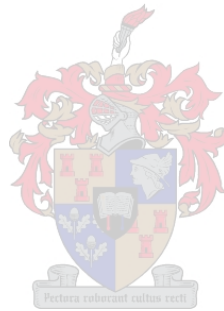# A model for a comprehensive electronic school dictionary for South African primary school learners

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DECLARATION

By submitting this dissertation electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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Abstract

The vast majority of South African learners are being taught in English, which is not their first language. These learners are often not equipped to achieve in English, as they are not yet fluent enough. There is very little support in the form of language resources available in classrooms to assist these learners. There is a need for an electronic school dictionary that supports learning, text reception, and text production in learners in South African schools. Existing school dictionaries are primarily print dictionaries, and while efforts have been made to make them as supportive to second language learners as possible, they are still constrained by space restrictions and the limitations of the printed medium. The electronic medium has not yet been exploited in order to produce South African electronic school dictionaries. This dissertation presents model dictionary articles as a response to the need for a South African school dictionary that offers more support to non-mother-tongue speakers of English who are being taught in English. This study considers the current literature on pedagogical dictionaries, electronic dictionaries, and the South African education context, and combines that with interviews with Grade 5 and 6 teachers to establish what is required in an electronic school dictionary for South African learners. School dictionaries and online dictionaries are also compared and discussed in order to determine what features and components the articles contain, and whether they would be beneficial in an electronic school dictionary for South African primary school learners. A set of preliminary model articles is designed and then tested on Grade 5 and 6 learners, and presented to experts in the fields of pedagogical lexicography and electronic lexicography. The design is then modified and improved, and a final set of model articles that meet the criteria set out by the teacher interviews and current literature is presented. The result is a model for the user interface of articles in an electronic school dictionary that provides more support in the form of translation equivalents, word banks with related words, illustrations for each sense, usage notes, and word family boxes showing relationships between words. The versatility of the model means that it can be adapted for other languages and other grades. The implication for this model is that it can help to close the language gap that is found between first- and second-language English learners.

Opsomming

Die meerderheid van Suid-Afrikaanse leerders word in Engels onderrig, wat nie hulle eerste taal is nie. Hierdie leerders is dikwels nie toegerus om in Engels te presteer nie, aangesien hulle nog nie vlot genoeg is nie. Daar bestaan baie min ondersteuning in die vorm van taalhulpbronne wat in die klaskamer beskikbaar is om hierdie leerders te help. Daar is ʼn behoefte aan ʼn elektroniese skoolwoordeboek wat die leerproses, teksresepsie en teksproduksie in leerders in Suid-Afrikaanse skole ondersteun. Bestaande skoolwoordeboeke is hoofsaaklik gedrukte woordeboeke, en al is pogings aangewend om hulle so ondersteunend moontlik te maak van leerders wat tweedetaalsprekers is, word hulle steeds begrens deur die beperkinge van spasie en die gedrukte medium. Die elektroniese medium is nog nie ontgin om Suid-Afrikaanse elektroniese skoolwoordeboeke te maak nie. Hierdie proefskrif stel voorbeeldwoordeboekartikels voor in antwoord op die behoefte aan ʼn Suid-Afrikaanse skoolwoordeboek wat meer ondersteuning bied aan niemoedertaalsprekers van Engels wat in Engels onderrig word. Hierdie studie beskou die huidige literatuur oor opvoedkundige woordeboeke, elektroniese woordeboeke en die Suid-Afrikaanse onderwyskonteks, en kombineer dit met onderhoude met onderwysers vir Graad 5 en 6 om vas te stel wat benodig word in ʼn elektroniese skoolwoordeboek vir Suid-Afrikaanse leerders. Skoolwoordeboeke en aanlyn woordeboeke word ook vergelyk en bespreek sodat bepaal kan word watter eienskappe en komponente die artikels bevat, en of hulle voordelig sou wees in ʼn elektroniese skoolwoordeboek vir Suid-Afrikaanse laerskoolleerders. ʼn Stel voorlopige voorbeeldartikels word ontwerp en dan op leerders in Graad 5 en 6 getoets, en aan kenners in die velde van opvoedkundige leksikografie en elektroniese leksikografie voorgelê. Die ontwerp word dan aangepas en verbeter, en ʼn finale stel voorbeeldartikels wat voldoen aan die vereistes soos uiteengesit deur die onderwyser-onderhoude en die huidige literatuur, word aangebied. Die resultaat is ʼn model vir die gebruikerskoppelvlak van artikels in ʼn elektroniese skoolwoordeboek wat meer ondersteuning in die vorm van vertaalekwivalente verskaf, asook woordbanke met verwante woorde, illustrasies vir elke betekenisonderskeiding, gebruiksnotas, en woordfamiliekassies wat die verhouding tussen woorde verduidelik. Die veelsydigheid van die model beteken dat dit vir ander tale en grade aangepas kan word. Die implikasie vir hierdie model is dat dit kan help om die taalgaping tussen leerders wat moedertaal- en tweedetaalsprekers van Engels is, te oorbrug.

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Contents

Chapter 1 Introduction

1.1 Introduction

In South Africa, less than 10% of the population has English as a first language, but English is used as the language of learning and teaching in over 80% of schools (New language changes planned for South African Schools, 2020:1). This means that the vast majority of learners in South Africa are being taught in a language that is not their mother tongue. Their textbooks and other resources are in English and they are assessed and expected to achieve in English exams. But these learners are often not equipped to achieve because their fluency in English is not at first-language level. The "need to become fluent in a second language is essential for gaining meaningful access to education, the labour market and broader social functioning" (Taylor & Coetzee, 2013a:2) and these learners are disadvantaged if they are unable to become fluent in English.

According to Probyn, "thus far, there have been no official efforts to support the development of coherent and planned bilingual pedagogies that draw on students' full linguistic resources" (Probyn, 2017:11).

Lexicography is a good place to start with a solution to this problem, as dictionaries are tools that are used in the classroom to support language production and reception in one's home language or additional language. However, "the challenge for electronic lexicography in South Africa is not only to improve the dictionaries, but also to improve the dictionary users" (Prinsloo, 2012:122). A dictionary user who enjoys using the dictionary becomes a "better" and more effective user and Nkomo says that "preaching the lexicographic gospel of dictionary use to young users needs to be anchored on the availability of dictionaries that can address the needs of the users in an appealing and satisfactory way" (Nkomo, 2016:31). He also says that "well-conceived children's and school dictionaries have a great potential of, over and above supporting learning, inculcating a dictionary culture" (Nkomo, 2016:52).

This dissertation is a response to the need for a South African school dictionary that offers more support to non-mother-tongue speakers of English who are being taught in English. An electronic dictionary has been chosen for this project, the motivation for which will be addressed later in this chapter.

1.2 Problem statement

There is a need for an electronic English school dictionary that supports learning, text production, and text reception in learners at South African schools, most of whom are not first-language English speakers. The aim of this research is to design a model for the user interface of the articles of an electronic primary school dictionary that meets this need. Gouws notes that "it is necessary to devise theoretical models for e-dictionaries that focus on critical areas like the data to be included in these dictionaries, the structures to present and accommodate the data, the functions of these dictionaries and the way they should respond to the needs of their target users" (Gouws, 2014:157).

This study addresses these critical areas in the design of the model dictionary articles. This model is restricted to the design of articles and not the other components of a dictionary, dealing in terms of Hausmann and Wiegand, with the textual word list structure and not the textual book structure (Hausmann & Wiegand, 1989:333).

Grade 5 and 6 teachers were interviewed, and based on these interviews the initial designs were developed. These model articles were then tested on Grade 5 and 6 learners, after which the articles were evaluated and improved. The result is a set of model dictionary articles that has several specific features to support non-mother-tongue English learners. These features include pictorial illustrations at every article and cross references to other articles, with explanations and usage notes for avoiding common errors. A translation equivalent is also presented in each article.

This model is intended to help close the gap between first- and second-language learners in the classroom.

1.3 Background to the study

The research undertaken in this study will be both contemplative and transformative (cf Tarp, 2000). The contemplative aspect is the critical examination of current theory as well as of existing dictionaries: both electronic dictionaries and school dictionaries, and how they influence the design of an electronic school dictionary. The transformative aspect is the innovative design of the dictionary model that will be developed from this research.

This study will be placed within the theoretical context of the two prevailing lexicographic theories: the General Theory of Lexicography, as developed by Herbert Ernst Wiegand, and

the Modern Theory of Lexicographical Functions, with Sven Tarp and Henning Bergenholtz as main contributors.

According to Wiegand's theory (1998), lexicography aims to generate language reference works in order to make the cultural practice of using dictionaries possible, and "a language dictionary is a reference work whose genuine purpose is to enable a potential user to retrieve information about linguistic objects from its lexicographic data" (Wiegand, 1998:58). In other words, the making of dictionaries makes the cultural practice of using dictionaries possible.

In contrast, The Modern Theory of Lexicographic Functions takes users and user situations as the starting point for all lexicographic endeavours. Lexicographers study human activities in order to detect possible needs that can be satisfied by means of a dictionary. Human needs are linked to a specific group of people and a specific situation. Situations can be categorised as either communication-orientated situations or cognitive (knowledge-orientated) situations. The production of texts (writing, speaking), the reception of texts (reading, listening), and the translation of texts are all communication-orientated user situations. Cognitive situations include providing cultural and encyclopaedic information, specialised subject field information, and information about language. According to Bergenholtz and Tarp, there is a certain procedure to follow when compiling a new dictionary. The lexicographer "determines certain types of problems in terms of language use or knowledge for a certain user type" and a dictionary is planned in order for it to "be a useful tool for these assumed problems" (Bergenholtz & Tarp, 2003:184). Based on this, "the lexicographer can make decisions on subject matter, dictionary structures, empirical bases, etc." bearing in mind that "no data whatsoever should be included in a dictionary if it cannot be argued on the basis of its respective functions" (Bergenholtz & Tarp, 2003:177).

As Tarp and Gouws say, "the most important situations where dictionaries may provide assistance in the learning of the first language are text reception and text production, because the cognitive situations in the first place give rise to increased knowledge about this language whereas communication is the mediating element through which the information provided by dictionaries may be transformed into language skills which is the main objective of first-language (mother-tongue) learning" (Tarp & Gouws, 2012:339).

Although this refers to first-language learning, it is highly relevant to this study because firstly, my dictionary model is designed to be used as a school dictionary for South African

learners, whether first- or second-language speakers of English. Since most South African learners are second-language learners of English, it is designed primarily with these learners in mind. Second, due to the age of the targeted user group, these users are still acquiring language and fluency in their first language, so theory as it relates to school dictionaries, whether for first- or second-language learners is relevant.

An important aspect of the design for an electronic school dictionary is that it does not keep traditional conventions used in printed dictionaries for the sake of tradition, but that these conventions are interrogated in order to find out whether they are necessary and appropriate for the electronic medium. "Where lexicographers embarking on the planning of new, especially, electronic dictionaries are familiar with the traditions and practice of printed dictionaries their new assignment may also demand the unlearning of certain established habits which have no place in the electronic medium" (Gouws, 2011:18).

The "role of lexicography is to provide information which can be used to solve specific types of need related to communication, language learning and knowledge acquisition," (Gouws & Tarp, 2016:396) and a focus of this study is to establish the specific types of need that the specific user group will have.

Theoretical lexicographers have set out requirements for the ideal dictionary or for the basis of an ideal dictionary.

Bergenholtz, Bothma, and Gouws refer to a fictional tool "that is easy to use and that can be used without a user manual; it is small and handy; it is always available (outside, inside, on holiday, etc.); it provides answers to all questions; it provides answers in a way that the user understands the answer; it gives a correct answer, but never a more detailed answer than is necessary to solve the problem" (Bergenholtz, Bothma, Gouws, 2015:2). While it is not possible to create this exact tool (as it is the *Junior Woodchucks Guidebook* used only by Donald Duck's nephews, Huey, Dewey, and Louie) the aim of this study is to develop a real tool that "provides answers to all questions in a way that the user understands" and "never a more detailed answer than is necessary".

Grønvik and Ore say "access to information about language should be fast, easy and intuitive" (Grønvik & Ore, 2013:243). Lew says that dictionaries need to be able to answer the specific reference needs of the user "within an acceptably short time and with the required degree of detail. In addition, the data have to be presented in a form that is maximally comprehensible" (Lew, 2012:344). Dziemianko states that "electronic dictionaries are

expected to be, above all, reliable, clear and up-to-date" (Dziemianko, 2017:336) and Levy and Steel say that "users need to be able to find the item they want easily, and then, once found, they want an explanation or examples that are readily comprehensible and suited to their needs" (Levy & Steel, 2015:179). Humblé says the ideal dictionary should "combine the tools for decoding with the largest number of lexical items and for encoding with the most detailed guidance on usage, syntactic features and collates" (Humblé, 2001:97). Another aim for the proposed dictionary model is to either have "lexical knowledge that nobody else has or [to display] lexical knowledge in ways that are so convenient that other means of access are less attractive" (Amsler, 2012).

It is the intention of this study to fulfil as many of these requirements and to get as close to the ideal dictionary for learners as possible.

Tarp and Miyares comment simply that "the major desire of any lexicographer, who has dedicated much work and love to a specific dictionary, is that the expected target users utilise and appreciate it" (Tarp & Miyares, 2013: 420).

Lexicographers also make reference to the data that should be included in the ideal dictionary for an intended target user group. "Which information users look up in dictionaries is primarily of interest for lexicographers whose aim is usually to satisfy the information needs of their users in the best way possible" (Müller-Spitzer, 2015:2).

As to how it is determined which data to include, Frankenberg-Garcia states that "English language pedagogical lexicography is particularly advanced … with state-of-the-art dictionaries containing linguistic data gleaned from corpora … [to help learners] use the correct syntax and even avoid common mistakes" (Frankenberg-Garcia, 2015:490).

Wiegand said that "lexicography should become more acquainted with the intended user; the user should no longer be the well-known unknown" (Wiegand, 1977:62, translated from the original German). As such, lexicographers need to not only improve dictionaries, but also to improve dictionary users. As Frankenberg-Garcia says, "despite advances … on the part of dictionary makers, users in general are not very good at utilizing dictionaries to their full potential, especially with regard to looking up … grammatical information" (Frankenberg-Garcia, 2015:491). Makers of electronic dictionaries are able to utilise the available technology to create dictionaries that are user-friendly and require no guesswork or skills training in order to consult them effectively.

As Lombard says, "it seems that if a lexicographer can write a dictionary which can help the user to acquire the habit of using the dictionary regularly and with assurance, his/her task has truly been well accomplished" (Lombard, 1994:207).

The envisioned user of the dictionary developed from this model is a primary school learner who has a home language that is not English. They have been taught in English since Grade 4 and have limited, and not necessarily satisfactory, experience with dictionaries. One of the aims of the model dictionary being designed is that it is a pleasure to use and that it encourages "the serendipitous discovery of words you weren't looking for as you let your eyes wander over a page" which is not normally the case with electronic dictionaries (Wordsmyth.net, 2020).

The appeal of the planned dictionary model to users cannot be overstated as an objective for this model.

In particular, learner's dictionaries have a mandate to give learners the most unambiguous semantic guidance in order to allow them to communicate effectively in a foreign language. This is to avoid misinterpretation, which "can have consequences that are fatal to language understanding and practical applications" (Hanks, 2012:75).

An electronic dictionary rather than a print dictionary was chosen as the medium for the model articles designed in this study for four reasons: firstly, in publishing, electronic dictionaries are taking over from printed dictionaries in production and availability and while South African schools are still predominantly using print dictionaries, more schools are moving towards more electronic textbooks and other resources. It is felt that in the near future, electronic dictionaries will be the reference tool used in most schools. The second reason for choosing the electronic medium for this study is that technology offers more in terms of presentation space and features that can be used to support learners in their text production and text reception tasks. Features such as illustrations at every article and hyperlinks between articles are only possible in an electronic dictionary. The third reason is that electronic dictionaries are able to be more user-friendly and can dispense with traditional space-saving strategies such as abbreviations and typographical indicators and as a result they can be made to be used in a more intuitive way. The curriculum does not allow for much time spent teaching dictionary skills, so while school dictionaries often do provide more support for the learners, users do not know how to access these features or even know that they can find such features in their school dictionaries. The fourth reason is that electronic dictionaries

are more adaptable. The final model of the dictionary contains translation equivalents in the user's home language for the lexical items. These translation equivalents can be set according to the user, without having to produce an entirely new dictionary.

However, "as always happens when changes are driven by technology, the global picture is uneven. In many parts of the world, paper dictionaries still have a healthy future ahead of them. Furthermore, certain types of dictionary — such as those designed for schools, or special-subject dictionaries, or dictionaries of "smaller" languages — may show a preference for print for some time to come" (Rundell, 2015:303). There are relevant concerns that print dictionaries may be more suitable to South African users specifically, and school dictionaries in particular. One of the goals of this research is to motivate for the development of an electronic school dictionary in spite of these concerns.

1.4 Impact of the study

With the result being the design of model articles for a school dictionary, this study is expected to have an impact in both the theoretical and practical lexicographical landscapes. Theoretical lexicographers will be able to use this study as a basis for further research into school dictionaries, electronic dictionaries, and bilingualised dictionaries. Practical lexicographers can use this study as a basis for the development of other models and dictionaries that have features in common with this model.

It is hoped that the South African Education Department sees the benefit of this model and makes provisions for such a dictionary to be incorporated in the collection of resources that are made available to schools. As Probyn is quoted earlier in this chapter, "there have been no official efforts to support the development of coherent and planned bilingual pedagogies that draw on students' full linguistic resources" (Probyn, 2017:11) and this dictionary model could go some way to fulfilling that need.

The impact for learners is that it should improve their linguistic skills and their English-language abilities, which will have an enormous benefit to the rest of their education.

The model in this study is specifically designed for Grade 5 and 6 learners in South Africa, but its versatility means that it can be adapted for other grades and learners from other countries for use with other home languages.

Dictionary user research is in short supply and any contribution to the body of user research is a valuable contribution to the field of lexicography.

1.5 Explanation of terms used

Clarity around the term "comprehensive" in the title of this dissertation needs to be made, as "comprehensive" denotes a specific dictionary typology, one that is "typically historically oriented and … directed at a lexicographic treatment reflecting the past and the present characteristics of the language" (Gouws & Prinsloo, 2005:49). A comprehensive dictionary "endeavours to cover as full a spectrum of the lexical stock of the given language as possible" (Gouws & Prinsloo, 2005:49). Examples of comprehensive dictionaries are the multivolume *Oxford English Dictionary* and the *Woordeboek van die Afrikaanse Taal*. By this description, a school dictionary cannot be a comprehensive dictionary as the forms and functions of a school dictionary are completely different. "School dictionaries display a low density of data because each article is only allowed a restricted number of microstructural categories" (Gouws & Prinsloo, 2005:51). The use of "comprehensive" in the title of this dissertation refers to the more general meaning of the adjective, "of large content or scope" (Oxford University Press, 2020) or "including everything that is necessary" (Cambridge Dictionary, 2018). In other words, "comprehensiveness in a learner's dictionary involves treating a more limited vocabulary in as thorough a way as possible. However, comprehensiveness is only part of the picture; a learner's dictionary should also be able to lead advanced learners to the specific information they are most likely to need, with ease and in an efficient manner" (Farina, Vrbinc, Vrbinc, 2019:466). Thus, a comprehensive school dictionary should be able to give learners all the support they need to progress and achieve in their education.

School pupils in South Africa are officially referred to as learners. Learner's dictionaries are dictionaries aimed at learners of a language, not necessarily school-going learners. In this study, due to the high proportion of South African school pupils being taught in a language that is not their native language, a learner is both a school pupil and a learner of English.

Mother-tongue, first language (L1), and home language are used interchangeably in this study.

Likewise, second language (L2), foreign language, and additional language are used interchangeably.

Electronic or e-dictionary and digital dictionary are used interchangeably. While "digital" is technically a more correct term for these dictionaries, "electronic" is more widely used in the literature (cf Lew & De Schryver, 2014:342). "Online" specifically refers to digital dictionaries that are available on the internet.

Following the Wiegand paradigm, the term "article" is used instead of "entry", except where another author is quoted. The term "entry" was used in the teacher interviews and learner tests because these dictionary users are more familiar with that term.

1.6 Chapter overview

Chapter 2: Theoretical points of departure and literature review. This chapter places this research into the theoretical models established by Wiegand and Bergenholtz and Tarp. It also contains a discussion of the prevailing literature about the South African educational context, electronic lexicography, pedagogical lexicography, and user experience in the field of design.

Chapter 3: Methodology. This chapter describes the methods used to collect and process the data. The five different processes used to collect data are described. These processes are the literature review in Chapter 2, the analysis and comparison of school dictionaries and electronic dictionaries in Chapter 4, the teacher interviews in Chapter 5, and the learner user tests and the consultations with experts, both in Chapter 6. These processes are described in detail in this chapter, and their relevance to the study is explained.

Chapter 4: Description and analysis of school dictionaries and electronic dictionaries. This chapter shows how the process of comparing and analysing the treatment of different articles in both school dictionaries and electronic dictionaries informed the design of the model articles devised in this study.

Chapter 5: Teacher interviews. This chapter discusses the interviews held with Grade 5 and 6 teachers, and their responses to their existing dictionaries as well as their requirements and preferences for a new dictionary.

Chapter 6: Initial design of model dictionary articles. This chapter will present and explain the initial design of the model dictionary articles. This chapter describes the actual dictionary article design in detail, and explains how decisions for the designs were made.

Chapter 7: Learner tests and expert consultations. This chapter describes how both the potential users and the experts responded to the initial designs, leading to changes made to the design.

Chapter 8: Final design of model dictionary articles. This chapter will present and explain the improvements to the design of the model dictionary articles based on the learner tests and expert consultations.

Chapter 9: Conclusion. This chapter provides a summary of the results of the research and the steps taken to achieve these results. This chapter also contains a discussion of the impact and implications of this research in theoretical lexicography, practical lexicography, and for learners. Recommendations for further research are also made.

Chapter 2 Theoretical points of departure and literature review

2.1 Introduction

The aim of this study is to design a model for an electronic school dictionary that offers more support to learners who are being taught in English while English is not their home language. This model will take advantage of the available technology to provide features and data categories that can assist learners with both encoding and decoding functions, while being lexicographically sound and attractive and appealing to learners. This study uses existing literature to establish a theoretical basis for the background to the study and to contribute to the planning of the design of the model dictionary articles. This literature review will begin with a section on the literature that describes the South African school situation, followed by a section which places this study within the relevant metalexicographic context, followed by a section describing the development, challenges, and implications of electronic lexicography. The next section will describe learner's dictionaries and their users, with the understanding that the target users are both learners of a language (English) and school pupils. The next section in the literature study will be on literature focusing on the design of the dictionary microstructure, and this will be followed by a brief discussion of the design principles of user experience. These sources will form the theoretical basis of the design of the model dictionary articles. It should be noted that in the presentation of these various research results, I am not necessarily supporting the views of the authors, rather they are being presented to provide a theoretical context. This theoretical context will inform the design of the model articles described in this study.

2.2 The South African school situation

In a country where 9% of the population has English as a home language and 13% has Afrikaans as a home language (Statistics South Africa, 2012), almost 80% of learners are being taught in a language that is not their mother tongue. This does not account for the Afrikaans mother-tongue speakers who are taught in English. Census data on the home language of learners in South African schools does not exist because "South African education researchers and policy-makers remain interested in analysis by population group because these characteristics still serve as a proxy for language dynamics, historical disadvantage under the apartheid era, and current poverty" (Van der Berg, 2008, quoted in Taylor & Coetzee, 2013a:9).

Thus, researchers have extrapolated that while around "60% of children in Grade 3 learn in a language other than English and Afrikaans, [by] Grade 4 this proportion is only about 5%. (Taylor & Coetzee, 2013b:2). This means that over 80% of the primary school learners in South African are at a disadvantage because they are being taught in an additional language. And of the learners being taught in English, around 90% of them are learning English as an additional language as well.

"English and Afrikaans are used as LoLT [language of learning and teaching] throughout the system, although just 23% of South Africans identify English and Afrikaans as their Home Languages. African Home Languages are used as LoLT mainly in the foundation phase, and thereafter transit to English" (New language changes planned for South African Schools, 2020:1).

According to Spaull (2013) "South Africa is still a tale of two schools: One which is functional, wealthy, and able to educate students; with the other being poor, dysfunctional, and unable to equip students with the necessary numeracy and literacy skills they should be acquiring in primary school" (Spaull, 2013:444). Unfortunately, by far the majority of South African primary school learners attend schools in the latter category.

Nesi and Haill (2002) say that language background and culture influence the way a user consults a dictionary, as well as their look-up efficiency (Nesi & Haill, 2002:278). Therefore the need for a contextualised dictionary is paramount for users who do not have English as a mother tongue.

While linguistic theory advises that "when it comes to learning a second language it is crucial to have a solid foundation in one's first language" (Taylor & Coetzee, 2013b) the appeal for English being taught from the start is based on the fact that "English and Afrikaans are the only languages with a developed academic literature and in which it is possible to write the secondary school leaving exams" (Taylor & Coetzee, 2013a) and "for economic reasons there is a strong urge for empowerment in English" (Prinsloo, 2012:122). Thus in South Africa the prevailing attitude is that because "English language proficiency influences life chances" (Taylor & Coetzee, 2013a) it is better to start learning in English as early as possible.

According to Tikly (2016) "medium of instruction policies often impact negatively on the development of linguistic capabilities for disadvantaged groups" and this "has a negative impact on other learning outcomes including basic literacy and numeracy" (Tikly, 2016:408).

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As Pretorius and Spaull (2016) say, "the main difference between L1 and L2 children is that the former bring a lot of L1 knowledge with them when learning to read, whereas in L2 children the L2 knowledge is developing in parallel to their L2 reading development" (Pretorius & Spaull, 2016:7).

The "issue of language and learning is central to the success or failure of students" (Probyn, 2017:9). As Probyn says "while schools can do little to change the socioeconomic status of students, they can make changes to language policies and classroom practices so as to improve the learning opportunities" (Probyn, 2017:13). The aim of the current study is to develop a resource that can be used in the classroom and will be beneficial to both learners who are learning in their second language, and teachers.

As a result of the existing language policies in schools, there is a "large gap between the linguistic demands of the curriculum, textbooks and the assessment system and the linguistic capabilities of learners" (Tikly, 2016:421). This research aims to develop a tool that will help to close this gap by assisting learners to improve their linguistic capabilities.

According to Prinsloo, a "clearly established need is the decoding of English texts and encoding for English text production" (Prinsloo, 2012:122). He also states that users "also need help in terms of training in dictionary use. It has to be kept in mind that the majority of Africans do not have access to computers and lack a dictionary culture and computer skills" (Prinsloo, 2012:122). Thus, a product that supports both encoding and decoding text functions is needed, and its accessibility and user-friendliness is paramount. As Nkomo says, improving dictionary culture "would be difficult without user friendly dictionaries that can win both the minds and hearts of the target users" (Nkomo, 2015:1). Nkomo concludes that "English dictionaries can be effectively integrated in the education systems … and play an integral role in supporting the educational needs of school children if they can project an African user perspective" (Nkomo, 2015:2). Prinsloo notes that the "development in African lexicography from the colonial era where a Euro-centric approach prevailed to an Afro-centric approach is a significant achievement" (Prinsloo, 2015:5). There are also factors such as the increasing use of corpora and commercial initiatives driving the improved research in African lexicography, which in turn leads to more and better dictionaries produced in African countries (Prinsloo, 2015:5).

The idea of relying on a more robust dictionary culture, of users who know how to conduct a successful and satisfying dictionary consultation "contradicts the very nature of dictionaries

and other lexicographical products as utility products that are not only designed to meet human information needs but also expected to allow easy, fast, and successful consultation" (Tarp & Gouws, 2020:2). The concept of a dictionary culture places the responsibility of a successful dictionary consultation onto the user and their experience and training, but as Tarp and Gouws say, "the responsibility for a good consultation experience should shift from the user to the producer" (Tarp & Gouws, 2020:2).

Pretorius and Spaull's research shows that literacy interventions are urgently needed in primary schools, especially for children learning in their second language. They "recommend that urgent attention be given to the type of literacy interventions that would best serve bilingual education systems in developing countries, especially in contexts where teachers are faced with large classes and large numbers of children from high poverty, print poor communities, and where literacy is often perceived in narrow and mainly functional terms" (Pretorius & Spaull, 2016:20).

The need for literacy support in primary schools is urgent. As Taljard, Prinsloo, and Fricke state in their research into township high schools, the township schools have "English language proficiency at least three to five grades lower than their school level" (Taljard Prinsloo, Fricke, 2011:87). This is at high school level, so the work needs to be done in primary school to better prepare learners for high school.

In 2016, Oxford University Press (Southern Africa) conducted a study on dictionary use in Grade 7 classes in the Eastern Cape. The results of this study were presented at the Afrilex conference in Windhoek, Namibia in 2019.They specifically looked at the use of an English-isiXhosa bilingual dictionary in the classroom. They found that in order of frequency of use, the majority of teachers reported using the dictionary to support language, for example helping learners understand difficult words, comprehension tasks, reading stories and poetry. The dictionary was also used to support written language production, for example creative writing, summaries, projects, as well as for oral language production such as debates. They used the dictionary for grammar and to support vocabulary development as well as for content subjects. The positive impact of the dictionary "was broad, and included improved language reception skills as well as language production skills, and [made] an impact on Home Language as well as First Additional Language" (Hall, 2019). One of the teachers in the study was quoted as saying "sometimes you may think that learners are not interested in

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reading but the challenge is they don't understand what they are reading" and another said "we know that our learners can think but not in English" (Hall, 2019).

As can be seen in this section, the school situation in South Africa means that the need for language and literacy tools is critical for learners who are being taught in their second or third language and a user-friendly dictionary can go a long way to support learners who need help producing and understanding texts in that language.

2.3 Theoretical points of departure

Any new lexicographical project or model needs to be based on sound lexicographical principles. Recent theoretical approaches focus on among others, dictionary typology, the functions, structures and contents of dictionaries, as well as the format and the target users.

