Using Diagnostic Assessment to Investigate Challenges in Second Language Reading

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ABSTRACT

We focus here on the obstacles students face when learning to read in their second language, specifically in contexts where the second language is taught as a school subject or used as a medium of instruction (immersion). Qualitative studies in these areas have highlighted strategy deployment and approaches to constructing meaning as key variables in understanding such obstacles. In the Irish context, however, emphasis has been placed on quantitative comparisons across school-types and the study of specific components of reading. We attempt here to identify difficulties that students in Ireland face when engaging with texts in their second language (Irish) through the implementation of a diagnostic approach where our focus is on the individual students and the strategies and approaches they adopt when reading. Through the use of background questionnaires, testing in the first and second languages, as well as stimulated recall, we identify specific issues at the classroom level and gain insights from verbal reports from a sample of students that allow us to study the origins of these issues. Our findings are compared to those obtained in similar studies outside of Ireland and provide the basis for pedagogical and curriculum-based recommendations aimed at improving reading outcomes among students.

INTRODUCTION

The acquisition of a second language in educational settings has received considerable attention in the academic literature, be it in contexts where the language is taught as a school subject (Lightbown & Spada, 2006; Ellis, 2010; Cook, 2016) or in immersive ones where it is used as a medium of instruction (Johnson & Swain, 1997; Baker & Lewis, 2015; Ó Duibhir, 2018). Comparisons between students in each context have shown that those in immersion education obtain greater mastery of the second language and become more proficient readers in this language (cf. Dicks and Genesee, 2017 and Bialystok, 2018 for overviews of research in Canada and America respectively).

It should be noted however that large-scale educational assessments and comparative studies often fail to capture the complex realities of what learners actually do with their language skills. General trends may also hide important discrepancies - despite encouraging findings with regard to overall second-language proficiency levels among students in immersion, for example, specific challenges remain concerning their acquisition of the language of instruction (cf. Lindholm-Leary, 2012; Ó Ceallaigh, 2016), with issues highlighted including mastery of

vocabulary and grammar (Lyster, 2007), use of non-idiomatic target forms (Genesee & Lindholm-Leary, 2013) and errors in oral production (Ó Duibhir, 2011).

In this article, we focus on the manner in which a cohort of students in Ireland, of varying proficiency in reading in Irish, engage with and attempt to make meaning from written content in this language. We adopt a diagnostic approach (Alderson, 2005; Alderson, Brunfaut & Harding, 2014; Opitz & Erekson, 2015) in attempting to understand the specific challenges faced by students from English- and Irish-medium schools when reading in Irish. Our aim is thus to better understand the approaches adopted and strategies put in place by students who either learn a second language at school or for whom the second language is the medium of instruction, when they are confronted with a text in their second language.

We firstly present a brief overview of languages in Ireland, before focusing on teaching and learning Irish in education. With regard to reading, studies have tended to examine either overall attainment levels via comparisons between English-medium and Irish-medium schools, or specific components of reading in Irish. We thus draw upon qualitative studies conducted outside of Ireland looking at how students engage with extended texts in their second language – these studies highlight the importance of strategy usage and approaches to constructing meaning, points upon which we build in our research.

The participants in our study came from an Irish-medium secondary school and an English-medium one. Students firstly completed language background questionnaires and undertook testing in English (their first language). This was followed by diagnostic assessment of reading in Irish and interviews involving stimulated recall where different students were invited to explain the manner in which they went about constructing meaning. Findings enable us to pinpoint and elucidate obstacles met by students of each group, which in turn leads us to highlight pedagogical issues and discuss implications for the implementation of integrated language-learning curricula.

LEARNING TO READ IN AND THROUGH IRISH

Languages in society

Ireland is officially a bilingual country – Irish, a member of the Celtic language family, is the first official language and English the second official one; it should nonetheless be noted that Ireland today is predominantly an English-speaking country (cf. Coady, 2001 and Crowley, 2016 for historical overviews of bilingualism in Ireland). According to the latest census data[i], 1,76 million (39.8%) residents claim to be able to speak Irish. In terms of usage, however, outside of the education system, only 73,803 (4.2%) use the language on a daily basis and 111,473 (6.3%) on a weekly basis, while 1,004,995 (57.1%) use it less often than weekly or never.

With regard to those who use the language in everyday life, most live in the Gaeltachts or Irish-speaking areas, which are principally located in the west, north-west and south-west of the country. These areas are made up of 96,090 residents, of whom over 66% state that they are able to speak Irish and almost 17% that they use the language daily outside of the education system. Census data also reveal that 612,018 Irish residents spoke a language other than Irish or English at home – the top languages here were Polish, French, Romanian and Lithuanian.

