freight rats and toleration of anti-competitive practices, such as cargo-handling

monopolies, all keep the cost of shipping unnecessarily high and deter international trade. Bringing these barriers down would help the world's economies grow even closer.

Questions 14-17

Reading Passage 2 has nine paragraphs, **A-I**

Which paragraph contains the following information?

*Write the correct letter, **A-I**, in boxes 14-17 on your answer sheet.*

14 a suggestion for improving trade in the future

15 the effects of the introduction of electronic delivery

16 the similar cost involved in transporting a product from abroad or from a local supplier

17 the weakening relationship between the value of goods and the cost of their delivery

Questions 18-22

Do the following statements agree with the information given in Reading Passage 2?

In boxes 18-22 on your answer sheet, write

TRUE	*if the statement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

18 International trade is increasing at a greater rate than the world economy.

19 Cheap labour guarantees effective trade conditions.

20 Japan imports more meat and steel than France.

21 Most countries continue to prefer to trade with nearby nations.

22 Small computer components are manufactured in Germany.

Questions 23-26

Complete the summary using the list of words, A-K, below.

Write the correct letter, A-K, in boxes 23-26 on your answer sheet.

THE TRANSPORTATION REVOLUTION

Modern cargo-handling methods have had a significant effect on **23** …… as the business of moving freight around the world becomes increasingly streamlined. Manufacturers of computers, for instance, are able to import **24** ……. From overseas, rather than having to rely on a local supplier. The introduction of **25** …… has meant that bulk cargo can be safely and efficiently moved over long distances. While international shipping is now efficient, there is still a need for governments to reduce **26** ……... in order to free up the domestic cargo sector.

A	tariffs	**B**	components	**C**	container ships
D	output	**E**	employees	**F**	insurance costs
G	trade	**H**	freight	**I**	fares
J	software	**K**	international standards		

READING PASSAGE 3

You should spend about 20 minutes on Questions 27-40, which are based on Reading Passage 3 on the following pages.

Questions 27-32

Reading passage 3 has seven paragraphs, **A-G.**

Choose the correct heading for paragraphs, ***B-G***, from the list of headings below.

Choose the correct number, ***i-x***, in boxes *27-32* on your answer sheet.

List of Headings

i. The reaction of the Inuit community to climate change
ii. Understanding of climate change remains limited
iii. Alternative sources of essential supplies
iv. Respect for Inuit opinion grows
v. A healthier choice of food
vi. A difficult landscape
vii. Negative effects on well-being
viii. Alarm caused by unprecedented events in the Arabic
ix. The benefits of an easier existence

Example	*Answer*
Paragraph A	*viii*

27 Paragraph B

28 Paragraph C

29 Paragraph D

30 Paragraph E

31 Paragraph F

32 Paragraph G

Climate Change and the Inuit

The threat posed by climate change in the Arctic and the problems faced by Canada's Inuit people

A unusual incidents are being reported across the Arctic. Inuit families going off on snowmobiles to prepare their summer hunting camps have found themselves cut off from home by a sea of mud, following early thaws. There are reports of igloos losing their insulating properties as the snow drips and refreezes, of lakes draining into the seas as permafrost melts, and sea ice breaking up earlier than usual, carrying seals beyond the reach of hunters. Climate change may still be a rather abstract idea to most of us, but in the Arctic it is already having dramatic effects – if summertime ice continues to shrink at its present rate, the Arctic Ocean could soon become virtually ice-free in summer. The knock-on effects are likely to include more warming, cloudier skies, increased precipitation and higher sea levels. Scientists are increasingly keen to find out what's going on because they consider the Arctic the 'canary in the mine' for global warming – a warning of what's in store for the rest of the world.

B For the Inuit the problem is urgent. They live in precarious balance with one of the toughest environments on the earth. Climate change, whatever its causes, is a direct threat to their way of life. Nobody knows the Arctic as well as the locals, which is why they are not content simply to stand back and let outside experts tell them what's happening. In Canada, where the Inuit people are jealously guarding their hard-won autonomy in the country's newest territory, Nunavut, they believe their best hope of survival in this changing environment lies in combining their ancestral knowledge with the best of modern science. This is a challenge in itself.

C The Canadian Arctic is a vast, treeless polar desert that's covered with snow for most of the year. Venture into this terrain and you get some idea of the hardships facing anyone who calls this home. Farming is out of the question and nature offers meagre pickings. Humans first settled in the Arctic a mere 4,500 years ago, surviving by exploiting sea mammals and fish. The environment tested them to the limits: sometimes the colonists were successful, sometimes they failed and vanished. But around a thousand years ago, one group emerged that was uniquely well adapted to cope with the Arctic environment. These Thule people

moved in form Alaska, bringing kayaks, sleds, dogs, pottery and iron tools. They are the ancestors of today's Inuit people.

D Life for the descendants of the Thule people is still harsh. Nunavut is 1.9 million square kilometres of rock and ice, and a handful of islands around the North Pole. It's currently home to 2,500 people, all but a handful of them indigenous Inuit. Over the past 40 years, most have abandoned their nomadic ways and settled in the territory's 28 isolated communities, but they still rely heavily on nature to provide food and clothing. Provisions available in local shops have to be flown into Nunavut on one the most costly air networks in the world, or brought by supply ship during the few ice-free weeks of summer. It would cost a family around £ 7,000 a year to replace meat they obtained themselves through hunting with imported meat. Economic opportunities are scarce, and for many people state benefits are their only income.

E while the Inuit may not actually starve if hunting and trapping are curtailed by climate change, there has certainly been an impact on people's health. Obesity, heart disease and diabetes are beginning to appear in a people for whom these have never before been problems. There has been a crisis of identify as the traditional skills of hunting, trapping and preparing skins have begun to disappear. In Nunavut's 'igloo and email' society, where adults who were born in igloos have children who may never have been out on the land, there's a high incidence of depression.

F With so much at stake, the Inuit are determined to play a key role in teasing out the mysteries of climate change in the Arctic. Having survived there for centuries, they believe their wealth of traditional knowledge is vital to the task. And Western scientists are starting to draw on this wisdom, increasingly referred to as 'Inuit Qaujimajatuqangit,' or IQ. 'In the early days scientists ignored us when they came up here to study anything. They just figured these people don't know very much so we won't ask them,' says John Amagoalik, an Inuit leader and politician. 'But in recent years IQ has had much more credibility and weight.' In fact, it is now a requirement for anyone hoping to get permission to do research that they consult the communities, who are helping to set the research agenda to reflect their most important concerns. They can turn down applications from scientists they believe will work against their interests, or research projects that will impinge too much on their daily lives and traditional values.

G Some scientists doubt the value of traditional knowledge because the occupation of the Arctic doesn't go back far enough. Others, however, point out that the first weather stations in the far north date back just 50 years. There are still huge gaps in our environmental knowledge, and despite the scientific onslaught, many predictions are no more than best guesses. IQ could help to bridge the gap and resolve the tremendous uncertainty about how much of what we're seeing is natural capriciousness and how much is the consequence of human activity.

Questions 33-40

Complete the summary of paragraphs C and D below.

*Choose **NO MORE THAN TWO WORDS** from paragraphs C and D for each answer.*

Write your answer in boxes 33-40 on your answer sheet.

If you visit the Canadian Arctic, you immediately appreciate the problems faced by people for whom this is home. It would clearly be impossible for the people to engage in **33** …… as a means of supporting themselves. For thousands of years they have had to rely on catching **34** ……. and **35** ……. as a means of sustenance. The harsh surroundings saw many who tried to settle there pushed to their limits, although some were successful. The **36** …… people were an example of the latter and for them the environment did not prove unmanageable. For the present inhabitants, life continue to be a struggle. The territory of Nunavut consists of little more than ice, rock and a few **37** …….. In recent years, many of them have been obliged to give up their **38**……. lifestyle, but they continue to depend mainly on **39** …….. for their food and clothes. **40** ……. produce is particularly expensive.

Appendix 4: Post-Reading Comprehension Test

IELTS READING
POST-TEST

CANDIDATE'S NAME:

_____

Group Name: _____

Start Time	Finish Time

[Taken from Cambridge IELTS 6]

READING

READING PASSAGE 1

*You should spend about **20** minutes on **Questions 1-13**, which are based on Reading Passage 1on the following pages.*

Questions 1-5

*Reading Passage 1 has five paragraphs, **A-E**.*

Choose the correct heading for each paragraph from the list of headings below.

*Write the correct number **i-viii**, in boxes **1-5** on your answer sheet.*

List of Headings

i Avoiding an overcrowded centre

ii A successful exercise in people power

iii The benefits of working together in cities

iv Higher incomes need not mean more cars

v Economic arguments fail to persuade

vi The impact of telecommunications on population distribution

vii Increases in travelling time

viii Responding to arguments against public transport

1. Paragraph **A**

2. Paragraph **B**

3. Paragraph **C**

4. Paragraph **D**

5. Paragraph **E**

ADVANTAGES OF PUBLIC TRANSPORT

A New study conducted for the World Bank by Murdoch University's Institute for Science and Technology Policy (ISTP) has demonstrated that public transport is more efficient than cars. The study compared the proportion of wealth poured into transport by thirty-seven cities around the world. This included both the public and private costs of building, maintaining and using a transport system.

The study found that the Western Australian city of Perth is a good example of a city with minimal public transport. As a result, 17% of its wealth went into transport costs. Some European and Asian cities, on the other hand, spent as little as 5%. Professor Peter Newman, ISTP Director, pointed out that these more efficient cities were able to put the difference into attracting industry and jobs or creating a better place to live.

According to Professor Newman, the larger Australian city of Melbourne is a rather unusual city in this sort of comparison. He describes it as two cities: 'A European city surrounded by a car-dependent one'. Melbourne's large tram network has made car use in the inner city much lower, but the outer suburbs have the same car-based structure as most other Australian cities. The explosion in demand for accommodation in the inner suburbs of Melbourne suggests a recent change in many people's preferences as to where they live.

Newman says this is a new, broader way of considering public transport issues. In the past, the case for public transport has been made on the basis of environmental and social justice considerations rather than economics. Newman, however, believes the study demonstrates that 'the auto-dependent city model is inefficient and grossly inadequate in economic as well as environmental terms'.

Bicycle use was not included in the study but Newman noted that the two most 'bicycle friendly' cities considered - Amsterdam and Copenhagen - were very efficient, even though their public transport systems were 'reasonable but not special'.

It is common for supporters of road networks to reject the models of cities with good public transport by arguing that such systems would not work in their particular city. One objection is climate. Some people say their city could not make more use of public transport because it is either too hot or too cold. Newman rejects this, pointing out that public transport has been

successful in both Toronto and Singapore and, in fact, he has checked the use of cars against climate and found 'zero correlation'.

When it comes to other physical features, road lobbies are on stronger ground. For example, Newman accepts it would be hard for a city as hilly as Auckland to develop a really good rail network. However, he points out that both Hong Kong and Zürich have managed to make a success of their rail systems, heavy and light respectively, though there are few cities in the world as hilly.

A In fact, Newman believes the main reason for adopting one sort of transport over another is politics: 'The more democratic the process, the more public transport is favored.' He considers Portland, Oregon, a perfect example of this. Some years ago, federal money was granted to build a new road. However, local pressure groups forced a referendum over whether to spend the money on light rail instead. The rail proposal won and the railway worked spectacularly well. In the years that have followed, more and more rail systems have been put in, dramatically changing the nature of the city. Newman notes that Portland has about the same population as Perth and had a similar population density at the time.

B In the UK, travel times to work had been stable for at least six centuries, with people avoiding situations that required them to spend more than half an hour travelling to work. Trains and cars initially allowed people to live at greater distances without taking longer to reach their destination. However, public infrastructure did not keep pace with urban sprawl, causing massive congestion problems which now make commuting times far higher.

C There is a widespread belief that increasing wealth encourages people to live farther out where cars are the only viable transport. The example of European cities refutes that. They are often wealthier than their American counterparts but have not generated the same level of car use. In Stockholm, car use has actually fallen in recent years as the city has become larger and wealthier. A new study makes this point even more starkly. Developing cities in Asia, such as Jakarta and Bangkok, make more use of the car than wealthy Asian cities such as Tokyo and Singapore. In cities that developed later, the World Bank and Asian Development Bank discouraged the building of public transport and people have been forced to rely on cars - creating the massive traffic jams that characterize those cities.

D Newman believes one of the best studies on how cities built for cars might be converted to rail use is The Urban Village report, which used Melbourne as an example. It found that pushing everyone into the city centre was not the best approach. Instead, the proposal advocated the creation of urban villages at hundreds of sites, mostly around railway stations.

E It was once assumed that improvements in telecommunications would lead to more dispersal in the population as people were no longer forced into cities. However, the ISTP team's research demonstrates that the population and job density of cities rose or remained constant in the 1980s after decades of decline. The explanation for this seems to be that it is valuable to

place people working in related fields together. 'The new world will largely depend on human creativity, and creativity flourishes where people come together face-to-face.'

Questions 6-10

Do the following statements agree with the information given in Reading Passage 1?

*In boxes **6-10** on your answer sheet, write*

TRUE	*if the statement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

6. The ISTP study examined public and private systems in every city in the world.

7. Efficient cities can improve the quality of life for their inhabitants.

8. An inner-city tram network is dangerous for car drivers.

9. In Melbourne, people prefer to live in the outer suburbs.

10. Cities with high levels of bicycle usage can be efficient even when public transport is only averagely good.

Questions 11-13

Look at the following cities (Q*uestions **11-13***) and the list of descriptions below.

Match each city with the correct description, **A-F**.

Write the correct letter, **A-F**, in boxes **11-13** on your answer sheet.