Zgusta (1971) says that a lexicographic theory is an important basis of a dictionary but immaterial to the user of the dictionary, and that part of a lexicographer's task is to ensure that the theory is unobtrusive to the user of a dictionary (Zgusta, 1971:17).

Wiegand's General Theory of Lexicography

Wiegand's *General Theory of Lexicography* (1984) describes lexicography as the activities that when undertaken together result in dictionaries as the product of these activities. In his words, "Linguistic lexicography is scientific practice aimed at producing reference works on language, in particular dictionaries of language" (Wiegand, 1984:14). The practice that Wiegand describes is the planning of the dictionary, the establishment of the base, and the writing of the texts of the dictionary. These activities result in the physical dictionary. Wiegand says that "a general theory must systematically process and explain the reasons for the knowledge required to enable lexicographers to carry out their work appropriately and as well as possible" (Wiegand, 1984:14) and thus he divides his general theory into four components of dictionary research, or metalexicography. These components are: the study of the history of lexicography; general theory of lexicography, which is the principles and methods involved in the development of dictionaries; the study of dictionary use and users; and criticism of dictionaries.

This current study is placed within the component of the principles and methods involved in the development of dictionaries and relies on existing research on the development of electronic dictionaries, learner's dictionaries, and pedagogical dictionaries; as well as the component of dictionary use and users. The component of dictionary criticism also features in

this study as existing school and online dictionaries are examined and evaluated. The study relies on research on the South African school context as well as pedagogical research on language learning, second language acquisition, and the language of learning and teaching.

According to Wiegand, Beißwenger, Gouws, Kammerer, Storrer, and Wolski (2010) "dictionaries are considered as part of a comprehensive lexicographical process, and viewed in relation to constellations of interests in society, individual circumstances of usage, and subject-field and other relationships of utilisation" and that lexicography "is valid as an autonomous cultural practice, which is oriented towards the origination of dictionaries as articles for usage" (Wiegand, Beißwenger, Gouws, Kammerer, Storrer et al., 2010:125). The cultural practice of developing dictionaries allows for the cultural practice that is "the use of lexicographical reference works" (Wiegand et al., 2010:125).

Wiegand et al. further describe the metalexicographical component of user research as essential because dictionaries "were and are always only compiled for the sake of being used" (Wiegand et al., 2010:128) and that accepting "this condition ... forms the basis by means of which one can justify the existence of lexicography as an autonomous cultural practice" (Wiegand et al., 2010:128). Wiegand et al. conclude this section on user research by stating that "lexicography serves the goal of promoting the cultural practice of dictionary usage; dictionary research, on the other hand, serves this goal in a theoretical sense in that it provides scientific knowledge about dictionary usage … by means of which new dictionaries and new editions of existing dictionaries can be more valuable to users" (Wiegand et al., 2010:128). Thus, user research is "justified by the idea that the user-friendliness of future dictionaries can be enhanced by knowledge about the use of dictionaries" (Wiegand et al., 2010:130).

Modern Theory of Lexicographical Functions

Bergenholtz and Tarp take the user aspect of Wiegand's General Theory of Lexicography and further develop it. They explain that "lexicographers study – or ought to study – human activities in order to detect possible needs that can be satisfied by means of a dictionary" (Bergenholtz & Tarp, 2003:172). They say that lexicographers need to "make a profile of the intended user group and a typology of the user situations where problems or needs may pop up that can be solved by providing lexicographic data in a dictionary" in order to determine the functions and genuine purpose of a dictionary and that determining "the user characteristics is the first step the lexicographer has to take to determine the user needs"

(Bergenholtz & Tarp, 2003:173). The profile of the user group would take among others, the following characteristics into account: user's mother tongue, level of fluency of user's mother tongue, level of fluency of foreign language, and experience in translating between user's mother tongue and foreign language. Once the lexicographer has established the user group characteristics and the types of user situation, "they can proceed to a characterisation of the users' needs" (Bergenholtz & Tarp, 2003:175). These needs include the need for information about the native language or the foreign language, comparison between the two languages, the need for information about culture or the world in general, the need for information about a specific subject field, among others. "On the basis of these needs, the lexicographer can determine which kind of data should be prepared in the dictionary in order to assist" the specific type of user in the specific user situation (Bergenholtz & Tarp, 2003:175).

The Modern Theory of Lexicographical Functions, or Function Theory, states that a "*lexicographic function* of a given dictionary is to provide assistance to a specific user group with specific characteristics in order to cover the complex of needs that arise in a specific type of user situation" and as with "any other utility product, dictionaries also have a genuine purpose. This *genuine purpose* is made up by the totality of functions of a given dictionary and the subject field(s) that it covers" (Bergenholtz & Tarp, 2003:176). The dictionary in question may have more than one function.

The Function Theory divides user needs into two main categories. The first category is knowledge-orientated needs, which is where the user consults the dictionary "to obtain additional information on some topic, e.g. general cultural and encyclopaedic information, specialised information regarding a scientific discipline (biology, geology etc.) or information about a specific language related to the language-learning process" (Bergenholtz & Tarp, 2003:173). In the consultation process, "the only communication taking place is between the lexicographer – as author of the dictionary – and the users of this dictionary" (Bergenholtz & Tarp, 2003:174). The lexicographer has hopefully provided the data that will solve the problem of the user not knowing the information that they need.

The second category of user-situations is the set of communication-orientated needs. Here, "there is an existing – or planned – written or oral communication going on between two or more persons and where the lexicographer only intervenes indirectly (through the dictionary) when some kind of communication problem may pop up that can be solved by consulting a dictionary" (Bergenholtz & Tarp, 2003:174).

They further divide the communication-orientated user situations into the following functions: production and reception of texts in the mother-tongue (P1 and R1), production and reception of texts in the foreign language (P2 and R2), translation of text from mother-tongue to foreign language, and vice versa (T1-2, T2-1) (Bergenholtz & Tarp, 2003:175, brackets my own). Tarp (2008:50) also includes proofreading and marking as communicative situations. Where Bergenholtz and Tarp refer to the dictionary user activities as production and reception, other authors refer to encoding and decoding. In this study the two sets of terms will be used interchangeably.

Bergenholtz and Tarp emphasise that according to the functional theory of lexicography, "no data whatsoever should be included in a dictionary if it cannot be argued on the basis of its respective functions" (Bergenholtz & Tarp, 2003:177).

Considering a typology of lexicographic products, Bergenholtz and Agerbo (2018) describe the basic criteria for dividing dictionaries into different types, based on earlier studies, such as Zgusta (1971). These criteria include: the number of languages (monolingual, bilingual), macrostructure (alphabetical order, thematic), the dictionary size (single volume, pocket) and the medium (print, electronic) (Bergenholtz & Agerbo, 2018:99). What is not included in this list is the user but in 1988 Wiegand introduced a typology based on "the intended use" of each type of dictionary (Wiegand, 1988:761). This theory was improved by Bergenholtz and Kaufman (1997) who divide the purposes, or functions of dictionary use into "text-dependent, text-independent as well as text-dependent and text-independent purposes" (Bergenholtz & Kaufman, 1997:99). A text-dependent function can be a problem with understanding a part of text that a user is reading or hearing, or not knowing what word to use in a text that the user is writing or speaking. A text-independent function could be a dictionary consultation that is driven by the user's need to find out information. A function that is both text dependent and text independent is where a dictionary consultation is initiated by the user needing to solve a text-dependent problem, and finding out extra information – such as etymology – that they were not seeking, but have found interesting or useful.

In the Function Theory, a lexicographic function is defined according to "a combination of user type, user need and user situation" (Bergenholtz & Agerbo, 2018:106). "From a functional theory viewpoint, a Dictionary typology should be based on the different kinds of recognised functions" (Bergenholtz & Agerbo, 2018:106). The functions solve problems within a certain situation and these situations, in brief, are: text production, which is when a

user is producing (writing or speaking) a text; text reception, which is when a user is receiving (reading or hearing) a text; or translation. These three situations are considered communicative situations. Cognitive situations are situations where a dictionary user "needs to acquire knowledge about a specific phenomenon" or situations where the user "has a goal-oriented need to learn something" (Bergenholtz & Agerbo, 2018:107). The term "cognitive (needs)" has been introduced to replace "knowledge-orientated (needs)." The final category of situations is the operative situations, in which a user "needs advice on *what*" to do, or when a user "needs to know *how*" to do something (Bergenholtz & Agerbo, 2018:107).

Within this framework provided by the function theory of lexicography, electronic dictionaries are to solve the same user problems for the same users, just using the medium of an electronic, rather than a print dictionary.

As stated by Burada and Sinu (2016), the challenge for metalexicographers is "to integrate and adapt the theory and methodology originating from other disciplines. The different research paradigms on the lexicographic arena today are faced with the same challenge: the need for a theoretical and methodological framework capable of underpinning lexicographic work in general, which includes digital reference works, with the great potential they hold" (Burada & Sinu, 2016:353).

2.4 Electronic dictionaries

The cultural practice of lexicography, that is, the conception, planning, designing, and writing of dictionaries, is a dynamic one and one of the most significant transitions in the lexicographic activities has been the transition from printed to electronic dictionaries. As Gouws, Heid, Schweickard, and Wiegand (2013) say, the "advent of the age of electronic data processing led to a paradigm change of which the nature is comparable only to the transition from the manuscript culture to the invention of printing" (Gouws, Heid, Schweickard, Wiegand, 2013:10).

Transition from print to electronic dictionaries

As to whether the transition from print to electronic dictionaries means that we need a new theory of lexicography "that may guide the conception and production of lexicographical e-tools or if we can use the theories already developed in the era of printed works" (Tarp, 2012:322), Tarp says "a general theory should necessarily include *all aspects* of

lexicography" and not be restricted to a division of dictionaries (Tarp, 2012:327). He says that a general theory should consider that "lexicographical works are multi-faceted cultural artefacts and utility tools which… have met a wide range of different needs detected in society" (Tarp, 2012:327) and while not ignoring "the differences that separate all these works into their specific content, structure, etc, it should focus on the "aspects and elements that are common to all of them" (Tarp, 2012:327). Tarp concludes by saying that "existing theory should not be rejected but should continually be enhanced and improved" in order to incorporate electronic lexicography" (Tarp, 2012:329). With reference to whether a new theory of lexicography is needed, Gouws (2018) says that "in the planning of any dictionary, irrespective of the medium, there will always be contents and the selection of the contents needs to be done in accordance with the needs and reference skills of the intended target users, culminating in the identification of the specific function(s) of the specific dictionary" (Gouws, 2018:217). In other words, any dictionary, whether printed or electronic, will need to be planned, and the contents included need to be selected, according to prevailing lexicographic theory.

The development of electronic dictionaries has opened up a whole new dimension to lexicography. "Lexicographic theory was based on a description of what previously happened in the lexicographic practice. By only adhering to the guidelines and models presented in the prevailing theory, very little room is left for innovation" (Gouws, 2011:14). The field of e-lexicography is currently moving from research and experimentation to the practical development of actual electronic dictionaries. However, present models are "too limited and generic" (Grønvik & Ore, 2013). Burada and Sinu (2016) point out that print dictionaries and digital dictionaries are judged by different standards and unlike print lexicography, "where quality is mainly associated with accuracy of lexicographic content and attention to linguistic detail, with the new digital dictionaries, quality also entails the presence of additional design features, such as findability, speed, availability, etc., which go beyond the lexical content" (Burada & Sinu, 2016:353).

Granger says that many electronic dictionaries are a "mere conversion of the content of the paper dictionary to the electronic medium" (Granger, 2012:2). This is certainly true for early electronic dictionaries that were presented on a CD-Rom or a DVD, and were often sold with the printed dictionary. Examples are the *Oxford Essential Dictionary* (2006), *Oxford Wordpower* (2004) and *Cambridge Advanced Learner's Dictionary 4e* (2013), which all contain a CD in an envelope attached to the inside cover of the dictionary. Gouws agrees and

says that "current e-dictionaries too often do not live up to the expectations of their users" and that a "better theoretical basis is needed and that should result in better e-dictionaries" (Gouws, 2014:157). However, Granger notes that electronic dictionaries are no longer "mere conversions" of printed dictionaries and that "innovations afforded by the electronic medium can radically transform every facet of dictionary design and use" (Granger, 2012:2). She lists "corpus integration, more and better data, efficiency of access, customisation, hybridisation and user input" as the most significant innovations (Granger, 2012:2).

Corpus integration involves the availability and accessibility of corpora as well as the tools available to mine them effectively. Corpora have become an integral part of dictionaries for both print and electronic dictionaries and they are thus not an exclusive domain of e-lexicography.

In terms of more and better data, the availability of storage space on the internet has "led to some highly welcome changes like the adoption of a more natural dictionary style" (Granger, 2012:3) without the abbreviations often necessary in printed dictionaries. This almost unlimited data space also allows for "the integration of more and better data [such as] richer collocational coverage, an exponential increase of example sentence, … and extended notes" (Granger, 2012:3). However, Granger warns of mistaking storage space for presentation space and that lexicographers need to be aware of how much content can be "presented on screen to the user at a given time" (Granger, 2012:3).

When explaining efficiency of access Granger quotes Atkins (2006) who says that users can be "liberated from the straightjacket of the printed page and alphabetical order" (Granger, 2012:4). Granger lists access options as including "a wide range of search options" and hyperlinks, which enable users "to navigate easily both within and beyond the dictionary" (Granger, 2012:4). Gouws et al. (2013) explain that the term "access structure" should not be used "with regard to online reference works [as they] display no access structures" (Gouws et al., 2013:13). Access possibilities are concerned with searches in online dictionaries and how to access the articles and the data that the user is looking for, but these are not strictly access structures. Many authors do refer to the access of electronic dictionaries, as is the case in this study, but other authors argue that "access structures" as a term is not applicable to online dictionaries. Nielsen, previously, gave a rather broader explanation of access structure, which he described as "the structure of the lexicographical indicators directing the user to the information required" and he further divided the access structure into the outer access

structure which directs the user to the lemma, and the inner access structure which directs the user to the information within the article (Nielsen, 1995:219). According to Gouws (2018) "in internet lexicography the access domain can refer to the domain that accommodates the data to which access structures lead but also the domain within which access procedures are executed. This implies that both the starting point and destination of an access structure function as part of the access domain" (Gouws, 2018:228). He explains that "the outer access structure gives access to the lemmata in the individual dictionaries whereas the inner access structures help users to reach items within the dictionary articles" (Gouws, 2018:228). He also states that "in internet dictionaries … the user does not have to negotiate macrostructural features or a set of linearly ordered access elements to reach the required article" as the user simply types the word they are looking for into the search box and this takes them immediately to the relevant dictionary article" (Gouws, 2018:233). Thus, while the term "access structure" still applies to electronic lexicographic projects, it does not describe the same access as in a printed dictionary. The structures in accessing a printed dictionary and an electronic dictionary are not the same.

These outer and inner structures are applicable to online dictionaries, as the user still needs to access both the lemma and the data within during a dictionary consultation.

Granger's fourth innovation is customisation. Here, she notes that dictionaries can either be manually customised by the user in terms of what they want from each consultation, or they can "adapt automatically to the user thanks to dictionary logs" (Granger, 2012:4). It is also possible for lexicographers to better customise the presentation of the dictionary data according to the target users' requirements.

In terms of hybridisation, Granger explains that traditional dictionaries can now be combined with other reference works, such as encyclopaedias, writing aids and translations tools (Granger, 2012:4). As Tarp, Fisker, and Sepstrup (2017) explain, the process of stepping out of one's current activity of writing a text in order to consult a dictionary to solve a problem is "complex and demanding" (Tarp, Fisker, Sepstrup, 2017:496). They introduce a product which is an application that is used with word processing software so that the writer can take advantage of the spelling and grammar checker that is part of the application.

When describing user input, Granger says that the "invention of wiki technology has brought about one of the most spectacular changes in lexicography, i.e. the integration of

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collaborative or community-based input" (Granger, 2012:5). This is not a feature that will be in the dictionary model described in this study and as such it will not be elaborated on further.

Rundell explains that as print dictionaries are "printed books of finite dimensions" (Rundell, 2015:301) editorial policies and lexicographic conventions such as abbreviations evolved to fit as much information into a limited space as possible. As he says, "there is always a trade-off, and improved user-friendliness generally means a reduced coverage of the lexicon" (Rundell, 2015:304). The editorial policies and conventions have been transferred to digital dictionaries, even when the space constraints are no longer there, and these conventions are not necessary. Rundell asks if "traditional editorial policies and dictionary conventions are … at least partly driven by the space constraints of the printed medium, what happens when these constraints no longer exist? (Rundell, 2015:305). He observes that "there are as yet no 'standard' models for the macrostructure of a digital dictionary. What we are seeing at present is a great deal of trial-and-error" (Rundell, 2015:309).

Three areas that Rundell considers as areas where traditional dictionary policies need rethinking are "inclusion criteria, definitions, and example sentences" (Rundell, 2015:310). In terms of inclusion criteria, with the space constraints removed, instead of asking which words are absolutely necessary to include, a dictionary maker can ask "are there good reasons for *not* including this word?" (Rundell, 2015:311). This would go a long way to eliminating the phrase "but it's not in the dictionary" from a classroom.

The next area Rundell identifies as needing rethinking is the area of definitions. Traditionally, definitions needed to be concise, which often led to an unnatural style that is familiar to dictionary users. With electronic dictionaries not being as constrained for space, dictionaries can now contain definitions which "require no familiarity with lexicographic conventions and can be fully understood without the need to consult other entries" (Rundell, 2015:315). This means that the definitions can be written in a more natural style, with more explanations of the word's meaning. Rundell also refers to defining vocabularies and asks whether they continue to be necessary in electronic learner's dictionaries. As he says, the "cost of clarity can sometimes be a lack of precision" (Rundell, 2015:315). In the digital medium, every word in an article can be hyperlinked, so a user can look up an unfamiliar word in a paraphrase of meaning and find out what that word means. But, as Rundell says, "it is never ideal to have to look from one entry to another" (Rundell, 2015:316). A possible approach is "to create somewhat larger [defining vocabularies] with two or three bands based on

frequency" (Rundell, 2015:316). This way, lexicographers would mainly use words from the first band, but could use words from a higher band if necessary. This would keep definitions simple enough for the intended user, while making use of the ability to hyperlink to a less frequent word if necessary. Rundell also examines the content of definitions and how they are changing in online dictionaries. For example, definitions can now be explanations using the kind of language that a person would use when explaining the meaning of a word, and definitions can be "supplemented by 'semagrams'" which represent the knowledge associated with a word (Rundell, 2015:317). As shown by these and other examples, "dictionary makers are beginning to explore the possibilities of the new medium" (Rundell, 2015:317).

The final area that Rundell identifies as one in which editorial policies need rethinking are example sentences. As Rundell says, "dictionary users appreciate example sentences" (Rundell, 2015:318). As stated by Summers, the "importance of examples to students and teachers cannot be overemphasised" and they "are absolutely essential to extend the user's comprehension and to provide models for students" (Summers, 1988:12). Rundell says that now "without the space constraints imposed by the printed medium, publishers of online dictionaries are experimenting with new ways of providing larger numbers of examples" (Rundell, 2015: 318). For example, they provide links to the actual corpus, allowing users to see concordances, or they add a *More examples* link which will display further examples.

Rundell concludes by saying that a "dictionary is a work-in-progress at the best of times, and as dictionaries steadily migrate to digital media, there is a growing flexibility in our ideas about what a dictionary should look like and what information it should contain" (Rundell, 2015:320).

Dziemianko (2012) compiled the conclusions from different studies comparing print and electronic dictionaries. She said that it is only natural "that the tradition and reliability of paper dictionaries on one hand, and the user-friendliness and convenience of electronic dictionaries on the other pose questions about the relative usefulness of the two dictionary formats" (Dziemianko, 2012:322). She concludes that "it appears that the digital format is more suitable for language learners" (Dziemianko, 2012:349). The two ways in which electronic dictionaries are more suitable is that "the digital format is better for immediate assistance in solving language problems" and that it "supports retention" (Dziemianko, 2012:349).

Levy and Steel note the "important role electronic language dictionaries play for learners" (Levy & Steel, 2015:195) due to the speed and ease of access.

Access to data

Commenting on the lack of space constraints in electronic dictionaries, Gouws warns that "in electronic dictionaries where space restrictions do not play such an important role, the decision regarding the inclusion of the data has to be based on the needs of the users and not the possibilities of the medium" (Gouws, 2011:6).

As dictionaries have moved from the bookshelves onto floppy disks, CDs, internet servers and now mobile devices (Lew & De Schryver, 2014:342) the attitudes of users have changed. Dictionaries are more accessible and there are more opportunities, with log files and user feedback, for users to be actively involved in the dictionary-making and updating processes.

"The aim of dictionary user research is to study how human users interact with dictionaries with the aim of making these interactions more effective, more efficient, and more satisfying" (Lew & De Schryver, 2014:344). With print dictionaries, any user research was reflected only after a new edition or dictionary was published, and users could not be expected to buy new editions every few years. Now, however, "accommodating the findings of empirical research is normally easier, cheaper, and quicker" (Lew & De Schryver, 2014:344). Dictionary user research can show which words users search for, and missing words can be entered without existing entries needing to be removed. It can also "guide decisions related to the presentation of lexicographic data and dictionary interface design" (Lew & De Schryver, 2014:345).

Dictionary user research, whether for printed dictionaries or electronic dictionaries, is vital. As Wiegand et al. say, "research into dictionary use is justified by the idea that the user-friendliness of future dictionaries can be enhanced by knowledge about the use of dictionaries" (Wiegand et al., 2010:130). Schierholtz says that "in research on dictionary use it shall be investigated in which way a user uses a dictionary, so that the results can help to improve the quality of a dictionary" (Schierholz, 2015:338) and Lew and De Schryver state that "the aim of dictionary user research is to study how human users interact with dictionaries with the aim of making this interaction more effective (improving success), more efficient (faster), and more satisfying (pleasant to use)" (Lew & De Schrywer, 2014:344).

Traditional user problems of issues of space and issues of access are easily addressed by digital lexicography.

De Schryver warns lexicographers that "no matter how outstanding the contents of a dictionary, if the contents one needs at a particular point in time cannot be accessed in a quick and straightforward way, the dictionary de facto fails to be a good dictionary" (De Schryver, 2003:173). Thus dictionary compilers need to prioritise the access in an electronic dictionary. De Schryver further states that "it is one thing to be able to store ever more data, but another thing entirely to present just the data that users want in response to a particular look-up" (De Schryver, 2003:178). Data that a user does not need for their particular look-up should not overwhelm them or interfere with their look-up.

According to Tarp and Gouws (2020), "user-friendliness prevails when dictionaries are made from which the intended target users can retrieve the kind of lexicographical information they require" (Tarp & Gouws, 2020:24).

De Schryver also recommends taking advantage of the technology to make electronic dictionaries as user-friendly as possible. He lists "clear menus, pull-down and pop-up windows, dialogue boxes, etc. [as] tantamount to user-friendliness" (De Schryver, 2003:182).

Lew points out that electronic dictionaries are being produced faster than user studies provide evidence on what is needed in electronic dictionaries, but lexicographers can "look for design principles in user studies done on paper dictionaries" as well as "non-lexicographic studies involving human-computer interaction" (Lew, 2012:343). He also says that expert "intuition continues to be an important source of insight" (Lew, 2012:343).

In order to consider electronic dictionaries effective, Lew says that they "need to be able to answer the specific reference needs of the user… within an acceptably short time and with the required degree of detail" (Lew, 2012:344). Where "e-dictionaries can make a clear difference is in the efficiency of access to lexicographic data, and possibly in the use of multimedia" (Lew, 2012:344).

Lew concludes that dictionaries "will be most effective if they are instantly and unobtrusively available during the activities in which humans engage" (Lew, 2012:361). Tarp et al. (2017) share similar sentiments and say that the challenge to lexicography is to "design an information tool that makes it possible to shorten or even skip [the steps involved in consulting a dictionary] in order to reduce the overall consultation time, maintain the writing flow, and avoid that the person in question loses his concentration" (Tarp et al., 2017:496).

According to Taljard and Prinsloo during their presentation at the EMLex symposium held in Stellenbosch, South Africa in 2018, "users want answers immediately and they want the right answers" (Taljard & Prinsloo, 2018).

Information overload

As mentioned by many authors, the biggest concern about electronic dictionaries is information overload. As Rundell says "the goal in all cases is to avoid overwhelming the user with data, while at the same time making a large quantity of information easily accessible" (Rundell, 2015:309). As expressed by Gouws and Tarp, "a real problem resulting from [the almost unrestricted access to data] is that the supply of information in the digital era too often follows the route of 'as much as possible' and not 'as much as needed' or 'as little as needed'"(Gouws & Tarp, 2016:394). They warn that lexicographers "should not be seduced by practices followed in non-lexicographic online ventures" but should rather "adhere to theory-based lexicographic principles" (Gouws & Tarp, 2016:394). Speier et al., quoted in Gouws and Tarp, explains that "information overload occurs when the amount of input to a system exceeds its processing capacity" (Gouws & Tarp, 2016:395). In dictionaries, the result of information overload can be an unsuccessful consultation as a user may "lose their way in dictionary articles without being able to retrieve the needed information" (Gouws & Tarp, 2016:396).

Gouws and Tarp make the important distinction between lexicographic data overload and non-lexicographic data overload. (The term *data overload* is used instead of *information overload* because *data* is that which has been "selected and prepared by lexicographers and incorporated in dictionaries" while *information* is what the user retrieves from the data and uses for different purposes (Gouws & Tarp, 2016:397).) Many online dictionaries make use of advertising as an income stream. Adverts for products and services may or may not be related to the item being looked up. Often these adverts are more colourful than the rest of the dictionary article and engage the use of animations, the movement of which, coupled with the bright colours, draws the user's attention away from the dictionary data they were searching for. This is "bound to disturb and, consequently, prolong the consultation process" (Gouws & Tarp, 2016:403). This is non-lexicographic data overload. "Research ... indicates that as much as five percent of all visitors to websites using advertising get tempted by the colourful banner ads and click through in order to get further information" (Tarp et al., 2017:496).

Lexicographic data overload, on the other hand, includes lexicographic data which "should not have been incorporated at all in the dictionary" as well as non-purpose lexicographic data, which is data that is primarily for text reception, for example, in a text production dictionary. Technical data overload is where the correct amount of data is included in an article, but "can only be accessed by scrolling down or sweeping the screen to the left or right" (Gouws & Tarp, 2016:408).

Gouws and Tarp say in their conclusion that "the availability of huge electronic corpora can and should be a major advantage and assistance, but they have to be used in a disciplined way" (Gouws & Tarp, 2016: 412).

A contribution to data overload can also be made by outer features that can be found in electronic dictionaries. According to Klosa and Gouws (2015) outer features of online dictionaries can include user guidelines or help, pointers to dictionary content, general information, language games, and links to other sources. Pointers to dictionary content "are features, which are used to attract the users' attention to the dictionary content" by providing hyperlinks to other articles or lists of articles, such as "trending" words, new words and so on. General information is "interesting facts … about the specific dictionary or lexicography in general, and on language". Language games offer "a large variety of (interactive or printable) games on vocabulary knowledge [and are] used as a means of edutainment, involving material from the dictionaries"; and links to other sources include "more information on their search word in other dictionaries, but also in further online sources [and] language tools" (Klosa & Gouws, 2015:164). Outer features "do not only, or even primarily, display only data regarded by the lexicographer as necessary for the user and to achieve the genuine purpose of the dictionary" (Klosa & Gouws, 2015:147). Klosa and Gouws explain that "some of the outer features in … online dictionaries exceed the traditional functions of dictionaries" and they illustrate this with the following example: "In a dictionary with a cognitive function a feature presenting a list dealing with weights and measures helps to satisfy a cognitive need of the users and adheres to a genuine function of the dictionary, although it does not support the genuine purpose, i.e. guidance with regard to the language that constitutes the subject matter of the dictionary" (Klosa & Gouws, 2015:168). They conclude by saying that "online dictionaries ... are practical instruments that should assist users in their attempts to retrieve information from the data on offer, albeit that they also include a range of data types and features directed at other purposes, e.g. to enhance the marketing of the dictionary" (Klosa & Gouws, 2015:169).

This section on electronic dictionaries shows the immense possibilities of the medium to provide users with dictionaries that can provide support in many different ways, and ends with a warning to lexicographers to not overload the users by supplying every possible feature that could be supplied. As Gouws et al. say, "the more diverse the data presentation due to the continuous increase of technical possibilities, the more important the lexicographic processing of the digitally-presented data becomes" (Gouws et al., 2013:11). As Tarp (2009) says, the "master should be the lexicographer, not the computer" (Tarp, 2009a:30).

2.5 Learner's dictionaries

Lew (2013) states that "successful dictionary use requires two ingredients: (1) high-quality, user-friendly dictionaries and (2) dictionary users who know what they are doing" (Lew, 2013). This section looks specifically at the learner as a user of dictionaries, as well as the dictionaries that are aimed at learners.

Typology of learner's dictionaries and school dictionaries

In order to place the current study into the appropriate category, the following section examines the relevant dictionary typology relating to learner's dictionaries and school dictionaries. Tarp (2011) discusses the confusion surrounding dictionary typology, especially with regards to learner's dictionaries, school dictionaries, and pedagogical dictionaries.