It can be noted that almost one third of those who claim to speak Irish do so within education. Today, Irish and English are generally studied for the entire duration of primary and

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[i] The reader can find the full results of Census 2016 at www.cso.ie/census.

secondary education (most students start school at 4, with a primary cycle of 8 years and a secondary cycle of 5 or 6 years). The majority of students learn Irish in English-medium schools for approximately one hour per day at primary school and 40 minutes per day at secondary school[ii]. Almost 5 % of students are educated in Irish-medium schools, with all classes given through Irish (except for English) and a special curriculum designed to meet their specific needs in the acquisition of the language (cf. Ó Laoire, 2017 for a detailed overview).

Evaluating proficiency in Irish

Let us begin by looking at Irish-medium education. We are dealing here with a form of quasi-total immersion – all of the subjects are taught through Irish, except for English, while Irish is generally the only language of communication allowed inside the school. The aim is to create an environment where everything is done through Irish, a form of Irish monolingualism in a broader sociolinguistic context where the dominance of the English language is the norm. Coady & Ó Laoire (2002, p. 469) use the following metaphor: "each Gaelscoil represents an individual island anchored in a largely English speaking language environment or sea" - the schools are thus faced with "the complexity of attempting to establish and maintain Irish in the schools while facing English dominance in the broader language environment".

Studies have tended to confirm that students from Irish-medium schools outside the Gaeltachts, despite often coming from English-language backgrounds (Griffin, 2003; Ní Ghréacháin, 2006), use the language more often outside of school (Murtagh, 2007) and show more positive attitudes and greater motivation towards the Irish language than equivalent English-medium students (cf. Darmody & Daly, 2015 for a review). Teachers and parents also demonstrate similarly favourable attitudes towards the language, despite issues with low proficiency among parents (Kavanagh & Hickey, 2013; Mas-Moury Mak, 2013; Cammarata & Ó Ceallaigh, 2018; Ní Thuairisg, 2018).

In contrast, the teaching of Irish in English-medium schools has been the subject of concern. Researchers have pointed to poor levels of attainment in and engagement with the language, along with negative attitudes and low motivation (cf. Harris, 2005 and Ó Ceallaigh & Ní Dhonnabhain, 2017 for detailed overviews). Ó Riagáin (2001), for example, highlights the moderate or sometimes negligible speaking ability of the majority of students learning Irish as a school subject, while Little (2003) puts forward that the majority leave education without the ability to participate in social life through the language. Findings from research have tended to show that students are often favorably disposed towards the language and the idea of becoming part of the community of Irish speakers but the actual strength of their desire to learn the language and satisfaction with the manner in which the language is taught are both low (Harris & Murtagh, 1999; Ó Laoire, 2007; Devitt, Condon, Dalton, O'Connell & Ní Dhuinn, 2018).

Unsurprisingly, proficiency levels in Irish are generally higher for students from Irish-medium schools than for those from English-medium schools. Harris, Forde, Archer, Nic Fhearaile & Ó Gorman (2006), in an extensive review of national assessments of Irish language skills both at English- and Irish-medium schools between 1985 and 2002 point to the maintenance of high standards of achievement for the majority of the objectives tested for Irish-medium students outside the Gaeltacht, slightly lower levels of mastery for those in the Gaeltacht and a consistent decline in achievement for students from English-medium schools.

[ii] Around 2,300 hours over the entire educational cycle (cf. Ó Laoire, 2007)

In the 2002 assessments, students from English-medium schools obtained very low scores on both oral comprehension and production tests (for the majority of the criteria, less than 10% of the students obtained a score equivalent to that of 'mastery'). As Harris and colleagues state (2006, p. 75): "These data leave little doubt that the conversational ability in Irish of a substantial minority of sixth-grade students is consistently poor". Factors put forward to explain these results include ill-adapted material and teaching methods and a lack of contact with the language outside of school.

Students in Irish-medium schools, despite sometimes limited contact with the Irish language outside of education, obtain mastery of the language which goes well beyond that obtained by students in English-medium schools. There were, however, statistically significant reductions noted between 1985 and 2002 for comprehension of verb morphology, noun morphology and the morphology of prepositions. Scores of students from the Gaeltachts were almost always lower than those of students in immersion schools outside the Gaeltachts, in part due to students coming from families where Irish and English were used to varying degrees. On a sentence completion task, for example, the average percentage of correct responses was 85% for Irish-medium students from outside the Gaeltacht, 70.9% for students in the Gaeltacht, but only 38.9% for English-medium students.

Focus on reading

Learning Irish can pose a number of challenges for young students of the language, including an alphabet that is different from that of English, initial word mutations and vowel lengthening (cf. Hickey and Stenson, 2011 for an overview). Hickey (2007) notes that lower proficiency young readers in English-medium schools demonstrate difficulties in decoding some of the most frequent Irish words. Use of miscue analysis in her study showed that students were only partially analyzing the words, with over-reliance on initial or salient letters and a lack of knowledge of the most regular grapheme-phoneme relationships.