11. Perth
12. Auckland
13. Portland

List of Descriptions

A	successfully uses a light rail transport system in hilly environment
B	successful public transport system despite cold winters
C	profitably moved from road to light rail transport system
D	hilly and inappropriate for rail transport system
E	heavily dependent on cars despite widespread poverty
F	inefficient due to a limited public transport system

READING PASSAGE 2

*You should spend about **20** minutes on **Questions 14-26**, which are based on Reading Passage 2 below.*

GREYING POPULATION STAYS IN THE PINK

Elderly people are growing healthier, happier and more independent, say American scientists. The results of a 14-year study to be announced later this month reveal that the diseases associated with old age are afflicting fewer and fewer people and when they do strike, it is much later in life.

In the last 14 years, the National Long-term Health Care Survey has gathered data on the health and lifestyles of more than 20,000 men and women over 65. Researchers, now analysing the results of data gathered in 1994, say arthritis, high blood pressure and circulation problems -the major medical complaints in this age group - are troubling a smaller proportion every year. And the data confirms that the rate at which these diseases are declining continues to accelerate. Other diseases of old age - dementia, stroke, arteriosclerosis and emphysema - are also troubling fewer and fewer people.

'It really raises the question of what should be considered normal ageing,' says Kenneth Manton, a demographer from Duke University in North Carolina. He says the problems doctors accepted as normal in a 65-year-old in 1982 are often not appearing until people are 70 or 75.

Clearly, certain diseases are beating a retreat in the face of medical advances. But there may be other contributing factors. Improvements in childhood nutrition in the first quarter of the twentieth century, for example, gave today's elderly people a better start in life than their predecessors.

On the downside, the data also reveals failures in public health that have caused surges in some illnesses. An increase in some cancers and bronchitis may reflect changing smoking habits and poorer air quality, say the researchers. 'These may be subtle influences,' says Manton, 'but our subjects have been exposed to worse and worse pollution for over 60 years. It's not surprising we see some effect.'

One interesting correlation Manton uncovered is that better-educated people are likely to live longer. For example, 65-year-old women with fewer than eight years of schooling are expected, on average, to live to 82. Those who continued their education live an extra seven years. Although some of this can be attributed to a higher income, Manton believes it is mainly because educated people seek more medical attention.

The survey also assessed how independent people over 65 were, and again found a striking trend. Almost 80% of those in the 1994 survey could complete everyday activities ranging from eating and dressing unaided to complex tasks such as cooking and managing their finances. That

represents a significant drop in the number of disabled old people in the population. If the trends apparent in the United States 14 years ago had continued, researchers calculate there would be an additional one million disabled elderly people in today's population. According to Manton, slowing the trend has saved the United States government's Medicare system more than $200 billion, suggesting that the greying of America's population may prove less of a financial burden than expected.

The increasing self-reliance of many elderly people is probably linked to a massive increase in the use of simple home medical aids. For instance, the use of raised toilet seats has more than doubled since the start of the study, and the use of bath seats has grown by more than 50%. These developments also bring some health benefits, according to a report from the MacArthur Foundation's research group on successful ageing. The group found that those elderly people who were able to retain a sense of independence were more likely to stay healthy in old age.

Maintaining a level of daily physical activity may help mental functioning, says Carl Cotman, a neuroscientist at the University of California at Irvine. He found that rats that exercise on a treadmill have raised levels of brain-derived neurotrophic factor coursing through their brains. Cotman believes this hormone, which keeps neurons functioning, may prevent the brains of active humans from deteriorating.

As part of the same study, Teresa Seeman, a social epidemiologist at the University of Southern California in Los Angeles, found a connection between self-esteem and stress in people over 70. In laboratory simulations of challenging activities such as driving, those who felt in control of their lives pumped out lower levels of stress hormones such as cortisol. Chronically high levels of these hormones have been linked to heart disease.

But independence can have drawbacks. Seeman found that elderly people who felt emotionally isolated maintained higher levels of stress hormones even when asleep. The research suggests that older people fare best when they feel independent but know they can get help when they need it.

'Like much research into ageing, these results support common sense,' says Seeman. They also show that we may be underestimating the impact of these simple factors. 'The sort of thing that your grandmother always told you turns out to be right on target,' she says.

Questions 14-22

Complete the summary using the list of words, **A-Q**. below.

*Write the correct letter, **A-Q**, in boxes **14-22** on your answer sheet.*

Research carried out by scientists in the United States has shown that the proportion of people over 65 suffering from the most common age-related medical problems is **14 .....** and that the speed of this change is **15..... .** It also seems that these diseases ere affecting people **16**

.....in life than they did in the past. This is largely due to developments in **17 …….....**, but other factors such as improved **18 .....** may also be playing a part. Increases in some other illnesses may be due to changes in personal habits and to **19..... .** The research establishes a link between levels of **20 .....** and life expectancy. It also shows that there has been a considerable reduction in the number of elderly people who are **21 .....** which means that the **22 .....** involved in supporting this section of the population may be less than previously predicted.

A cost	**B** falling	**C** technology	**D** undernourished
E earlier	**F** later	**G** disabled	**H** more
I increasing	**J** nutrition	**K** education	**L** constant
M medicine	**N** pollution	**O** environmental	**P** health
Q independent			

Questions 23-26

*Complete each sentence with the correct ending, **A-H**, below. Write the correct letter, **A-H**, in boxes **23-26** on your answer sheet.*

A may cause heart disease.
B can be helped by hormone treatment.
C may cause rises in levels of stress hormones.
D have cost the United States government more than $200 billion.
E may help prevent mental decline.
F may get stronger at night.
G allow old people to be more independent.
H can reduce stress in difficult situations.

23 Home medical aids

24 Regular amounts of exercise

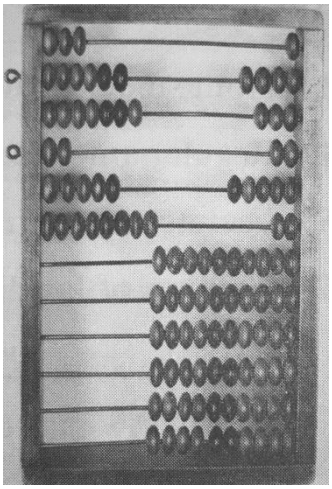
25 Feelings of control over life

26 Feelings of loneliness

READING PASSAGE 3

*You should spend about 20 minutes on **Questions 27-40**, which are based on Reading Passage 3 below.*

Numeration



One of the first great intellectual feats of a young child is learning how to talk, closely followed by learning how to count. From earliest childhood, we are so bound up with our system of numeration that it is a feat of imagination to consider the problems faced by early humans who had not yet developed this facility. Careful consideration of our system of numeration leads to the conviction that, rather than being a facility that comes naturally to a person, it is one of the great and remarkable achievements of the human race.

It is impossible to learn the sequence of events that led to our developing the concept of number. Even the earliest of tribes had a system of numeration that, if not advanced, was sufficient for the tasks that they had to perform. Our ancestors had little use for actual numbers; instead, their considerations would have been more of the kind Is this enough? rather than How many? when they were engaged in food gathering, for example. However, when early humans first began to reflect on the nature of things around them, they discovered that they needed an idea of number simply to keep their thoughts in order. As they began to settle, grow plants and herd animals, the need for a sophisticated number system became paramount. It will never be known how and when this numeration ability developed, but it is certain that numeration was well developed by the time humans had formed even semipermanent settlements.

Evidence of early stages of arithmetic and numeration can be readily found. The indigenous peoples of Tasmania were only able to count one, two, many; those of South Africa counted one, two, two and one, two twos, two twos and one, and so on. But in real situations the number and words are often accompanied by gestures to help resolve any confusion. For example, when using the one, two, many types of system, the word many would mean, *Look at my hands and see how many fingers 1 am showing you*. This basic approach is limited in the range of numbers that it can express, but this range will generally suffice when dealing with the simpler aspects of human existence.

The lack of ability of some cultures to deal with large numbers is not really surprising. European languages, when traced back to their earlier version, are very poor in number words and expressions. The ancient Gothic word for ten, *tachund*, is used to express the number 100 as *tachund tachund*. By the seventh century, the word teon had become interchangeable with the *tachund or hund* of the Anglo-Saxon language, and so 100 was denoted as *hund teontig*, or ten

times ten. The average person in the seventh century in Europe was not as familiar with numbers as we are today. In fact, to qualify as a witness in a court law a man had to be able to count to nine!

Perhaps the most fundamental step in developing a sense of number is not the ability to count, but rather to see that a number is really an abstract idea instead of a simple attachment to a group of particular objects. It must have been within the grasp of the earliest humans to conceive that four birds are distinct from two birds; however, it is not an elementary step to associate the number 4, as connected with four birds, to the number 4, as connected with four rocks. Associating a number as one of the qualities of a specific object is a great hindrance to the development of a true number sense. When the number 4 can be registered in the mind as a specific word, independent of the object being referenced, the individual is ready to take the first step toward the development of a notational system for numbers and, from there, to arithmetic.

Traces of the very first stages in the development of numeration can be seen in several living languages today. The numeration system of the Tsimshian language in British Columbia contains seven distinct sets of words for numbers according to the class of the item being counted: for counting flat objects and animals, for round objects and time, for people, for long objects and trees, for canoes, for measures, and for counting when no particular object is being numerated. It seems that the last is a later development while the first six groups show the relics of an older system. This diversity of number names can also be found in some widely used languages such as Japanese.

Intermixed with the development of a number sense is the development of an ability to count. Counting is not directly related to the formation of a number concept because it is possible to count by matching the items being counted. against a group of pebbles, grains of corn, or the counter's fingers. These aids would have been indispensable to very early people who would have found the process impossible without some form of mechanical aid. Such aids, while different, are still used even by the most educated in today's society due to their convenience. All counting ultimately involves reference to something other than the things being counted. At first, it may have been grains or pebbles but now it is a memorised sequence of words that happen to be the names of the numbers.

Questions 27-31

Complete each sentence with the correct ending, **A-G**, below.

Write the correct letter, **A-G**, in boxes **27-31** on your answer sheet.

27 A developed system of numbering

28 An additional hand signal

29 In seventh-century Europe, the ability to count to a certain number

30 Thinking about numbers as concepts separate from physical objects

31 Expressing number differently according to class of item

A	was necessary in order to fulfil a civic role.
B	was necessary when people began farming.
C	was necessary for the development of arithmetic.
D	persists in all societies
E	was used when the range of number words was restricted.
F	can be traced back to early European languages.
G	was a characteristic of early numeration systems.

Questions 32-40

Do the following statements agree with the information given in Reading Passage 3?
*In boxes **32-40** on your answer sheet, write:*

TRUE	*if the statement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

32 For the earliest tribes, the concept of sufficiency was more important than the concept of quantity.

33 Indigenous Tasmanians used only four terms to indicate numbers of objects.

34 Some peoples with simple number systems use body language to prevent misunderstanding of expressions of the number.

35 All cultures have been able to express large numbers clearly.

36 The word 'thousand' has Anglo-Saxon origins.

37 In general, people in seventh-century Europe had poor counting ability.

38 In the Tsimshian language, the number for long objects and canoes is expressed with the same word.

39 The Tsimshian language contains both older and newer systems of counting.

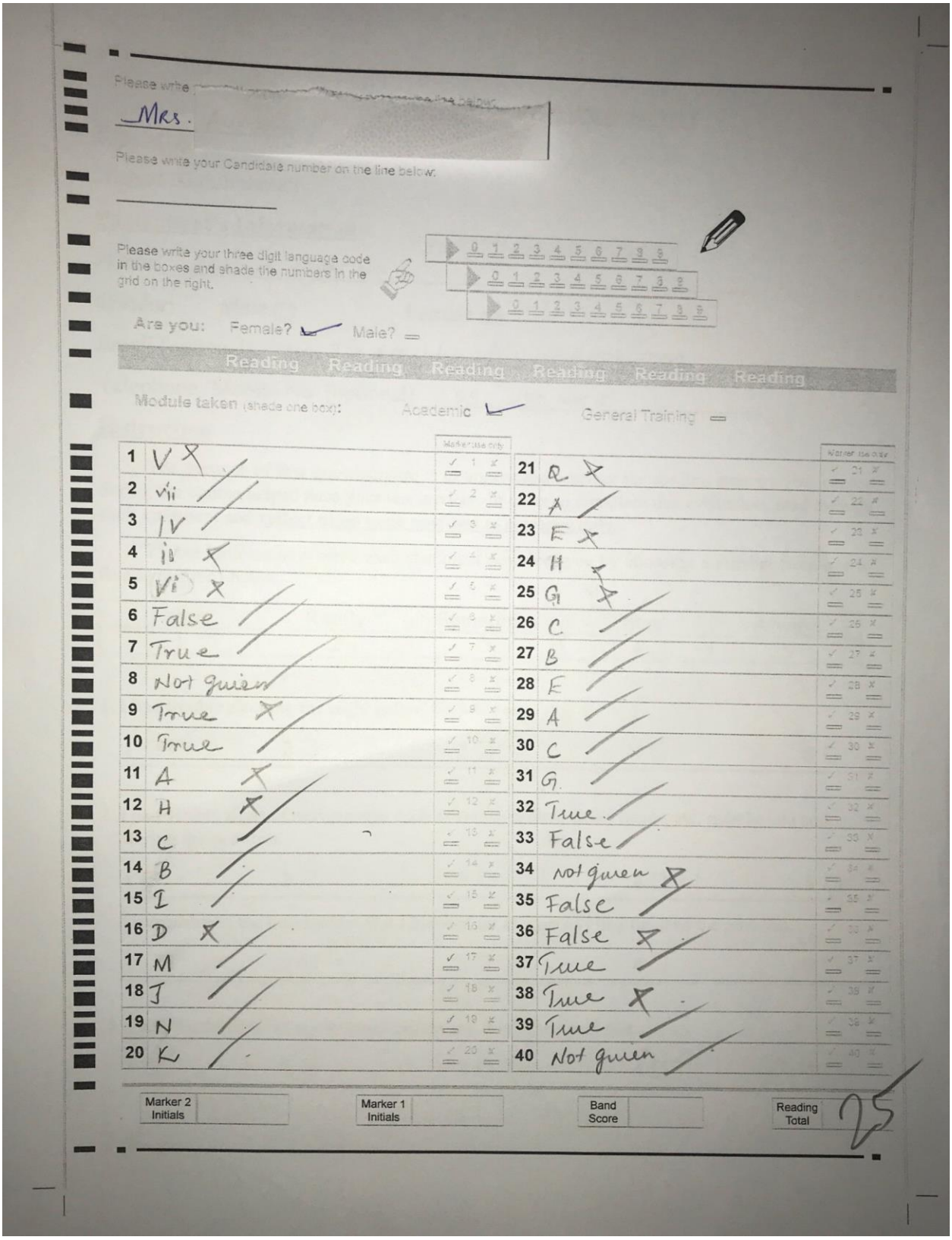
40 Early peoples found it easier to count by using their fingers rather than a group of pebbles.