Distinguishing between pedagogical dictionaries and didactic dictionaries, Tarp says that "a pedagogical dictionary is a *type of dictionary* (used in teaching and education), whereas the adjective didactic refers to the *quality of the dictionary* in terms of learner-friendliness" (Tarp, 2011:220). Distinguishing between school dictionaries and learner's dictionaries is important because first-language learners and second-language learners have different lexicographical needs, which have to do with their proficiency level in their mother tongue and second language. Some differences are that first-language learners are "supposed to be fluent … in terms of basic vocabulary and grammar when they start using dictionaries, whereas second-language learners are just beginning to learn the second language when they first consult dictionaries in this language" and "first-language learners are developing their conceptual thinking and knowledge of the world together with their language skills, whereas second-language learners have already developed their conceptual thinking and knowledge beyond their second-language skills" (Tarp, 2011:222). In South Africa, first- and second-language learners are often in a classroom together, with the same teacher and using the same resources, so a dictionary used at school would need to be suitable for both groups. Tarp

defines a school dictionary as a "learner's dictionary (or pedagogical dictionary) especially designed to assist school children in learning languages (whether native or a foreign language)" (Tarp, 2011:226). Tarp (2009) defines a learner's dictionary as "a dictionary whose genuine purpose is to satisfy the punctual and lexicographically relevant information needs that learners may have in a range of situations in connection with the foreign-language learning process" as a response to other definitions lacking in various ways (Tarp, 2009b:160).

In much of lexicographical theory, little mention is made of skills so Tarp also points out that the process of learning a foreign, or second, language is a process of acquiring skills: "the ultimate objective of the foreign-language learning process is foreign-language skills, i.e. the ability to communicate in the language concerned: to read, write, listen to and speak this language, and perhaps to translate from this language into a mother tongue" and that the foundation of these skills is "command of the vocabulary and grammar of the language in question, as well as a certain amount of knowledge of the culture in which the language is spoken" (Tarp, 2009b:161).

The typology of school dictionaries and learner's dictionaries is further discussed by Tarp and Gouws (2012). They explain that school dictionaries are dictionaries "with the genuine purpose to assist users that are school learners to find the solution for problems related to their school work" (Tarp & Gouws, 2012:336). They make no mention of first- or second-language learners, but instead focus on the function of such dictionaries. Tarp and Gouws say that "most publishers of school dictionaries refer to reception and production of written and oral texts" when describing their dictionaries (Tarp & Gouws, 2012:337). These two situations "may be further subdivided into normal text reception and production and exercise-related reception and production" (Tarp & Gouws, 2012:337). Other functions addressed by school dictionaries are the cognitive functions of assisting with the learning of grammar, assisting with vocabulary learning, and assisting with learning about the world. A cognitive function not related to language learning is assisting with learning about etymology. An operational function of school dictionaries is assisting learners to develop dictionary skills.

More specifically, Tarp and Gouws explain that when learners have trouble understanding a (written or spoken) text, "they may need information about the *meaning of individual words, idioms* or *proverbs*," and when this leads to a dictionary consultation, the learners need "an *adequate access system* as well as information about *orthography*, *part of speech* and

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irregular inflection forms" (Tarp & Gouws, 2012:340). The learners who have trouble with producing a (written or spoken) text "may need information about *orthography*, *pronunciation*, *inflection*, *pragmatic restrictions*, *word formation*, *syntactic properties*, *collocations*, *synonyms*, *antonyms* etc" (Tarp & Gouws, 2012:340). These learners will also need "an *adequate access system* as well as information about *meaning* and *part of speech*" (Tarp & Gouws, 2012:340).

With regard to school dictionaries and their target users, Tarp and Gouws warn that as the school children age, their needs change so "too few and too simple lexicographical data may not satisfy the needs of the upper grade learners, whereas too many and too complicated data may hamper or even obstruct the consultation process for the lower-grade learners" (Tarp & Gouws, 2012:340). They emphasise that it "is extremely important that school dictionaries should present data in such a way that the intended target user can achieve an optimal retrieval of information without being impeded by strange codes, abbreviated entries and syntactically reduced paraphrases of meaning" (Tarp & Gouws, 2012:341). In a Dutch study used to determine user preferences for definitions, De Schryver and Prinsloo found that "the participants prefer the dictionary definitions taken from the immediately preceding lower-level dictionaries" (De Schryver & Prinsloo, 2011:26). This study used three monolingual Dutch dictionaries, for users aged eight and above, 10 and above, and 18 and up, respectively. This study has important implications especially for the definitions in school dictionaries.

Tarp and Gouws note that lexicographers "of school dictionaries should consult teachers to find out whether learners understand the presentation of data" in their dictionaries (Tarp & Gouws, 2012:342). Beyer and Hancock, in their presentation at the Schoolex Seminar held in Stellenbosch in 2015 pointed out that the target user of a school dictionary is the learner, but that the secondary target user is the teacher, and that lexicographers need to take cognisance of this when designing dictionaries (Beyer & Hancock, 2015). This echoes the view of Beyer (2010) when he said that "the language teacher is also a target user and must not be overlooked in the planning of a school dictionary. For this reason, the lexicographer must provide information on the teaching-learning situation as a microsystemic context factor" (Beyer, 2010:60, translated from the original Afrikaans). In the current study, Chapter 5 details the interviews in which teachers were consulted to establish their requirements (and wishes) for an electronic school dictionary.

Referring to the South African school situation, Tarp and Gouws mention that "school children of a specific grade frequently prefer to consult dictionaries designed for learners of a lower grade because they have certain difficulties in extracting the needed information from the dictionaries that are supposed to assist learners at their level" (Tarp & Gouws, 2012:347). They suggest that this is "related to learners' first-language proficiency level and dictionary culture" (Tarp & Gouws, 2012:347) and say that while school dictionaries are designed according to the curriculum, "there is a certain contradiction between the requirements formulated in the official curriculum and the ways the corresponding dictionaries live up to these requirements in terms of user-friendliness" (Tarp & Gouws, 2012:347).

Tarp and Gouws's recommendation for school dictionaries is that they are not planned and developed in isolation. Each school dictionary should be placed within a continuum of subtypes of school dictionaries, such as dictionaries aimed at different grades and levels and proficiency. "Besides lexicographic principles, including issues such as functions, structures and content of dictionaries, educational principles must also play a role" (Tarp & Gouws, 2010:488, translated from the original Afrikaans). Where dictionary use is required by the curriculum, "school dictionaries for the relevant learner group must be compiled in such a way that the relevant dictionary use skills can be developed through the consultation of the relevant dictionary" (Tarp & Gouws, 2010:488, translated from the original Afrikaans).

In their review of a South African bilingual school dictionary, Gouws and Tarp (2008) say that it is important for dictionary publishers to be clear about the target users of dictionaries and that "it is a frequent problem that dictionaries either do not indicate their anticipated functions or claim to be useful for all thinkable purposes in order to support sales" (Gouws & Tarp, 2008:66). As to the data types included in school dictionaries, they say that data categories are "presented in diverse ways and quantities in many learner's dictionaries and it is not always clear whether they are given as part of a lexicographic tradition or in order to meet the real needs of the intended target users" (Gouws & Tarp, 2008:71). According to Taljard and Prinsloo, "target users of school dictionaries in South Africa are extremely diverse, reflecting the inequalities that continue to plague South African society, with educational inequalities being among the most prominent" (Taljard & Prinsloo, 2019:205). This is a situation that dictionary makers need to be cognisant of when making South African school dictionaries.

Different types of users

Discussing problems of learner's lexicography, Tarp says that there are distinctions one needs to make between different learners. These variables include the learner's proficiency level, whether the learner is an adult or child, whether the learner is learning for necessity (as an immigrant, for example), the cultural background of the learner, and the learner's "general cultural level" (Tarp, 2004:228). The dictionary model being devised in this study is aimed at learners who are school children with a range of proficiency levels in the target language, needing the target language (English) in order to study and work. The learner is using the target language daily, but they are also using their home language at home.

As to whether learner's dictionaries should incorporate the learner's native language, Adamska-Sałaciak and Kernerman say that there "are a number of theoretical arguments and quite a substantial amount of empirical evidence to suggest that dictionaries that make reference to their users' native language are not merely useful, but simply irreplaceable" (Adamska-Sałaciak & Kernerman, 2016:271). They also state that "a bilingual dictionary presents information in a manner accessible to the user irrespective of their proficiency in the foreign language" (Adamska-Sałaciak & Kernerman, 2016:273). They add that lexicographers should aim at "producing [bilingual dictionaries] that can actively help in L2 reception and, above all, L2 production" (Adamska-Sałaciak & Kernerman, 2016:273). They say that "even advanced students may occasionally prefer an L1 equivalent to an L2 definition" and explain that the learner can then "allocate more cognitive resources to the end (understanding the whole of a foreign text or utterance) rather than to the means leading to the end (establishing the meanings of individual components of the text or utterances)" (Adamska-Sałaciak & Kernerman, 2016:274). Furthermore, a bilingual dictionary would help learners avoid common mistakes in the learner's second language by emphasising differences between the two languages.

Abecassis states that "what makes the compiling of a dictionary complex and problematic is that there is not a prototypical user, but a whole variety of users, with different cultural backgrounds which may affect their abilities" (Abecassis, 2007:248). He also mentions the "reassuring effect" when a non-native speaker "finds confirmation" for their "understanding of the meaning of the target word" (Abecassis, 2007:252). A strategy that lexicographers can use in electronic dictionaries is to defer the presentation of the home language translation equivalent, to counter the criticism that learners would "pass over the monolingual L2 part

and read only the L1 translation, losing the potential offered by the definition" (Abecassis, 2007:252).

Discussing the compilation of bilingual learner's dictionaries, Halpern says that neglecting "the role of such key issues as lexical categories, headword selection, and multiword expressions prevents learners from accessing pedagogically useful information" (Halpern, 2016:337). He says that the goal of bilingual pedagogical lexicography is "creating bilingual learners' dictionaries that are pedagogically effective, linguistically accurate, and user-friendly" (Halpern, 2016:337). While the current study does not involve a strictly bilingual dictionary, these aims remain sound and relevant.

Atkins and Rundell explain the importance of determining the user profile of a dictionary in order to make "well-informed editorial decisions" (Atkins & Rundell, 2008:33). They say that as it is "impossible to predict all the questions that users will ask of the dictionary" a "realistic goal is to meet the needs of most users most of the time" (Atkins & Rundell, 2008:32). Knowing the target user and their needs informs the answers to questions such as which headwords to include and whether the dictionary should include dialect words and specialist terms. Within each article, does the user know about regular inflections and when an irregular inflection is used? Does the user know about common word combinations? In terms of the presentation of the data, Atkins and Rundell urge lexicographers to ask what linguistic skills the user has and how simple or complex the definitions should be; and what reference skills the user has. Finally, the presentation of the dictionary requires the designer to ask "what is the best way to set out the material so that the dictionary is easy to use but still contains enough information?" (Atkins & Rundell, 2008:34).

Koplenig (2011) says that if users know about the innovative features of a dictionary, they will use them, but they often needed to be directed to these features (Koplenig, 2011:147).

Burada and Sinu point out that "new developments in the area of pedagogical lexicography will continue to upgrade the academic status of the discipline by disseminating its achievements and values, by increasing dictionary culture, and by preparing the future specialists apt to pick up the baton" (Burada & Sinu, 2016:354).

2.6 Dictionary design

This section covers literature that informed or supported design decisions made in the development of the model articles designed for this study.

Dictionary structures

Firstly, Wiegand, Beer, and Gouws (2013) say that "dictionary articles are the most important lexicographic accessible entries" (Wiegand, Beer, Gouws, 2013:32) and Wiegand (1984) explains that "the dictionary article is a text of linguistic instruction with which the lexicographer instructs the user on the use of a lemma-sign" (Wiegand, 1984:27). He expands this by saying that "several lexicographical textual elements help explain the meaning of the lemma-sign to the dictionary user, not just the lexical paraphrases alone" (Wiegand, 1984:27).

Gouws (2014) describes three different types of structural components of articles as text segments, comments, and search zones. The following diagram illustrates these different components and where they fit into an electronic dictionary article (Gouws, 2014:160).
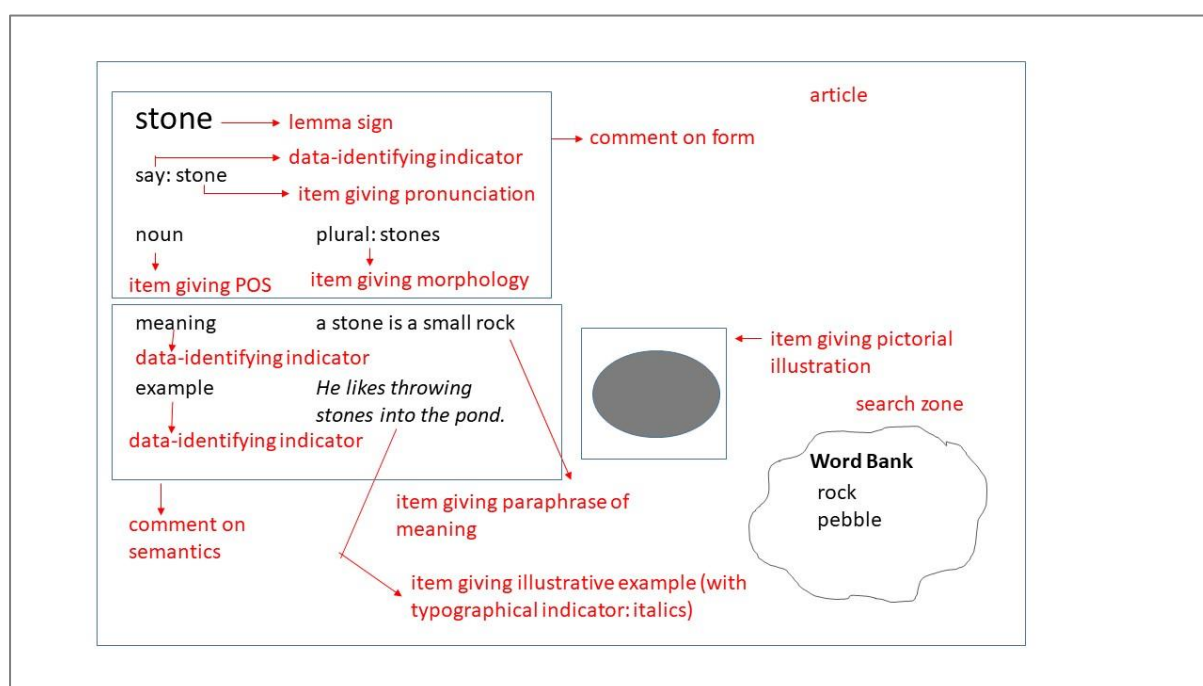
Figure 2.1 Diagram showing components of a dictionary article

Wiegand, Feinauer, and Gouws (2013) explain that "a dictionary article is an accessible dictionary entry characterized by the following three definitive features:" a) it contains at least one external access text element, such as a lemma; b) it is a constituent of the dictionary's wordlist, and c) it contains lexicographic data (Wiegand, Feinauer, Gouws, 2013:317). They describe a basic dictionary article as "an article consisting of two comments, namely a comment on form and a second position comment which is neither a comment on

form nor any cross-reference comment" but can be a comment on semantics, form and semantics, or a semantic-encyclopaedic comment, for example (Wiegand et al., 2013:345).

According to Wiegand and Gouws, (2013a) in a print dictionary, "the outer alphabetical access structure is allocated the general genuine function to guarantee the external data accessibility of a dictionary" (Wiegand & Gouws, 2013a:77). This means that the alphabetical access structure is the route users take to consulting and finding what they need in their dictionary. As electronic dictionaries are structured in a completely different way and no longer rely on the alphabetical access structure as the only access, the outer alphabetical access structure loses its status as the default access structure. Wiegand and Gouws also refer to thematic macrostructures (Wiegand & Gouws, 2013a:91), and these are able to be adapted and used in electronic dictionaries. Wiegand, Beer, and Gouws (2013) explain that a macrostructure "is the structure which is responsible for the order of all elements of a printed dictionary which make a dictionary type-specific contribution to the macrostructural coverage" (Wiegand et al., 2013:31).

Wiegand and Gouws (2013b) note that users "have to know that specific items have to be related to other items in order to obtain an answer to the question that led to the search" (Wiegand & Gouws, 2013b:309). In their explanation of addressing structures, they note that spelling and pronunciation, as displayed in the lemma sign is a comment on form and the paraphrase of meaning is a comment on semantics, and while the user does not necessarily know that they are looking at items and comments, in order to "perform the cognitive reference according to an item addressing relation the active user has to know the addressing relations" (Wiegand & Gouws, 2013b:274).

In terms of the mediostructure, Wiegand and Smit list more than thirty-one types of cross-references that could be found in a printed dictionary (Wiegand & Smit, 2013:231). "The mediostructural organisation guarantees that it is possible for a dictionary user to go from a textual place A of a printed dictionary to another textual place B in the same dictionary by correctly performing procedures of following up cross-references as user actions" (Wiegand & Smit, 2013:249). They explain that "all cross-reference addresses are access addresses" and thus in "following up a cross-reference, one does not only access cross-reference addresses; rather, cross-reference addresses also always open up access to the cross-reference goal area which is either a cross-reference article, a cross-reference goal entry or a cross-reference goal text" (Wiegand & Smit, 2013:227). They continue, by saying that "access

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structures are therefore domains for the discovery of cross-reference addresses" (Wiegand & Smit, 2013:227) leading one to the understanding that the mediostructure can be considered as part of the access structure of an electronic dictionary. The access structure and the mediostructure are both guide structures in a dictionary.

According to Lew, "in contrast to traditional paper non-immediate cross-references, electronic dictionaries may offer immediate cross-reference. Further, following a cross-reference no longer requires losing sight of the original context of the article: devices such as fanouts, callouts or popups can utilise some of the display area to give extended treatment targeted by the cross-reference, while still retaining most of the original article on screen" (Lew, 2011).

In the description of the process used to convert a lexical database into a learner's dictionary, Alipour, Robichaud, and L'Homme list the data categories the articles contain. The data categories that are relevant to the current study are: grammatical information (part of speech), definition, synonyms and variants, contexts (example sentences), lexical relations (including antonyms, derivatives), and combinations (collocations) (Alipour, Robichaud, L'Homme, 2015:52). Further describing the lexical relationships, the authors list synonyms or near-synonyms, antonyms, word families, and collocations as being described in the dictionary (Alipour et al., 2015:53). The dictionary referred to by Alipour, et al. is meant to be used for text production, text reception and translation, as well as for the learning of terminology. The home page is shown as simply the title of the dictionary, with a search bar followed by symbols indicating filtering devices. The search bar contains an auto-completion function: "when two characters are entered, a list of suggestions … is displayed" (Alipour et al., 2015:58). In the dictionary articles, the data categories are displayed in tabs, making the article easy to navigate. The categories "*Definition*, *Synonyms/Opposites* and *Context* are opened by default … to provide some assistance to users who might be unsure about which term to use in a specific context" (Alipour et al., 2015:61). The lexical relations tab "contains information that should provide help for understanding, producing and translating texts, as well as in mastering the terminology" (Alipour et al., 2015:62). The authors mention that images are added to some articles as they "have a positive effect on vocabulary acquisition and become very useful in cognitive situations" (Alipour et al., 2015:66).

Describing an online dictionary project, Tarp describes the dichotomy between including "*as much data as possible* relevant to the topic" and "that articles displayed on the screen should

contain *as little data as possible* in order to avoid information overload" (Tarp, 2015:412). He says that one "of the many challenges in modern online lexicography is to handle the contradiction between almost unlimited freedom from space restraints in the database and the undeniable space restraints at the level of the screen shots" (Tarp, 2015:419). Tarp describes space-consuming techniques as improving readability and lists "less compact article formats", "abolition of metalexicographical abbreviations" and "use of metatexts to introduce sections with specific data categories" (Tarp, 2015:420). As for space-saving techniques, he lists the "use of hidden data to be unfolded when required" and the "use of pop-up windows to present additional data" (Tarp, 2015:420). He warns that "data underload can never be the alternative" (Tarp, 2015:420) as this would mean extra work for the user to find the right data for their information needs. One needs to bear in mind that the dictionary is most likely to be used during a communicative task and the user needs "a quick answer in order to continue with their main activity" (Tarp, 2015:420).

When describing the compilation of an online cultural dictionary for learners of Australian English, Miller, Kwary, and Setiawan list the factors that needed to be considered as: dictionary medium, definition style, spelling variations, grammatical information, pronunciation guide, defining vocabulary, usage labels, example sentences, audio visual material, language variety, and cultural context (Miller, Kwary, Setiawan, 2017:312). This study describes the compilation of the dictionary as well as the user studies that were conducted to determine lemma selection, definition style, and defining vocabulary. The study found that the learners wanted a definition "that was more complete than that found in a normal learner's dictionary, but they did not want to be swamped by encyclopaedic information or etymology" (Miller et al., 2017:318). The study also found that the users "do indeed appreciate cultural information in a dictionary" (Miller et al., 2017:327) and they recommend that similar "dictionaries be created for other varieties of English" (Miller et al., 2017:327).

According to a 2019 study conducted to establish how learners use online dictionaries and what problems they have with online dictionaries, the authors found that the respondents had problems finding words that were not in the same form as the lemma-sign. "Words in real contexts, particularly verbs, do not always appear in their canonical form; the form of a lemma often does not match a context. This presented a huge problem for [the] participants and was a contributing factor preventing them from finding the target sense in the dictionary (Farina, Vrbinc, Vrbinc, 2019:465). The participants also "expressed the desire for a greater

number of examples than were given" (Farina et al., 2019:469). Here, the participants were all advanced Slovenian students of English. The results of this study are valuable, but it needs to be borne in mind that the participants are very different in terms of age and English fluency to the target users of the dictionary being conceived for the current study.

Searching

In two studies conducted a year apart, Lew and Mitton discussed the importance of access in electronic dictionaries. "No matter how rich and sophisticated the lexicographic content [in] a dictionary, it will be completely lost on the users if they do not succeed in finding their way to the appropriate dictionary entry" (Lew & Mitton, 2011:165). Users of dictionaries may require "lexicographic assistance in the context of listening" and learners of a language involve "not one but at least two phonological systems" (Lew & Mitton, 2011:165), which influence a learner because they "interpret sounds of a foreign language through the filter of their native language phonological system" and "languages tend to have their own peculiar sound-to-spelling correspondences" (Lew & Mitton, 2012:229). Lew and Mitton say that "a good dictionary interface should be able to guess the user's intention even if they misrepresent the orthographic form of the word" (Lew & Mitton, 2011:165). Improving spellchecker technology in electronic dictionaries will get them "closer to fulfilling the promise of … efficient access to relevant content" (Lew & Mitton, 2012:229).

With regard to the access structure and the search function, which is how most users are likely to access an article, Lew and Mitton point out that "dictionary users cannot always be expected to replicate standard English spelling" (Lew & Mitton, 2011:165). They explain that misspelling can be a result of performance errors such as a typo or competence errors, where the user simply does not know the correct orthographical representation of the word they are looking for. They say that one "would expect the best electronic dictionaries to be able to offer useful assistance in all of the above cases" (Lew & Mitton, 2011:165). The study, where major dictionaries' search functions are compared with an experimental spellchecker, conducted by Lew and Mitton in 2011 and repeated in 2012 shows that "leading monolingual English learners' dictionaries are inadequate when it comes to correcting misspelled input from non-native users" (Lew & Mitton, 2011:173). The authors noted that the dictionaries all "provide a 'did-you-mean' function" so they were expected to suggest headwords based on the spelling typed into the search bar (Lew & Mitton, 2012:219). The conclusion of the 2012 study notes that again, the dictionaries underperformed compared to the experimental spellchecker. The authors recommend improving the 'did-you-mean' function by taking into

account the users' native languages. Another recommendation is to "deal with real-word errors … [which] occur when someone types a word that is listed in the dictionary but which is not the word they meant" (Lew & Mitton, 2012:229). The current spellchecker technology "certainly permits the online dictionaries to provide a better service than they currently do" and "there is no reason why [publishers] should not get closer to fulfilling the promise of electronic dictionaries: efficient access to relevant content" (Lew & Mitton, 2012:229).

Hanks says that "to understand the meaning of a word, you need access to all the essential knowledge that relates to it" (Hanks, 2012:66) and he gives the example of the word *sell*, which requires understanding of other terms related to commercial transactions and money. Bergenholtz, Bothma, and Gouws discuss the linking feature that is evident in electronic dictionaries, where users click on links that are in the text. "Linking could have a specific goal in mind, i.e. the user has a specific need and tries to solve this problem by following one or more links in sequence. The user could also serendipitously follow links based on a possible interest in what may be available, even leading to infotainment or lexicotainment" (Bergenholtz, Bothma, Gouws 2015:24). They identify these two types of following links as navigation and browsing. Bergenholtz et al. also explain that linking is often used in conjunction with searching and that "in a typical consultation process, users combine searching and linking iteratively to obtain the required information. A user may conduct a search and the results of the search may be a list of items that are clickable; the user then has to click on one of these links to obtain the required information" (Bergenholtz et al., 2015:25). One of the aims of the dictionary devised in this study is to encourage browsing, as it is felt that if learners find "infotainment or lexicotainment" in their dictionary, they will be more inclined to use it.

Article selection

Article selection, while not the focus of this dissertation is a vital part of the planning of a dictionary. Bergenholtz and Gouws argue against traditional methods where homonyms are presented in separate articles, and different senses of a polysemous lexical item are presented in a single article in a text reception dictionary. They question the lexicographic value of polysemy in a text reception dictionary and say that for "a dictionary user with a text reception problem the nature and theoretical status of the distinction between homonymy and polysemy is of little significance" (Bergenholtz & Gouws, 2017:125). What is important is that the "user finds the expression and finds the meaning" (Bergenholtz & Gouws, 2017:125). They comment that a user is not interested in the relationship between senses, but rather

wants a specific meaning for the word they are looking up. Bergenholtz and Gouws recommend "allocating a single meaning to a lemma" which would lead to more articles but this would prevent "a proliferation within an article to numerous senses" (Bergenholtz & Gouws, 2017:126). This approach could "enhance the access of users to meaning" (Bergenholtz & Gouws, 2017:126). In electronic dictionaries the increase in number of articles is not a problem. Bergenholtz and Gouws remind lexicographers that the "needs and reference ease of the target user group should be a determining factor in each and every decision regarding the selection, presentation and treatment of items in a dictionary" (Bergenholtz & Gouws, 2017:129).

Lu and Wei offer a different approach to polysemy when they suggest that polysemous articles remain polysemous in learner's dictionaries so that "users have a chance to see the overall structure of a polysemic item" (Lu & Wei, 2019:23). Lu and Wei discuss the use of menus to point users in "the right direction to solve the fragmentation brought about" by lists of senses (Lu & Wei, 2019:28). Menus are "capable of reducing time spent on browsing senses in longer entries though they are less efficient than signposts (i.e. guiding elements that head the respective senses)" (Lu & Wei, 2019:28). They propose "drawing a semantic graph … [and] enhancing the graph with full-sentence link illustrations" (Lu & Wei, 2019:33) and conclude by saying that presenting the different senses in an article "promotes better learner performance" (Lu & Wei, 2019:33). Dziemianko says that "dictionary users reveal a strong tendency to stop at initial senses in long entries" (Dziemianko, 2019:432) and that signposts and menus are both useful devices that assist dictionary users to find the required sense in polysemous articles.

In their study observing online dictionary users, Müller-Spitzer, Wolfer, and Koplenig shed some light on what users do with their online dictionaries. While interesting and useful lexicographic research, this is not necessarily relevant to this study as the dictionaries and target users are very different. The first question they asked was whether more frequent words according to corpus data correlate to dictionary consultations. Their conclusion is that "frequency information based on a corpus can be used fruitfully for deciding which words to include in a general dictionary" (Müller-Spitzer, Wolfer, Koplenig, 2015:11). They also set out to establish whether there is a higher number of consultations for polysemic words, finding that "polysemic words are visited more often than monosemic words over all parts of speech" (Müller-Spitzer et al., 2015:16). These results are helpful in giving lexicographers some guidance with regards to lemma selection, and are especially valuable, because the

study involved real users during real dictionary consultations, rather than users with access to a sample set of articles in a guided task.

Phrasemes (multiword expressions including idioms and sayings) prove problematic to search for in dictionaries because "a variety of headwords could be chosen by both the lexicographer and the user, and the choices made by these two parties do not always coincide" (Miller, 2013:274). Miller explains that the "correct understanding and use of phrasemes is especially important for learners of English as an additional language, because the meaning of phrasemes is often figurative and therefore hard to guess" (Miller, 2013:275). The problems which learners face when searching for a phraseme in a dictionary is that they "may not recognise a word as belonging to a phraseme, "their selection of the salient word may not be the one used in the dictionary", and they "may not be aware of phraseme variants" (Miller, 2013:275). Miller points out that "online dictionaries should theoretically offer the user a greater choice of search words for phrasemes than paper dictionaries" but she notes that this isn't always the case in online learner's dictionaries. No guidance is given in dictionaries as to which word in a phraseme should be looked up. Her recommendation is that every word in a phraseme should be searchable as a headword, and also that "as wide a choice of headwords as possible be used" (Miller, 2013:283).

Paraphrase of meaning

Wiegand (1984) expresses disapproval of the term *definition* in a dictionary, as the text that is displayed in the *Definition* field does not fit the scientific definition of *definition*. Definition "is a stipulation intended to ensure precise understanding" (Wiegand, 1984:20) while what is understood as the lexicographic definition is actually "a linguistically abbreviated, empirical hypothesis about linguistic matters" (Wiegand, 1984:19). Wiegand offers the terms *lexical paraphrase* or *lexicographical explanation* instead of *definition*. He says that "the lexical paraphrase is intended by the lexicographer as an explanation of the meaning of the relevant lemma-sign" (Wiegand, 1984:21). Wiegand (1984) introduces the term *paraphrase of meaning* as the correct term to use, "because it paraphrases the meaning as deemed appropriate for a given user group and user situation" (Tarp & Gouws, 2012:341). Tarp and Gouws say "not only the extent of the explanation but also the way in which it is given" is important (Tarp & Gouws, 2012:341). They emphasise the importance of presenting data "in such a way that the intended target user can achieve an optimal retrieval of information without being impeded by … syntactically reduced paraphrases of meaning" that are

traditional in printed dictionaries as a result of "high levels of textual condensation and the use of unnatural language in conveying the data" (Tarp & Gouws, 2012:341).