Parsons & Lyddy (2009) studied reading strategies deployed by students when faced with English and Irish words presented in isolation through analysis of oral reading errors. Results indicated that students from English-medium schools obtained much lower scores than those from Irish-medium schools on the Irish task and also made more non-word errors on the Irish task than on the English task. Overall, lower proficiency readers were more likely to make significant substitutions from English in response to Irish items, while higher proficiency readers were more likely to make nonword reading errors, suggesting that they "appear to use a phonological decoding strategy to read unfamiliar Irish items" (Parsons & Lyddy, 2009, p. 34). The findings thus suggest that higher proficiency readers have greater mastery of the grapheme–phoneme correspondences of Irish.

In a subsequent longitudinal study, Parsons & Lyddy (2016) compared students from Irish- and English-medium primary schools between the ages of 5 and 7 on word and non-word reading in Irish, as well as on vocabulary acquisition. Children taught through Irish obtained higher scores on the Irish word and non-word reading tasks than the children from English-medium schools, as well as on the vocabulary task. The authors point out that the second-language reading skill advantages are in line with findings in previous studies in Ireland, as well as other comparable contexts such as Canada and Wales.

Hickey and Stenson (2017) explain that "the early stages of teaching decoding skills for Irish orthography are taught less systematically than is the case for English" (p. 178), causing later

issues with reading, notably when it comes to decoding words. They also state that a lack of Irish phonological awareness on the part of young readers leads to failure amongst students to decode Irish texts in the way they have learned to decode English texts, which then has consequences for future development of fluidity in reading in Irish. In a study focusing on the teaching of Irish in English-medium schools, teachers interviewed by Hickey and Stenson (2016) express dissatisfaction with their own levels of confidence and proficiency in Irish; they also tended to rely on course textbooks (and not authentic texts or specialized manuals) to teach Irish reading and in fact spent less time on reading than on other language skills. Teachers relate that they feel ill equipped to teach both the orthography and varieties of the language.

Studies in the Irish context thus highlight discrepancies among students with regard to the manner in which they read in Irish, both in Irish- and English-medium schools. There has however been less focus on what students in both contexts do when faced with a text in Irish, resulting in a lack of knowledge regarding the approaches they adopt, the challenges faced by students from each group and the barriers that exist to successful engagement with texts. These areas have been examined in greater detail in educational contexts outside of Ireland, notably in studies looking at how bilinguals develop and harness mastery of reading in their second language. This research points to the important role played by strategies (Cohen & Macaro, 2007; Cohen 2014; Lallier, Acha & Carreiras, 2016), especially when comparing bilinguals of various proficiency levels, as we will see in greater detail in the next section.

ENGAGING WITH TEXTS IN A SECOND LANGUAGE

Approaches to reading and strategy deployment

In what follows, we discuss the important role of strategies in reading. Research looking at the role played by learner strategies in language learning has its origins in studies on the 'Good Language Learner' that aimed to understand what 'successful' language learners were doing that their 'less successful' peers were not (Stern, 1975; Rubin, 1975; Naiman, Fröhlich, Stern & Todesco, 1978). Attempting to identify the characteristics of the 'Good Language Learner' led to the development of models and categorizations of strategy usage that were subsequently applied to reading.

It should be firstly noted that it is difficult to give a complete appraisal of what it means to deploy a strategy - definitions of language (learning) strategies have referred to mental processes and/or actions (Faerch & Kasper, 1980), which can be used in both learning and using a language (O'Malley & Chamot, 1990), below and above consciousness (Little, 1996), in order to 'successfully' comprehend and/or make inferences from the content/context of a given message (Cohen, 2003). Strategy usage must also take into account context-specific variables in understanding why learners deploy certain strategies in a given situation and not in others (White, Schramm and Chamot, 2007).

We focus specifically here on an area of particular relevance to our study, namely the interplay between cognitive and metacognitive strategies. The important work of O'Malley and Chamot (1990) classified strategies as cognitive - interaction between the learner and the material via physical and/or mental manipulation of content; metacognitive - reflecting upon the learning process and upon ones learning; and socio-affective - interaction with others, notably other

language learners, in order to facilitate learning and manage emotions and affective elements of the learning process.

The iterative interplay between metacognitive strategies and cognitive strategies has been shown to be of vital importance in the construction of a dynamic understanding of language[iii]. Studies have indeed found that while more 'successful' learners often use the same amount of cogitative strategies as less 'successful' learners, they use a greater number of metacognitive strategies, demonstrate greater metacognitive knowledge of the task and are better able to adapt their strategies when necessary (cf. Pressley, Borkowski and Schneider, 1987; Chamot, 2001; Veenman, 2016).