Appendix 5: IELTS Academic Reading Band Scores and Raw Scores

Band Score / 9	**9**	**8.5**	**8**	**7.5**	**7**	**6.5**	**6**	**5.5**	**5**	**4.5**	**4**	**3.5**	**3**	**2.5**
Raw Score / 40	**39-40**	**37-38**	**35-36**	**33-34**	**30-32**	**27-29**	**23-26**	**19-22**	**15-18**	**13-14**	**10-12**	**8-9**	**6-7**	**4-5**

Adapted from
https://www.google.ae/url?sa=t&rct=j&q=&esrc=s&source=web&cd=21&cad=rja&uact=8&ved=0ahUKEwjU1ebAlYXTAhUqJ5oKHRsvDKYQFgiHATAU&url=http%3A%2F%2Fwww.admc.hct.ac.ae%2Ftjohnson%2FMY%2520MATERIALS%2520BANK%2FFOUNDATION%2520-%25202011_12%2FSEM%2520TWO%2FIELTS%2520MARKING%2520SCHEMES.docx&usg=AFQjCNFmuO7lmtKCn92-LGvkvOtvHBzxHA&sig2=Gn9o0wmCJn2JBmgpsPpTdg

Appendix 6: IELTS Reading Answer Sheet



Please write your name in the box below.

Mrs.

Please write your Candidate number on the line below.

Please write your three digit language code in the boxes and shade the numbers in the grid on the right.

Are you: Female? ✓ Male? —

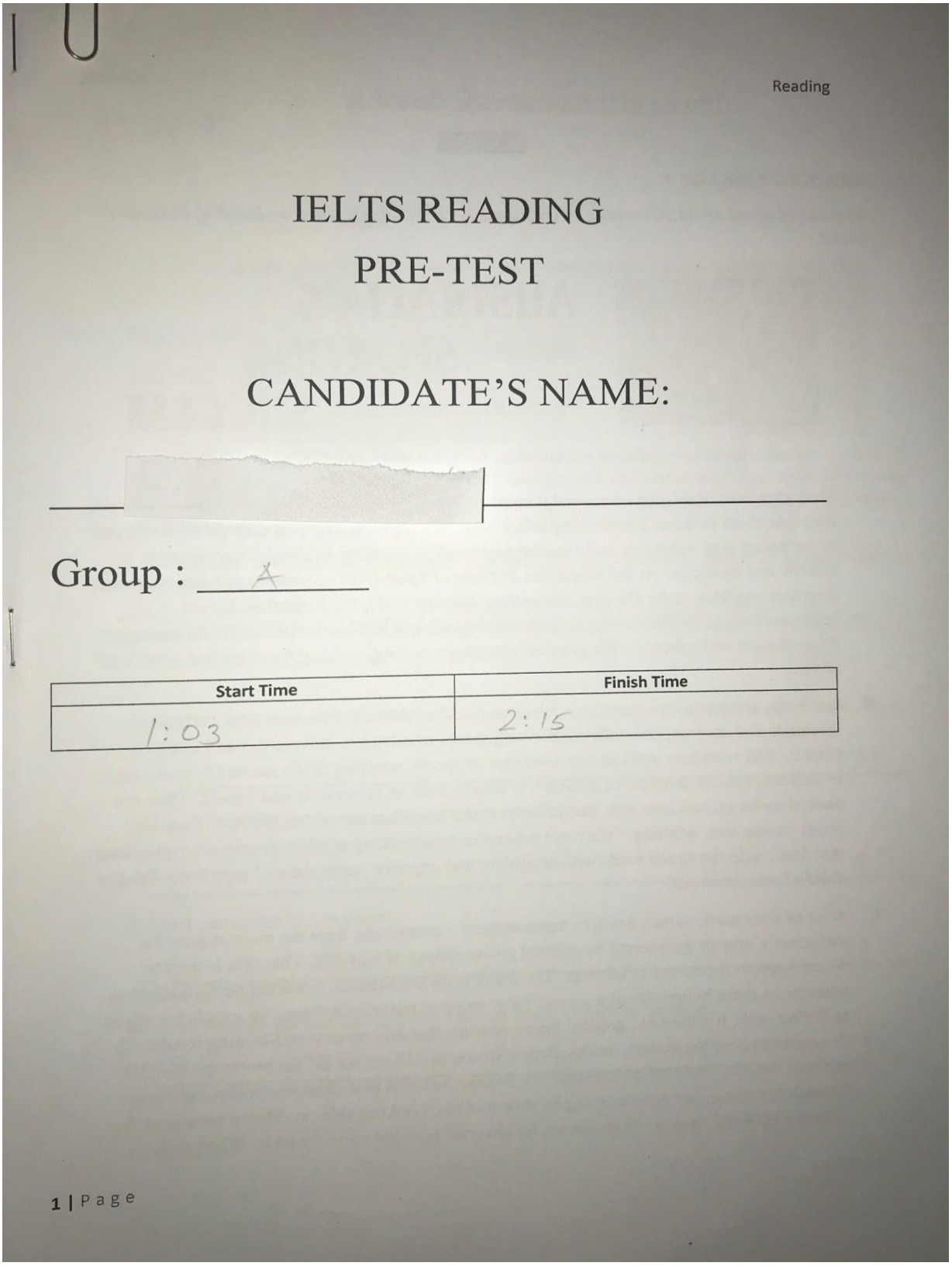
Reading Reading Reading Reading Reading Reading

Module taken (shade one box): Academic ✓ General Training —

1	V	✗	21	Q	✗
2	vii	✓	22	A	✓
3	IV	✓	23	E	✗
4	ii	✗	24	H	✗
5	vi	✗	25	G	✗
6	False	✓	26	C	✓
7	True	✓	27	B	✓
8	Not given	✓	28	E	✓
9	True	✗	29	A	✓
10	True	✓	30	C	✓
11	A	✗	31	G	✓
12	H	✗	32	True	✓
13	C	✓	33	False	✓
14	B	✓	34	not given	✗
15	I	✓	35	False	✓
16	D	✗	36	False	✗
17	M	✓	37	True	✓
18	J	✓	38	True	✗
19	N	✓	39	True	✓
20	K	✓	40	Not given	✓

Marker 2 Initials | Marker 1 Initials | Band Score | Reading Total 25

Appendix 7: Start Time and Finish Time (Pre-reading Comprehension Test)



Reading

IELTS READING

PRE-TEST

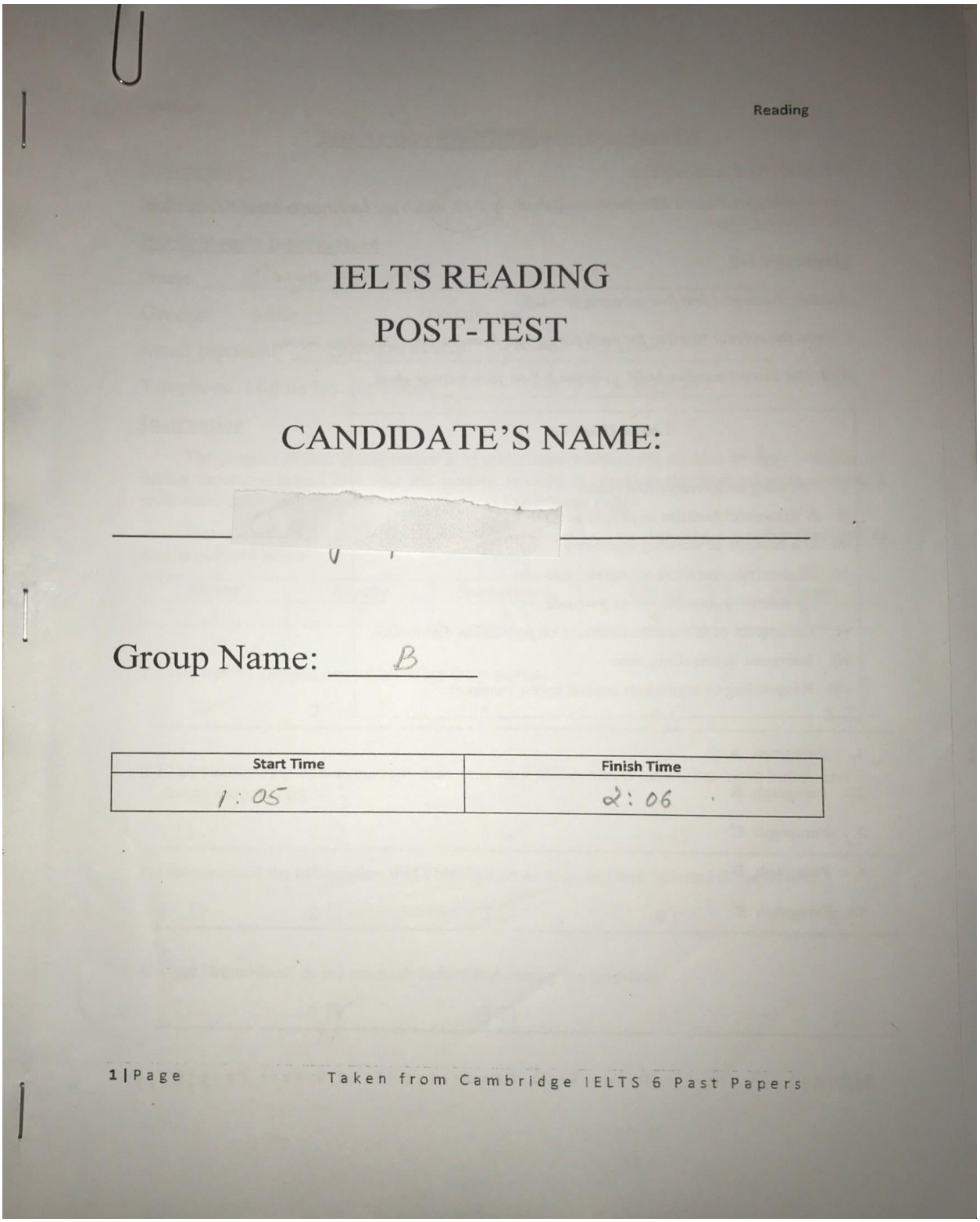
CANDIDATE'S NAME:

Group : A

Start Time	Finish Time
1:03	2:15

1 | Page

Appendix 8: Start Time and Finish Time (Post-Reading Comprehension Test)



Reading

IELTS READING
POST-TEST

CANDIDATE'S NAME:

[redacted]

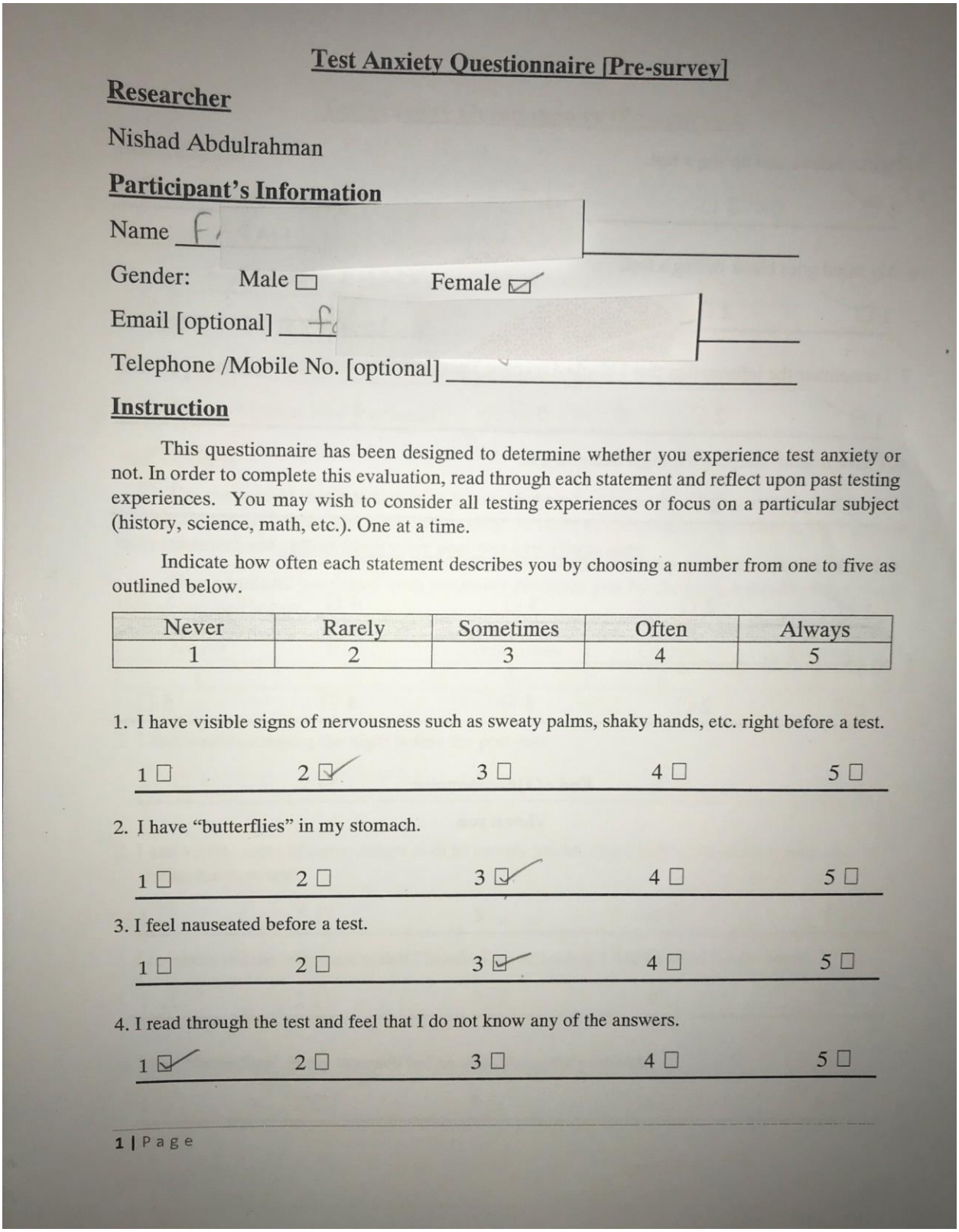
Group Name: B

Start Time	Finish Time
1:05	2:06

1 | Page

Taken from Cambridge IELTS 6 Past Papers

Appendix 9: Pre-survey (Reading Test-Anxiety Questionnaire)