Pictorial illustrations and colour

In a recent study on pictorial illustrations in dictionary articles, the authors set out to find out "how dictionary users' attention is divided between definition and illustration" (Lew, Kaźmierczak, Tomczak, Leszkowicz, 2017:55). They also wanted to find out whether the type of illustration makes a difference. They found that "there is no evidence that the presence of pictorial illustrations leads to the neglect of the verbal definition" and that "verbal and pictorial information seem to complement each other" (Lew, Kaźmierczak, Tomczak, Leszkowicz, 2017:73). They also found that users spent longer on articles with illustrations that were out of context but that the longer time was associated with better recall. Items shown in context "exhibited no relationship between recall rates and entry dwell times" (Lew et al., 2017:75).

In terms of colours in electronic dictionaries, Dziemianko studied the use of colours in dictionary articles. She comments that colours facilitate external and internal access as well as having an aesthetic function. She also notes that "specialists in interface design advise that colours in online dictionaries be used sparingly and selectively" (Dziemianko, 2015:27). Dziemianko's study aims were to establish whether "the presence of colour in functional labels [affects] the speed and effectiveness of online dictionary search for grammatical information," whether functional labels in colour help users remember the retrieved grammatical information," and whether "the effect of functional labels on search time, information retrieval and retention [depends] on the presence of examples in entries" (Dziemianko, 2015:39). Her conclusions are that "labels in colour reduce the time of dictionary lookup for grammatical information, make the search more successful and help users remember the retrieved grammatical information" (Dziemianko, 2015:50). She also notes that "examples do not interfere with colours; the use of colour in labels has a similar effect regardless of whether entries are rich or minimalistic" (Dziemianko, 2015:50). It is to be noted that in the study described by Dziemianko "functional labels" refer to "part-of-speech, syntactic and style labels", while in this study, "labels" are used to provide restrictions and limitations of use of a lemma.

Labels

In their discussion on labels, Vrbinc and Vrbinc (2015) explain that labels provide diasystematic information and give "restrictions and limitations concerning the use of a lexical item" and as they "give information on the connotative value of lexical items, they are of particular importance to non-native speakers of a language" (Vrbinc & Vrbinc, 2015:425). Although labels usually have the lemma as address, there can also be procedures of non-lemmatic addressing where a label is directed at a microstructural item (Gouws, 1989:200). While most dictionary labels, such as *old-fashioned*, *slang*, *informal*, *offensive*, are presented at lemma level in an article, the label *figurative* "refers to the meaning extension item, rather than expressing any restrictions on usage" and that *figurative* "typically marks examples illustrating the use of the lemma or one of its senses" and the label is used to express "certain shades of semantic meaning" (Vrbinc & Vrbinc, 2015:429).

Vrbinc and Vrbinc found that many online learner's dictionaries are lacking in their presentation and explanation of labels and advise lexicographers that "users of online dictionaries need guidance as to certain aspects of dictionary use, and diasystematic information is doubtlessly an information category of the dictionary entry that needs to be explained in a comprehensive, clearly formulated, understandable and consistent way" (Vrbinc & Vrbinc, 2015:443). They also note that "not all labels are self-explanatory; thus, it is essential for every type of dictionary, regardless of the medium, to provide its users with the necessary information" (Vrbinc & Vrbinc, 2015:444). They conclude that "information about the restrictions and limitations provided by diasystematic information is vital for decoding and even more so for encoding. It should therefore be tailored to the needs and skills of the intended dictionary users, so that they can use this type of information correctly and efficiently. We should bear in mind that the intended user is a foreign learner who should receive clear guidance as to the use of lexical items s/he looks up in a dictionary" (Vrbinc & Vrbinc, 2015:444).

Examples

With regard to examples, according to Frankenberg-Garcia, numerous empirical studies have shown that for learners of a language "the most widely used source of grammar information for language production purposes were the example sentences supplied in an entry" (Frankenberg-Garcia, 2015:491), and "examples trumped all other forms of conveying syntactic information" (Frankenberg-Garcia, 2015:493). She further explains that different examples are used to aid text production than those used to aid text reception. "If examples

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only illustrate target syntax or collocation without providing contextual clues that help to convey meaning, then it is unlikely that they will be of much use in comprehension" and "examples for language production must have the potential to aid production" by exhibiting "the specific lexico-grammatical patterns to satisfy a learner's encoding needs" (Frankenberg-Garcia, 2015:494). While labels give pragmatic data by indicating a typical context that deviates from the context of the default item in the specific dictionary, examples illustrate the typical co-text of the word represented by the lemma sign. Thus, context is the pragmatic environment and co-text is the syntactic environment. Frankenberg-Garcia concludes that "encoding examples are helpful to writers" and it is preferable "to supply learners with more than just one example" (Frankenberg-Garcia, 2015:509).

The study by Farina, Vrbinc, and Vrbinc referred to above also reports that as well as more examples, users want more explanations in the examples. The study observed participants using the online *Merriam-Webster Learner's Dictionary*, which provides explanations within the examples in square brackets (see Chapter 4.3.4.2 in this study). One participant "proposed the possibility to click on an illustrative example when needed and only then view the text of the additional explanation" and "advocated including this modern equivalent of brackets with every or almost every illustrative example" (Farina et al., 2019:471). The participants were using the dictionary as part of a decoding exercise for the study. The authors also found that the participants "firmly advocated for examples that would contain a variety of verb forms" (Farina et al., 2019:471) so that they could find the form that they had looked up in use in the dictionary. The participants also "found boldface and italics frustrating, because they had no idea why one or the other was used" in examples (Farina et al., 2019:471). The authors felt that "italics are a holdover from the print era that modern online lexicography should eschew" (Farina et al., 2019:473).

Another Slovenian study (Vrbinc & Vrbinc, 2016) looks at whether examples should be included in bilingual dictionaries and whether they should be translated in these dictionaries. They pointed out that bilingual dictionaries serve "a double function, since they can be used to serve either the decoding or the encoding function" (Vrbinc & Vrbinc, 2016:298). The study "confirms the importance of including illustrative examples in a bilingual decoding dictionary" (Vrbinc & Vrbinc, 2016:308).

In a 2009 study on examples in South African school dictionaries, it is recommended that lexicographers "include contextual support as a matter of course, as users of monolingual

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dictionaries may not be mother-tongue speakers of the language of the dictionary" and "include grammatical support where possible, especially taking note of collocations, transitive and intransitive use [of verbs] and inflections" in examples (Hiles, 2009:105).

Collocations

Moving on to collocations, and whether they should be addressed by the examples, Laufer says that "one of the most problematic areas of lexical difficulty as evidenced by learners' language is the use of native-like collocations" (Laufer, 2011:29). To help solve learners' difficulties with collocations, a "good dictionary entry would probably include the most frequent collocates of the headword and provide suitable examples to illustrate the most frequent collocational combinations of the headword" (Laufer, 2011:30). She recommends that both "lexicographers and teachers should draw learners' attention to the existence of a restricted co-occurrence of lexical items which may be very different from the 'equivalent' combination in the L1" and that "collocations should be given both prominence and easy access" (Laufer, 2011:45) and should not just be inserted in example sentences.

Nurmukhamedov's study supports Laufer's position that collocations need to be emphasised and says that collocations are more effective when "presented in bold before examples or bold within examples" (Nurmukhamedov, 2016:457). Nurmukhamedov also noted that dictionary "look-up skills should not be taken for granted" and that learners need to "be equipped with strategies for how to locate a collocation" (Nurmukhamedov, 2016:457). In his study, Nurmukhamedov found that the *Longman Dictionary of Contemporary English* (LDOCE)'s presentation of collocations "was [most] helpful as long as the collocations were presented in a collocation box" (Nurmukhamedov, 2016:470). See Chapter 4.3.6 in this study for a discussion on LDOCE.

A 2017 study that investigated the effects of dictionary use on the production and retention of collocations found again that learners "were found to have inadequate dictionary use skills" (Chen, 2017:246). This study also showed that "the users rarely used the hyperlink function" and preferred not to click away from an article (Chen, 2017:246).

A study conducted by Kim in 2017 attempted to establish how English learners consult a dictionary to correct collocation errors and how instructions on collocation dictionary skills affect their ability to do this. This study showed that the participants "relied heavily on their L1" (Kim, 2018:318) and emphasised the need for more dictionary skills on finding collocations.

In their review of a South African school dictionary, Gouws and Tarp recommend that dictionaries "should include at least a number of the most frequent and relevant collocations" (Gouws & Tarp, 2008:71). These collocations could be presented "explicitly, by means of grammatical codes or minirules; implicitly, as part of text examples; [or] implicitly, as part of the explanations (definitions)" (Gouws & Tarp, 2008:71).

What these studies on collocations have shown is that users need help with producing natural collocations and that while most of the help they need comes from acquiring dictionary consultation skills, lexicographers should note that collocations need to be made prominent in a dictionary article so that they are easy to find, instead of simply displaying them in example sentences.

Synonyms

With regard to synonymy in dictionary articles, Moon says that "when words occupy similar semantic spaces, they can usually be differentiated in one or more ways" including variety, register, intensity, degree of specificity and collocation or selection restrictions as points of differentiation (Moon, 2013:261). She examines the treatment of synonyms and near-synonyms in her study and notes that "learner's dictionaries have a pedagogical mandate and impose controls on the vocabulary used to define words, so in principle they should do better in distinguishing one item from another" (Moon, 2013:270). She feels that dictionaries could do more to distinguish between near synonyms and "this would be beneficial for decoding as well as encoding purposes" (Moon, 2013:275).

"The relation of synonymy forms an important part of the semantic information supplied in dictionaries" (Van der Merwe, 2012:364) and the fact that learners have difficulty with this "has far-reaching implications for the lexicographer, the user and the language teacher" (Van der Merwe, 2012:364).

According to Götz-Votteler and Herbst, cross-references in printed dictionaries "can be seen as the forerunner of boxes used in many English learner's dictionaries" (Götz-Votteler & Herbst, 2008:58) and they give thesaurus boxes, which include synonyms, near-synonyms, and antonyms; and synonym boxes as examples of boxes that are used in electronic dictionaries. Götz-Votteler and Herbst say that "whether the inclusion of additional onomasiological information in an electronic version is helpful depends on how accessible this information is" and caution that lexicographers need to ensure that the list of words in pop-up boxes is not too long and that the words are correctly categorised according to part of

speech so that "learners can quickly find the right synonyms, otherwise they run the risk of choosing a word that is grammatically, semantically or stylistically inappropriate" (Götz-Votteler & Herbst, 2009:59).

A study of Grade 4 learners established that learners had problems "with the extraction of semantic information from the dictionary" and "had difficulty in understanding the definition" (Van der Merwe, 2012:364). Van der Merwe states that the "relation of synonymy forms an important part of the semantic information supplied in dictionaries and most lexicographers would agree that semantic information is the most important category of information supplied in a school dictionary" (Van der Merwe, 2012:364). Thus, supplying synonyms in an easily accessible way would go a long way towards improving school dictionaries.

Van der Merwe's recommendations for lexicographers is that they "have to ensure that (school) dictionaries are user-friendly so that learners can find the information they are looking for" (Van der Merwe, 2012:364). She further states that "sufficient dictionary use can improve a learner's reference skills, vocabulary, conceptual frame of reference, and facilitate the correct spelling of words" (Van der Merwe, 2012:364).

Audio

One of the "dreams" that De Schryver (2003:167) discusses is audio for "sentence stress, intonation or simply entire example sentences". This is the same dream that the teachers in the teacher interviews have for an electronic school dictionary (See Chapter 5 in this study). Another dream discussed by De Schryver is the exploitation of technology to increase the reach of the mediostructure, with "grammatical pop-up windows or hyperlinks from within dictionary sections to relevant grammar cards" (De Schryver, 2003:180).

All these innovations and features that are available in electronic dictionaries are no use if the user does not know how to access them, or does not know that they are there. As Götz-Votteler and Herbst say, "it is one thing for linguists ... to be full of admiration for the degree of sophistication achieved in some of the most recent EFL dictionaries but it is another for learners and teachers to discover and appreciate this" (Götz-Votteler & Herbst, 2009:64). They also say that in the age of electronic dictionaries, "the teaching of dictionary skills need not focus on how to interpret such-and-such a symbol in an entry or where to find the key to a particular code but rather to teach students how to fully exploit such dictionaries" (Götz-

Votteler & Herbst, 2009:64). It remains the responsibility of the lexicographers to not assume skills or intuition in the user, but to produce a dictionary that can be used by the target user.

This research into the design of the dictionary articles, including the microstructure as well as the mediostructure, has informed much of the design of the model dictionary articles for this study.

2.7 User experience

The field of user experience considers "the overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use" (Oxford University Press, 2020). Research into user experience informs the design community on design best practices and principles. "User experience (UX) is a set of strategies for understanding users' needs and behaviours and then applying that understanding to designing useful, usable, and aesthetically pleasing systems and services" (Pennington, Chapman, Fry, Deschenes, McDonald, 2016: 47). Some key concepts and design principles recommended are to "define a path with visual hierarchy" as "people have an innate desire to make sense of visual clutter"; chunking, which is that "objects close to each other tend to be perceived as being more related than objects that are further apart" and highlighting and prominence to ensure focus "through the use of colour, typeface, size, bolding, italicizing, or underlining" (Pennington et al., 2016:47).

According to Barua, important principles of UX design are: to "design for your users, not for yourself", digestibility, clarity, and familiarity (Barua, 2019:1). In terms of digestibility, he recommends reducing the amount of information presented by dividing it into smaller pieces. For clarity, he says that a designer should not confuse users or make them think, and should therefore make the design, especially instructions, as clear as possible. In terms of familiarity, he recommends using familiar icons as far as possible. Do not let creativity be at the expense of familiarity.

As with lexicographical studies, user experience studies show that designs need to avoid cognitive overload for the users, and these principles should help the designer to avoid that.

Combining the principles of user experience with those of lexicography, Tarp and Gouws (2020) say that "the data should be presented to the users in a way that guarantees intuitive use and smooth consultation by means of appropriate techniques" (Tarp & Gouws, 2020:25). They further state that "users should be able to find what they need in as few clicks as

possible [and] scrolling down should be reduced to a minimum and should not be employed as a means to limit the number of clicks" (Tarp & Gouws, 2020:25). Intuitive use of dictionaries "may just have been a dream a few decades ago, but it is now achievable due to new technologies" (Tarp & Gouws, 2020:25) and "it is the lexicographers' sole responsibility that their products can be used successfully by the target group" (Tarp & Gouws, 2020:25). This confirms the need for lexicographers to take as much care on the design of the dictionary as they do on the contents of the dictionary.

2.8 Conclusion

This chapter explores some of the literature relevant to the design of a model for a school dictionary aimed at South African primary school learners. The South African school situation with regards to the language of learning and teaching is provided for context. Lexicographic theory is discussed in order to place this study within the relevant theory, and dictionary types and users are explored. Design decisions of the dictionary microstructure are discussed next, and finally user experience as a field which relates to the design of electronic tools is discussed. This literature all helps to guide and inform decisions made in the design of the electronic school dictionary model articles. As can be seen by the above discussion of the literature, the design of the model dictionary articles will fit in with the theoretical approach of the study. It is clear that much of the current thought into dictionary design is based on user needs and the functions of the dictionary in how the lexicographer approaches the best way to meet the user's needs.

Chapter 3 Methodology

3.1 Introduction

The aim of this study was to design a model for an electronic school dictionary that provides better support for second-language learners of English, in the form of more context for each lemma in the dictionary. This chapter describes the methods that were used to collect and process the data for the study. In order to determine the best design for the model dictionary articles, five methods were utilised: four qualitative methods and one quantitative method. The four qualitative methods were: a study of the prevailing literature, an analysis and comparison of existing school dictionaries and electronic dictionaries, interviews with teachers, and consultations with experts. The quantitative aspect was a user test given to learners to test the design of the model. The qualitative methods, such as the teacher interviews, are best for gaining in-depth insights into the needs that led to this study being undertaken, while the quantitative form of the learner questionnaires shows whether the model articles are effective and appealing to learners. The intention was to gain as much insight into the requirements of this specific user group as possible. Each of these methods will be discussed and explained in this chapter.

3.2 Literature

Prevailing literature was explored. Literature in the following areas was examined: the South African school situation, the transition from print to electronic dictionaries, learner's dictionaries, and the design of dictionary articles, including specific parts of the electronic dictionary article. Literature on design principles and user experience are also discussed. Material, predominantly journal articles, was selected from references cited in other relevant works, as well as internet searches on relevant topics. Books specialising in these fields were also consulted. The literature is discussed in Chapter 2.

3.3 Comparison of other dictionaries

Because the aim of this study was to design model dictionary articles for an *electronic school* dictionary, a set of school dictionaries was compared and a set of electronic dictionaries was compared.

Five printed school dictionaries that are available for South African primary school learners were compared and evaluated. The five dictionaries are: the *Oxford South African School*

Dictionary 3ʳᵈ edition, the *Longman South African School Dictionary,* the *Francolin Illustrated School Dictionary for Southern Africa,* the *Oxford South African Illustrated School Dictionary,* and the *Pharos English Dictionary for South African Schools.*

The seven lexical items that were originally selected as candidates to be model articles designed in this study are *banana*, *bright*, *gesture*, *get away with*, *legend*, *omit*, and *venom*. Of these, *banana*, *bright*, *get away* and *gesture* were chosen as the lexical items to compare in the school dictionaries. These lemmata represent a non-complex article with a lemma that represents a monosemous word (*banana*); followed by a non-complex article with a lemma that represents a polysemous word (*bright*); followed by an article for a phrase (*get away with*); followed by a single complex article of which the lemma *gesture* represents a lexical item that can be used as two parts of speech (cf. Wiegand & Gouws, 2011:242). The aim of this exercise was to establish how the different dictionaries treat these lexical items and what data types they include or omit, and how the included data types are displayed.

The nine electronic English dictionaries that were examined and analysed were: *Macmillan Dictionary*, which is based on the *Macmillan English Dictionary*; *Cambridge Learner's Dictionary*; *Collins Dictionary*, which is the online *Collins Unabridged English Dictionary*; *The Merriam-Webster.com Dictionary*; *Merriam-Webster Learner's Dictionary*; *Lexico*, which is a collaboration between Dictionary.com and Oxford University Press; *LDOCE online*, which is the online version of the *Longman Dictionary of Contemporary English*; the online *Dictionary of South African English*; and *Wordsmyth Children's Dictionary*, which is a children's online dictionary with no print counterpart.

These dictionaries were compared in terms of what would work visually and practically for learners, according to the literature and the author's own experience and intuition. Of the seven articles that were being designed for this study, two were chosen for each dictionary. The lexical item, *market*, was chosen as one to compare across all the online dictionaries.

The analysis considered each dictionary in terms of their screenshot structure and article structure. Particular note was taken of which data types were included and which were omitted.

The problem with this exercise is that many of the dictionaries examined, for example the *Collins Dictionary* and the *Macmillan English Dictionary,* are adult general dictionaries and thus do not have the same target market as the proposed dictionary model. This was taken

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into account during the analysis. Two learner's dictionaries were included, as well as a children's dictionary, so specific note was taken of these dictionaries.

These were also all online dictionaries, and thus had different business models, which include advertising within the screenshot structure. These online dictionaries are free to access and rely on advertising to make them commercially viable. The proposed dictionary model would not contain any advertising.

3.4 Teacher interviews

Three schools with predominantly English as a First Additional Language (FAL) were selected in Cape Town. The selection criteria were: proximity to the researcher and acknowledgement that the school catered to English FAL learners. Schools were selected by the researcher phoning primary schools and asking the receptionist whether most learners in the school were second-language English speakers. Curiously, many receptionists claimed the learners were predominantly Home Language English speakers, when this cannot be possible according to the national statistics of only 10% of South Africans having English as their home language. The home languages of the learners was not taken into consideration. In the Western Cape, the most likely home languages are Afrikaans and Xhosa.

Ethical clearance was approved for these three schools, with interviews to be conducted in the third term (end of July to September) in 2018. A condition of the ethical clearance was that the schools, teachers, and learners are to be kept anonymous. As such, the schools will be referred to as School A, School B, and School C, respectively. Permission from principals to interview teachers was granted. The principals supplied a list of teachers who taught the relevant grades (Grades 5 and 6). In primary school, in the Intermediate Phase (Grades 4 to 6) a class teacher teaches most subjects, such as English, Mathematics, Life Orientation, Social Science, and Natural Science. Thus the teachers know the learners in their class and their needs well.

School A is in a very poor township, and it caters to children from this township, and a neighbouring, equally poor township. The school is unusual in that it is privately funded and is run and resourced as a private school, despite the population in these communities not being able to afford a private school. Learners have access to and use iPads in class. The majority of learners live in shacks in these two townships, and come from a culture of restricted dictionary access, despite the school's resources.

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School B is a government school that has fewer resources and more learners. It is located in a lower-income suburb. One of the teachers explained that because they are not in the poorest area, they are often overlooked for extra funding. The learners at this school come from the same and nearby neighbourhoods, which are poor, but slightly wealthier, with families renting or owning small houses, not shacks. Learners also travel to school by public transport from nearby townships.

Both schools have close to 100% of learners who do not speak English as a first language. There is a maximum of one or two Home Language English learners in each class. The other home languages represented are Afrikaans, Xhosa, and foreign languages such as Shona. Both schools are co-ed.

School C is an Afrikaans-medium co-ed government school in a middle- to high-income area, close to the centre of Cape Town, with learners and teachers being predominantly Afrikaans speakers. Unfortunately, the teachers at School C were unable to participate due to time constraints, and so only schools A and B were used in this study. It would have been beneficial to include school C in the study, as the learners do not come from disadvantaged backgrounds as with the other two schools, and the results in both the teacher interviews and learner user studies may have been quite different and would have given a valuable perspective.

Interviews with the teachers at Schools A and B were set up. These interviews were intended to establish what teachers wanted in an electronic English dictionary, and what support would be necessary for the learners. The schools were both very accommodating and interested in the outcome of this research.

The interview questions were the same across the interviews. Three teachers were interviewed at School A and five teachers were supposed to be interviewed at School B. Unfortunately there was not enough time to conduct the final interview at School B. The interviews were conducted in person, by the researcher, during school hours. The interviews were recorded and transcribed by the researcher. The interviews took between 10 and 20 minutes each.

An interview format was chosen rather than questionnaires, as it was necessary to engage with the teachers in discussion and gain clarity on their responses, rather than simply ask questions and elicit answers.

After the teacher interviews were conducted, the model articles were designed. Seven lexical items were selected and designed: three representing nouns, one representing an adjective, one representing a verb, one representing a phrasal verb, and one lemma that represents both a noun and a verb. The design of these articles was informed by the literature, the analysis of the school and electronic dictionaries, and the teacher interviews. I sketched out the design and gave the sketches, with instructions on colour, fonts, spacing, and text sizes, to a freelance designer who followed the instructions and created the articles in Adobe Photoshop. Artwork was commissioned by the researcher and inserted into the articles. The designer had no previous experience with dictionary design and was thus not in a position to influence the design. There were a few rounds for corrections and adjustments before the final versions were printed.

3.5 Learner user tests

After the design was completed the learner user tests were conducted. This is the only portion of the study that is quantitative, although some of the questions were not quantitative. Numerical measurement was used in some questions and subjective answers were required from others. The aim of the learner tests was to find out if the model was accessible and appealing to the learners. The same two schools were used for the user tests as for the teacher interviews. Ethical clearance was granted for the third term in 2019. In some cases, the same teachers were contacted, but in most cases the same teachers were not available, due to movement within the school and resignations. Also, due to the time of year which was close to exams, not many classes were available. As part of the ethical clearance procedure, consent from parents was required. In one Grade 6 class, parental consent was only granted for three learners. The reasons for this, as explained by the teacher, were that the learners forgot to take the forms home, or that the learners forgot to bring them back, or that the parent forgot to sign. The parents also may not have understood the form, or the reasons it was needed.

The learner tests took the form of questionnaires with three sections. The questions were to establish dictionary knowledge and use, find out their impressions of the dictionary format, and determine their ability to use the dictionary to answer language questions. The learners were to work independently and had just less than an hour to complete the questionnaire. The researcher and in most cases the class teacher were available to answer questions or provide clarification about the questionnaires. The learners were each given the seven dictionary

articles and a questionnaire, and they wrote their answers on the question sheet and only required a pen or pencil. No other equipment was needed. They were allowed to keep their dictionary articles after the user tests.

Here, questionnaires were used rather than interviews, as the intention was to see the model dictionary articles in action. The questionnaire format was also intended to give some distance between the learners and the researcher to prevent social desirability bias.

After the learner user tests were completed, I captured the results in an Excel spreadsheet. The results were analysed to look for trends and areas in which the design could be improved.

3.6 Expert consultations

After the learner tests were analysed, experts in the fields of lexicography, pedagogical lexicography, electronic lexicography, and lexicographic design were consulted. The experts consulted were: Dr Annette Klosa, researcher at the *Institut für Deutsche Sprache*, Mannheim, Germany, a specialist in online dictionaries; Professor Herman Beyer, associate professor in the Department of Language and Literature Studies, University of Namibia; Dr Phillip Louw, Head of Dictionaries and Dictionary Data at Oxford University Press, Southern Africa; Professor Dion Nkomo, associate professor at the School of Languages and Literature at Rhodes University; Dr Michele van der Merwe, a senior lecturer in the Department of Curriculum Studies: Afrikaans, at Stellenbosch University; and Ms Brigitte Le Du, Senior Editor at the Dictionary of South African English. These experts were either engaged in discussion (Dr Klosa, Prof Beyer, Dr Louw, and Ms Le Du) or asked specific questions via email. Professor Gouws, the supervisor of this research, was engaged in discussion about the other experts' advice and added his comments and recommendations for the design.

After consultation with the experts, the design was adjusted and finalised. No testing was done on the final design.

3.7 Problems with methodology

In the literature review, since the field of electronic lexicography is relatively new, there is not a lot of current literature relating to electronic school dictionaries. There is also very little research available on South African school dictionaries, and the European dictionary context is so different to the South African context that there is often very little overlap.

For the electronic dictionary comparison, the design of many of the dictionaries had changed considerably between the first time they were examined and when the discussion was written up. One of the dictionaries that was included in the study, an online Oxford dictionary, no longer exists, but was replaced by a new dictionary, *Lexico*, which was developed in collaboration with Oxford University Press and Dictionary.com. These changes to the online dictionaries made the process of analysing and comparing them take longer than it would have otherwise. It was noted, however, that changes that were made were positive and improved the dictionaries concerned.

For the teacher interviews, it would have been better to have a larger sample size to interview. Permission from the Western Cape Education Department was only granted for the third term in 2018, so had more time been available, teachers from School C might have been available.

For the learner user tests timing was difficult as a result of the ethical clearance process. The model article designs and the questionnaires both needed to be final before the ethical clearance application could be made, which meant the clearance was only granted towards the end of the third term in 2019. As the Western Cape Education Department only allowed testing to occur during the third term, there was very little time to arrange and conduct the user tests. The parental consent felt unnecessary as learners were answering questions about their dictionary use, with their teacher present, and there were no negative implications of this. As previously mentioned, in one class only three parents gave consent, which limited the learner sample size considerably. In a similar study it is recommended that the user tests be done in a different way. The questionnaires could be structured differently and questions could be asked in a different way to illicit answers that would be more useful for the process. A think-aloud protocol could be employed as another way to test the dictionary articles.

3.8 Conclusion

This chapter has described in detail the methods used for data collection and processing. It also motivates for the different methods used. Problems with these methods are discussed and recommendations for future research are also given.

Chapter 4 Description and analysis of school dictionaries and electronic dictionaries

4.1 Introduction

As part of this study, one comparison was made between existing school dictionaries and another comparison between existing electronic dictionaries. As the proposed model dictionary is a school dictionary, it was necessary to establish what data existing school dictionaries present and how the data categories are treated. As the proposed model is an electronic dictionary, it was necessary to determine what data categories are treated in other electronic dictionaries, and compare how these data categories are displayed. These comparisons will contribute to the design of the model articles devised in this study.

4.2 School dictionaries

In order to establish what data existing school dictionaries present and how the data categories are treated, articles in five printed school dictionaries were examined and compared. While this is a useful academic exercise, comparing the treatment of electronic dictionary articles with printed dictionary articles is not comparing like with like. The printed dictionary articles are disadvantaged by limited presentation space and usually the availability of colours. However the five dictionaries that were compared were produced by reputable publishers with a team of lexicographers, so it can be assumed that they were based on sound lexicographical principles. Four articles will be compared by showing and discussing each article as it is represented in each dictionary. These articles were chosen from the list of lemmata designed in this study, and represent a non-complex article with a lemma that represents a monosemous word (*banana*); followed by non-complex article with a lemma that represents a polysemous word (*bright*); followed by an article for a phrase (*get away with*); followed by a single complex article of which the lemma *gesture* represents a lexical item that can be used as two parts of speech.