Equally, with regard to reading, the interactive and dynamic interactions between the reader, author, text and context in the construction of meaning are complex and multi-facetted (cf. Bialystok, Luk & Kwan, 2005; Bialystok, 2007; de Houwer, 2009 and Groot, 2011 for overviews of the processes involved in bilingual reading). Numerous factors come into play, such as decoding and treating visual stimuli (Alderson, 2000), the textual and meta-textual environment (McVee, Dunsmore & Gavelek, 2005), the context (Barnett, 1988; Reynolds, 2017), the reader's background knowledge (Swaffar, 1988 ; van der Broek, Mouw & Kraal, 2016), as well as his/her intentions and emotions (Jalongo & Hirsh, 2010).

Our focus here is specifically on different approaches students adopt when reading in a second language. Research investigating reading in English as a first language led to the emergence of two early models of reading, involving 'top-down' and 'bottom-up' approaches - initially seen as differing ways of making meaning from texts, a 'top-down' approach involves 'higher-level' processes related to the use of the text as a whole, as well as the reader's background knowledge and schemata, while a 'bottom-up' approach relies upon 'lower-level' processes, based on word recognition and sentence-level analysis (cf. Erler & Finkbeiner, 2007 for a detailed overview). Research in reading in a second language subsequently put forward models involving the interaction of both 'bottom-up' and 'top-down' approaches (Carrell 1988; Urquhard and Weir, 1998), evolving towards a continuum or 'mixed' model where different combinations of reading strategies involved in the 'top-down' and 'bottom-up' approaches are deployed by the learner and vary according to the context.

The distinction between 'bottom-up', 'top-down' and mixed approaches continues to be useful in conceptualizing reading. Various studies (Chamot & El-Dinary, 1999; Mathes, Pollard-Durodola, Cárdenas-Hagan, Linan-Thompson & Vaughn, 2007; Barbosa, Nicoladis & Keith, 2017) comparing reading proficiency in a second language among less proficient and more proficient school students show the former deploy more 'bottom-up' strategies (such as phonetic decoding) and rely upon ineffective strategies to a greater degree, while the latter group adopt a 'mixed' approach using both 'bottom-up' and 'top-down' strategies. More proficient readers thus display a greater tendency to monitor their reading, adapt their processes when faced with comprehension difficulties and view reading as iterative and dynamic.

Focus on second-language reading in immersion

With regard to reading among bilingual students, studies examining the reading skills of Latino/a students in the USA (cf. Langer, Bartolome, Vasquez & Lucas, 1990; Jiménez, García & Person, 1996; López-Velásquez & García, 2017) highlight that these students display a large

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[iii] We do not specifically consider the role of socio-affective strategies in reading in this article – the reader can find a detailed account of this topic in Fandiño Parra (2010).

number and variety of strategies when faced with texts in both English and Spanish, as well as deploying specific meaning-making strategies that allow them to decipher unknown words and expressions. Findings also suggest that these student readers have a large qualitative base of knowledge in terms of reading strategies, while also being able to monitor their reading and adjust strategy usage when necessary.

Similarly, Chamot and El-Dinary (1999) looked at 'low-rated' and 'high-rated' students from immersion programs (French, Spanish and Japanese) in suburbs of Washington, DC, examining effective strategy usage during reading tasks through think-aloud protocols. Comparisons between students showed that, while there was no difference in the number of strategies deployed, the types of strategies utilised during reading varied. Low-rated students deployed more phonetic decoding, clung to ineffective strategies and became bogged down in details, while high-rated students used more background-knowledge strategies, such as inferences, predictions and elaborations. Ability to monitor reading, adapt their strategies, demonstrate strategic flexibility and focus on the entirety of the task were also found to be features of the more proficient students' reading.

More recent research in the Canadian context by Bourgoin & Dicks (2013) and Bourgoin (2014) looking at reading in French among students in French-immersion programs points towards differences in strategy usage between less proficient and more proficient readers, along with varying approaches to texts. Less proficient readers demonstrated limited knowledge of reading strategies, did not appear to know when and how to make use of such strategies and utilised them separately from each other. In contrast, more proficient readers demonstrated a wider base of strategies from which to choose and used them together in order to successfully complete the task. They also demonstrated the ability to adapt their strategies to the given reading situations.

When the second language is used as a medium of instruction, such as in immersion education, the pedagogical approach, based on informal communication and academic use of the L2, provides communicative situations that offer opportunities to learn the language and acquire strategies to resolve communicative problems (cf. Gajo, 2001, 2014). Students in immersion can thus potentially acquire particularly efficient strategic means, finding resources not only through recycling and recontextualizing linguistic knowledge, but also in the recontextualizaiton of strategies (cf. Chamot, 2004; Bialystok, 2015).