Test Anxiety Questionnaire [Pre-survey]

Researcher

Nishad Abdulrahman

Participant's Information

Name f

Gender: Male ☐ Female ☑

Email [optional] f

Telephone /Mobile No. [optional] _____

Instruction

This questionnaire has been designed to determine whether you experience test anxiety or not. In order to complete this evaluation, read through each statement and reflect upon past testing experiences. You may wish to consider all testing experiences or focus on a particular subject (history, science, math, etc.). One at a time.

Indicate how often each statement describes you by choosing a number from one to five as outlined below.

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

1. I have visible signs of nervousness such as sweaty palms, shaky hands, etc. right before a test.

1 ☐ 2 ☑ 3 ☐ 4 ☐ 5 ☐

2. I have "butterflies" in my stomach.

1 ☐ 2 ☐ 3 ☑ 4 ☐ 5 ☐

3. I feel nauseated before a test.

1 ☐ 2 ☐ 3 ☑ 4 ☐ 5 ☐

4. I read through the test and feel that I do not know any of the answers.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

1 | Page

5. I panic before and during a test.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

6. My mind goes blank during a test.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

7. I remember the information that I blanked on once I get out of the testing situation.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

8. I have trouble sleeping the night before a test.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

9. I make mistakes on easy questions or put answers in the wrong places.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

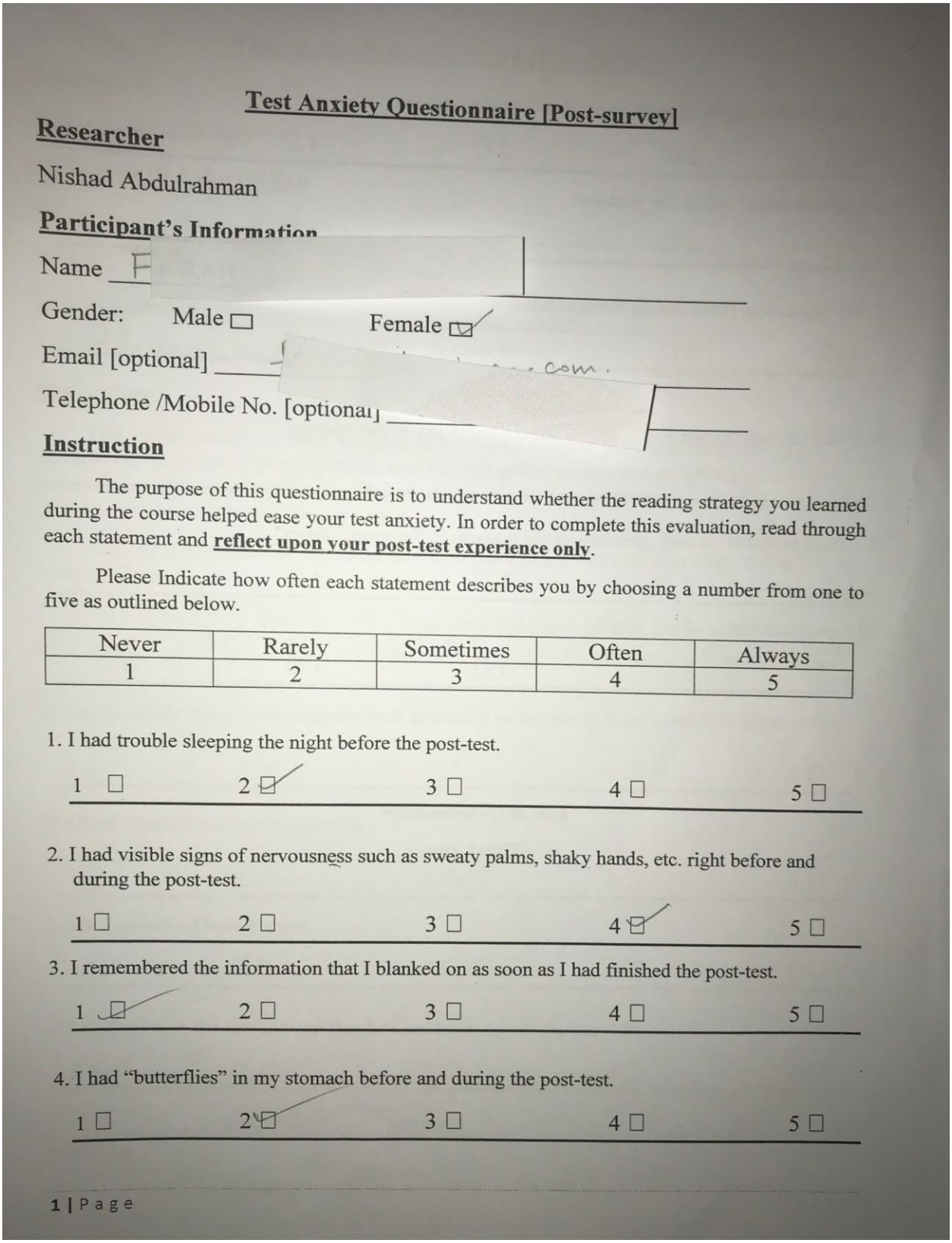
10. I have trouble choosing answers.

1 ☐ 2 ☐ 3 ☑ 4 ☐ 5 ☐

End of Questionnaire

Thank you

Appendix 10: Post-survey (Reading Test-Anxiety Questionnaire)



Test Anxiety Questionnaire [Post-survey]

Researcher

Nishad Abdulrahman

Participant's Information

Name [redacted]

Gender: Male ☐ Female ☑

Email [optional] [redacted]

Telephone /Mobile No. [optional] [redacted]

Instruction

The purpose of this questionnaire is to understand whether the reading strategy you learned during the course helped ease your test anxiety. In order to complete this evaluation, read through each statement and **reflect upon your post-test experience only**.

Please Indicate how often each statement describes you by choosing a number from one to five as outlined below.

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

1. I had trouble sleeping the night before the post-test.

1 ☐ 2 ☑ 3 ☐ 4 ☐ 5 ☐

2. I had visible signs of nervousness such as sweaty palms, shaky hands, etc. right before and during the post-test.

1 ☐ 2 ☐ 3 ☐ 4 ☑ 5 ☐

3. I remembered the information that I blanked on as soon as I had finished the post-test.

1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

4. I had "butterflies" in my stomach before and during the post-test.

1 ☐ 2 ☑ 3 ☐ 4 ☐ 5 ☐

1 | Page

5. I had trouble choosing answers while doing the post-test.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

6. I felt nauseated before the post-test.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

7. My mind went blank during the post-test test.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

8. I read through the test and felt that I did not know any of the answers.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

9. I made mistakes on easy questions or put answers in the wrong places.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

10. I panicked before and during the post-test.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

End of Questionnaire

Thank you

Appendix 11: Semi-Structured Post-Production Interview (Participant 1)

Q1. Did you use the integrated reading strategy in the post-reading test?

Yes, I did.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

In the pre-test, as such as I told I didn't use much of strategy it was as I said I have to answer the questions so I read the whole paragraph then went back to the questions then came back and read again. Over here, I had like I could even take two questions and then go to one paragraph and give the answers so time consumption was much lesser and I was more confident that definitely, I will finish it off. That was for sure.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Yes, it did help. As I said that the first thing was I was confident that I will finish it off. So it's ok even if I was lagging behind the time. Secondly, I don't need to read the whole paragraph and then the whole of questions. I just need to take one question so as to find the answer and especially, marking the keywords. That helped me a lot.

Q4. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Faster, yes.

Q5. How did you feel right before the post-test?

I was normal. I was calm. No anxiety. I was not nervous.

Q6. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

Definitely. because of ... usually what I had in my mind was in the pre-test all the questions should be there and I have to answer all. like even if I miss out the meaning of a word, vocabulary or something. I used to go like if I will be able to answer this. A confusion is there. But in this, I was sure that I need to mark the keywords and it's ok if I don't understand a few words. I need to get the whole idea. That's it. It did help me.

Q7. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

No, but I need more practice because I read a few times the same paragraph. I kept on reading. If I don't understand or if I felt the answer is here but I am not able to locate it properly. I didn't

find the strategy as such difficult to implement, but I felt I need more practice to make it even more faster.

Q8. How did you feel as soon as you'd finished your exam? Could you please explain?

I was confident that it was going good. I did a bit of re-checking in the initial stages and I left it. I don't want to do the whole of re-checking and I was like ok done.

Q9. Do you think you will continue to use this strategy in the future? Why / why not?

Definitely.

Q10. What is your overall impression of the integrated reading strategy?

It's good. It saves a lot of time. Had I known this in my school days I would have scored better. like you know ... The girls I remember I used to leave the session only like out of 20, even if I get 5-10, I'm least bothered. I used to leave it like 'leave it now'. so definitely it is very good. it takes less time and it saves the time, and confidence that I will do it. I don't need to read till the end to get one answer. The best part is I don't need to go throughout the whole thing. I will get the answer and it will save a lot of my time.

Appendix 12: Semi-Structured Post-Production Interview (Participant 2)

Q1. Did you use the integrated reading strategy in the post-reading test?

yes, I have.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

Actually, in the pre-test, we were not aware of all these strategies. like we have learned in the class that you have made us learn. So in the pre-test, I was just reading, and I was just giving the answers. I was not using any kind of strategy, but in the post-test, we have like first underlined the keywords and we were like reading two questions at a time and then we were going back to the passage.

Q3. You mean the question types?

Yes, question types. Two. I was reading and I was going back to the passage. then I was getting the answers very easily.

Q4. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Yes. Because see when in the pre-test, when we took the paper, I was like what to do now. I was really blank. even though I was giving the answers, I was able. But in the post-test, I was very assured that yes I can give the answers.

Q5. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Yea faster. actually, it helped me like as I told you I was reading the questions first and I was going to the passage and also the headings... it helped me a lot. like in the previous test, I didn't read the headings properly and I was just doing in this way. But in the post-test, I have read everything very clearly and then I was going back to the passage.

Q6. Did you answer each question type separately or like you tried to answer them almost at the same time?

Almost at the same time. Only one or two I think I missed it otherwise at the same time only I was doing everything.

Q7. How did you feel right before the post-test?

I was nervous. I was nervous. Like I know I can do it, but actually, now this IELTS is very important for me. This is in my mind so maybe because of that, I was very like whether I will be able to complete the task on time. That was my problem... only the time. Yea. only the time.

Q8. Ok. So, you were super nervous before the exam?

Not super nervous. but I was nervous. I was like hoping to do this on time because I wanted to do this on time.

Q9. How did you feel when you started doing the test?

But when I started doing the test, it was easy for me. passage one was very easy for me. I have done it in 30 minutes.

Q10. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

Of course. Yea, because as I told you, in the pre-test, like we were doing in the other way. But in the post-test, we were following whatever you taught us. So That made the test really easy. Thanks to you actually.

Q11. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

No. Not really.

Q12. Did feel that you had some kind of difficulty during the test?

No. Only the vocabulary part. I feel that you know I could have done it better. After the test was finished also I was thinking at home like continuously that I would have done that like... maybe the practice was lacking for me. I felt that.

Q13. Do you think that you needed to have more practice, right?

Yea. Only that vocabulary part I need practice with. The other ones... I was doing them very easily.

Q14. What do you mean by vocabulary part? Do you mean the summary completion questions?

Yea. fill in the blanks. others...I think I was able to complete all the time. Only with this, I was struggling like. I was not sure with the answers.

Q15. What was the real problem with that?

I was finding the answers very close to each other and that was the problem. I was like what to do. Then at the last moment, I had put the answers.

Q16. You had a problem with vocabulary, synonyms, paraphrases and so on?

Not so much, but maybe because of the nervousness also that time because whatever you were giving me before in the test like, every day what we were doing, only one answer hardly I was getting wrong for whatever you were giving me. But yesterday, I could have done better, yea fill in the blanks.

Q:17 So you think that you might have missed some answers because of your nervousness?

Nervousness plus I was not giving the concentration yesterday. Because as I told you I was fasting and also I was like it was going in my mind that I had to go out to pick out my son. and It was already too late. That thing was coming into my mind. If no time problem, I think I can do much better than this.