The dictionaries used are available for use in South African primary schools. They were chosen because they are available to purchase in South African bookshops, with the exception of the Francolin dictionary, which is no longer in print. It was included because it is a school dictionary specifically produced for primary schools in southern Africa, and is thus comparable to the other dictionaries used in this section.
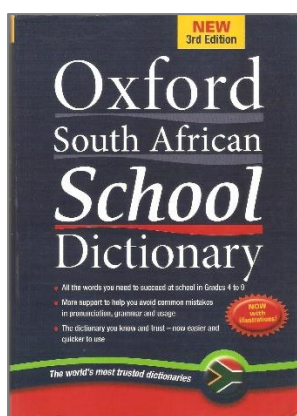
Figure 4.2.1 Oxford South African School Dictionary 3e

The *Oxford South African School Dictionary 3ʳᵈ edition* (*OSASD3e*) was published in 2010 and is based on the *Oxford Essential Dictionary*, which was published in the United Kingdom in 2006. The *OSASD3e* is aimed at Grades 4 to 9. It contains a few illustrations and there is no colour at all. There is an average of 18.5 articles per page and the alphabetical wordlist section is 690 pages. This means the *OSASD3e* contains about 12 765 articles.
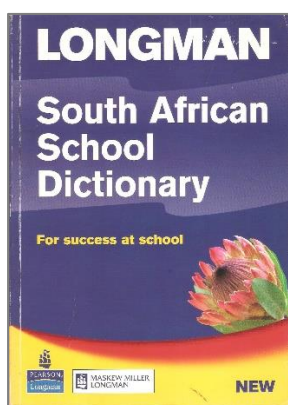
Figure 4.2.2 Longman South African School Dictionary

The *Longman South African School Dictionary* (*Longman*) was published in 2007 in the United Kingdom with the South African edition edited by South African editors and consultants. There is no indication in the dictionary as to which grades or ages the target users are. The *Longman* contains illustrations, and uses blue as a typographical indicator in articles and the margin thumb guide. No other colours are used. There is an average of 27 articles per page, for 788 pages, making this the dictionary with the most extensive macrostructural coverage out of the five, containing about 21 276 articles.
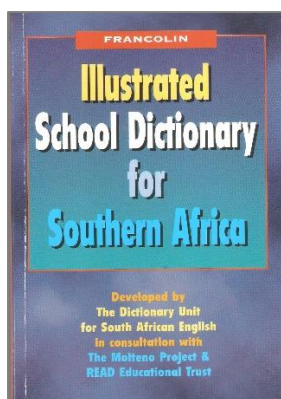
Figure 4.2.3 Francolin Illustrated School Dictionary for Southern Africa

The *Francolin Illustrated School Dictionary for Southern Africa* (*Francolin*) was developed by the Dictionary Unit for South African English and published in 1997 in Cape Town. The *Francolin* was specifically "aimed at senior primary school pupils who do not speak English as their first language, but who have English as a subject or as the language of learning" (Dictionary Unit for South African English, 1999). The dictionary contains illustrations and is entirely black and white. There is an average of only 10 articles per page for 332 pages, making this the dictionary with the least extensive macrostructural coverage out of the five dictionaries, with a total of about 3 403 articles.
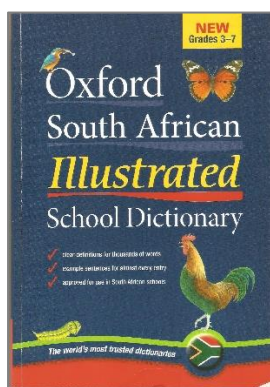
Figure 4.2.4 Oxford South African Illustrated School Dictionary

The *Oxford South African Illustrated School Dictionary* (*OSAISD*) was published in 2008 and was adapted from *The First Australian Dictionary*. It is aimed at learners from Grade 3 to 7. It contains illustrations in the form of line drawings and no colour. There is an average of 17 articles per page for 340 pages, meaning this dictionary contains about 5 780 articles.
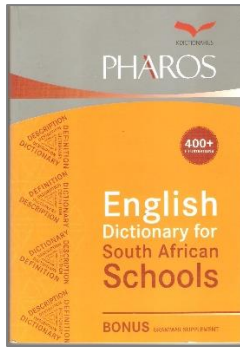
Figure 4.2.5 Pharos English Dictionary for South African Schools

The *Pharos English Dictionary for South African Schools* (*Pharos*) was published in 2014. There is no indication of age or grade range in the dictionary. It contains pictorial illustrations which are all black and white photographs. The lemma signs are printed in blue, and blue is also used for the thumb index down the edges of the pages and for usage notes. There is an average of 20 articles per page for 585 pages, giving a total of about 11 846 articles.

As one can see, there is a very wide range of macrostructural coverage over these dictionaries, with *Francolin* containing only around 3 400 articles, to *Longman* with over 21 000 articles.

The first article compared is the article for *banana*.
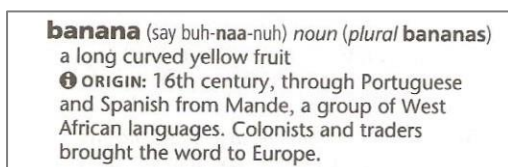
Figure 4.2.6 The article for **banana** *in OSASD3e*

The article for *banana* in the *OSASD3e* contains the lemma sign as the guiding element, in a bold sans serif font. The item giving pronunciation in brackets follows the lemma sign. The data-identifying indicator is "say", and the pronunciation is given using a respelling system that is explained in the front matter of the dictionary. The comment on form also contains an item giving the part of speech, which has the typographical structural indicator of italics. The item giving the inflection is in brackets on the same line. The paraphrase of meaning follows on the next line. There is no example sentence. An etymology is provided after the paraphrase of meaning, and is introduced by an icon and ORIGIN. The *How to use this dictionary* page in the front matter of the dictionary notes that etymology is a requirement in the language curriculum.

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*Figure 4.2.7 The article for **banana** in Longman*

Longman treats the article for *banana* in just over one line. The guiding element, the lemma sign, is blue. This is the only colour that is used in the dictionary. Blue is also used for the borders of usage notes. The lemma sign is followed by the item giving pronunciation, which is provided inside a pair of forward slashes. This is the convention for the presentation of IPA pronunciation, but this dictionary uses a respelling system, which is provided on the inside back cover of the dictionary as part of the back matter. The item giving the part of speech is indicated by the typographical structural indicator, italics, in a sans serif font. The paraphrase of meaning follows on directly from the item giving the part of speech and does not start on a new line. The paraphrase of meaning is in a serif font.

*Figure 4.2.8 The article for **banana** in Francolin*

In *Francolin* the lemma sign is bold and in a sans serif font. It is followed by the item giving the part of speech, which is in italics. The paraphrase of meaning is on a new line, and is in a serif font, followed by a colon, which is a non-typographical structural indicator introducing the example sentence, which is in italics.

*Figure 4.2.9 The article for **banana** in OSAISD*

The *OSAISD* article for *banana* has the lemma sign in a bold, sans serif font. It is followed by the item giving pronunciation in brackets using respelling. The item giving the part of speech is in italics and is followed by the item giving the inflection in brackets. The paraphrase of meaning starts on a new line, and there is no example. The etymology is presented, and has ORIGIN as the data-identifying indicator.

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*Figure 4.2.10 The article for **banana** in Pharos*

Pharos also makes use of blue for lemma signs, and keeps them bold and sans serif as in every other school dictionary. *Pharos* is the only dictionary out of the five examined that shows word breaks and primary stress in the lemma signs. The lemma sign is followed by the item giving part of speech, which is followed by the paraphrase of meaning, on the same line. The item giving the part of speech and the paraphrase of meaning have different typographical indicators in that the item giving part of speech is in an italic, sans serif font and the paraphrase of meaning is roman, in a serif font. The example follows the paraphrase of meaning and is introduced by the non-typographical structural indicator colon, as well as the typographical structural indicator of italics. The lemma is bold in the example.

All five dictionaries have big bold lemma signs, whether in black or blue. Three out of the five have items giving pronunciation, either within brackets or between forward slashes. They all use a respelling system that is described in the extra matter of each dictionary.

All have items giving the part of speech immediately after the lemma sign or item giving the pronunciation. Two out of the five give the inflection, bearing in mind that *banana* is a regular noun and irregular nouns may be treated differently. All have paraphrases of meaning, three out of the five have the paraphrase of meaning starting on a new line and the other two run on from the comment on form. Only two of the articles have examples. All make use of typographical structural indicators, and use italics and roman font to distinguish between the examples and the paraphrases of meaning respectively.

Bright was chosen as another lemma to compare because it is an adjective, it is polysemous, and it would show how derivatives are treated in the different dictionaries, with *bright* having the derivatives *brightly, brightness,* and *brighten*.

*Figure 4.2.11 The article for **bright** in OSASD3*

In *OSASD3e*, the adjective inflections are presented in brackets in the comment on form. In the article for the lemma *banana*, the data-identifying indicator *plural* is given with the inflections, but in the article for the adjective *bright*, only the actual inflections are presented. The three subcomments on semantics are given, each with a bold sense number, and each one starting on a new line. Each subcomment on semantics also contains an example, resulting in an integrated microstructure. The derivatives *brightly* and *brightness* are introduced by the non-typographical indicator of a solid black right-pointing arrow. Each derivative starts on a new line and is in bold. The derivative is followed by an item giving the part of speech in brackets, followed by an example phrase in italics. The lemma is bold in all of the examples. In the example phrases for the derivatives, the derivative is in bold. *Brighten* is treated in the next article, and is not treated as a derivative of *bright*.
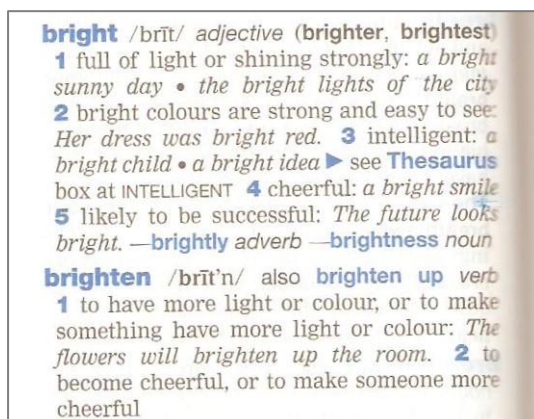
*Figure 4.2.12 The article for **bright** in Longman*

In the *Longman* article for *bright*, the inflections are given in brackets after the item giving the part of speech. (There are no inflections in the article for *banana*.) Here, the subcomments on semantics do not all start on a new line, but they are indicated by a bold, blue sense number. There is also a cross-reference to the thesaurus box at the article for INTELLIGENT.

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This cross-reference address is preceded by the cross-reference marker, a non-typographical structural indicator, which is a solid blue right-pointing arrow. The derivatives, *brightly* and *brightness*, are indicated by an m-dash followed by the derivative in blue and the item giving the part of speech in italics. There are no examples at the derivatives. As in *OSASD3*, *brighten* is treated in the next article and not as a derivative.

Figure 4.2.13 The article for **bright** *in Francolin*

In *Francolin*, which did not contain an item giving pronunciation at *banana*, there is a square bracket with a "rhymes with" pronunciation guide in the article for *bright*. Inflections are also shown in the comment on form. The three senses are shown by three subcomments on semantics, each containing a bold sense number followed by a paraphrase of meaning and an example. The sense numbers run on from one another and do not start on a new line. There are no derivatives, and *brightly*, *brightness*, and *brighten* are not treated in this dictionary.

Figure 4.2.14 The article for **bright** *in OSAISD*

In the OSAISD article for *bright*, the comment on form contains the item giving pronunciation, the item giving the part of speech and the items giving inflections. The comment on semantics begins on a new line, with a bold sense number. The four senses each begin on a new line. Each subcomment on semantics contains a sense number, a paraphrase

of meaning, and an example. There are no derivatives in this article, and as with Francolin, *brightly*, *brightness*, and *brighten* are not treated in this dictionary.

*Figure 4.2.15 The article for **bright** in Pharos*

In *Pharos*, the article for *bright* contains an item giving the part of speech followed by the items giving inflections between two n-dashes. The comment on semantics starts on the same line as the comment on form, and contains sense numbers within black circles. Each subcomment on semantics contains a paraphrase of meaning and an example sentence. The derivatives, *brightly* and *brightness*, are indicated by a solid black right-pointing arrow and they start on a new line. The first derivative in an article in this dictionary always starts on a new line. Each derivative only contains the derivative and the abbreviated item giving the part of speech. This is the only instance of abbreviations used in the articles in the printed dictionaries in this study. *Brighten* is treated in the following article.

It is interesting to note that even though *bright* is a regular adjective and has the regular inflection of *-er*, *-est*, the inflections are displayed in each dictionary, while *banana's* plural is only indicated in two of the dictionaries.

Three of the five dictionaries show derivatives, with two simply giving the derivative and the part of speech and one giving an example as well. None of the dictionaries treat *brighten* as a derivative of *bright*.

Get away with was chosen to compare because it is a phrase and it would show how the dictionaries treat phrases.

get *verb* (**getting, got**)
1 to buy, take or receive something: *Will you get some bread when you go shopping?* ◇ *I got a lot of presents for my birthday.* ◇ *She got a pen out of her bag.*
2 to go and bring back a person or thing: *She will get the children from school.* ⊃ SYNONYM **fetch**
3 to become: *He is getting fat.* ◇ *Mum got angry.* ◇ *It's getting cold.*
4 to climb into or out of something such as a train or car: *When Tom got into the car, I got out.* ◇ *Where did you get off the bus?* ◇ *I got on the train.*
5 to arrive somewhere or to return: *We got to town at ten o'clock.* ◇ *When did you get back from your holiday?* ◇ *My train got in at 7.15.* ◇ *I've got (= read) to page 180.*
6 to start to have an illness: *I think I'm getting a cold.*
7 to understand or hear something: *I don't get the joke.*
get away with something to do something bad and not be punished for it: *He lied but he got away with it.*

Figure 4.2.16 The article for **get** *in OSASD3e*

In OSASD3e *get away with something* is treated at the end of the article for *get*. The treatment contains the phrase in bold as well as a paraphrase of meaning and an example sentence. The *How to use this dictionary* page in the front matter does not mention phrases.

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get *verb* (**got**, **getting**) **1** to receive, obtain, or buy something: *He gets a lot of emails.* • *I got an A in my English test.* • *Where did you get that hat?* ▶ see Thesaurus box at BUY¹ **2** to become: *She soon got bored with the film.* **3** to reach somewhere: *What time did you get home?* ▶ see Thesaurus box at ARRIVE **4** to catch an illness: *I think I'm getting a cold.* **5** to travel on a bus, train, plane etc: *I usually get the bus to school.* **6** to persuade someone to do something: *Can you get your uncle to send you a ticket?* ▶ see Thesaurus box at PERSUADE **7** to have something done for you: *You need to get your hair cut.* **8** (informal) to understand something: *Sorry, I didn't get what you said.* **9** to bring someone or something back from somewhere (SYNONYM **fetch**): *Can I get you a coffee from the machine?* **10** to move something somewhere, especially with difficulty: *I couldn't get the lid back on the jar.* ▶ see **have got** at GOT [**Origin:** 13th C Old Norse *geta*]

get ahead to be successful in your job, work etc

get along **1** to have a friendly relationship (SYNONYM **get on**): *I get along really well with my dad.* **2** to make progress (SYNONYM **get on**)

get away to leave or escape from a place

get away with something to not be punished for something you have done

get back to return to a place

get by to have enough money to pay for the things that you need

get in **1** to go into a place: *How did the thieves get in?* **2** to arrive: *The train gets in at midnight.*

get off to leave a bus or train

get on **1** to go onto a bus or train **2** to have a friendly relationship (SYNONYM **get along**) **3** to make progress (SYNONYM **get along**): *She's getting on well at university.*

get out to leave or escape from a place

get over something to feel better after an illness or bad experience (SYNONYM **recover**)

get up **1** to get out of your bed after sleeping: *I usually get up at six.* **2** to stand up

*Figure 4.2.17 The article for **get** in Longman*

In *Longman*, *get away with something* is also treated in a text block at the end of the article for *get*. In the *Guide to the dictionary* in the dictionary front matter there is a note saying that "phrasal verbs are shown in alphabetical order at the end of an entry". Phrases are also explained, with "phrases are shown at the main word in the phrase and the whole phrase is explained". This could lead to confusion when it is not clear which is the "main" word in a phrase.

In the *Longman* article for *get*, there is a longer list of collocations than in the *OSASD3e*, such as *get ahead* and *get in*, along with the phrases *get away with something* and *get over*

something. The collocations and phrases are listed alphabetically, and each one starts on a new line. The collocation or phrase is in blue. Each phrase or collocation has a paraphrase of meaning and some have examples. In particular, *get away with something* does not have an example. At *get over something*, there is a synonym cross referenced, indicated in brackets by the data-identifying indicator SYNONYM, with the cross reference address in bold.

*Figure 4.2.18 Part of the article for **get** in Francolin*

The article for *get* in *Francolin* runs over two columns, with collocations displayed after the subcomments on semantics. Here, the text block for collocations is introduced by a sentence: "The word ***get*** has many meanings and is also used together with other words: …". This conversational introduction uses up space, but it does tell the user exactly what to expect. Each collocation has a paraphrase of meaning and an example. *Get away with something* is not treated, but the collocation *get away* is. This would not help a learner who was looking up the phrase *get away with*. In the *To the teacher* guide in the front matter, there is a section on *Words which you always use together; phrases and expressions*. This section explains that "these words do not get a separate number but are listed after the meaning of a headword, with their own definition sentence, and often with their own example sentence".

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OSAISD does not treat the phrase *get away with*.

is **getting** old – we've had her for 15 years. In winter it **gets** dark sooner than in summer.
❻ to persuade: *I'll try to **get** Peter to agree.*
❼ to arrive: *"When did Sindiswe **get** home?"*
❽ to catch (a disease etc.): *Brady **got** measles last week.* ❾ to catch (someone): *The police will soon **get** the thief.* ❿ to understand: *I didn't **get** the point of Polani's story.*
get along (often with **with**) to be friendly or on good terms (with someone): *I **get along** very well with my teachers.*
get at ❶ to reach (a place, thing etc.): *The farm is very difficult to **get at**. If I stand on my toes I can only just **get at** the books on the top shelf.* ❷ to suggest or imply (something): *Lee got angry and asked, "What are you **get‑ting at**?"*
get away ❶ to (be able to) leave: *I usually **get away** from the office at 16:30.* ❷ to es‑cape: *The thieves **got away** in a stolen car.*
get away with to do (something bad) with‑out being punished for it: *Murder is a serious crime and one rarely **gets away with** it.*
get by to manage: *I can't **get by** on such a small salary.*
get into ❶ to put on (clothes etc.): *I **got into** my pyjamas.* ❷ to affect strangely: *"What **got into** Igsaan? He's acting strangely."*
get on ❶ to make progress or be successful: *"How are you **getting on** in your new job?"* ❷ to work, live etc. in a friendly way: *We **get on** very well, I like her a lot.* ❸ to grow old: *Our doctor is **getting on** a bit now, so he's go‑ing to retire next year.* ❹ to put (clothes etc.) on: *"Go and **get** your coat **on**."* ❺ to continue doing something: *I must **get on** with my work.*
get out ❶ to leave or escape: *No one knows how the lion **got out**.* ❷ (of information) to become known: *I have no idea how word **got out** that Paul is leaving.*
get out of to (help a person etc. to) avoid doing something: *I wonder how I can **get out of** washing the dishes.*
get over to recover from (an illness, sur‑prise, disappointment etc.): *I **got over** my cold after a few days in bed. I can't **get over** her leaving so suddenly.*
get to to go from one place to another: *"Can you tell me how to **get to** the station?"*
get together to meet: *We usually **get to‑gether** once a week.*
get up ❶ to (cause to) get out of bed: *I **get up** at 07:00 every morning.* ❷ to stand up: *Ben couldn't **get up** after he fell and broke his leg.*
get up to to do (something bad): *Dennis is always **getting up to** mischief.*

*Figure 4.2.19 Part of the article for **get** in Pharos*

Pharos treats the phrase *get away with* after the subcomments on semantics at *get*, in a text block containing an alphabetical list of collocations and phrases. In the *Usage guidelines* in the front matter of the dictionary, the reader is informed that "The treatment of the headword is followed by the treatment of compounds and then by relevant phrases".

Each collocation or phrase is in blue and starts on a new line. The phrase is followed by a paraphrase of meaning and an example. This is the only treatment of the phrase that does not contain the word "something".

Of the five school dictionaries, three of them treat the phrase and give either a paraphrase of meaning, or a paraphrase of meaning and an example.

Gesture was chosen as the final lemma to compare, as it represents two parts of speech. It is only treated by three of the five dictionaries.
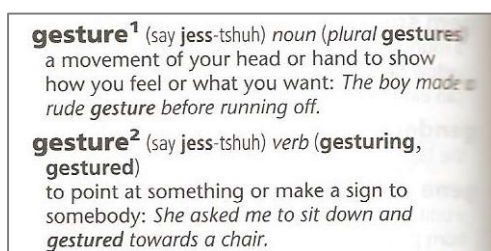
*Figure 4.2.20 The articles for **gesture** in OSASD3e*

In *OSASD3e*, *gesture* is treated in two articles: one representing the noun and one representing the verb. They are differentiated by the superscript number in the lemma sign typically used to distinguish homonyms. Each article contains the item giving pronunciation, the item giving the part of speech and the item giving inflections in the comment on form. The verb inflections given are the past tense and the present participle. The *How to use this dictionary* page in the front matter explains that "words that can be more than one part of speech are usually in different entries".
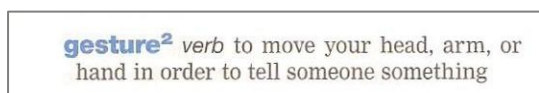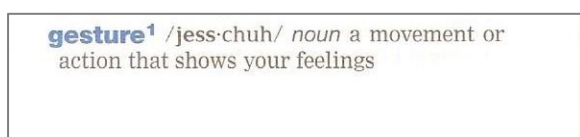
*Figure 4.2.21 The articles for **gesture** in Longman*

Longman also treats *gesture* in two articles, with a superscript homonym number in the lemma sign. The *Guide to the dictionary* in the front matter does not address this, and no explanation is given for the homonym numbers in articles. In this instance, they are separated by a page break. These articles only contain the item giving the part of speech, and in the case

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of *gesture[1]*, the item giving pronunciation. In the comment on semantics, both articles only contain the paraphrase of meaning.

Gesture is not treated in either *Francolin* or *OSAISD*.
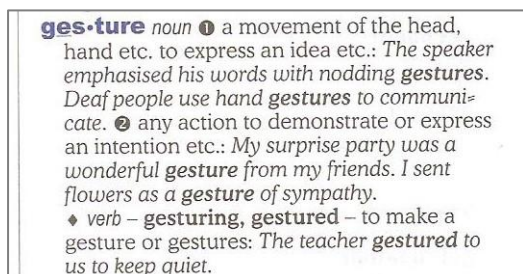
*Figure 4.2.22 The article for **gesture** in Pharos*

Pharos treats *gesture* in one single complex article, with a partial article representing the noun and a second partial article representing the verb. The noun is treated as above, with an item giving the part of speech followed by a sense number. The verb is treated by starting at the beginning of a new line, with the non-typographical structural indicator being a solid black diamond. The diamond is followed immediately by the item giving the part of speech, which is followed by the item giving inflections. The paraphrase of meaning and example follow on from the item giving inflections.

As can be seen in the three dictionaries that treat the lemma *gesture*, two of the dictionaries treat the different parts of speech in different articles. Homonymy is not addressed in either of their guides in the front matter of the dictionaries. The dictionaries treat grammatical homonyms in different articles, indicated by a homonym number in the lemma sign, but real homonyms are simply treated as different senses in the dictionaries.

These dictionary articles are good examples that show what decisions school dictionary publishers make in terms of the data that is included in the articles in a dictionary aimed at primary school learners. Some of the decisions that were made needed to take into account the age range of the user, and in the case of the *Longman* and *Pharos* dictionaries, no age range is given. The *OSASD3e* also includes users in their first two years of high school in its age range. It is clear from the font size and the lemmata included that the *Francolin* and the *OSAISD* are aimed at a younger target user than the other three dictionaries. This has implications on the amount of data that can be included. An advantage to an electronic school dictionary is that it can be aimed at a much smaller user group, and thus be tailored especially to that specific user group.

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These articles show how the different school dictionaries negotiate the conflict between space restrictions and the need for clarity, the inclusion of more lemmata, and more data. For example, the conversational style of the *Francolin* is used at the expense of more lemmata, as it only contains an average of ten articles per page. The Pharos dictionary, on the other hand, makes use of abbreviations and has almost double the number of lemmata per page. The two Oxford dictionaries and the Francolin dictionary start the comment on semantics on a new line, which makes the article appear less dense, but *Longman* and *Pharos*, while denser, are able to fit more articles per page. As can be seen by the examples shown, all of the dictionaries make use of a concise defining style, with paraphrases of meaning simply being a single phrase that explains the lemma. In the teacher interviews (see Chapter 5) this is a concern that came up a few times: that learners struggle with traditional dictionary definitions.

It can be seen that the item giving pronunciation is not compulsory in these dictionaries, and not including it where appropriate would allow for more space that can be used elsewhere. Whether respelling is useful for learners whose home language is not English is debatable, as different orthographic systems in other languages could lead to more confusion. However, as learners in South Africa are generally not taught the IPA, there is no universal pronunciation guide that is available.

Inflections are another area where some dictionaries opt to save space. Regular noun plurals are not always given, but all adjective inflections are given in all of the dictionaries. There is not enough data in this section to show whether verb inflections are always presented, but a quick check through the dictionaries indicates that all except *Longman* display verb inflections in all articles that treat verbs. *Longman* only displays irregular verb inflections. These omissions are understandable in dictionaries intended for first-language speakers, as whether a word has a regular or irregular inflection is a part of language that comes naturally to speakers in their first language, and there is an instinctive knowledge of when a noun, adjective, or verb is irregular and needs irregular treatment. However this knowledge is not instinctive in a second-language learner, and thus would need to be included in a dictionary aimed for use by second-language learners.

Examples are not compulsory in some of the articles shown above. This is another area where space can be saved by dictionaries not including examples at every sense. The decision on when to include examples is usually left up to the lexicographer's intuition on whether the

inclusion or omission of an example is appropriate for the users. Another decision that would have been made is whether two or more examples are permitted, or only one. The inclusion of example phrases versus example sentences would also have an implication on space used.

However, one of the dictionaries that has included examples at every sense, the *OSAISD*, has a note in the introduction to the dictionary in the front matter, which says that "example sentences that show how words are used in context are often as valuable as the definitions" and this is confirmed in the literature, where examples are shown to be extremely beneficial in learner's dictionaries (see Chapter 2.6 in this study).

Where a lexical item that can be used as two or more parts of speech is treated, only *Pharos* includes treatment for both parts of speech in the same article. *Francolin*, which does not include *gesture* in its word list, does address such lexical items in the same way. As explained in the introduction of the dictionary, "if the meanings of a headword are different parts of speech, the part of speech is listed after the [sense] number" along with the item giving the inflection if applicable, and the paraphrase of meaning.

It is apparent that all the school dictionaries have chosen to not address homonymy, and instead treat lexical items that can be used as more than one part of speech as other dictionaries would address homonymy, with a homonym number in superscript at the lemma sign. Learners who know that homonyms have the same form and pronunciation but unrelated meanings can be confused when words that occur in different parts of speech are lemmatised in the same way as homonyms. However, the publishers who treat the two parts of speech in *gesture* in two distinct articles, have motivated this decision by saying that this format allows the dictionary user to find the meaning they are looking for more easily.

As can be seen in this section, many decisions that have been made for the inclusion of data items in printed school dictionaries are ones that weigh up the pedagogical benefit of including such items, at the expense of space used. As such, none of the dictionaries contain data-identifying indicators, such as *part of speech*, *meaning*, *example* and instead rely on typographical indicators, which are not always clear or intuitive for learners. Data-identifying indicators, such as *say*, *synonym*, and *plural* are included.

4.3 Electronic dictionaries

In order to establish what data categories other electronic dictionaries treat and how they display these data categories, nine online dictionaries were described and compared. The

dictionaries selected were: *Macmillan Dictionary*, which is based on the *Macmillan English Dictionary*; *Cambridge Learner's Dictionary*; *Collins Dictionary*, which is the online *Collins Unabridged English Dictionary*; *The Merriam-Webster.com Dictionary*; *Merriam-Webster Learner's Dictionary*; *Lexico*, which is a collaboration between Dictionary.com and Oxford University Press; *LDOCE online*, which is the online version of the *Longman Dictionary of Contemporary English*; the online *Dictionary of South African English*; and *Wordsmyth Children's Dictionary*, which is a children's online dictionary with no print counterpart.

After this analysis, the features and data categories that are best suited to a school dictionary that would support learners whose first language is not English, were considered for the design of this model dictionary.

In order to do the analysis and comparison, three lexical items were selected in each dictionary and looked up. The first part of the analysis is a description of each dictionary screenshot, followed by a detailed description of the actual article. Suitable features are then highlighted as desirable for the model dictionary in this study. As the model dictionary being designed for this study will not be an online dictionary, but rather an electronic dictionary that users will access as an application on a computer, many of the online features will not be applicable. Or, if it is an online dictionary, it will not allow for advertising.

For the lemma selection, at least two parts of speech are represented in each dictionary. Two lexical items were chosen from the lemmata used for the designs of the model articles. The available lemmata are: *bright*, *gesture*, *legend*, *omit*, and *venom*. (*Banana* and the phrasal verb are excluded.) The same two lemmata are not chosen for all the dictionaries in order to get a sense of how the seven lemmata are treated across the dictionaries. Comparing all seven lemmata would be too repetitive, so two lemmata, representing at least two parts of speech are selected for each dictionary. The lemma *market* was chosen as a comparison word and used for each dictionary, along with two lemmata selected from the above list. *Market* is a high frequency word, representing multiple senses and different parts of speech, while still being easily definable. (A word such as *get* has multiple senses and different parts of speech but is less easy to define.) It is a word that a learner may look up during a reception activity, when they come across *market* as a verb, for example, when they only know it as the noun meaning a place where things are bought and sold. *Market* also has associated phrases and multi-word expressions, so it is a useful lemma as one can examine whether and how those are treated in a dictionary.

The dictionary article structure will be described, with reference made to the data categories that are desirable in a school dictionary. This chapter will conclude with a section detailing whether and how the dictionaries provide user support.

The data from the electronic dictionaries will be presented below as screenshots. There are examples of the screenshot structure, which is a lexicographic structure that is different to the article structure. The screenshot structure shows what the user will see when looking at their computer screen. There are also examples of the article structure, which is simply the dictionary article, without the outer features and external features such as advertising. There will also be screenshots of individual parts of dictionary articles.

4.3.1. Macmillan Dictionary

The *Macmillan Dictionary* is accessed at www.macmillandictionary.com. This online dictionary is based on the *Macmillan English Dictionary* and was launched online in 2009. On the website, the *Macmillan Dictionary* claims to be "the perfect free online dictionary – a one-stop reference for English speakers, learners and language enthusiasts around the world" (Macmillan Education Limited, 2020). So, while it mentions learners in its user group, it is not specifically a learner's dictionary.

The three words looked up were *gesture* (noun and verb), *bright* (adjective), and *market* (noun and verb).