It would thus seem that second language readers differ in the manner in which they approach texts and deploy strategies, with such differences appearing to be linked to successful engagement with the texts. While students in immersion generally have greater opportunities than those studying the language as a school subject to use the whole of their resources and repertoires in the discovery and manipulation of linguistic items, differences exist with regard the manner in which they approach reading in their second language and the types of strategies they deploy.

In our study, we investigate whether these findings apply to the manner in which students from Irish- and English-medium schools in Ireland read texts in Irish. Given this focus and the aims of our study, we address here the following research questions:

1) How do student readers in Ireland of varying proficiency engage with texts in their second language?
2) Can we identify patterns of strategy deployment for students from the Irish-medium and English-medium schools?
3) What are the specific challenges faced by students in each context?

The approach we adopted, as well as the manner in which we implemented our study, will be explained in the next section.

METHODOLOGY

Context and participants

As part of our study, 25 students from a second-year[iv] class in an English-medium school (henceforth EM) and 27 students from a second-year class in an Irish-medium school (henceforth IM) partook in our data collection procedure. Both schools are located in Dublin and English was the mother tongue of all of the participants. Students had studied English and Irish from the start of primary school – all of the students in IM had attended an Irish-medium primary school, while all of the students from EM had attended an English-medium primary school. During the data collection period, students were between 13 and 15 years of age.

In reporting our findings, names are not used in order to ensure anonymity. Before collecting our data, parental consent, as well as the agreement of the school principal and the relevant teachers, were obtained. We also explained to the students that anonymity would be respected and that individual results would not be communicated to third parties.

Data collection

As part of this study, we chose to adopt a diagnostic approach. Alderson (2005) characterises diagnostic assessment as focusing on the strengths and weaknesses of learners in order to identify the approaches they adopt and the strategies they deploy. He distinguishes this type of assessment from achievement tests, where the aim is to identify what has been learnt, often with regard to a specific curriculum; placement tests, where the aim is to categorize learners who are taking a course or part of a programme; and proficiency tests where ability is measured with regard to a pre-defined theory of language.

With regard to the above distinctions, we did not attempt to identify what students had learnt, create a hierarchy in terms of performance nor measure their reading ability with regard to specific, pre-defined criteria. We focused rather on understanding the manner in which students in English- and Irish-medium schools in Ireland go about reading texts in Irish by tapping into individual perspectives through soliciting verbal reports. Our aim was to examine how students make meaning and elaborate hypotheses, along with barriers that may exist in terms of engaging with the texts. Diagnostic assessment, incorporating interviews using stimulated recall to elucidate our findings, was thus deemed appropriate with regard to our objectives in this study.

Alderson, Brunfaut & Harding (2014, 2015) put forward a number of principles for implementing diagnostic assessment. They explain that it is the user of the test that diagnoses, not the test itself – there is thus an interpretative step that is required once the assessment data have been obtained. The instruments used should be suited to the context, efficient and implemented with a specific purpose. The perspectives of various stakeholders need also to be taken into account, while the assessment should be linked to potential treatment of the issues highlighted.

The authors incorporate these principles into four stages in the diagnostic process that we followed in our data collection. Firstly, the listening/observation stage took the form of discussions with teachers and a pilot project where the data collection tools were tested. Secondly, the initial

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[iv] This corresponds approximately to the 8th grade in the American educational system

assessment involved use of preliminary findings from the pilot project to refine data collection tools and questionnaires in order to better understand the learners' language backgrounds. With regard to use of tools, we deployed diagnostic language tests formulated for use with all of the students in a given class and subsequently interviewed students using stimulated recall. The data collected allowed us, during the final decision-making phase, to propose findings based on our research questions and literature review, while also focusing on pedagogical implications and larger concerns related to curriculum development and assessment.

With regard to our diagnostic assessment, the tests in English were designed to ensure students were able to meet the required objective of reading an extended text and explaining the overall meaning in their mother tongue. We wished to ensure that difficulties met during reading in the second language were not due to an underlying inability to deploy the necessary competences. The text was chosen in order to present a topic with which the students were familiar and to be of sufficient length so as to include a clear overall meaning with supporting details. The assessment involved presenting the students with the text and asking them to explain in writing (in either Irish or English) on an answer sheet the overall meaning and provide supporting details.

With regard to the tests in Irish, we used the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001) in order to determine their length and difficulty. A B2-level text was chosen for students in the Irish-medium schools – for reading, the B2-level involves the ability to understand the main ideas of complex texts on both concrete and abstract topics. For the students in the English-medium school, an A2-level one was chosen – students at this level can understand sentences and commonly used expressions that are linked to topics of immediate relevance, such as personal information and local surroundings[v].