Q18. How did you feel as soon as you'd finished your exam? Could you please explain?

I was not so much happy. I was like thinking that. After going home also, I was not happy. I was telling my husband I could have done it better if I get the time or If give full concentration I could have done better, and my husband was telling me ok no problem.

Q19. Do you think you will continue to use this strategy in the future? Why / why not?

Yes, especially underlining the keynotes. That is helping me a lot.

Q20. What is your overall impression of the integrated reading strategy?

I think it is very good. Especially what we have like if we compare the pre and post-test, I think we have learned a lot. We were not so much aware of this IELTS actually and then after starting the pre-test, I was happy because my mark was ok ... not that much bad. I didn't expect that I would get that much marks. So after that in the post-test, after following all these strategies and underlining the keynotes and reading the passage clearly and reading the heading helped me a lot.

Appendix 13: Semi-Structured Post-Production Interview (Participant 3)

Q1. Did you use the integrated reading strategy in the post-reading test?

Yes. I did because I was very much comfortable with the strategy because I was taught and I was explained well so I thought the strategy is going to help me out.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

In fact, in the pre-test, I just tried to read the whole passage and then I go to the questions and then again come back to the whole passage and then go back to the questions so it took a long time for me and then that's why I couldn't like I mixed up by the end of the question paper and I didn't do well.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Yes. Of course. Because you know. It has like made the reading very easy for me and very fast so when I was attempting the questions and reading at the same time so then I found myself that within a very limited time I finished. Although I was expecting that there will be more questions but only three passages were there and I found that the time was quite enough for me.

Q4. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Q5. How did you feel right before the post-test?

Right before the post-test, I was confident because you know when somebody is there to guide you and teach you and then you are confident that the strategy which the mentor has taught. it's full proof strategy so I had that confidence, but a little bit I was [had] inhibition because of the paragraphs that maybe it is going to be very difficult for me.

Q6. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

Yes, Of course.

Q7. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

No. It was not difficult but it was like a little tricky. So at the same time, we have to keep two-three things in the mind. In the simple strategy, we keep only one thing.

Appendix 14: Semi-Structured Post-Production Interview (Participant 4)

Q1. Did you use the integrated reading strategy in the post-reading test?

Yea, sure. I have, Like, in the pre-test I was not even aware of anything like what strategies to be followed for answering the questions. I started reading the passage first. Then I go back to the questions. Then again, like, er... like in the pre-test, I read the entire passage first and then started attempting the questions, but in the post-test, I followed the integrated reading strategy, and I read two questions at a time. Then, read the passage... and ...like I followed the strategy.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

It's more like a streamlined strategy. I was aware of ...er... the question types. I was aware of the passage type. What questions I have to answer, like whether it is the summery completion or sentence... like fill in the blanks, matching, the headings with the given text. I was much more clear of the questions to be answered. So that was the main thing I was very comfortable with... er... That's it like …it helped me a lot.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Yea.Yea. for sure, but at some places, I got stuck because... It was not very clear with the statements mentioned in the passage... some words were ... I found like difficult to understand. But overall, it was like so vast difference, like, very much comfortable in answering the questions after knowing this strategy. What strategy I should follow.

Q4. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Yea... like... I was aware of the question types and I've seen... first I read the instructions ... what type of questions I need to answer. Then, I followed the strategy, like, specific question types, matching the headings or whether the answers will come in text order or not. Then ... yea... because I was aware of the question types.

Q5. How did you feel right before the post-test?

A bit nervous, like, but as soon as I received the paper, I was much more confident after seeing the questions and the passages.

Q6. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

yea ... during the test, I was much relaxed.

Q7. And you were more relaxed than you were in the pre-test, actually?

yes... yes... comparatively. Huge difference, actually.

Q8. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

No... not exactly difficult. Yea, it helped me actually. It was not difficult. I just followed the pattern and the types of questions to be answered and found it like it's really helpful.

Q9. How did you feel as soon as you'd finished your exam? Could you please explain?

I was much more confident that I have given most of the answers correct... er... except a few. Then, yea... and I had much time for myself to get back to the answers and cross them out ... like I crossed check my answers. It was really helpful.

Q10. Do you think you will continue to use this strategy in the future? Why / why not?

Yea... of course ...sure ...

Q11. What is your overall impression of the integrated reading strategy?

it's like... it made me a clear view .. clear vision .. how to answer the question. It helped me a lot. I was much more confident after knowing this strategy. yea... it let me finish my test within the given time and gave me extra time to get back to my answers and give them a cross check.

Appendix 15: Semi-Structured Post-Production Interview (Participant 5)

Q1. Did you use the integrated reading strategy in the post-reading test?

Yes.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

because in the pre-test, I don't have any strategy. I just go through the full passage and gulp all the things at the same time. So it consumed a lot of my time. But in the second case, in my post-test, I used the integrated reading method. It's a step by step method. it will make me more comfortable and more confident and it consumes less time.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

better compared to the previous test.

Q4. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Yes. because I used the strategy by going through the keywords, and in post-test, I find the keywords so it will help to improve the reading speed.

Q5. How did you feel right before the post-test?

I don't think I can able to finish the test within 1 hour and 30 minutes, but I took the exam and completed the test within one hour and 22 minutes. That is awesome. That is amazing. I can't believe that.

Q6. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

In the pre-test, I have some nervousness because I take a lot of time to finish the test. That kind of frustration. I can't able to finish within the time period. But in the post-test, I think I am more comfortable and more confident because I can make it within the time. So I was more confident.

Q7. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

I have only one problem because of my vocabulary. I don't have much vocabulary. This is the only reason sometimes I feel uncomfortable meanwhile in the test.

Q8. You mean you had difficulty with synonyms?

Yea. Vocabulary and synonyms. That also I have some problems because I didn't get the exact meaning of the keywords. That stuck me in some time and it consumed more time. that is the only thing. But at that time in my post-test, I used the whole idea of the paragraph it will help me to overcome that situation... because of the strategy.

Q9. How did you feel as soon as you'd finished your exam? Could you please explain?

Like Awesome wow. I finished it within the time. That makes me confident. I can ...Like that, I can do this.

Q10. Do you think you will continue to use this strategy in the future? Why / why not?

Of course. Why not. If there is a strategy better than this, I will [still] follow this strategy.

Q11. What is your overall impression of the integrated reading strategy?

It is very good. Excellent. for me it's excellent. I can finish the... I used this strategy for the post-test.

Q12. Do you think you need a little more practice with it?

Sure... only for increasing my vocabulary. I need to practice more. Now My target is I can finish it within one hour. it is possible. But it will take some efforts from my side to complete that one.

Appendix 16: Semi-Structured Post-Production Interview (Participant 6)

Q1. Did you use the integrated reading strategy in the post-reading test?

Yes. I did. because it was really helpful as we were having different questions like ... previous days. So to those questions, I have learned that we have to use this strategy which helps us to do our tasks in like sharp time and what, like more...

Q2. How is it different from the one you used in the pre-test? Could you please explain?

Because in the pre-test, I was just like ... I was taking one question and I was answering that only, but after that now in the post-test, I used to do like two questions at a time which were like MCQs and matching .... completion of the sentences. So I was trying to complete two different questions at the same time, which also helped me in reducing my time and finishing my test.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Yes, it did. It helped me ... like in reading 1 passage I was able to answer like two-three questions at the same time.

Q4. As you've already stated right? You tried to answer like three different question types at the same time.

Yes. Different questions types. Exactly. So before that, I was not doing in such a way. I was answering one question type only, and it was like a very lengthy process.

Q5. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Yes, it did. it did help me in reading because like,

Q5. In what way did it help you improve your reading speed?

like, skimming ... that you know ... scanning process helped me in reading. I was ... used to just mark my words... and focus on those words I used to skip some things... some sentences. according to those sentences, I used to answer the questions. Mostly questions were like when I was reading the question, I used to highlight the keywords and then getting back to my paragraphs, so in this way, I used to just answer my questions. Some of the like sentences, I used to skip also. But when it comes to ... I leave some questions as well and when like after completing the whole thing, when I come back to those, then I read again to complete my sentence. In this way, I used to complete most of the answers and ... yea... it helped me.

Q6. How did you feel right before the post-test?

I don't feel much tension about the post-test because it was like a bit relaxing. Yes, we have already learned so many techniques to complete our tasks, so it was not that... a bit of tension.

Q7. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

Yes, I was confident yea... pretty much

Q8. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

No... because that's the only thing which helped me. You know, It was good.

Q9. How did you feel as soon as you'd finished your exam? Could you please explain?

I feel confident that I will score more. My score will be better than like the previous. Maybe because last time I took more time and this time I came to know how to answer. This time I was like pretty much confident.

Q10. Do you think you will continue to use this strategy in the future? Why / why not?

Definitely, Ha... definitely yes. As a teacher, it is like very helpful for me.

Q11. What is your overall impression of the integrated reading strategy?

Overall... it like it helped me in reading like faster and with more focus also and like ... what else?

Appendix 17: Semi-Structured Post-Production Interview (Participant 7)

Q1. Did you use the integrated reading strategy in the post-reading test?

Of course. I have used the strategy. Integrated reading strategy in the post-test.

Q2. How is it different from the one you used in the pre-test? Could you please explain?

In the pre-test, that was not familiar with us because we didn't have any idea about the test and how's the question and how to find the answer, but after the pre-test, we got a lot of experience and training ...through you also. We have trained lots of strategies to find out the answer. Skimming and scanning is the most important strategy we used in the post-test.

Q3. Do you think the integrated reading strategy helped you answer the questions in a better way in the post-test? Could you please explain?

Of course. We have used the integrated reading strategy in the post-test. Especially, we used the...finding ... the underlining the keywords and through the keywords, we could find out the answers, very easily. that was a very better way to find out the answer.

Q4. Do you think the integrated reading strategy helped you read faster in the post-test? Could you please explain?

Of course. That's just before I told you the skimming and scanning is the most important strategy to read easily and faster and I used it in my post-test. If that was not there, I couldn't complete within the limited time.

Q5. Can you compare the strategy you used in the pre-test with the one you used in the post-test?

In the pre-test, we read from starting to end it had taken too much time … half an hour also taken because we didn't have any kind of reading habit, but this is the first time we read like this passages and there was lots of difficult words to find out the answer too, meaning also and we took lots of time to find out the summary of the passages. But in the post-test, we used the strategy which you have taught us. We used the skimming and scanning and flash reading also and the underline the words and we used this strategy to answer one question from the first part and second part also. It was very helpful.

Q6. In the post-test, did you answer each question type separately or like together?

Together only. two together.

Q7. Did it help you find the answers?

Yes. Otherwise, we have to come back again to the passages, but it was very useful. first, we have to find out the answers in the first session then go to the second part. then at one reading, we could get the answer very easily.

Q8. How did you feel right before the post-test?

It was very excited. Just before the examination, I was a bit tensed but when I got the question paper, I got lots of confidence and I have lots of ideas to use the strategy in the post-test.

Q9. Did you feel more confident and relaxed during the post-test than in the pre-test? Could you please explain?

Definitely, because we got a lot of ideas how to find out the answers and we used the strategy also. We have a lot of confidence to use this strategy. If there is no strategy, it will be very difficult to find out the answers, and we couldn't complete the examination within the time.

Q10. Did you find it difficult to use the integrated reading strategy during the post-test? Could you please explain?

Difficult means we faced lots of words, new words... vocabularies. the vocabularies we couldn't find the exact meaning.

Q11. Did you find it difficult to use the strategy?

No. But the strategy was very helpful. With the help of this strategy only we find out the answers.

Q 13. What actually caused you a lot of problems in the post-test?

In the post-test, we met a lot of words and we used the techniques only. Means underline the word. We didn’t go to find out the meaning of all the words.

Did you find a lot difficult vocabulary in the passage?

A little bit only

So it didn’t cause a lot of problems to you.

Q12. How did you feel as soon as you’d finished your exam? Could you please explain?

That was a very difficult question because, after the examination, I got a lot of expectations, but I know I can score good marks, but I know I can score good marks than previous pre-test also and because we have used a lot of strategies and that's why we have confidence I will get good marks.

Q13. Do you think you will continue to use this strategy in the future? Why / why not?

Of course why not. We have to use these strategies.

Q14. What is your overall impression of the integrated reading strategy?

Means... we used the strategy that was very helpful and we could find out the answers in better way and faster and that was very helpful and not only good but better. This strategy is a very better thing to find out the answer ... correct answer... exact meaning and exact answer also. Although we don't know the meaning, but we can find out the answer. That's the better way.

Q15. How do you find the answers even though you don't know the meaning of words?

But we have underlined the keywords and just we... outlook of the questions... outlook means, first of all, we have read and we got ideas. That idea we used with that strategy and we just read the questions and matched and we got the idea and write the answer.