Figure 4.3.1.1 Screenshot of Macmillan Dictionary

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A screenshot of an article in the *Macmillan Dictionary* in Figure 4.3.1.1 shows the advertising that is displayed as well as the dictionary article.

The screenshot is divided into three columns and the lexicographically relevant data are presented in two of the columns: a main, central column, and a narrower column on the right hand side. The left hand column is exclusively used for advertising. There is also a banner advert at the top of the article, just below the search bar. The right hand column contains some lexicographically relevant data, such as *Other entries for this word*, as well as dictionary outer features such as quizzes, and advertising. The advertising is in full colour and many of the adverts are animated. The advert box on the right hand side changes regularly (every minute or so), adding more distraction for the user. The adverts do not appear to have any connection to the looked up word. For example, during one consultation of *gesture*, the user is offered a Grammarly subscription, a Netflix subscription, genuine leather articles, a Russian dating service, a new car, and insurance. These colourful and moving adverts contribute to data overload as the user needs to be able to ignore these in order to find the relevant lexicographic data they are looking for. The links to dictionary outer features such as a blog and social media feeds on the right are also colourful, but they are not animated and do not change during the course of a consultation. There are also links to *Trending words* and *Synonyms of the month*, which are entertaining and informative extras, or lexicotainment (cf Bergenholtz et al, 2015) and direct users to other articles within the dictionary. These are situated below the article. They do not change according to the article, but appear to change periodically. Adverts are also interspersed in the article as the user scrolls down.

Figure 4.3.1.2 Top of webpage in Macmillan Dictionary

The top of the webpage has a red bar, with links to the *Macmillan Thesaurus* in a blue block and to the blog in a purple block. Below that is the *Macmillan Dictionary* logo on the far left, and links in black to the outer features, *Buzzword*, *Open Dictionary*, *Resources*, *Quizzes*, *Videos*. Following these links takes the user to other parts of the dictionary that are not part of the wordlist. They are sources of lexicotainment or edutainment and a user could enjoy browsing these sections. Clicking on the magnifying glass search icon in the far right of the screen takes the cursor to the search bar.

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*Figure 4.3.1.3 Article for **gesture** in Macmillan Dictionary*

Looking at the actual dictionary article, without the advertising and dictionary outer features, one can see that the data are presented all on one screen, although it is necessary for the user to scroll down through the article. There are no separate tabs. In a longer article such as *market*, there is a menu providing hyperlinks to the different senses. These links take the user to the relevant place on the page, not to a new page. The actual article is clean and clear, with very little clutter. There are four colours used in the article: red, black, blue, and grey. There are serif and sans serif fonts as typographical structural indicators, and these are used to indicate different microstructural items. There are no pictorial illustrations in the article. This helps to keep the dictionary clean and uncluttered, but illustrations would be preferable in a school dictionary aimed at younger learners. The *Macmillan Dictionary* is not a learner's dictionary, so it does not need the features that are typical in learner's dictionaries, such as illustrations.

*Figure 4.3.1.4 Top of article for **market** showing sense menu in Macmillan Dictionary*

*Figure 4.3.1.5 Lemma section of **bright** in Macmillan Dictionary*

The lemma sign (in Figure 4.3.1.4 and Figure 4.3.1.5) is clearly displayed, as it is red and the largest word in the article. It is one of the few text elements that uses a serif font. Macmillan uses a convention of indicating frequency with font colour and stars. *Bright, gesture,* and *market* are all red words. Less frequent words are black, with the same font and font size. On the right hand side of the screen of a frequent word is a hyperlink in a box, also displayed in red, with the question, *What are red words?* (Figure 4.3.1.1). This link takes the user to an article and a video explaining the use of red to indicate frequent words, with one, two, or three stars to indicate further the degree of frequency. The most frequent 7500 words in English are red. On (less frequent) black words, the hyperlink on the right takes users to an article on *Using the dictionary*. Below that link is a clickable heading, *Other entries for this word*, which takes the user to phrases containing the lemma. In the article for *market* (noun) the *Other entries for this word* offers the user a longer list including the verb *market*.
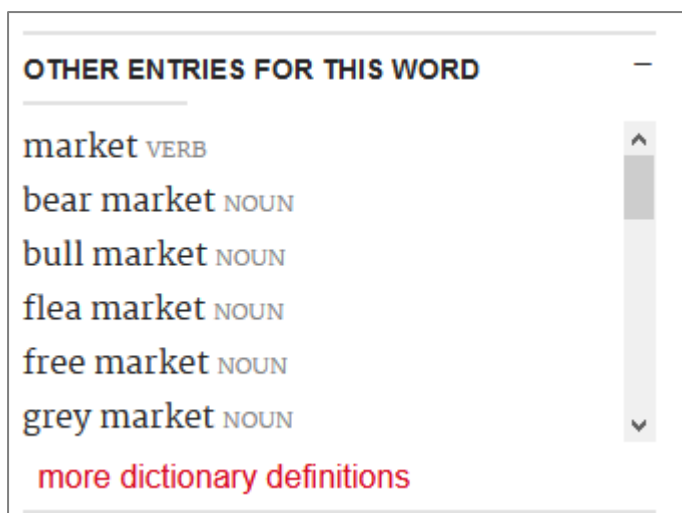
*Figure 4.3.1.6 Other entries for this word in the article for **market** in Macmillan Dictionary*

Below the lemma is the item giving the part of speech, an audio pronunciation symbol in red, followed by the item giving the pronunciation in the form of a guide using IPA symbols. Below that is the data-identifying indicator *Word Forms*, which is clickable and opens to show the items giving the inflections with their data-identifying indicators. In the case of a count noun this would be singular and plural.

Figure 4.3.1.7 Word forms for nouns in Macmillan Dictionary
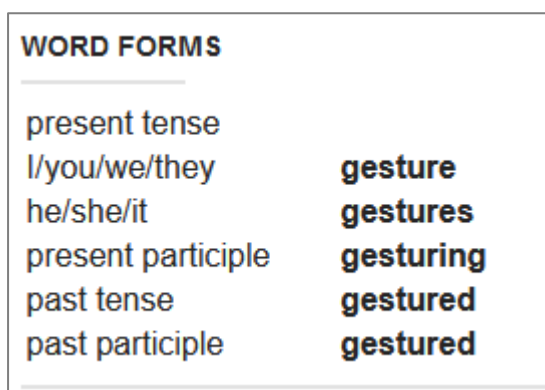
Figure 4.3.1.8 Word forms for verbs in Macmillan Dictionary

In the case of a verb, the present tense, present participle, past tense, and past participle are displayed. In adjective articles, the adjective, comparative, and superlative forms are shown.

Inflections are provided at each adjective, verb, and countable noun article, whether regular or irregular. These inflections are very clearly presented and would be appropriate for a school dictionary.

Below the word forms is the data-identifying indicator *Definitions*, with the number of senses displayed.

Below that are the subcomments on semantics that contain the senses. There is a fairly large space between the heading and the first subcomment on semantics, as well as between the different subcomments on semantics, so they are clearly separate. The sense number is white inside a red circle, so it stands out in the article. In the case of a noun, the countable/uncountable label is after the sense number. Although the paraphrase of meaning is bold and the examples are italic, they are only given these typographical structural indicators and not data-identifying indicators. Inexperienced users may confuse the examples as being part of the meaning. The examples also exemplify some collocations, such as *bright sunshine/sunlight*, shown below. The collocation is indicated in bold.

*Figure 4.3.1.9 Sense and synonyms in the article for **bright** in Macmillan Dictionary*

Links to *synonyms and related words* are presented in blue, and can be expanded or minimised with the + and – symbols on the right (as seen in Figure 4.3.1.3). The hyperlinks to the *synonyms and related words* take the user away from the current article, without opening a new page or tab. In order to navigate back to the original lemma, the user would need to use the back arrow on their browser, or insert the search term in the search bar again.

An additional tab or window would allow for immediate access to the different lemmas and moving between articles.

Simply judging the look of the article and the accessibility of the data found in it, the *Macmillan Dictionary* is undoubtedly designed to be clear and accessible. Data-identifying indicators are not given for each microstructural item, which is appropriate for the intended user of this dictionary, but they would be beneficial in a primary school dictionary. The lack of pictorial illustrations adds to the uncluttered look and feel of the article, but again, they would be preferable in a school dictionary.

The features that would be desirable in a school dictionary are that there are clear inflections at each applicable article, not just at the irregular nouns, verbs, and adjectives. The sense division is clear. There are sufficient examples in each subcomment on semantics. Collocations are clearly displayed in the examples.

4.3.2 Cambridge Learner's Dictionary

The online *Cambridge Learner's Dictionary* is accessed at https://dictionary.cambridge.org/dictionary/learner-english/ or through the dictionary portal at https://dictionary.cambridge.org/. According to the website, it "has the words, phrases, and collocations that intermediate learners of British English need to know. Clear, simple definitions and audio pronunciations, with thousands of carefully chosen example sentences from the Cambridge English Corpus, help students write and speak English more naturally" (Cambridge University Press, 2018). As this dictionary is clearly named and described as a learner's dictionary, it should have the features and design appropriate for learners.

The three words looked up were *omit* (verb), *legend* (noun), and *market* (noun and verb). None of these articles contain a pictorial illustration, and from a quick survey of ten noun articles[1], none are illustrated. An interesting note is that the *Cambridge Dictionary*, which is not a learner's dictionary does have illustrations for five of those same noun articles, in the form of colour photographs.

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[1] *tissue, plant, thesaurus, astonishment, paper, gnome, mirror, floor, foot*, and *speech*
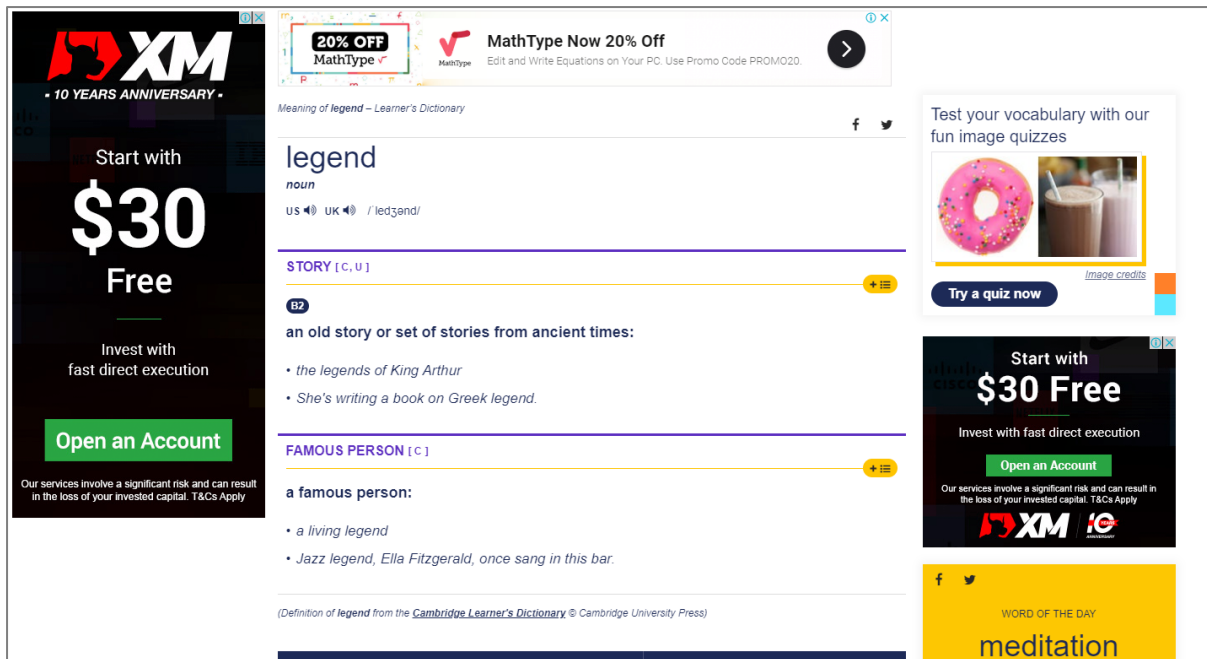
*Figure 4.3.2.1 Screenshot of the article for **legend** in Cambridge Learner's Dictionary*

The *Cambridge Learner's Dictionary* article does not make use of tabs, and the user accesses different parts of the article by scrolling. The screenshot structure contains three columns, with the dictionary article presented in the central column, dictionary outer features and advertising in the right hand column, and advertising in the left hand column. Again, the advertising is more colourful than the actual dictionary article and is animated, which is very distracting. In Figure 4.3.2.1 one can see the adverts and dictionary outer features such as a quiz and *Word of the Day*.

Figure 4.3.2.2 Top of webpage of Cambridge Learner's Dictionary

The top of the webpage has a dark blue bar with the *Cambridge Dictionary* logo on the left, followed by links to the dictionary, translation support, grammar support, and *Cambridge Dictionary +Plus*, which is a collection of vocabulary lists and quizzes. On the right hand side there are links to social media, a log in/sign up page, and a drop-down menu where the user can choose their home language. In Figure 4.3.2.2 the search bar is open, and the user can click on the x to close the search bar. Below the top blue bar is a second blue bar in a darker shade of blue. This bar contains the search bar, as well as other dictionary options the user can search in. The outer features, which users can land at from these menus are useful for browsing or for finding support for translation, grammar, and vocabulary. The fact that

the user can change the language of the website makes this a very useful dictionary for language learners, as all the content in the dictionary, other than the actual articles, can be in the user's home language.
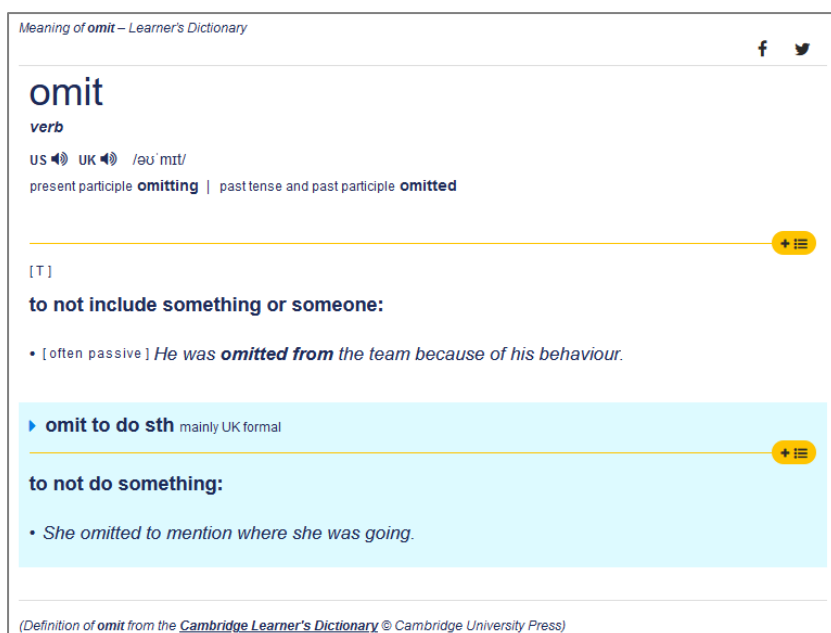
*Figure 4.3.2.3 Article for **omit** in Cambridge Learner's Dictionary*

As with the *Macmillan Dictionary*, the *Cambridge Learner's Dictionary* article is clean and uncluttered. The article makes use of four colours: dark blue, pale blue, purple, and yellow. Yellow is used for lines and shading, and dark blue is used for all the text and symbols. The pale blue is used for shading. A regular user will notice that yellow shading is used for more examples and the pale blue shading is used for collocations and expressions.

In a polysemous article, such as *legend* and *market*, purple is used for lines and some explanatory text, such as sense discrimination.

A single sans serif font is used throughout, and the microstructural items are distinguished by different typographical structural indicators, such as font size, colour, and the use of bold, roman, or italics.
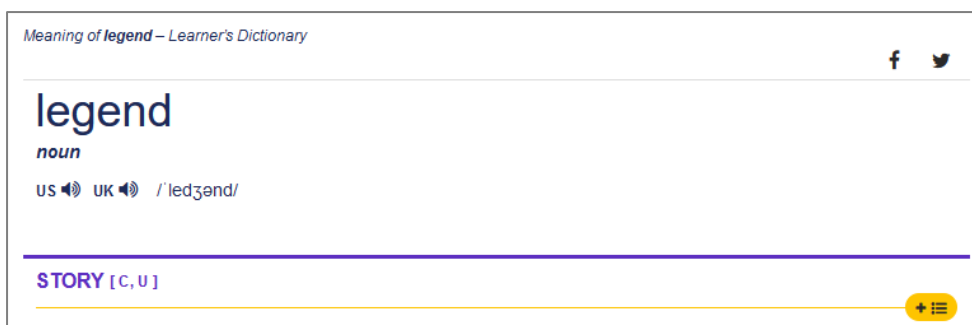
Figure 4.3.2.4 Top of article showing purple text in Cambridge Learner's Dictionary
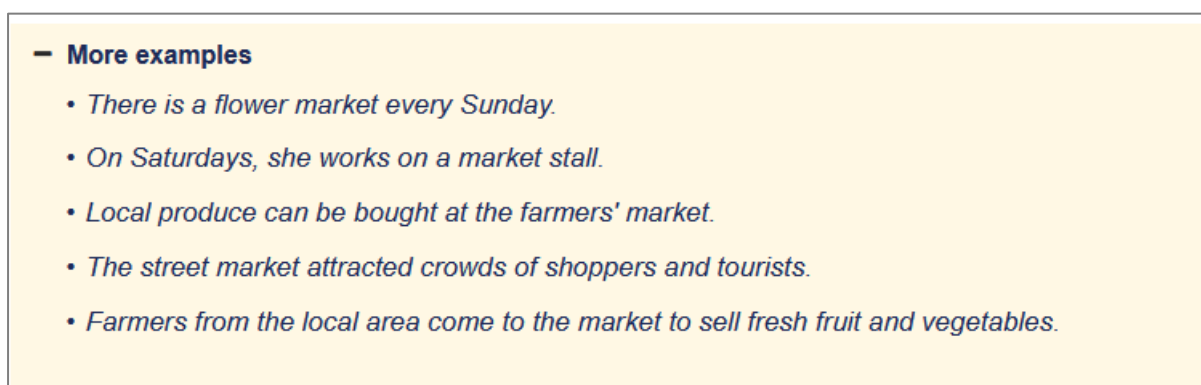
Figure 4.3.2.5 Example of yellow shading in Cambridge Learner's Dictionary

The lemma sign is large and lowercase, with the item giving the part of speech indicated below, written in full. In the case of a noun, whether it is a countable or uncountable noun is indicated by the abbreviation *C* or *U*. In the case of a verb, whether it is transitive or intransitive is indicated with the abbreviation *T* or *I*. This abbreviation is clickable, and takes the user away from the article to a page explaining codes and abbreviations in the articles. This adds to the user-friendliness of the dictionary in that it is easy to find out what the abbreviations mean, but the textual condensation is not necessary at all in an electronic dictionary, so *C* or *U* or *T* or *I* should be replaced by full words. It would also be more user-friendly if the page explaining codes was a new tab or a pop-up window, rather than taking the user away from the article they were busy with.

The item giving pronunciation is below the item giving the part of speech, with both audio (UK and US pronunciation) and a pronunciation guide using IPA symbols. The + and menu symbol indicated in yellow on the right on the yellow line is a link to restricted access which requires users to register to see. Users who have registered get access to Cambridge Dictionary Plus, which offers more English support as well as language games and quizzes.

The purple text is clear signposting to inform the user which subcomment on semantics is which in the case of a polysemous article. This rapid inner access structure allows the user to find the correct sense quickly and easily.

The alphanumeric indicators, such as B2 (Figure 4.3.2.1) at the beginning of the subcomments on semantics are frequency indicators, which are explained in the help section of the dictionary. These indicators "show the English Profile level of a word, phrase or meaning. For example, a word that has a B1 symbol is a word that intermediate learners of English usually know" (Cambridge University Press, 2018). This is based on the Common European Framework of Reference and is not necessarily applicable to South African learners of English.

The paraphrase of meaning is below the yellow line and in bold. The examples are in italics with bold indicating collocations. Collocations are also treated in a pale blue shaded box, with an explanation and examples.

There is grammatical support in some of the examples. See [*often passive*] in Figure 4.3.2.3. The grammatical support is hyperlinked to an explanatory page. There are also register labels at example level.

There are no synonyms displayed in the article, which is unusual for a learner's dictionary. There is a list of hyperlinks to related words where applicable in an article.

Figure 4.3.2.6 Related words in an article in Cambridge Learner's Dictionary

Dictionary outer features in the article are links to a quiz, *Word of the Day*, a blog, and a new word. Some of these links take the user away from the article and some open in a new tab. These features are illustrated with colour photographs.

In the right column, amongst these outer features is a list headed *More Learner's Dictionary definitions for* … This is a list of clickable links to common collocates or phrases containing the headword. These lists can be expanded or minimised with + and –. This useful lexicographic feature can get lost among the videos used for advertising.
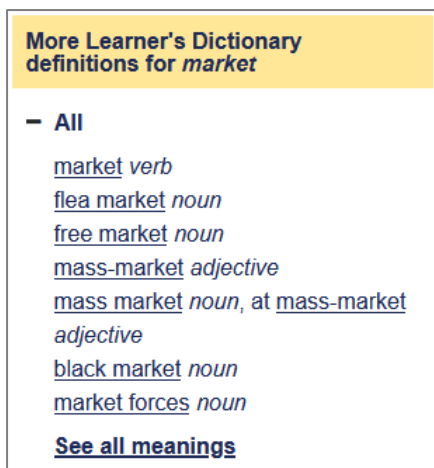
*Figure 4.3.2.7 More Learner's Dictionary definitions for **market** list in Cambridge Learner's Dictionary*

There appears to be a lot of overlap between the words in the *More definitions* list and the *See also* list, and it is unclear what the different functions of the lists are and why there are two. Neither of these features is shown in the articles for *omit* and *legend*.

At the end of the article is a list of nearby words in the alphabetical word list. This word list is useful for browsing purposes.

Figure 4.3.2.8 Browse nearby words in Cambridge Learner's Dictionary

Judging the look and accessibility of the *Cambridge Learner's Dictionary* article, it is clean and accessible, apart from the advertising. The lists of related words would be very useful in a school dictionary, especially for a learner involved in a speech production task. The use of a single font adds to the uniformity and appeal of the article.

Something that has been omitted, and would be necessary in a school dictionary, is inflections of the lemma. In the noun articles and regular verbs, inflections are not supplied, but in irregular verb articles the past tense and past participle are displayed, or simply the part

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of the inflection that makes it an irregular verb. As with the abbreviations mentioned above, this textual condensation is absolutely unnecessary in an electronic dictionary. Adjectives do not appear to have comparative or superlative forms displayed.

*Figure 4.3.2.9 Lemma and grammatical data, showing verb inflections in the article for **omit** in Cambridge Learner's Dictionary*

The features that would be beneficial in a school dictionary are that the *Cambridge Learner's Dictionary* contains clear signposting to different senses, as seen in the purple text in Figure 4.3.2.4 where the user is shown a short explanation of the sense so that they can quickly and easily find the sense they are looking for. The dictionary also contains examples in each subcomment on semantics, as well as an expandable section containing more examples in some cases. Collocations are clearly displayed in bold in the examples. The use of a single font goes a long way to keep the article looking neat and uncluttered.

4.3.3 Collins Dictionary

The online *Collins Dictionary* is accessed at www.collinsdictionary.com. The three words looked up were *gesture* (noun and verb), *legend* (noun), and *market* (noun and verb). The online *Collins Dictionary* is based on the *Collins English Dictionary*.

Figure 4.3.3.1 Screenshot of the article for **legend** *in Collins Dictionary*

As with the previous dictionaries, the *Collins Dictionary* makes use of advertising. While the actual article is clean and uncluttered, the advertising makes it very busy. The screenshot above shows three columns, with advertising in the left and right columns, as well as in a banner above the dictionary article. The advertising is in full colour and some of it is animated.

Figure 4.3.3.2 Beginning of the article for **legend** *in Collins Dictionary*

The actual dictionary article uses the central column for most of the lexicographical data, with a quiz in the right hand column, along with the advertising. There are two colours used in the article: black and shades thereof, and red with shades thereof. The red is used sparingly which adds to the clean look of the article. There appear to be very few pictorial illustrations. Of the same ten nouns looked up as in the *Cambridge Dictionary* article, only three have illustrations in the *Collins Dictionary*. The illustrations are colour photographs. Some of them, such as at *market*, are poor quality photos with low resolution. Many articles also have a video pronunciation guide.

The top of the article contains a banner of tabs taking the user to different parts of the dictionary article. This is the only dictionary in this study that makes use of tabs in the dictionary article. The user can also scroll through the article. The tabs take users to the video pronunciation if there is one, an image if there is one, and different homonyms where applicable. The homonyms are numbered but there is no indication on the tab of what each homonym means. There are also tabs for different variants of the word, and further example sentences. Each subcomment on semantics does have example sentences below the paraphrase of meaning. The extra examples given in the section that is tabbed are

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automatically selected from the Cobuild corpus and have not been reviewed by a lexicographer. There are also tabs for idioms, usage trends, and translations in other languages. Below the article, there are illustrated links to outer features such as another word challenge, *Word of the Day*, and new words. In the middle of the article there are illustrated links with the heading *You may also like*, with a quiz, synonyms, translations, *Word of the day* and other similar outer features. On the whole, the article is clean and uncluttered but as one scrolls down the article it becomes busier with the video, colourful links to other features, a trends graph, and further colourful links. The tabs do allow the user to avoid scrolling through the article.

The article contains both a serif font and a sans serif font, and these typographical structural indicators are used to identify microstructural items. The lemma sign is large, bold, and black. Below the lemma is a logo for *Collins Cobuild*, which is clickable and takes users to an article about Collins Cobuild and its history. This is a strange feature, as it is a salient slot in the article structure and one would have expected lexicographically relevant items such as items giving pronunciation or semantic guidance in that search zone. Frequency is indicated on the right hand side by five coloured dots. The number of dark red dots increases as frequency increases, with the least frequent words having no dark dots and the most frequent words having all five of the dots darkened.

Figure 4.3.3.3 Pronunciation and inflections in Collins dictionary

The items giving the word forms are presented in a confusing way for words that have different parts of speech. As can be seen above, in the article for *market*, the plural (for a noun) is grouped with the 3rd person singular present tense (for a verb). This makes the item "markets" a highly condensed item and impedes an optimal retrieval of information. The inflections are labelled, which helps, but it is not immediately clear as to whether the data-identifying indicator comes before the word or after, as the actual inflections are in bold, which suggests a heading. Each inflection is given an audio pronunciation.

The item giving the part of speech is clearly indicated in red at the sense number, rather than above a group of subcomments on semantics, or with the other items belonging to the comment on form. The part of speech includes, in the case of nouns, whether it is a

countable, uncountable, singular, or plural noun. The subcomments on form and semantics are clearly distinguished by a large sense number and the red data-identifying indicator identifying the items that give the part of speech. There is a full sentence paraphrase of meaning in a sans serif font, with the lemma in red. This is the only dictionary in this study that makes use of full sentence paraphrases of meaning. According to the History of Collins COBUILD, the lexicographic team "developed a full-sentence defining style, which not only gave the user the sense of a word, but showed that word in grammatical context" (HarperCollins, 2020).

The examples are in italics, with items giving grammatical data in some cases following the example. This item giving grammatical data seems to feature mostly at verb senses, and is presented in pale grey. It is hyperlinked, taking the user to a grammatical information page, which gives a lesson on that particular grammar pattern. This would be a very useful feature in a school dictionary. Each example has audio available so that a user can hear the example being read in a natural and fluent manner. This is a new feature in the dictionary and would be very useful in an electronic school dictionary, especially for learners of English. Some subcomments on form and semantics do not contain examples. The paraphrases of meaning and examples do not have data-identifying indicators, only typographical structural indicators. This would be acceptable for a user group of experienced dictionary users, but it would be beneficial to have data-identifying indicators in a school dictionary, especially a primary school dictionary.

Figure 4.3.3.4 Subcomment on form and semantics that contains the paraphrase of meaning and the grammar pattern examples of one sense in Collins Dictionary

Synonyms are supplied where applicable after the examples. Some of the cross-referenced words are hyperlinks and some are not. In the list of synonyms above (Figure 4.3.3.4), for example, *retail* is not hyperlinked. In the list of synonyms below (Figure 4.3.3.5) *dealing* is not hyperlinked. The link at *More synonyms of …* takes the user to a thesaurus page.

Figure 4.3.3.5 A subcomment on form and semantics with list of synonyms in the Collins Dictionary

At some subcomments on form and semantics in some articles there is a subject label in square brackets between the paraphrase of meaning and the examples. This is not a link to a topic page. It can be seen in the above example where *business* is in square brackets.

An interesting thing to note about the different tabs is that they offer different articles for the lemma and they present the data in a different way. The tabs remain at the top of the screen even when the user scrolls down to different parts of the article.

Figure 4.3.3.6 Tabs at the beginning of an article in the Collins Dictionary

For example, at *gesture*, the default article is presented as described and shown above. The tab for *English: gesture* takes the user to an article that looks quite different, as shown below.

> ## gesture
>
> **in British English**
>
> ('dʒɛstʃə 🔊)
>
> **NOUN**
>
> **1.** a motion of the hands, head, or body to emphasize an idea or emotion, esp while speaking
>
> **2.** something said or done as a formality or as an indication of intention
> *a political gesture*
>
> **3.** *obsolete*
> the manner in which a person bears himself or herself; posture
>
> **VERB**
>
> **4.** to express by or make gestures; gesticulate
>
> *Collins English Dictionary. Copyright © HarperCollins Publishers*

Figure 4.3.3.7 The beginning of the English: **gesture** *article in the Collins Dictionary*

Figure 4.3.3.7 can be compared with Figure 4.3.3.2. In Figure 4.3.3.7, the part of speech is indicated at the beginning of the article, rather than at each subcomment on form and semantics. There are no subcategories of the part of speech. The word forms are not given data-identifying indicators, nor do they have audio symbols.