The tests in Irish had a similar structure to the ones in English – students were given a text to read and asked to explain the overall meaning while providing as much supporting detail as possible. The proficiency discrepancies between students in each school, however, required separate tests to be devised for the English-medium and Irish-medium schools. The choice of text in each case was made based on personal knowledge of student ability, consultation with teachers and academic readings on attainment levels. We chose texts that were suitable for young teenagers, consulting with teachers when necessary.

Assessment took place during a time slot generally allocated for language classes. We presented the English test first to allow students to become familiar with the format, followed by the test in Irish. After the students took the initial tests in Irish, we were able to identify those who had difficulty explaining the meaning of the texts, as well as others who demonstrated almost full understanding of the global meaning and individual details. In conjunction with the results of our tests in English and information from our background questionnaire, we were able to determine the sample with whom we carried out our interviews, consulting with teachers in order to ensure that they agreed with our assessment.

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[v] For an overview of the levels of the CEFR, the reader can consult the following website:
https://www.coe.int/en/web/common-european-framework-reference-languages/table-1-cefr-3.3-common-reference-levels-global-scale

Stimulated recall

We thus subsequently interviewed 6 students from each school who had demonstrated difficulties in understanding the text. We ensured, through data from our language background questionnaires and results from the English tests, that these difficulties were not due to inability to explain the overall meaning of a written text nor specific attitudinal or motivational barriers to learning Irish.

Each interview lasted 40 minutes. As with the initial pre-tests, the B2 level text was used for students in the Irish-medium schools and the A2-level one was used for the students in the English-medium schools. We asked the student to once again read the text carefully, taking his/her time, and to indicate when finished. After the silent reading part, we asked the student what he/she had understood from the text. To enable the participants to express their thoughts with ease, the verbal reporting was done in the preferred language of the participant – all of the students in the English-medium schools spoke in English, while students in the Irish-medium school generally spoke in Irish about the text and in both English and Irish when speaking about how they went about understanding it.

Solicitation of introspective data has been used in research in psychology since at least the 1890s (Faerch & Kasper, 1980) to identify processes whose inherent structures and rules are not known beforehand, be it for the subject or the researcher (Deschert, 1987). The objective is to shed light on the processes being verbalised in order to better understand them. Verbalisation thus involves thinking about ones thoughts and the objectives of the action being undertaken, giving information about experience which would otherwise be difficult to access using other solicitation techniques (Nunan, 1992).

Different solicitation techniques may be used. These can involve 'think-aloud' protocols where participants are invited to voice their thoughts during the execution of a particular task, retrospective interviews where the participants are questioned after the completion of the event and stimulated recall where stimuli are provided in order to prompt the memory processes involved in undertaking the task, such as audio/video recordings or items used in the completion of the task, including a test or an extract from a course textbook (cf. Ericsson & Simon, 1993; Pressley & Afflerbach, 1995; Afflerbach, 2000 and Rose, 2015 for detailed overviews).

In our case, given that we wished to examine the manner in which students construct meaning in each language, we were less interested in the online, 'real-time' processing that occurred as students read, preferring rather to focus on students' discourse on the manner in which they went about reading and what they said about constructing meaning from the various elements contained in the text. Moreover, we wished to be able to engage with the students in order to seek clarification and elaboration, promoting a dialogue in which we explored aspects of strategy use (cf. White, Schramm & Chamot, 2007).

Use of stimulated recall was intended to "strengthen reliability of retrospection through the use of stimuli to prompt memory of the processes and behaviours associated with completing" the reading task (Rose, 2015, p. 11). Contextual prompts were used to help students focus on the text and to identify particular points that formed part of our investigation. The interviews also took place the day after the diagnostic assessment in order to minimise missing information being inferred and/or incomplete memories being generalised (cf. Afflerbach, 2000; Vandergrift, 2010).

The verbal reports produced by the participants were transcribed on the basis of audio recordings without modification, including incomplete sections and grammatical errors, and subsequently analysed. Paralinguistic elements were also included in the transcripts, including the

following conventions to mark pauses – '/' for a short pause (maximum 2 seconds), '//' for a long pause (maximum 4 seconds) and '///' for an extremely long pause (longer than 4 seconds).

When focusing on the construction of meaning, we firstly looked at the overall meaning attributed to the text, justifications given to support what was said and the manner in which elements were used to explain what had been understood. We then looked at student discourse about reading – the textual elements used to describe the approach, the order of the various steps, and how the textual elements were (or were not) put together to construct meaning. In order to study the strategies deployed when faced with an unknown item, we identified different items that we thought would pose problem and focused on these points in order to examine comprehension difficulties (knowledge deployed, elements of the text harnessed and languages called upon).