Appendix 18: Demographic Information Form

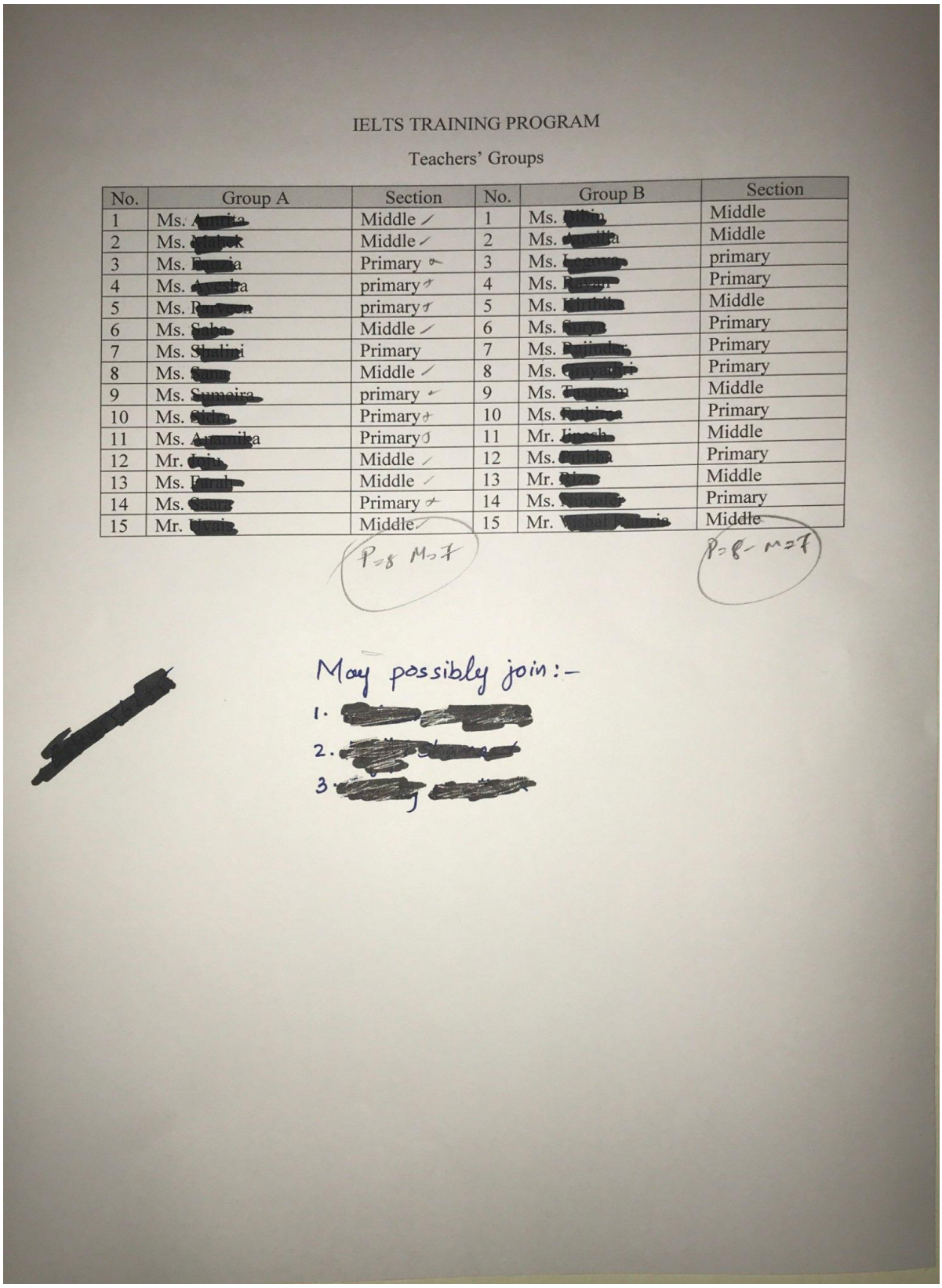
Please also complete any or all of the following items:

1. Your Name: [redacted]
2. Nationality: INDIAN
3. Age: 29
4. Sex: Female
5. Educational Qualification: MCA, B.Ed
6. Profession: Teacher.
7. Total work experience: 7 years.

Adapted from:

https://www.google.ae/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=0ahUKEwixqoGF_YTTAhUG0RQKHWbJDmEQFgg8MAY&url=https%3A%2F%2Fwww.yorksj.ac.uk%2Fmedia%2Fcontent-assets%2Fresearch%2Fdocuments%2FConsent-Form.doc&usg=AFQjCNEI-Rb7zzfovgBWv2qXou22lRufAQ&sig2=bjwWslMqPfRLJ_j8-MFrjQ

Appendix 19: List of Teachers with the Sections They Work in



IELTS TRAINING PROGRAM

Teachers' Groups

No.	Group A	Section	No.	Group B	Section
1	Ms. [redacted]	Middle	1	Ms. [redacted]	Middle
2	Ms. [redacted]	Middle	2	Ms. [redacted]	Middle
3	Ms. [redacted]	Primary	3	Ms. [redacted]	primary
4	Ms. [redacted]	primary	4	Ms. [redacted]	Primary
5	Ms. [redacted]	primary	5	Ms. [redacted]	Middle
6	Ms. [redacted]	Middle	6	Ms. [redacted]	Primary
7	Ms. [redacted]	Primary	7	Ms. [redacted]	Primary
8	Ms. [redacted]	Middle	8	Ms. [redacted]	Primary
9	Ms. [redacted]	primary	9	Ms. [redacted]	Middle
10	Ms. [redacted]	Primary	10	Ms. [redacted]	Primary
11	Ms. [redacted]	Primary	11	Mr. [redacted]	Middle
12	Mr. [redacted]	Middle	12	Ms. [redacted]	Primary
13	Ms. [redacted]	Middle	13	Mr. [redacted]	Middle
14	Ms. [redacted]	Primary	14	Ms. [redacted]	Primary
15	Mr. [redacted]	Middle	15	Mr. [redacted]	Middle

P=8 M=7

P=8- M=7

[redacted]

May possibly join:-

1. [redacted]
2. [redacted]
3. [redacted]

Appendix 20: Pilot Study Consent Form

PILOT STUDY CONSENT FORM

Name of Researcher
Nishad Chathamkulam Abdulrahman
Title of study
Better Speed Better comprehension: Introducing an Integrated Reading Comprehension Strategy

Dear Sir / Madam,

The purpose of this pilot study is to improve and validate the teaching materials and data collection instruments that will be used to examine the effectiveness of an integrated reading strategy on Individuals' reading performance in standardized English language proficiency tests (e.g. IELTS) in relation to speed, comprehension and test anxiety.

The data will be accessible only to the researcher. Your valuable comments and suggestions will be greatly appreciated.

Please read and complete this form carefully. If you are willing to participate in this study, ring the appropriate responses and sign and date the declaration at the end. If you do not understand anything and would like more information, please do not hesitate to ask. You can also contact Nishad Abdulrahman at nish62@hotmail.com

I have had the research satisfactorily explained to me in verbal form by the researcher.	YES / NO
I understand that the research will involve: a pre-survey, a pre-test, an intervention stage, a post-test, a post-survey and a post-production interview.	YES / NO
I understand that I may withdraw from this study at any time without having to give an explanation.	YES / NO
I understand that all information about me will be treated in strict confidence and that I will not be named in any written work arising from this study.	YES / NO
I understand that any audiotape material of me will be used solely for research purposes and will be destroyed on completion of your research.	YES / NO

I freely give my consent to participate in this piolet study and have been given a copy of this form for my own information.

Signature: [redacted] 19-4-2018

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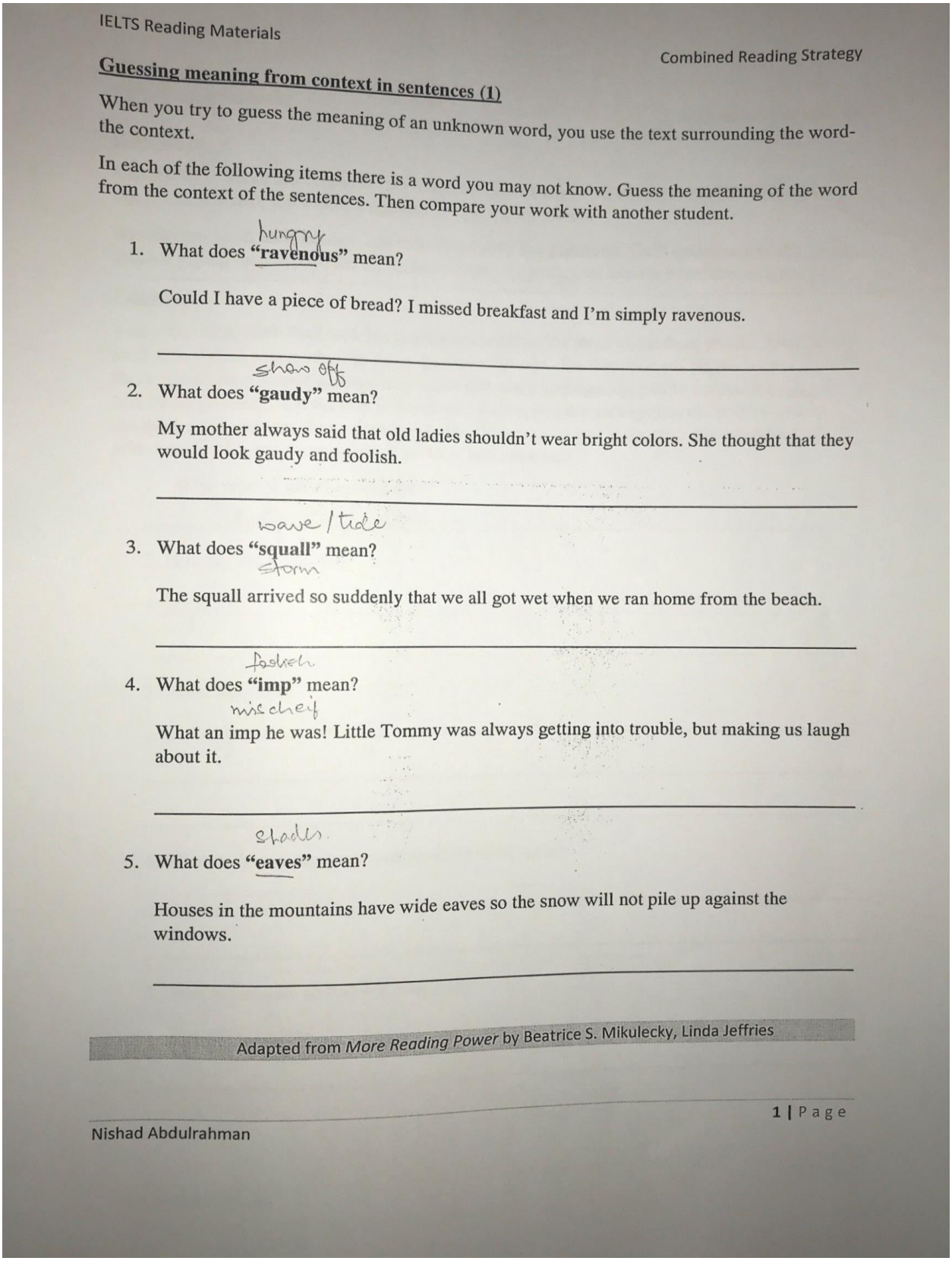
Appendix 21: Samples of (Meta) Cognitive Worksheets



IELTS Reading Materials

Combined Reading Strategy

Guessing meaning from context in sentences (1)

When you try to guess the meaning of an unknown word, you use the text surrounding the word- the context.

In each of the following items there is a word you may not know. Guess the meaning of the word from the context of the sentences. Then compare your work with another student.

1. What does **"ravenous"** mean? hungry

   Could I have a piece of bread? I missed breakfast and I'm simply ravenous.

   _____

2. What does **"gaudy"** mean? show off

   My mother always said that old ladies shouldn't wear bright colors. She thought that they would look gaudy and foolish.

   _____

3. What does **"squall"** mean? wave / tide storm

   The squall arrived so suddenly that we all got wet when we ran home from the beach.

   _____

4. What does **"imp"** mean? foolish mischief

   What an imp he was! Little Tommy was always getting into trouble, but making us laugh about it.

   _____

5. What does **"eaves"** mean? shades

   Houses in the mountains have wide eaves so the snow will not pile up against the windows.

   _____

Adapted from *More Reading Power* by Beatrice S. Mikulecky, Linda Jeffries

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Nishad Abdulrahman

31st May '18

Inferences

The ability to make inferences is very important in reading. You often need to infer the topic or main idea of a text, the author's opinion, or other information.

Directions: Read each passage and then respond to the questions. Each question will ask you to make a logical inference based on textual details. Explain your answer by referencing the text.

Passage 1

Every day after work Paul took his muddy boots off on the steps of the front porch. Alice would have a fit if the boots made it so far as the welcome mat. He then took off his dusty overalls and threw them into a plastic garbage bag; Alice left a new garbage bag tied to the porch railing for him every morning. On his way in the house, he dropped the garbage bag off at the washing machine and went straight up the stairs to the shower as he was instructed. He would eat dinner with her after he was "presentable," as Alice had often said.

1. What type of job does Paul do?

dirty job / farming

2. How do you know this?

muddy boots

3. Describe Alice:

hygienic lady.

4. What in the text supports your description of Alice?

in structions

5. What relationship do Paul and Alice have?

mother / son.

Skip over unknown words

In order to read more quickly good readers usually skip over words they do not know. They also skip over many other words that are not important for the general meaning. In fact, you can get the important ideas from a text even with many words missing.

Exercise 1

In this passage, every eight word is missing. Do not try to guess the missing words.

Read the passage and answer the comprehension questions below.

Dear Joan,

I'm sorry not to have written sooner. I have been very busy since I _____back from vacation. There has been so _____ to do at work lately! Almost every _____ I have to stay late. I've even _____ going in to the office on Saturdays, _____.

I've had no time to relax at _____ either. Every free moment has been taken _____by work on the house. The roof _____ in a very bad condition after the_____. But I'd known how busy I'd _____ work. I might have waited.

Anyway, it's _____ finished now. So at last I can _____ you to come over some weekend with _____ family. We could all take a walk _____ Mt. Grey.

Judy sends her love. We _____ to see you all soon

Love,

George

1. Why has George not written sooner? Busy with the work.
2. What has he been doing in his free time? House work.
3. What does George suggest to Joan? Mt. Grey

Adapted from *More Reading Power* by Beatrice S. Mikulecky, Linda Jeffries

Appendix 22: A Sample of an easier Reading Passage with One Question type

Reading: Multiple Choice 1

Dinosaurs

At the beginning of the nineteenth century, the study of fossils began. Before it began, people didn't believe that fossils once lived.