The *American: gesture* tab takes the user to a different layout of the article, with different data displayed.

> ## gesture
> Word Frequency ●●●○○
>
> **in American English**
>
> ('dʒɛstʃər 🔊)
> **NOUN**
>
> **1.** a movement, or movements collectively, of the body, or of part of the body, to express or emphasize ideas, emotions, etc.
>
> **2.** anything said or done to convey a state of mind, intention, etc.; often, something said or done merely for effect or as a formality
> *a gesture of sympathy*
>
> **VERB INTRANSITIVE**
> **Word forms:** ˈgestured *or* ˈgesturing
>
> **3.** to make or use a gesture or gestures
>
> **VERB TRANSITIVE**
>
> **4.** to express with a gesture or gestures
>
> *Webster's New World College Dictionary, 4th Edition. Copyright © 2010 by Houghton Mifflin Harcourt. All rights reserved.*
>
> **Derived forms**
>
> **gestural** (ˈgestural) **ADJECTIVE**
> **gesturer** (ˈgesturer) **NOUN**
>
> **Word origin**
>
> ME < ML *gestura*, mode of action < L *gestus*, pp. of *gerere*, to bear, carry

Figure 4.3.3.8 The American English article for **gesture** *in the Collins Dictionary*

The type of verb is indicated at sense level, whereas in the default view of the article there is no indication of the type of verb. The paraphrases of meaning also take a different form, and there is no grammatical data at the examples. In the default article and the British English article, (Figure 4.3.3.9 and Figure 4.3.3.7) the type of verb is implicit and can be understood by the grammatical data provided at the examples, while in the American English article it is explicitly indicated that the verb *gesture* is an intransitive verb (sense 3) and a transitive verb (sense 4).

*Figure 4.3.3.9 Default article of **gesture** in the Collins Dictionary*

These different formats of the same article are useful if the user knows where to find them and what they will obtain in each version, and has a preference. Users who use this dictionary regularly are likely to have a favourite that they use exclusively, that is, if they navigate past the first article presented. A school dictionary would not need different versions, as long as it is designed with learners in mind. A school dictionary could, however, use tabs to indicate

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different grades or ages of users, and have for example, a tab for Grades 4-6, another tab for Grades 7-9, and another tab for Grades 10-12. Users could switch between the tabs depending on the data or presentation that suits them best.

Derived forms, such as *gestural* (adjective) and *gesturer* (noun) are provided right at the end of the first article for *gesture,* see Figure 4.3.3.8. This is a useful feature for a school dictionary, but it is hidden away after much scrolling. Likewise, the *Word origin* is presented right at the end of the article. Again, a school dictionary is likely to need the etymology to be in a more significant display area.

Figure 4.3.3.10 Derived forms and Word origin in the Collins Dictionary

Figure 4.3.3.11 Phrases and expressions in the Collins Dictionary

Phrases and expressions are listed and numbered as new senses, which is not appropriate linguistically and it would be difficult for a learner to find them, as they come right at the end of the list of senses. The link, which is indicated by a dotted line beneath the phrase, takes the user to an article for that phrase.

On the whole, the article is clean and uncluttered, but very, very long. The use of two colours makes navigating each article easy. The tabs at the top of the article would be unnecessary for a school dictionary, but they add value to the Collins dictionary because they allow for the presentation of more than one dictionary article in the same place. The grammatical data presented in example sentences would be a useful feature in a school dictionary, but further

research would need to be undertaken to establish whether this is beneficial in a primary school dictionary. It would certainly be beneficial in a high school dictionary. The audio feature at examples would be very useful in a school dictionary offering support for learners of English.

4.3.4 Merriam-Webster

Two Merriam-Webster dictionaries were selected for this study: the online *Merriam-Webster Dictionary*, which can be accessed at www.merriam-webster.com/dictionary and the online *Merriam-Webster Learner's Dictionary*, which can be accessed at https://learnersdictionary.com/. Both dictionaries were used because it was felt that a comparison between two dictionaries from the same publishing house would be beneficial for this study. The learner's dictionary is closer to the proposed dictionary model, but the general English dictionary is more comparable to most of the other online English dictionaries being evaluated in this section.

4.3.4.1 The Merriam-Webster.com Dictionary

The *Merriam-Webster.com Dictionary* "is a unique, regularly updated, online-only reference" (Merriam-Webster, 2015). Originally based on the *Merriam-Webster Collegiate Dictionary*, it is now a stand-alone digital dictionary.

The three words looked up were *omit* (verb), *venom* (noun), and *market* (noun and verb).

*Figure 4.3.4.1.1 Top of webpage and outer features of the article for **omit** in Merriam-Webster.com Dictionary*

The screenshot view of the *Merriam-Webster.com Dictionary* contains a banner across the top of the webpage, with a Merriam-Webster logo, a search bar, and links to the thesaurus and outer features such as *Word of the Day* and *Words at Play*. There is also an area for the user to log in or register an account with Merriam-Webster. *Word of the Day* takes the user to a modified dictionary article for a word, while *Words at Play* is a blog post about a word found in the dictionary. *Words at Play* appears to cover confusing word pairs, obscure words, common errors and similar discussions. There is advertising in a banner across the top of the page and in the right hand column. The advertising is in full colour and animated. It should be noted that all the advertising that can be seen in Figure 4.3.4.1.1 above is advertising for other Merriam-Webster products. This is not the case every time the website is opened, however the advertising may be related to the word looked up. In the case of a search for *robot*, the advertising features a robotics company, while a search for *car* and *gesture* features adverts for an investment company and a clothing retailer. The *Word of the Day* that can be seen in Figure 4.3.4.1.1 on the right hand side is an offer to subscribe to the email *Word of the Day* subscription list. It is not a link to the *Word of the Day* that is found at the top of the webpage.

venom noun

🔖 Save Word

ven·om | \ ˈve-nəm 🔊 \

Definition of *venom* **(Entry 1 of 2)**

1 : a toxic substance produced by some animals (such as snakes, scorpions, or bees) that is injected into prey or an enemy chiefly by biting or stinging and has an injurious or lethal effect

broadly **:** a substance that is poisonous

2 : a spiteful malicious feeling or state of mind **:** extreme ill will **:** MALEVOLENCE

venom verb

venomed; **venoming**; **venoms**

Definition of *venom* **(Entry 2 of 2)**

transitive verb

: ENVENOM

↓ **Synonyms**

↓ **Example Sentences**

↓ **Learn More about** *venom*

Figure 4.3.4.1.2 Top part of the article for **venom** *in The Merriam-Webster.com Dictionary*

The article appears more cluttered than those in the previous dictionaries. Although only two colours, black and blue, are used, there are different typographical structural indicators and these distinct fonts and font effects are used to differentiate between the different items. There are also non-typographical structural indicators such as colons and slashes used to introduce different items. The two colours appear to be used equally, so there is no sense that one is the main colour with the other being used for emphasis. This adds to the muddled, cluttered look of the article. This dictionary article is contained in the central column, with the narrower column on the right of the screenshot containing outer features that include a vocabulary test and quizzes. The dictionary article is not illustrated, but some of the links to quizzes and extra features have colour photographs.

Figure 4.3.4.1.3 Article for **market** *in The Merriam-Webster.com Dictionary showing tabs below the subcomment on semantics*

The main article is followed by links to outer features such as *Synonyms & Antonyms*, *More Example Sentences*, and *Learn More about*…. The user can also reach those parts of the article by scrolling through the article.

The lemma sign is big and bold and black and the first thing a user sees when looking at the article (after the animated adverts). It is followed, on the same line in a smaller, blue font, by the item giving the part of speech, often more specific than simply noun, verb, or adjective. In the examples selected, *market* is described as a *noun, often attributive*.

Figure 4.3.4.1.4 Lemma sign and item giving the part of speech in The Merriam-Webster.com Dictionary

The part of speech is a hyperlink and takes the user to the article for that word. For example, if the user follows the link to *noun*, they are taken to the article for *noun* with a paraphrase of meaning, followed by grammatical notes explaining the different types of noun. Interestingly, in the grammatical notes, one of the paragraphs states that "for learners of English, the most important feature of a noun is whether it can be counted" (Merriam-Webster, 2015) but

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nowhere in the article does it indicate whether the noun is a countable noun or not. This could be because the *Merriam-Webster.com Dictionary* is not a dictionary aimed at learners of English, so this information could be seen by the editors as unnecessary.

Below the lemma sign, in a prominent position is an icon and the words *Save Word*. This feature takes the user to an area that is accessible to registered users only. This feature is presumably so that the user can bookmark their lookups and refer to them later without looking them up again.

Below the *Save Word* link further items in the comment on form are presented with the lemma sign split into syllables and the item giving pronunciation in IPA as well as an audio icon. In some cases, such as at *venom*, the syllable indication is separate from the IPA pronunciation guide. In *omit*, shown below, the syllables are indicated with the IPA guide.

Figure 4.3.4.1.5 Verb forms in The Merriam-Webster.com Dictionary

At nouns and adjectives, no inflections are given, while at verbs, the verb forms are provided, without data-identifying indicators.

The subcomments on semantics are then displayed, with the heading *Definition of ....* This is followed in verb articles by the type of verb. The paraphrase of meaning is in black, followed by one or two examples in blue, with the lemma in italics. Examples are either full sentences or phrases. Not all senses have examples but there are examples in the search zone accessible by means of the *More examples* tab at the end of the article. The sense numbers are prominent. Synonyms are presented in a search zone following the paraphrase of meaning, and these items offer links to articles with the respective synonyms as lemmata.

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With regards to the typographical structural indicators found in the article, the lemma sign is black, serif, lowercase, bold. The item giving the part of speech is smaller and blue, but also bold, lowercase, and serif. The *Save Word* text is small, black, lowercase, sans serif. The item giving the pronunciation is the same size and font as *Save Word*, but blue. The items giving inflections are black, bold, sans serif, lowercase. The data-identifying indicator for the paraphrases of meaning is fairly large, blue, bold, sans serif, lowercase, with the lemma in italics. The actual paraphrase of meaning is black, sans serif, lowercase, bracketed by a colon at each end. The synonym is in blue, underlined, sans serif, uppercase. The examples are blue, sans serif, lowercase, with the headword in italics. The links to other parts of the article are bold, blue, and the same font as the data-identifying indicator at the paraphrase of meaning. The only other instance of a font being reused is the item giving the pronunciation and the examples. This feels like too many different fonts, which contributes to the article looking too cluttered and busy. It makes the paraphrase of meaning, which is one of the most important parts of the article, get lost.

In the article for *market* (See Figure 4.2.4.1.6 below), which is a single complex article with partial articles (cf Wiegand & Gouws, 2011:242) for this word's occurrence as both noun and verb, the partial article for the occurrence as verb comes after the partial article for the occurrence as noun and there is an indication that there is a second partial article at the beginning of the first partial article where the user can see in brackets (*Entry 1 of 2*). The user still needs to scroll through all the subcomments on semantics of the noun partial article before getting to the verb partial article. There are three levels of sense divisions, and this is explained in *The Merriam-Webster.com Dictionary* help section:

> "When a numbered sense is further subdivided into lettered subsenses, the inclusion of particular subsenses within a sense is based upon their semantic relationship to one another, but their order is likewise historical: subsense 1a is earlier than 1b, 1b is earlier than 1c, and so forth. Divisions of subsenses indicated by lightface numerals in parentheses are also in historical order with respect to one another. Subsenses may be out of historical order, however, with respect to the broader numbered senses." (Merriam-Webster.com Dictionary, 2015)

This is too complicated for learners and would be inappropriate in a school dictionary.

market noun, often attributive

🔖 Save Word

mar·ket | \ ˈmär-kət 🔊 \

Definition of *market* (Entry 1 of 2)

1 **a** **(1)** : a meeting together of people for the purpose of trade by private purchase and sale and usually not by auction

   (2) : the people assembled at such a meeting

b **(1)** : a public place where a market is held

   especially : a place where provisions are sold at wholesale
   // a farmers' *market*

   (2) : a retail establishment usually of a specified kind
   // a fish *market*

2 *archaic* : the act or an instance of buying and selling

3 : the rate or price offered for a commodity or security

4 **a** **(1)** : a geographic area of demand for commodities or services
   // sell in the southern *market*

   (2) : a specified category of potential buyers
   // the youth *market*

b : the course of commercial activity by which the exchange of commodities is effected : extent of demand
   // the *market* is dull

c **(1)** : an opportunity for selling
   // a good *market* for used cars

Figure 4.3.4.1.6 The subcomments on semantics for the noun partial article of the complex article **market** *in The Merriam-Webster.com Dictionary*

Phrases are treated after the numbered subcomments on semantics, with the phrase as a lemma sign, a paraphrase of meaning, and examples. They are not introduced as phrases or multi-word expressions, but they are easy to find in the article.

in the market

: in the position of being a potential buyer

// in the market for a house

on the market

: available for purchase

also : up for sale

// put their house on the market

Figure 4.3.4.1.7 Phrases in Merriam-Webster

Definition of *market* (Entry 1 of 2)

1 a (1) : a meeting together of people for the purpose of trade by private purchase and sale and usually not by auction

   (2) : the people assembled at such a meeting

  b (1) : a public place where a market is held

   especially : a place where provisions are sold at wholesale

   // a farmers' market

   (2) : a retail establishment usually of a specified kind

   // a fish market

Figure 4.3.4.1.8 Subcomments on semantics showing different senses in The Merriam-Webster.com Dictionary

The *Merriam-Webster.com Dictionary* is not appropriate for a primary school dictionary due to its excessive use of typographical structural indicators, and the multi-level sense numbering.

Features that would be beneficial in a school dictionary are the grammatical support, although it takes an effort to get there; and prominent sense numbers.

4.3.4.2 Merriam-Webster's Learner's Dictionary

The Merriam-Webster Learner's Dictionary, which can be accessed at https://learnersdictionary.com/ is Merriam-Webster's dictionary for ESL learners.

The three words looked up are *legend* (noun), *omit* (verb), and *market* (noun and verb).

*Figure 4.3.4.2.1 A screenshot of the article for **omit** in the Merriam-Webster Learner's Dictionary showing advertising*

As with the dictionaries previously mentioned in this section, advertising features on this site. Apart from the advert for Puku, seen above, the advertising is not for other Merriam-Webster products. It also does not seem to be related to the search term. There is more advertising in the *Merriam-Webster Learner's Dictionary* than the *Merriam-Webster.com Dictionary*, as in the *Learner's Dictionary* there is a banner advert across the top of the screen, an advert taking up the left hand column, as well as two separate adverts in the right hand column.

*Figure 4.3.4.2.2 Beginning of the article for **market** in The Merriam-Webster Learner's Dictionary*

The actual article has very few colours and is much clearer and less cluttered than the *Merriam-Webster.com Dictionary*. The colours used are black, grey, red, turquoise, blue, and green. Although that is more colours than some other dictionaries in this study, they are used sparingly and it is clear what each one's purpose as typographical structural indicator is.

The lemma sign is the guiding element at the top of the article, with a drop-down menu showing, in this case, 25 entries for the search term. Apart from the lexical item's occurrence in different parts of speech, the menu also includes related words and terms. More examples can be seen below. It is unfortunate that the drop-down menu can only show three entries at a time, as a longer list would be more beneficial to see.

*Figure 4.3.4.2.3 Drop-down menu with other items for **market** in the Merriam-Webster Learner's Dictionary*

*Figure 4.3.4.2.4 The entries in the menu for **legend** in the Merriam-Webster Learner's Dictionary*
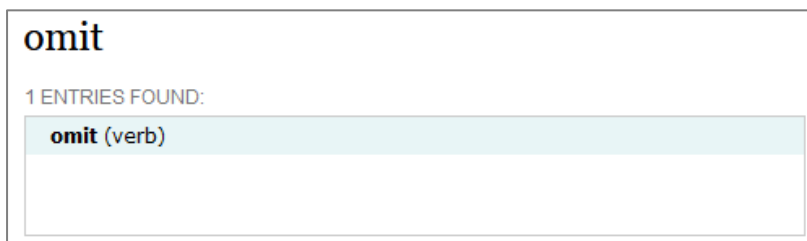
*Figure 4.3.4.2.5 The entries in the menu for **omit** in the Merriam-Webster Learner's Dictionary*

It is interesting to note that even in the article for *omit*, where there are no other senses or collocations or expressions in the menu, it is still displayed, with the grammatically incorrect *1 entries found* as topic of the text block.

The line below the menu shows the comment on form, including the lemma sign, the item giving the pronunciation with IPA as well as an audio symbol, and the item giving the part of speech. The items giving the inflections are on the next line, with no data-identifying indicators in the case of verb forms, but the data-identifying indicator *plural* in the case of noun plurals. In the case of uncountable nouns, there is no indication of this in this particular zone. In the case of adjectives, the inflections are not shown in this zone.

After that, the comment on semantics is introduced by the data-identifying indicator: *Learner's definition of …*. It is unclear what this formulation achieves. The label for uncountable nouns is given before the first paraphrase of meaning, as are the inflections for adjectives.

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Each subcomment on semantics is introduced by a sense number if there is more than one sense. This number is bold and clear. In nouns, a comment on form item indicating whether it is count or uncountable is presented here. Other grammatical data, such as [+ *object*] for transitive verbs are also provided here. This combination of grammatical and semantic data presented in a single subcomment leads to these subcomments being regarded as subcomments on form and semantics.

The paraphrase of meaning is a phrase, and it is followed by one or more examples which are indented and introduced by a green bullet. The examples have the lemma in italics. Collocations are indicated in bold in the examples. Labels, such as *formal*, are given before the paraphrase of meaning.

Some subcomments on form and semantics have cross-references, indicated by the cross-reference marker *See also* with a hyperlink to the cross-reference address.

Figure 4.3.4.2.6 Some subcomments on form and semantics showing cross-references as well as grammatical data of different senses in The Merriam-Webster Learner's Dictionary

A synonym definition, given as a cross-reference, is used instead of a paraphrase of meaning in some cases, as in the seventh sense shown in Figure 4.3.4.2.6 above. Synonyms are not otherwise presented.

Phrases and expressions are shown after the subcomments on form and semantics.

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This dictionary has many features and characteristics that would be suitable in a school dictionary, notably the grammatical support that is presented in the subcomments on form and semantics, and the cross-references to related words. It does not have a separate search zone with theme words or synonyms and opposites, which would suit a primary school dictionary.

4.3.5 Lexico

Oxford University Press no longer has an online dictionary. Rather, they have collaborated with Dictionary.com to create *Lexico*, which is a free online dictionary. *Lexico* can be accessed at www.lexico.com. If a user types a word into the Google search bar, *Lexico* provides the default article on the search results page. Oxford University Press still has online Oxford dictionaries, but the only free content is available on *Lexico*.
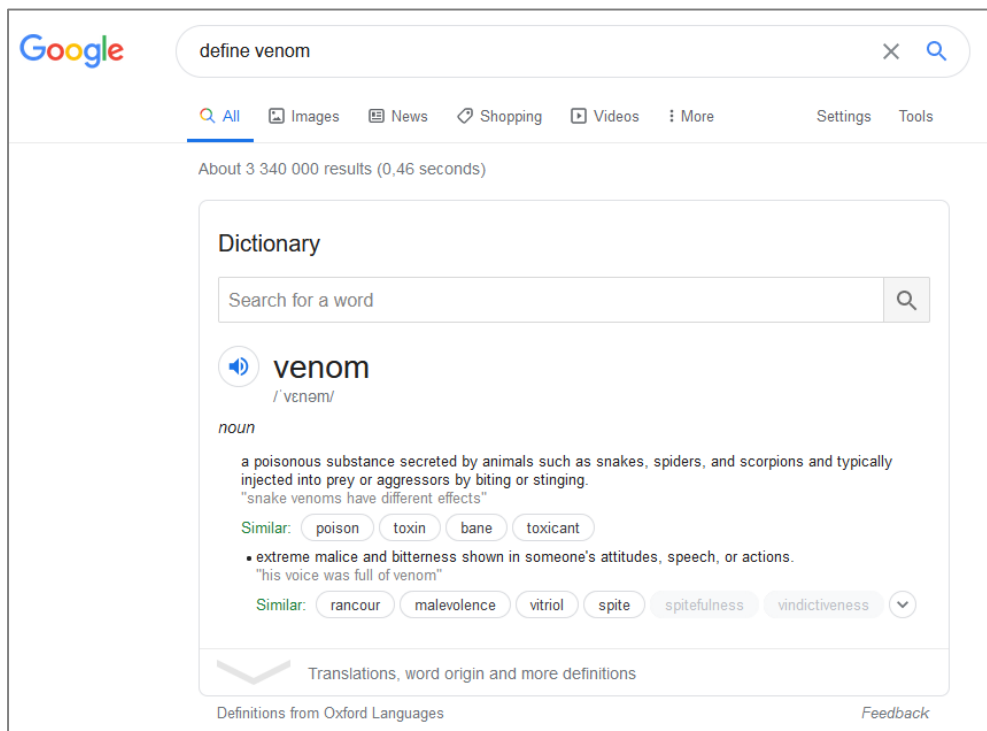
*Figure 4.3.5.1 Google search result showing article for **venom** with "Definitions from Oxford Languages"*

The intention with the collaboration between Dictionary.com and Oxford University Press was for a user to not even need to search online for a dictionary to find a dictionary article that is reliable and accurate and comes from a trusted publisher. Instead, one can type the word they are looking for, or the search term "define" with the word they are looking for, straight into their Google search bar. The limited article that is shown contains pronunciation, part of speech, paraphrase of meaning, one example for each sense, and links to similar

words. The user is given the option to expand the article to show translations, etymology, and further definitions.

On the actual *Lexico* site, the three words looked up are *omit* (verb), *venom* (noun)*,* and *market* (noun and verb).

*Figure 4.3.5.2 A screenshot of the article for **omit** in Lexico showing advertising*

As can be seen in Figure 4.3.5.2 above, the webpage does contain advertising. There is a banner advert across the top of the screenshot, a column on the left containing an advert, and an advert on the right, amongst the dictionary outer features and links to other outer features. Again, the advertising is in full colour and some of it is animated. This contributes to the data overload that users face.

*Figure 4.3.5.3 The article for **omit** in Lexico*

The actual dictionary article is clean and simple and clear. Lexicographical data can be found in the main central column, with outer features, such as *Word of the Day*, quizzes, trending words, and links to blog posts in the right hand column.

There are no tabs, and the user needs to scroll through the article to get to different areas, but the article has a rapid inner access structure and is easy to navigate. Colours used in the article are predominantly black, with orange, dark blue, green, pale blue, and pale grey. Although there are more colours in use in this dictionary than some of the other online dictionaries, they are used sparingly and each has a clearly defined purpose in the article. The amount of white space within the article helps to keep it uncluttered. There are also fewer different typographical structural indicators used. Most of the text is in a sans serif font, with only the examples and phrases being in a serif font, italicised for the examples, and bold for the phrases.

There are lines ruled between the different search zones. Lines have not been seen much in the other dictionaries. These ones are unobtrusive and they help to clearly demarcate the different search zones.

The comment on form contains the lemma sign, an audio button, and an item giving the part of speech. Items giving inflections are given at irregular nouns, verbs, and adjectives, in brackets next to the item giving the part of speech. There is a clickable option to translate the lemma into Spanish. This translation feature has not been seen in any of the other dictionaries. The *Cambridge Learner's Dictionary* has a translation feature, as well as a Spanish-English bilingual dictionary and an English-Spanish bilingual dictionary, but the user needs to access these dictionaries from a separate search. The *Collins Dictionary* has a tab to take users to *In other languages*, which is a list of other languages, with a translation equivalent and in some cases an audio button. The list of languages varies according to the lexical item. Some of the translation equivalents take the user to an article in a bilingual dictionary.

In *Lexico.com*, when the user clicks on the hyperlinked word, they are taken to a Lexico English-Spanish dictionary.
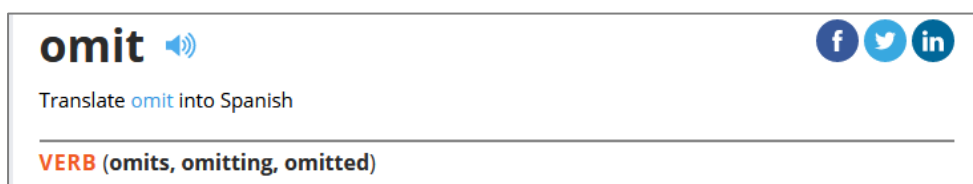
Figure 4.3.5.4 Comment on form in Lexico
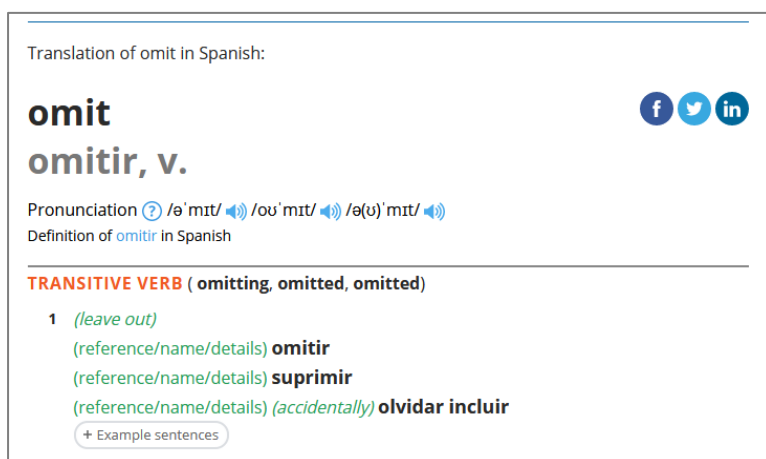
Figure 4.3.5.5 Article for **omit** *in Lexico English-Spanish dictionary*

Here, the article contains a translation equivalent in Spanish, an item giving English pronunciation, an item giving the part of speech in English and an item giving the English inflections. The comment on form is followed by Spanish translation equivalents with different restrictions and guidance for use. Some articles have example phrases in English

and Spanish. If one clicks on the + *Example sentences* button, a list of English examples is displayed, with no Spanish translation.

There is also an option to click to see the definition in Spanish, and this takes the user to the Lexico Spanish dictionary. This is an excellent example of how three dictionaries are linked and cross-reference to each other to give the user more and different data depending on their needs.

At the end of the *Lexico* English article there is an item giving pronunciation with IPA as well as an audio button.

Pronunciation ⍰
market /ˈmɑːkɪt/ ◀))

Figure 4.3.5.6 Item giving pronunciation in Lexico

The help icon at the data-identifying indicator takes users to a new screen that gives all the IPA symbols and examples of their use.

Subcomments on semantics can be arranged in two levels, and each subcomment on semantics has a paraphrase of meaning, one or more examples, and buttons for more examples. Some subcomments on semantics also have a clickable button for synonyms where applicable.

NOUN

1 A poisonous substance secreted by animals such as snakes, spiders, and scorpions and typically injected into prey or aggressors by biting or stinging.
   [count noun] '*snake venoms have different effects*'
   (+ More example sentences) (+ Synonyms)

1.1 Extreme malice and bitterness shown in someone's attitudes, speech, or actions.
   '*his voice was full of venom*'
   (+ More example sentences) (+ Synonyms)

Figure 4.3.5.7 A subcomment on semantics in Lexico

When the user clicks on the *More example sentences* button, a list of examples is displayed in the article. When the S*ynonyms* button is clicked, a list of synonyms is displayed in the article. When the user clicks on the *View synonyms* link at the end of the list of synonyms, they are taken to the Thesaurus article for the lemma.

Figure 4.3.5.8 Synonyms and link to thesaurus article in Lexico

Figure 4.3.5.9 Grammatical support preceding the subcomment on semantics

Grammatical support is provided in the form of a square bracket containing a note on whether or not the verb takes an object in the case of a verb, and whether the noun is a mass noun or a count noun in the case of nouns. Labels are displayed in green in brackets either at the paraphrase of meaning or the example.

Phrases are displayed at the end of the article, with the phrase, a label if relevant, a paraphrase of meaning and an example. The user can also find more examples of phrases.

Figure 4.3.5.10 Phrases in an article in Lexico

Word origin appears at every article, with a simple etymology for each word.

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Lexico is very clean and uncluttered. It is attractive and would be easy to use.

Features that would be beneficial in a school dictionary are the pronunciation, the extra examples and the synonyms. Etymologies are also important in a school dictionary. Usage notes and grammatical information is clear and easy to find. The translation feature would be very useful to a second-language learner and works well, taking the user to a bilingual dictionary and to a Spanish dictionary if the user follows those hyperlinks.

4.3.6 Longman Dictionary of Contemporary English

The Longman Dictionary of Contemporary English (*LDOCE*) can be accessed online at www.ldoceonline.com. *LDOCE online* is "specifically designed for learners and teachers of English, and for people who need to use English as a second language at work" (Pearson Education Limited, 2020).

The three words looked up were *bright* (adjective), *gesture* (noun and verb), and *market* (noun and verb).

*Figure 4.3.6.1 Screenshot of the article for **market** in LDOCE online*

This dictionary relies on advertising and contains a banner advert at the top of the screenshot, an advert in the left hand column, and adverts in the right hand column, in between lexicographical data and dictionary outer features. The adverts are in full colour and some are animated, which makes them even more distracting. The outer features include a *Word of the Day*, a quiz, and a *Picture of the Day* with picture links to other articles. The lexicographic data in the right hand column include more results relating to the search and a verb table where applicable.

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*Figure 4.3.6.2 Beginning of the article for **market** in LDOCE online*

Even without the adverts, this is a very busy, colourful dictionary. Structural indicators take the form of different colours, blocks, bubbles, frames, symbols, and lines. Almost all of the text is in a single, sans serif font, with the only instance of a serif font being used is at the data-identifying indicators of the inflections. See Figure 4.3.6.3. for inflections where this is the case.

Some articles are not as busy as the one in Figure 4.3.6.2 above. For example, *bright*, as can be seen in Figure 4.3.6.3 below, is not as bright, and has fewer colours and features in the article.