FINDINGS

English-medium school

When looking at the answer sheets collected after the test in Irish, we saw that the first sentence in the text was problematic for many students – this sentence is given below with a translation in English[vi]:

Irish: **Inniu, nuair a théann daoine ar laethanta saoire, ní bhíonn siad ag iarraidh luí ar an trá ar feadh an lae, ná a bheith ag ól agus ag ithe an t-am ar fad**

English: Today, when people go on holidays, they do not want to lie on the beach every day, nor do they want to eat and drink all the time

This sentence uses the habitual present tense in Irish, a tense marked by the use of the verbs '**théann**' and '**bhìonn**'. Almost all the students handed back an answer sheet where the first sentence in English used the past tense, the most common examples being in sentences such as "*Today, when people went on their holidays, they didn't want to…*". Some students even talked about children going on holidays: "*Today, when the children went on holidays, they didn't want…*".

This is an intriguing finding – why would students use the past tense in English when the verbs in the text in Irish clearly call for the present tense. Furthermore, the use of '**Inniu**' ('Today') should have also led students to use the present tense when recalling the text in English. This finding is all the more surprising given that all of the students had been studying Irish for many years and would have all learnt the rules of, and how to use, the present tense in the language.

The interviews allowed us to shed light on this particular point. After reading the text, we asked one student who had been unable to present the overall meaning of the text what he had understood:

Student A EM: *Well that they are on holidays / the children are on holidays / They didn't want to go to the beach or something like that / Em / so they did a course / em / in / you do painting or kinda music or / then he did a writing course (...)*

[vi] All translations are the author's own. All text in Irish is in bold.

We asked the student to return to the first sentence once he had finished his explanations of the text. When prompted to explain what he had understood, he gave the following answer:

Student A EM: *Today / eh when the people were on holidays/ they didn't want to go to the beach / but instead wanted to eat no drink and eat at this time or something like that (...) Well / I suppose it makes sense but it doesn't really go well together (...) It makes sense as the words are right now but when you put it together it sounds a bit weird*

The student thus becomes aware that the words do not 'really go well together' – he explains that the sentence 'makes sense' because he is using the 'right words' but that when he puts all the words together, it sounds 'a bit weird'. He then returns to this sentence and goes over it word by word:

Student A EMS*: When they or when the people // (murmurs **théann**) don't really know what **théann** means /// No, I can't remember what it means*

Researcher: So if you can't remember what it means / how did you figure out that?

Student A EMS*: Well / people and holidays are there so I just thought when the people are on holidays I suppose // Yeah, that's really it / So "**nuair a théann daoine ar a laethanta saoire**" / when the people were on holidays / that's the way I would translate it cause it's possible[vii]*

The student thus puts together the words "*people*" (translation of '**daoine**') and "*holidays*" (translation of '**laethanta saoire**'), thus creating meaning around these words. The student uses different isolated words in the text in order to understand the global meaning.
When asked about his approach to the text, the student gives the following answer:

Student A EMS*: Well I tried to pick out the words that make the most sense to me / like holidays I'd say I'd pick / so they're obviously on holidays eh they didn't want to go to the beach / **ní bhíonn siad** / that means they don't want obviously / em// **cursa scriobhneoireachta** / writing course / em / there's **ceol** in there / péintéireacht / there's lots of words that I'd just pick out and try and put them in a sentence as well as possible[viii]*

This approach was characteristic of all of the students interviewed. They firstly associated 'holidays' and 'the people', in order to form a coherent narrative around these elements. By using these two isolated elements, they put forward that the author is talking about holidays, which had already happened, thus possibly explaining use of the past tense. They then went through the text sentence by sentence, looking for words that they understood in order to bring them together, utilizing isolated words in the text and sometimes translated them into English, with the aim of bringing them together in order to understand the overall meaning.

Irish-medium school

[vii] *Nuair a théann daoine ar a laethanta saoire*: when people go on holidays
[viii] **Nì bhìon siad** = they do not generally do something; **cursa scriobhneoireachta**: a writing course; **ceol**: music; **péintéireacht**: painting

The majority of students from the Irish-medium school were able to give the main ideas of the text in Irish during classroom testing. We noted however that a number of students provided a list of ideas that were often disjointed and did not attempt to verify that their explanations were coherent. Our interviews allowed us to focus on this specific point.

The students in question were able to cite the main ideas but went through the text sentence by sentence, presenting ideas in a haphazard manner, neither attempting to link them to the overall meaning nor testing their coherence in context. They put forward explanations that not only did not make sense but also contradicted each other or the overall meaning. They also emphasised deciphering words rather than use of more global strategies when faced with an unknown.