The most famous fossils of all are the dinosaurs. Now, of course, there are no dinosaurs. They all died millions of years before people lived in the world. Scientists still don't know why the dinosaurs died.

Many scientists believe that dinosaurs died after a change of climate. The earth got cold, and many plants and animals died.

The British scientist Richard Owen invented the word *Dinosaur* 150 years ago. He used two Greek words 'deinos' and 'sauros', meaning terrible lizards. Some dinosaurs could run rapidly on two legs. Others had horns to protect them. Some dinosaurs ate plants, for example, Triceratops and Stegosaurus. Others ate meat, Like Tyrannosaurus, which stood up to seven meters high.

Questions 1-3

*Choose the correct letter **A, B, C or D***

write your answers in boxes 1 – 3 on your answer sheet.

1. Before the study of fossils began, _____
   a. at the beginning of 19th century
   b. dinosaurs didn't live on earth
   c. people knew they once lived
   d. no one believed dinosaurs lived in the world before

2. It is believed that dinosaurs died due to _____
   a. the death of many animals
   b. the emergence of Homo sapiens
   c. a climate change
   d. the study of fossils

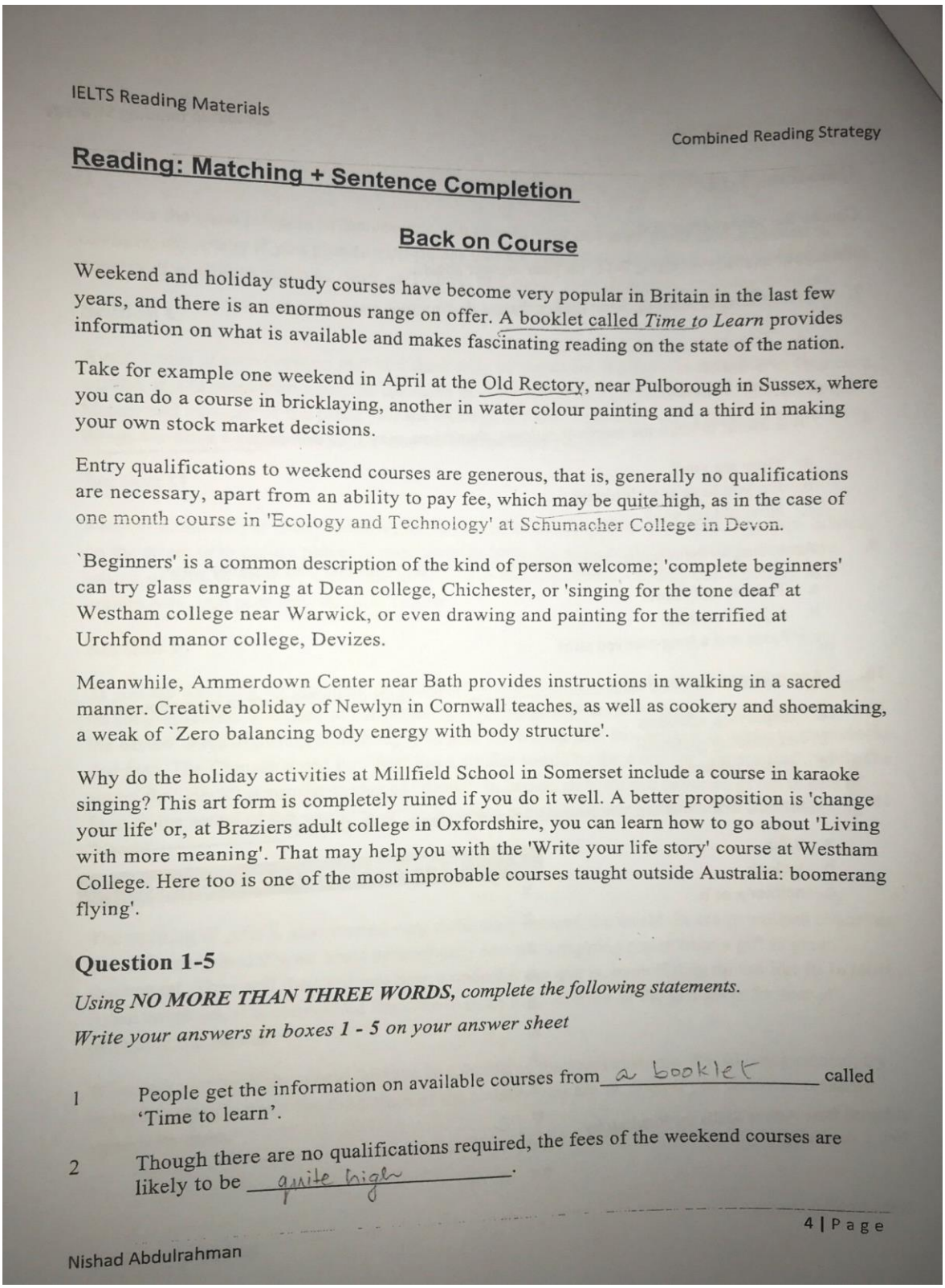
3. Stegosaurus _____
   a. ate meat.
   b. was a herbivore.
   c. had horns to protect them.
   d. stood up to seven meters high.

IELTS Reading Answer Sheet

	✓ 1 ✗
1	
2	2
3	3

Adapted from:
True to Life Elementary personal workbook (1995)

Appendix 23: A Sample of an Easier Reading Passage with Multiple Question Types



IELTS Reading Materials

Combined Reading Strategy

Reading: Matching + Sentence Completion

Back on Course

Weekend and holiday study courses have become very popular in Britain in the last few years, and there is an enormous range on offer. A booklet called *Time to Learn* provides information on what is available and makes fascinating reading on the state of the nation.

Take for example one weekend in April at the Old Rectory, near Pulborough in Sussex, where you can do a course in bricklaying, another in water colour painting and a third in making your own stock market decisions.

Entry qualifications to weekend courses are generous, that is, generally no qualifications are necessary, apart from an ability to pay fee, which may be quite high, as in the case of one month course in 'Ecology and Technology' at Schumacher College in Devon.

`Beginners' is a common description of the kind of person welcome; 'complete beginners' can try glass engraving at Dean college, Chichester, or 'singing for the tone deaf' at Westham college near Warwick, or even drawing and painting for the terrified at Urchfond manor college, Devizes.

Meanwhile, Ammerdown Center near Bath provides instructions in walking in a sacred manner. Creative holiday of Newlyn in Cornwall teaches, as well as cookery and shoemaking, a weak of `Zero balancing body energy with body structure'.

Why do the holiday activities at Millfield School in Somerset include a course in karaoke singing? This art form is completely ruined if you do it well. A better proposition is 'change your life' or, at Braziers adult college in Oxfordshire, you can learn how to go about 'Living with more meaning'. That may help you with the 'Write your life story' course at Westham College. Here too is one of the most improbable courses taught outside Australia: boomerang flying'.

Question 1-5

*Using **NO MORE THAN THREE WORDS**, complete the following statements.*

*Write your answers in boxes **1 - 5** on your answer sheet*

1 People get the information on available courses from a booklet called 'Time to learn'.

2 Though there are no qualifications required, the fees of the weekend courses are likely to be quite high.

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Nishad Abdulrahman

3 Newcomers might try glass engraving at Deans College.

4 People can learn to walk in a sacred manner at Ammerdown Centre.

5 A course in karaoke singing is part of holiday activities at Millfield School.

Questions 6- 9

Look at list of courses, **6-9**, the list of colleges, **A-C**, given below. Match each course with the names of colleges, **A-C**.

*Write the appropriate letters **A-F** in boxes, **6-9**, on your answer sheet.*

You may use any letter more than once.

A	**Old Rectory**
B	**Schumacher College**
C	**Dean College**

6 Bricklaying A

7 Ecology and Technology B

8 Stock market decisions A

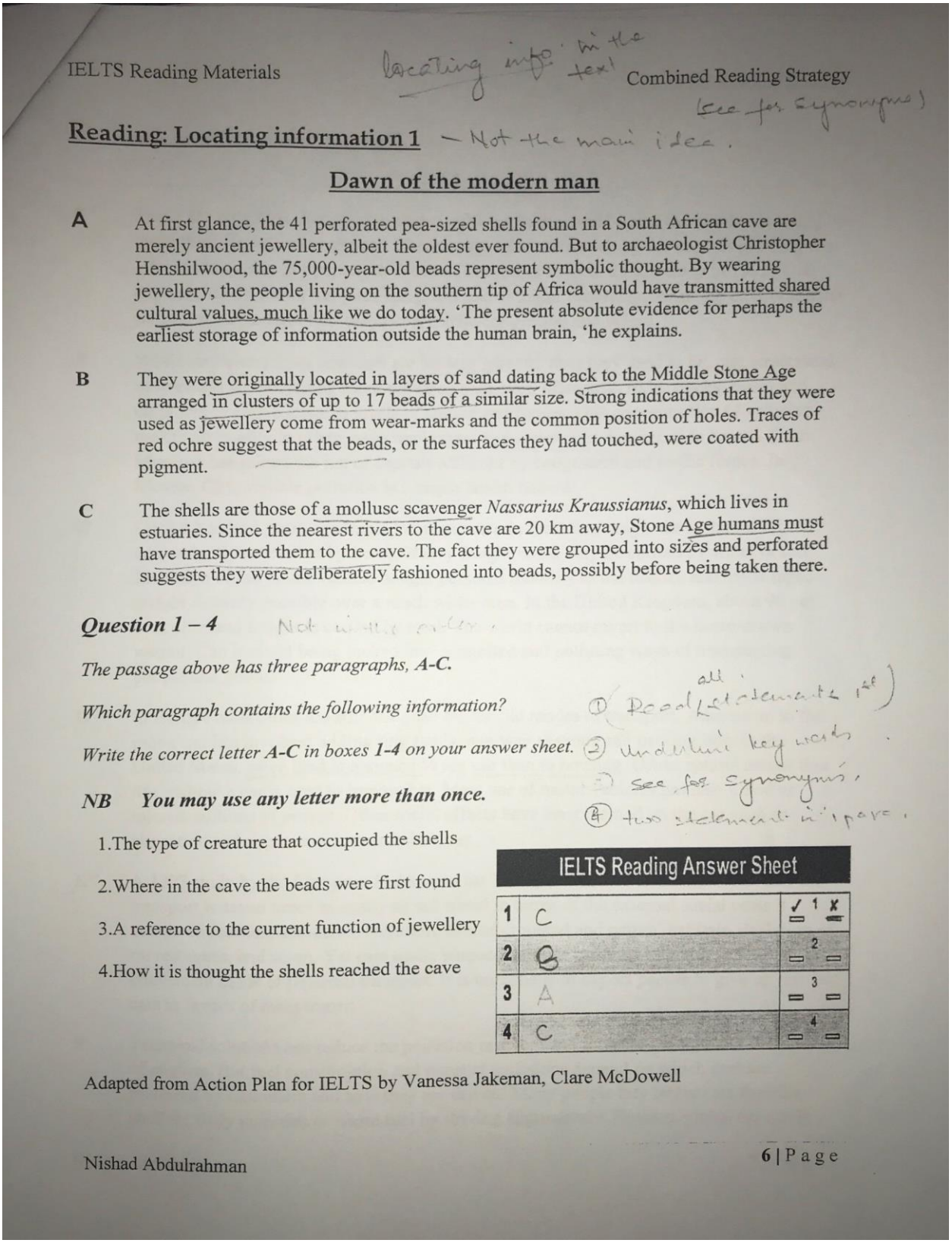
9 Glass engraving C

Adapted from True to life by Ruth Gairns, Stuart Redman

IELTS Reading Answer Sheet

		✓ 1 ✗
1	a booklet	
2	quite high	2
3	glass engraving	3
4	Ammerdown Centre	4
5	holiday activities	5
6	A	6
7	B	7
8	A	8
9	C	9

Appendix 24: A Sample of a More Challenging Text with One question type



IELTS Reading Materials — locating info in the text — Combined Reading Strategy (See for Synonyms)

Reading: Locating information 1 — Not the main idea.

Dawn of the modern man

A At first glance, the 41 perforated pea-sized shells found in a South African cave are merely ancient jewellery, albeit the oldest ever found. But to archaeologist Christopher Henshilwood, the 75,000-year-old beads represent symbolic thought. By wearing jewellery, the people living on the southern tip of Africa would have transmitted shared cultural values, much like we do today. 'The present absolute evidence for perhaps the earliest storage of information outside the human brain, 'he explains.

B They were originally located in layers of sand dating back to the Middle Stone Age arranged in clusters of up to 17 beads of a similar size. Strong indications that they were used as jewellery come from wear-marks and the common position of holes. Traces of red ochre suggest that the beads, or the surfaces they had touched, were coated with pigment.

C The shells are those of a mollusc scavenger *Nassarius Kraussianus*, which lives in estuaries. Since the nearest rivers to the cave are 20 km away, Stone Age humans must have transported them to the cave. The fact they were grouped into sizes and perforated suggests they were deliberately fashioned into beads, possibly before being taken there.

Question 1 – 4 Not in the order.

*The passage above has three paragraphs, **A-C.***

Which paragraph contains the following information?