The text presents an interview with a woman who is a singer. She is not from an Irish-speaking area but has nonetheless recorded an album of traditional songs in Irish. In the interview, the woman speaks of her choice to record these songs. Regarding the explanations given by the students we interviewed, Student A IM, for example, starts her explanations by stating that the text talks about a woman and then goes on to describe this woman. She then says that the woman bought a CD, before listing the ideas evoked in the passage. She does not connect the information that she presents with the overall meaning of the text and her explanations are vague, notably concerning the identity of the singer:

Student A IM: **Em / Sinéad Nic Dhonnacha/ agus like / na rudaí a bhíonn sí ag déanamh**
(Em / Sinéad Nic Dhonncha / and like / the things she does in general)

(…) Student A IM: **Cheannaigh dlúthdiosca**
(Buy records)

(…) Student A IM: **Sea / agus bhí sé an chéad uair a bhfuil sí leis / Sinéad / agus cheap sí gur duine faiteach é / ach níl sé**
 (Yeah / and it was the first time that she was with / Sinead / and she thought that he was a fearful person / but it wasn't)

Another example is that of Student B IM who presents different ideas in the text without attempting to validate their coherence. He thus explains that the singer comes from a suburb, before stating that she is in fact from the Gaeltacht:

Student B IM: **Seo sliocht ar dhuine a chanann sean-nós** /
(This is a text about someone who sings traditional music)

(…) Student B IM: **Agus rinne sí dlúthdhiosca / agus bhí faitíos uirthi nuair a bhí sí ag canadh / agus / tà sì ò bhruachbhaile beag in aice leis an gcathair /**
 (And she made a record / and she was nervous when she was singing / and / she is from a suburb from beside the city)

(…) Student B IM: **Agus / is as an nGaeltacht í / agus deireann sí léi féin / an bhfuil sì àbaltà sean-nòs a chanadh /**
 (And / she is from the Gaeltacht / and she says / can she sing traditional music).

The students who adopted the approach described above show a lack of metacognitive strategies that leads them to move through the text sentence-by-sentence, failing to connect the ideas presented. When asked how they went about understanding the texts in Irish, the students replied that they read and understood the text. They stated that they went through it to find words that they understood in order to put them together in order to get the overall meaning. The students thus demonstrate over-reliance on bottom-up, cognitive strategies in order to make meaning from specific words.

DISCUSSION AND CONCLUSION

Use of diagnostic assessment with students from the English-medium school allowed us to highlight specific issues with use of tenses with regard to the text in Irish. Subsequent interviews enabled us to identify problems with strategy deployment and approaches to the text that led students to associate items without questioning their coherence and adopt a linear, word-by-word, sentence-by-sentence approach which eventually led to misunderstandings and contradictions. Students in Irish-medium schools varied in their use of metacognitive strategies, such as monitoring or use of contextual information; failure to use such strategies led to explanations that were lacking in coherence and not in keeping with the overall meaning of the text.

As we saw, issues related to poor reading ability among English-medium students have been highlighted in the academic literature; over-reliance on cognitive, bottom-up strategies appear to hinder successful engagement with texts, while a lack of metacognitive strategies favours incoherent explanations and inconsistencies. While this is in keeping with general research on reading strategies that we examined previously, this question has received less treatment in the Irish literature and may form part of efforts to tackle reported low levels of proficiency in the language among English-medium students.

Overall global comparisons between students in immersion and mainstream schools do indeed show greater levels of reading proficiency for the former; as we noted, however, issues remain – here, we highlighted problems related to deployment of metacognitive strategies and monitoring of content. Such findings are in keeping with those of Bourgoin & Dicks (2013) and Bourgoin (2014) – despite becoming highly proficient in the second language, students in immersion who have difficulties with reading may nonetheless have a small base of strategies to choose from and be less able to adapt them to a given text than more proficient readers.

Our findings also provide extra impetus for the need to design integrated language curricula in education. Changes in Ireland to curricula for English and Irish have included a focus on strategies and the transfer of experience from one language to another (cf. Ó Duibhir and Cummins, 2012; Ó Laoire, 2012), while the importance of a strategic approach to reading across languages and the promotion of a learning to learn agenda have been highlighted in the academic literature (Harris, 2008; Grenfall & Harris, 2015). Such approaches would not only benefit learning Irish but also provide tools for subsequent language learning, which in turn would encourage students to utilise resources that have been refined and honed through previous experience in each new language, making them better equipped as they inevitably encounter new languages.

While our study is indeed exploratory in nature, given the relatively small sample size and use of a limited number of texts, our approach, involving a move away from statistical analysis

and standardised testing of proficiency levels for each language, has allowed us to both identify issues for each group of students and relate these issues to other studies and questions surrounding curriculum design. We thus wish here to contribute to the emergence of more qualitative and student-centered research that attempts to better understand what learners actually do when using their languages and how they attempt to utilize their language skills and strategies when faced the different languages with which they come into contact.

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