*Write the correct letter **A-C** in boxes **1-4** on your answer sheet.*

1. Read all statements 1st
2. Underline key words
3. See for synonyms
4. Two statements in 1 para.

NB ***You may use any letter more than once.***

1. The type of creature that occupied the shells
2. Where in the cave the beads were first found
3. A reference to the current function of jewellery
4. How it is thought the shells reached the cave

IELTS Reading Answer Sheet		
1	C	✓ 1 ✗
2	B	2
3	A	3
4	C	4

Adapted from Action Plan for IELTS by Vanessa Jakeman, Clare McDowell

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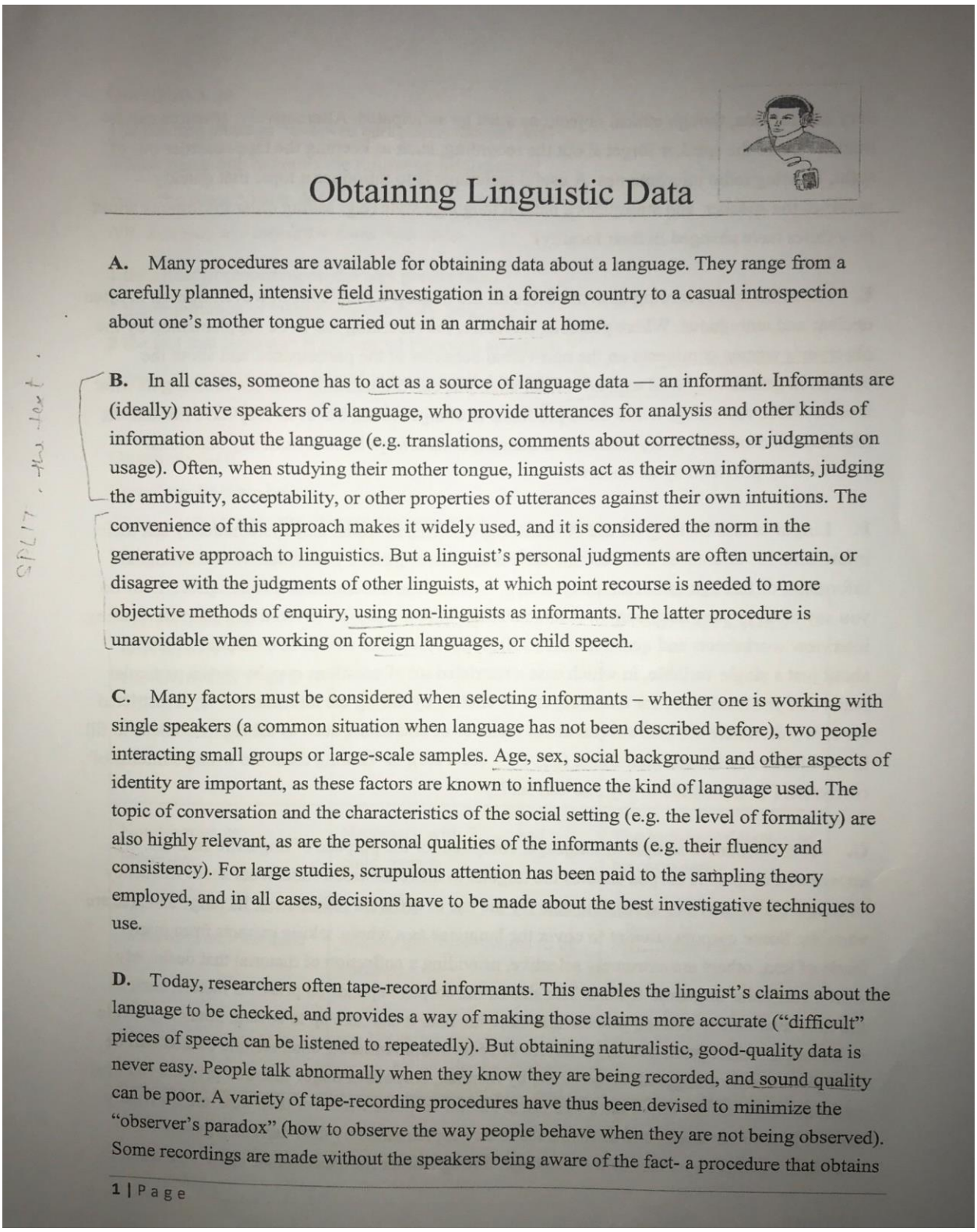
Appendix 25: A Sample of a More Challenging Text with Multiple Question Types



Obtaining Linguistic Data

A. Many procedures are available for obtaining data about a language. They range from a carefully planned, intensive field investigation in a foreign country to a casual introspection about one's mother tongue carried out in an armchair at home.

B. In all cases, someone has to act as a source of language data — an informant. Informants are (ideally) native speakers of a language, who provide utterances for analysis and other kinds of information about the language (e.g. translations, comments about correctness, or judgments on usage). Often, when studying their mother tongue, linguists act as their own informants, judging the ambiguity, acceptability, or other properties of utterances against their own intuitions. The convenience of this approach makes it widely used, and it is considered the norm in the generative approach to linguistics. But a linguist's personal judgments are often uncertain, or disagree with the judgments of other linguists, at which point recourse is needed to more objective methods of enquiry, using non-linguists as informants. The latter procedure is unavoidable when working on foreign languages, or child speech.

C. Many factors must be considered when selecting informants – whether one is working with single speakers (a common situation when language has not been described before), two people interacting small groups or large-scale samples. Age, sex, social background and other aspects of identity are important, as these factors are known to influence the kind of language used. The topic of conversation and the characteristics of the social setting (e.g. the level of formality) are also highly relevant, as are the personal qualities of the informants (e.g. their fluency and consistency). For large studies, scrupulous attention has been paid to the sampling theory employed, and in all cases, decisions have to be made about the best investigative techniques to use.

D. Today, researchers often tape-record informants. This enables the linguist's claims about the language to be checked, and provides a way of making those claims more accurate ("difficult" pieces of speech can be listened to repeatedly). But obtaining naturalistic, good-quality data is never easy. People talk abnormally when they know they are being recorded, and sound quality can be poor. A variety of tape-recording procedures have thus been devised to minimize the "observer's paradox" (how to observe the way people behave when they are not being observed). Some recordings are made without the speakers being aware of the fact- a procedure that obtains

1 | Page

very natural data, though ethical objections must be anticipated. Alternatively, attempts can be made to make the speaker forget about the recording, such as keeping the tape recorder out of sight, or using radio microphones. A useful technique is to introduce a topic that quickly involves the speaker, and stimulates a natural language style (e.g. asking older informants about how times have changed in their locality)

E. An audio tape recording does not solve all the linguist's problems, however. Speech is often unclear and ambiguous. Where possible, therefore, the recording has to be supplemented by the observer's written comments on the non-verbal behavior of the participants, and about the context in general. A facial expression, for example, can dramatically alter the meaning of what is said. Video recordings avoid these problems to a large extent, but even they have limitations (the camera cannot be everywhere), and transcriptions always benefit from any additional commentary provided by an observer.

F. Linguists also make great use of structured sessions, in which they systematically ask their informants for utterances that describe certain actions, objects or behaviour. With a bilingual informant, or through use of an interpreter, it is possible to use translation techniques ('How do you say table in your language?'). A large number of points can be covered in a short time, using interview worksheets and questionnaires. Often, the researcher wishes to obtain information about just s single variable, in which case a restricted set of questions may be used a particular feature of pronunciation, for example, can be elicited by asking the informant to say a restricted set of words. There are also several direct methods of elicitation, such as asking informants to fill in the blanks in a substitution frame (e.g. I___ see a car), or feeding them the wrong stimulus of correction ('is it possible to say I no can see?')

G. A representative sample of language, compiled for the purpose of linguistic analysis, is known as a corpus. A corpus enables the linguist to make unbiased statements about frequency of usage, and it provides accessible data for the use of different researchers. Its range and size are variable. Some corpora attempt to cover the language as a whole, taking extracts from many kinds of text, others are extremely selective, providing a collection of material that deals only with a particular linguistic feature. The size of the corpus depends on practical factors, such as the time available to collect, process and store the data it can take up to several hours to provide an accurate transcription of a few minutes of speech. Sometimes a small sample of data will be enough to decide a linguistic hypothesis; by contrast, corpora in major research projects can total millions of words. An important principle is that all corpora, whatever their size, are inevitably limited in their coverage, and always need to be supplemented by data derived from the intuitions of native speakers of the language, through either introspection or experimentation.

Questions 1-14

The reading passage has seven paragraphs labeled **A-G**

Which paragraph contains the following information?

Write the correct letter **A-G** in boxes **1-5** on your answer sheet.

NB. You may use any letter more than once.

1 the effect of recording on the way people talk D

2 the importance of taking notes on body language E

3 the fact that language is influenced by social situation C

4 how informants can be helped to be less self-conscious D

5 various methods that can be used to generate specific data F

Questions 6-10

Complete the table below

Choose ***NO MORE THAT THREE WORDS*** from the passage for each answer

Write your answers in boxes **6-10** on your answer sheet.

METHODS OF OBTAINING LINGUISTIC DATA	ADVANTAGES	DISADVANTAGES
6.....as informant (Linguist)	Convenient	Method of enquiry set objective enough
Non-linguist as informant	Necessary with 7.....and child speech (foreign language)	The number of faction to be considered
Recording an informant	Allows linguists' claims to be checked	8.....of sound (quality)
Videoing an informant	Allows speakers' 9..... to be observed (facial expressions / non-verbal behaviour)	10.....might miss certain things (camera)

Questions 11-14

Complete the summary of paragraph G below.

Choose ***NO MORE THAN THREE WORDS*** from the passage for each answer.

Write your answers in boxes **11-14** on your answer sheet.

A linguist can use a corpus to comment objectively on **11.**.....Some corpora include a wide range of language while others are used to focus on a **12**..... The length of time the process takes will affect the **13**.....of the corpus. No corpus can ever cover the whole language and so linguists often find themselves relying on the additional information that can be gained from the **14**.....of those who speak the language concerned.

Adapted from Cambridge IELTS 4 Past Papers

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Appendix 26: A Sample of Reading Material Provided to the Control Group

Doctoring sales

Pharmaceuticals is one of the most profitable industries in North America. But do the drugs industry's sales and marketing strategies go too far?

A. A few months ago Kim Schaefer, sales representative of a minor global pharmaceutical company, walked into a medical center in New York to bring information and free samples of her company's latest products. That day she was lucky- a doctor was available to see her. 'The last rep offered me a trip to Florida. What do you have?' the physician asked. He was only half joking.

B. What was on offer that day was a pair of tickets for a New York musical. But on any given day what Schaefer can offer is typical for today's drugs rep -a car trunk full of promotional gifts and gadgets, a budget that could buy lunches and dinners for a small county hundreds of free drug samples and the freedom to give a physician $200 to prescribe her new product to the next six patients who fit the drug's profile. And she also has a few $ 1,000 honoraria to offer in exchange for doctors' attendance at her company's next educational lecture.

C. Selling Pharmaceuticals is a daily exercise in ethical judgment. Salespeople like Schaefer walk the line between the common practice of buying a prospect's time with a free meal, and bribing doctors to prescribe their drugs. They work in an industry highly criticized for its sales and marketing practices, but find themselves in the middle of the age-old chicken-or-egg question - businesses won't use strategies that don't work, so are doctors to blame for the escalating extravagance of pharmaceutical marketing? Or is it the industry's responsibility to decide the boundaries?

D. The explosion in the sheer number of salespeople in the Reid- and the amount of funding used to promote their causes- forces close examination of the pressures, influences and relationships between drug reps and doctors. Salespeople provide much-needed information and education to physicians. In many cases the glossy brochures, article reprints and prescriptions they deliver are primary sources of drug education for healthcare givers. With the huge investment the industry has placed in face-to-face selling, sales people have essentially become specialists in one drug or group of drugs - a tremendous advantage in getting the attention of busy doctors in need of quick information.

E. But the sales push rarely stops in the office. The flashy brochures and pamphlets left by the

sales reps are often followed up with meals at expensive restaurants, meetings in warm and sunny places, and an inundation of promotional gadgets. Rarely do patients watch a doctor write with a pen that isn't emblazoned with a drug's name, or see a nurse use a tablet not bearing a pharmaceutical company's logo. Millions of dollars are spent by pharmaceutical companies on promotional products like coffee mugs, shirts, umbrellas, and golf balls. Money well spent? It's hard to tell. I've been the recipient of golf balls from one company and I use them, but it doesn't make me prescribe their medicine,' says one doctor.' I tend to think I'm not influenced by what they give me.'

F. Free samples of new and expensive drugs might be the single most effective way of getting doctors and patients to become loyal to a product. Salespeople hand out hundreds of dollars' worth of samples each week-$7.2 billion worth of them in one year. Though few comprehensive studies have been conducted, one by the University of Washington investigated how drug sample availability affected what physicians prescribe. A total of 131 doctors self-reported their prescribing patterns-the conclusion was that the availability of samples led them to dispense and prescribe drugs that differed from their preferred drug choice.

G. The bottom line is that pharmaceutical companies as a whole invest more in marketing than they do in research and development. And patients are the ones who pay-in the form of sky-rocketing prescription prices for every pen that's handed out, every free theatre ticket, and every steak dinner eaten. In the end, the fact remains that pharmaceutical companies have every right to make a profit and will continue to find new ways to increase sales. But as the medical world continues to grapple with what's acceptable and what's not, it is clear that companies must continue to be heavily scrutinized for their sales and marketing strategies.

Questions 8-13

Do the following statements agree with the views of the writer in Reading Passage 151?
In boxes 8-13 on your answer sheet, write

YES if the statement agrees with the views of the writer

NO if the statement contradicts the views of the writer

NOT GIVEN if it is impossible to say what the writer thinks

8. Sales representatives like Kim Schaefer work to a very limited budget.

9. Kim Schaefer's marketing technique may be open to criticism on moral grounds.

10. The information provided by drug companies is of little use to doctors.

11. Evidence of drug promotion is clearly visible in the healthcare environment.

12. The drug companies may give free drug samples to patients without doctors' prescriptions

13. It is legitimate for drug companies to make money.