Figure 4.3.6.3 Beginning of article for **bright** *in LDOCE online*

In the *bright* article, where there are fewer features, it is easier to see how the article is set out. There is a guiding element presented before the lemma. Below that is a blue banner which indicates the origin of the data in the article.

The comment on form contains the lemma sign in a bold, red, sans serif font, with the item giving pronunciation as a guide in IPA immediately after the lemma sign. This is followed by the items giving frequency indication: the first being the three red dots indicating core vocabulary. Three dots indicate high frequency, two dots indicate medium frequency words and one dot is low frequency. The next frequency indicators are the red frames with *S* and *W* with a number at each one. These indicate spoken and written frequency respectively, with the 1 (*market*) and 2 (*bright*) being in the top 1000 words and top 2000 words respectively. These indicators are explained when the user hovers over them with the mouse cursor. This frequency indication is far more detailed than in the other dictionaries, and without the explanations, they can be confusing. The dots representing frequency have a direct relation between the increasing number of dots and increasing frequency, while the *S1* and *W1* have an inverse relation to frequency with 1 being a higher frequency (Top 1000) and 2 being a lower frequency. It is likely that a regular user would become accustomed to these conventions and understand how they are being used, but it may put off new users who are

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unfamiliar with this system. The fact that the explanation of the frequency indication is so easily accessible helps immensely.

After the frequency indicators there is an item giving the part of speech in green, with inflections displayed where applicable, in brackets after the part of speech. The inflections displayed are for all verbs, irregular nouns, and adjective forms that do not take *more* and *most* in the comparative and superlatives. The data-identifying indicator for inflections is the only part of the whole article that is in a serif font. The items giving inflections or part of speech are followed by two audio symbols, offering audio pronunciation with British pronunciation (red) and American pronunciation (blue).

In the article for *market*, above the comment on form is the word family data, preceded by the guiding element. This shows the relationships between different derivatives of *market*, along with their parts of speech. This would be useful for users who have come across one of the derivatives and want to know how it relates to the lexical item *market*. Of the six items in the word family, three are clickable and take the user to the article for that lemma. The *Word family* feature is a useful feature for school dictionaries, but it would be more useful with more data, in the form of either a paraphrase of meaning or an example along with the part of speech. If that were the case, it would need to be moved to a different article slot.

The other extra feature at *market* is the topic link to related topics. Clicking on the link to *Trade* takes the user to a page with different words relating to that topic. This is a useful feature in a school dictionary and would support learners in a text production function.
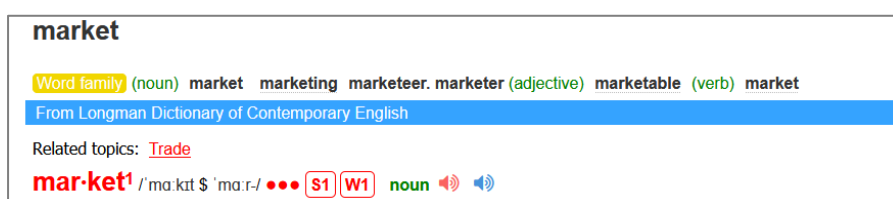
*Figure 4.3.6.4 Comment on form of **market** in LDOCE online*
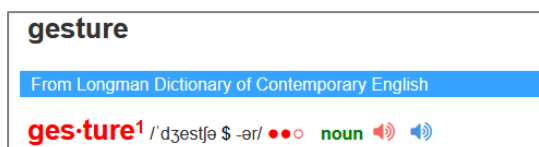
*Figure 4.3.6.5 Comment on form of **gesture** in LDOCE online*
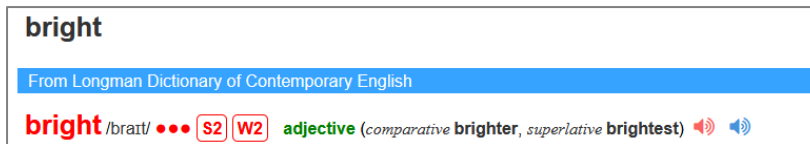
*Figure 4.3.6.6 Comment on form of **bright** in LDOCE online*

The comments on semantics are clearly differentiated with bold black sense numbers. In the case of a noun, the *countable*, *uncountable*, *singular* or *plural noun* label is in green text in square brackets before the paraphrase of meaning. This results in a (sub)comment on form and semantics. In the case of a verb, the *transitive/intransitive* label is in the same position.
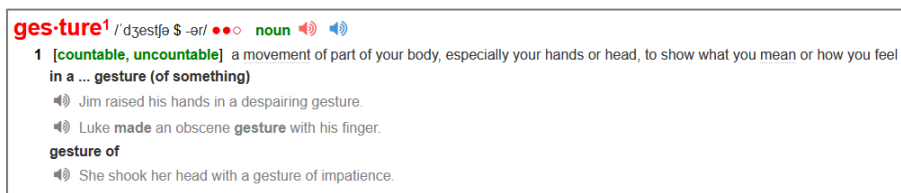
*Figure 4.3.6.7 A subcomment on form and semantics of **gesture** in LDOCE online*

After the paraphrase of meaning, some articles, as in *gesture* above, have a typical collocation in bold before associated examples. Other articles do not have this. Each subcomment on semantics has more than one example, either a phrase or a sentence. Each example has an audio symbol at the beginning. This feature, of having the whole example sentence spoken in natural language is very helpful for second language learners. The grammatical support, as in the type of noun, is useful to include in a school dictionary as well as in a learner's dictionary. The collocations are also very useful for learners of a language.
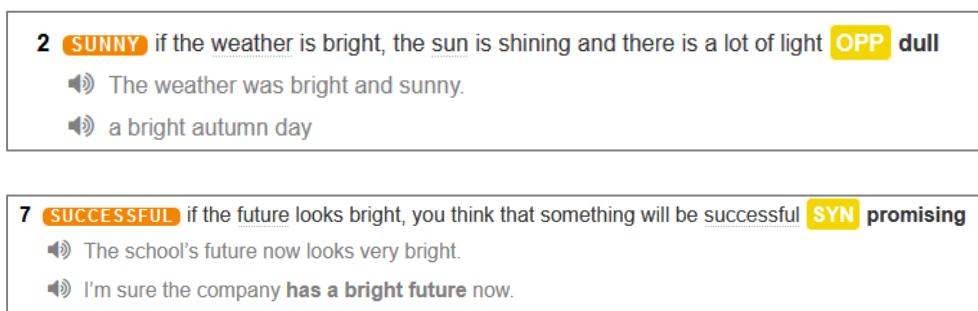
Figure 4.3.6.8 Two subcomments on semantics showing opposites and synonyms in LDOCE online

Where applicable, there are opposites and synonyms at the end of the paraphrase of meaning, marked by data indicators, a yellow block with OPP or SYN in white text. The item in the cross-reference position is not a hyperlink, so users would need to type the word into the search bar in order to find it. This is unusual in an online dictionary and it is unclear whether

it was an oversight or intentional. It is also unnecessary to have *opposites* and *synonyms* abbreviated in the data-identifying indicators. This textual condensation is unnecessary in an electronic dictionary. The yellow indicators could be designed to look like buttons, in which case the size is appropriate, but they do not have the functionality of a clickable button.
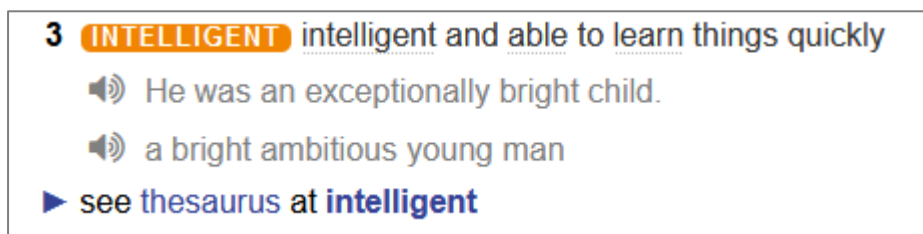
Figure 4.3.6.9 Thesaurus link at a subcomment on semantics in LDOCE online

There is also a thesaurus link at the end of some senses, as seen in Figure 4.3.6.9 above. This is different to a topic link, and upon clicking the link the user is taken to an article for the lemma, in this case, *intelligent*. The user is directed specifically to the thesaurus section in the article, which has a list of synonyms and explanations of how and when to use them. This is a very useful feature in a school dictionary, to aid with the function of text production, and to stop learners from simply choosing the "biggest" word in a list of synonyms.

There are various other features in each article that are very useful in both a school dictionary and a learner's dictionary. There is a collocations box that explains how to use collocations with examples, a phrase box that explains different phrases that contain the lemma, as well as extra examples taken from the corpus. While other dictionaries have shown collocations with the use of bold in the examples, this is the only dictionary that shows an actual collocations box.

COLLOCATIONS – Meaning 1: a movement of part of your body, especially your hands or head, to show what you mean or how you feel

ADJECTIVES

a rude gesture
   Luke made a rude gesture with his finger.

an obscene gesture (=extremely rude)
   The player was fined for making an obscene gesture at the referee.

an angry/threatening gesture
   One of the men made a threatening gesture, and I ran.

VERBS

make a gesture
   He made a gesture of annoyance.

Figure 4.3.6.10 Collocations box in an article in LDOCE online

PHRASES

a gesture of goodwill (=something you do to show you want to be helpful)
   As a gesture of goodwill, customers will be offered a full refund.

a gesture of friendship
   He invited the two men to his house as a gesture of friendship.

a gesture of support
   She wrote a letter to the prime minister as a gesture of support.

a gesture of solidarity (=something you do to show loyalty and support)
   People sent food parcels to the strikers as a gesture of solidarity.

Figure 4.3.6.11 Phrase box in an article in LDOCE online

In the case of a complex article with partial articles for the occurrences of the word in different parts of speech, the subsequent partial article is given at the end of the preceding partial article. There is no way of clicking directly to that subsequent partial article. In some complex articles, such as *market*, the learner would need to do a lot of scrolling to get to the partial article they need.

Other words in the word family are listed after the subcomments on semantics, simply in a list with part of speech and examples.

*Figure 4.3.6.12 Word family in **bright** article in LDOCE online*

This is a useful feature but it gets lost in all the scrolling, and users would be unable to find it easily. It is also unclear why the word family data is displayed twice: once at the top of the article and once in a box.

In the case of verbs, there is a verb table in the right hand column of the article. Again, while this is a very useful feature, especially for school dictionaries and second language learners, it is not easy to find in the article. The rest of the right hand column contains extra, non-lexicographic features, such as quizzes and *Word of the Day*, many of which are in full colour. In the article for *gesture*, where the verb is represented by the lemma sign *gesture²*, the verb table in the right hand column does not line up with the rest of the article for the verb and it gives *gesture* as the heading of the verb table, not *gesture²*.

*Figure 4.3.6.13 Word table for **gesture** in LDOCE online*

If the user clicks on the >*View more* link, the list gets longer with more inflections and examples.

As mentioned at the beginning of the description of *LDOCE online*, this is a very busy and cluttered looking dictionary article. All or almost all of the features are useful and valuable features to include, especially if the user is a learner of English. The problem is that each feature is given its own design element, such as font colour, box, frame, font size, and so the article is full of too many different design elements. The corpus examples take up a lot of space, and while storage space is available for this feature, the presentation space is compromised by these lines of examples that many users are unlikely to need. The corpus examples should certainly be behind an expandable menu item.

Features that are beneficial for a school dictionary are the display of topics, the word family data, audio for examples, the clear presentation of collocations and phrases, grammatical data, the thesaurus section, and the verb table.

4.3.7 Dictionary of South African English

The online *Dictionary of South African English* (*DSAE*) is accessed at www.dsae.co.za. It is different to the other dictionaries in this section in that it is an historical dictionary and thus serves a different purpose to the other dictionaries. It is also not intended to be used as a school dictionary, unless learners were specifically researching a particular South African word or words. It has been included in this study because it is a very well-designed dictionary and can be used as an example of good design. The words consulted cannot be words from the model school dictionary in this study, as none of those words have a South African origin. The three words looked up are *gogga* (noun), *gogo*[2] (noun), and *hamba* (verb). A *gogga* is an insect or other small creature, *gogo* is a respectful term for an elderly person and *hamba* means "to go". Other articles are used as examples as well.

Figure 4.3.7.1 Screenshot of DSAE

The *DSAE* also makes use of a different business model to the other dictionaries, and thus has no advertising. This is a refreshing change and makes the dictionary much more pleasant to use. Of course, the use of advertising in the other dictionaries is unavoidable, and users are usually given the option to pay a subscription fee or once-off amount to enjoy the dictionary advert-free. This would be an option for a regular user who has a favourite online dictionary.

The *DSAE* screenshot structure makes use of two columns, with a wider left hand column containing the article, and the narrower column on the right containing additional features and links to outer features. The outer features include a quotation graph, which shows visually where and when quotations occurred; a senses table, which shows when each sense originated; and an option to browse categories, with categories such as language of origin and use.

*Figure 4.3.7.2 Beginning of article for **gogga** in DSAE*

The article is very clear and uncluttered. It makes use of four colours: red, green, black, and grey. The red is used for the lemma sign, item giving pronunciation, and the *Show more* data-identifying indicator. Green is used for cross-references and links to the bibliography. Black is used for most of the text and grey is used for data-identifying indicators as well as the citation text. There are also faint grey lines between the senses. There is very good use of white space which helps to keep the article uncluttered.

*Figure 4.3.7.3 Top part of article for **hamba** in DSAE*

The lemma sign is in a large, serif font, with the part of speech in a slightly smaller font, also red, also serif, but in italics. The double bar symbol (‖) before the lemma sign indicates that this word is not assimilated into English. This is explained in the mouse-over text.

*Figure 4.3.7.4 Top part of article for **gogga** in DSAE*

In articles where there is more than one common variant of the lemma, these variants are provided in the comment on form.

There is a very fine grey line below the lemma sign, followed by the item giving the pronunciation in IPA, also in red text. After the pronunciation, there is a data-identifying indicator FORMS in grey, followed by other variant spellings of the headword. This can be expanded by clicking on the *Show more* link.

Figure 4.3.7.5 Variants of the lemma with the Show more link in DSAE

If the plural or other inflections are not regular, they are displayed between *Forms* and *Origin*. The origin is the language or languages of origin of the lemma. This also appears before any sense subdivision.

Figure 4.3.7.6 Comment on form showing plurals in DSAE

This is the only dictionary in this study that has arrows to the previous and next articles, offering users a browsing opportunity. As this is an historical dictionary, users may be interested in browsing through the articles, rather than consulting the dictionary to satisfy a

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specific need. These arrows are at the bottom of the article, on the left and right of the screen respectively.

Figure 4.3.7.7 Arrow indicating the next article in DSAE

Homonyms are indicated by a superscript number after the item giving the part of speech, which is very unusual. Users can switch between homonyms using the arrows at the bottom of the screen. As this is an historical dictionary, homonyms are arranged according to first recorded use. In the case of *gogo*, below, the first homonym is marked as obsolete, while the second one is still in use. It is interesting to note that the abbreviation of "obsolete" is given, when this textual condensation is unnecessary in an electronic dictionary.
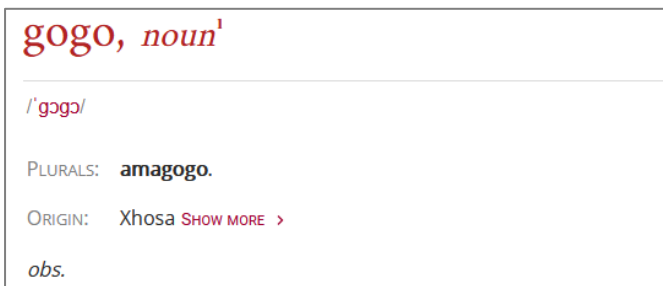
Figure 4.3.7.8 Comments on form showing homonyms in DSAE

Each subcomment on semantics is within a very faint shadow frame – it is more visible as the bottom line, but the subcomments on semantics are clearly differentiated, whether the user sees the whole frame or just the line. Each subcomment on semantics contains a paraphrase of meaning or a link to a synonym and the first and last citations of use. The paraphrase of meaning explains the meaning and use of the term. The sense number is bold and black, the paraphrase of meaning is black and the citations are grey. There is a *Show more* button between the two citations, offering users more examples of the term in use. If one clicks on

the *Show more* button, the other citations are displayed on the screen between the first and last citations:
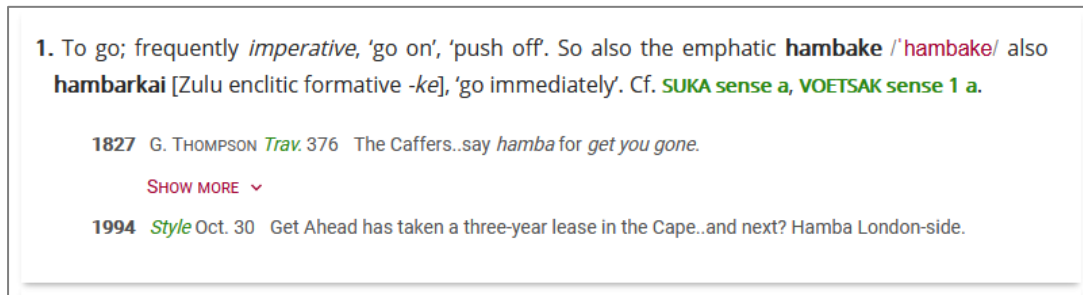
Figure 4.3.7.9 Subcomment on semantics showing paraphrase of meaning and citations in DSAE

Because the *Dictionary of South African English* is an historical dictionary, all senses of a word that have been recorded are presented, rather than as in a school dictionary where only the most frequent senses are presented. Thus the presentation of the senses and subsenses are more comprehensive than in restricted synchronic dictionaries like school or learner's dictionaries. According to the help pages in the *DSAE*,

> "A capital letter (A, B) is used for each part of speech represented by the headword, and an arabic numeral (1, 2) for each sense within that group. If the distinction between these senses is a fine one, lower case letters (a, b) may be used instead of arabic numerals to suggest a closer semantic distance. Senses marked 1, 2 may have subdivisions (marked a, b), and further subdivisions (marked i, ii). Numbered senses which fall into distinct semantic or other patterns may be grouped by large roman numerals (I, II)." (Dictionary Unit for South African English, 2020)

2. in the phrase *hamba kahle* /ˌhʌmbəˈɡɑːʃli/, /ˌhambaˈɡɑːɬe/, also *hamba couthley, hamba gachle, hamba gahle, hamba gahlé, hamba gahli, hamba gashli, hamba gashly, hamba gathle, hamba gooshly, hamba gthlie, hamba kahale, hamba khole* [Zulu or (occasionally) Xhosa *kahle*, see GASHLE (in Xhosa more commonly *hamba kakuhle*); when addressing more than one person, the form *hambani kahle* is used], used in the following ways:

a. As an interjectional phrase: GO WELL. Cf. SALA KAHLE.

NOTE:
Now often used as a respectful farewell to a deceased person.

> **1836** A.F. GARDINER *Journey to Zoolu Country* 142 His last words were 'Amba couthley' (I wish you a pleasant journey).
> SHOW MORE ⌄
> **1993** *Weekly Mail* 18 June 12 He is survived by his girlfriend and a kid. Hamba kahle Qawe.

b. As v. phr. (usually *imperative*):

NOTE:
Sometimes partially translated, see *go gashle* (GASHLE).

i. Travel safely, 'go well'. Also *transferred sense*, see quotation 1969.

> **1838** G. CHAMPION in J. Bird *Annals of Natal* (1888) I. 224 The king expected I would leave the country, and told me to 'Hamba gahli'.
> SHOW MORE ⌄
> **1971** *Daily Dispatch* 15 Nov. 12 Paramount Chief Kaiser Matanzima..intends to 'hamba kahle' still. He is well advised to take no chances.

Figure 4.3.7.10 Part of an article showing subdivisions of subcomments on semantics in DSAE

The additional features in the right hand column are of interest to users of an historical dictionary, because they offer users either more visual representation of the origins of the quotations or browsing opportunities. The *Browse related words* section offers users the different categories in which the headword is found, and a list of other terms within that category.
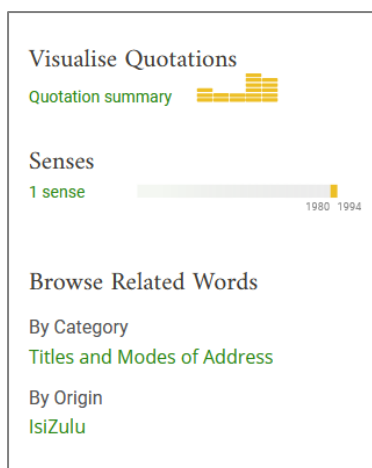
Figure 4.3.7.11 Right hand column in DSAE

As the *DSAE* is an historical dictionary and not at all aimed at children, it does not contain many features that are pertinent to a school dictionary. However, what would be appealing to the target user of the model dictionary developed in this study, is the neatness and clarity that is afforded in this dictionary. The *Browse related words* is also a useful feature and can be adapted to suit a school dictionary. Browsing would encourage users to follow links and make connections between different words.

4.3.8 Wordsmyth Children's Dictionary

The online *Wordsmyth Children's Dictionary* is the only dictionary in this study that is aimed specifically at children, and thus the design decisions would have been influenced by that. It is also the only dictionary that does not have a printed counterpart. It can be accessed at kids.wordsmyth.net. The *Wordsmyth Children's Dictionary* is one of three children's dictionaries produced by Wordsmyth. Their WILD (*Wordsmyth Illustrated Learner's Dictionary*) is aimed at preschool to Grade 2 children, the *Comprehensive Dictionary-Thesaurus Suite* is aimed at high school learners, and the *Wordsmyth Children's Dictionary* is aimed at learners from Grade 5 to Grade 8. The description of the dictionary claims: "Word Explorer related-words feature for concept mapping, writing, and brainstorming; Easy-to-read definitions and thousands of examples written specifically for young learners; Word Histories, Language Notes, and other fun facts to highlight the richness of our language; Thousands of images and animations to stimulate learning" (Wordsmyth, 2018).

The three words selected were *bright* (adjective), *legend* (noun), and *market* (noun and verb).

*Figure 4.3.8.1 Screenshot of the article for **bright** in Wordsmyth Children's Dictionary*

As with most of the dictionaries in this section, the *Wordsmyth Children's Dictionary* contains advertising. There is a banner advert above the dictionary article, an advert taking up the whole right hand column, and an advert below dictionary outer features in the left hand column. The adverts contain animations and thus are particularly distracting. They are not related to the word looked up and they do not seem to be directed at children, who would be the primary users of this dictionary.

There are dictionary tabs that take users to the other dictionaries and outer features such as search tools, puzzles, and a vocabulary centre. There is also access to the registered user section.

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*Figure 4.3.8.2 Dictionary article for **legend** in Wordsmyth Children's Dictionary*

On first impression, the actual dictionary article is clear and uncluttered. The screenshot structure is similar to the other dictionaries in that there are three columns, but here the left hand column contains search results and other lexicographically relevant additional features, while the other dictionaries have used the right hand column for that purpose. The article is in the wider centre column. The colours used are dark blue, pale blue, green, and black for text and pale yellow for shading. There are pictorial illustrations in some articles. Of the ten articles consulted to check for illustrations, six are illustrated. These pictorial illustrations are a combination of photographs and artwork. The illustrations are very small and inserted in the subcomments on semantics. When the user clicks on the picture, it opens a larger picture in a pop-up window. When embedded in the article the pictures are too small to be seen clearly.

Figure 4.3.8.3 Subcomment on semantics showing illustrations in Wordsmyth Children's Dictionary

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The text is all the same sans serif font, and makes use of typographical structural indicators such as bold, roman, and italic fonts to differentiate between different data types.

Figure 4.3.8.4 Comment on form in an article in the Wordsmyth Children's Dictionary

The lemma sign is big, bold, and blue, with syllable breaks indicated (see Figure 4.3.8.2). The tiny blue arrow to the right of the lemma sign gives the user the option to hide or display the syllable breaks. The blue block with *WVI* and a number indicates the Wordsmyth Vocabulary Inventory, where the number corresponds with grade-level bands. Level 1 is grades K to 2, which would be roughly age 5 to 7 or 8. This is explained in a pop-up screen that opens when one clicks on the blue block.

The item giving pronunciation makes use of respelling, which is more suited to children than IPA would be. There is also an audio symbol for audio pronunciation. The items giving parts of speech are also indicated here, with the parts of speech being hyperlinks that take the user to the relevant partial article. The data-identifying indicator *features* offers the user *Word Explorer, Word Building, Word Parts, Homophone Note,* and *Language Notes*[2]. *Word Explorer* takes the user to the end of the article, where relevant topics are listed. Clicking on a topic takes the user to the article for that word as well as a list of associated words at the end of the article. This is an excellent feature to facilitate and encourage browsing between articles, allowing users to see relationships between words.

The comment on form also includes the item giving the part of speech, in a pale yellow band with the part of speech as a hyperlink. Here the link opens a pop-up window that describes and explains the part of speech in a slideshow. This is a useful feature for school children and learners of English.

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[2] Most of these features are only accessible to users with paid subscriptions. The free trial subscription does not offer them all.

Inflections are displayed when applicable. Inflections are not provided at all articles. Irregular verbs, adjectives that do not take *more* or *most*, and some irregular nouns have inflections displayed. For example, *child* has *children* but *person* does not have *people*. The inflections are not named (for example *plural, comparative, past participle*). However, the data-identifying indicator *inflections* is a link which opens a slideshow explaining inflections. It explains how they are formed, when they are used, and how they are displayed in this dictionary.

The subcomments on semantics are introduced by the data-identifying indicator *definition 1*, *definition 2*. The data-identifying indicator is a link that opens a pop-up window that explains what a definition is and what an example is. Examples are not introduced by a data-identifying indicator and most of the subcomments on semantics appear to have one or two examples. Some do not have any, as can be seen in the third subcomment on semantics in Figure 4.3.8.2. All examples seen in this study are full sentences.

Some of the data-identifying indicators are hyperlinks and some are not. There is no typographical difference between the two.

Below the examples and pictorial illustrations is a frame with one or more of the following: synonyms, antonyms, and similar words, with hyperlinked green words that take the user to those articles. After the subcomments on semantics there is a list of related words. It is not clear how these words are different to the similar words or synonyms, or the *Word Explorer* topics. This may be confusing to users. After the related words there is a data-identifying indicator for derivations, with a list of derivatives and their parts of speech, but no paraphrase of meaning or examples. The derivations label is the same size and font as the definition, related words, and inflections and so it may not stand out to a user.

definition 2:	to sell or offer for sale.
	That company markets camping goods on-line.
	synonyms: sell, vend
	similar words: barter, dispense, handle, hustle, peddle, trade
related words:	deal, stock
derivations:	marketeer (n.), marketer (n.)

Word Explorer
⊙ **See**
  advertise, advertisement, business, farm, fruit, vegetable

Figure 4.3.8.5 Part of article showing subcomment on semantics and extra features in Wordsmyth Children's Dictionary

The outer features in this dictionary include a search bar; *Alphabetical Results*, which lists the words before and after the searched for word; *Multi-words Results*; *Similar Spellings*; and look-up history. The words in these lists are not clickable, so a user would have to search for them. These features are useful and make related words and terms accessible to a user.
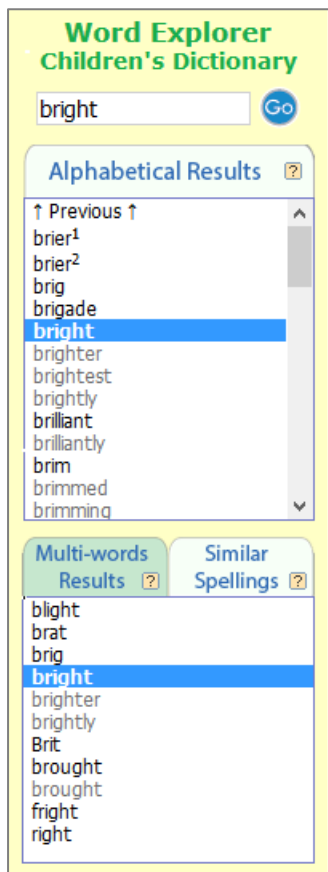

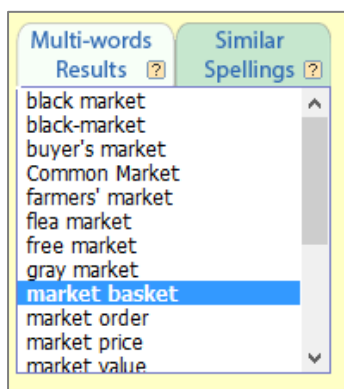*Figure 4.3.8.6 Side bar showing outer features in Wordsmyth Children's Dictionary*

Figure 4.3.8.7 Multi-words results in sidebar in Wordsmyth Children's Dictionary

This dictionary is clear and easy to use with some features that would specifically appeal to a school market, as well as to learners of English. Features which would be specifically

beneficial in a school dictionary are the features such as *Word Explorer*, *Word Building*, *Word Parts*, *Homonym Notes*, and *Language Notes*. The rapid access to explanations of the parts of speech and the inflections are also useful in a school dictionary. Similar spellings and multi-word expressions are other features that would be beneficial in a school dictionary.

As can be seen in this section, many electronic dictionaries take advantage of the available technology to offer users extra features. Some of these features would suit an electronic school dictionary and have been incorporated into the design of the dictionary that is being developed in this study.

4.3.9 Help

Because it was sometimes necessary to consult a user guide or help section in some of these dictionaries, I decided to compare the user support in the different electronic dictionaries discussed above. What follows is a brief discussion on the availability and accessibility of user support in each dictionary.

According to Gouws (2004) user guides are one of the compulsory texts in a printed dictionary as they "ensure a successful use of the dictionary" (Gouws, 2004:74). Bearing this in mind, a survey was done on these nine online dictionaries to establish A) whether they have a user guide or help section, B) how easy it is to find, and C) how comprehensive it is. The results vary a great deal.

4.3.9.1 The Macmillan Dictionary

There is a help section in the *Macmillan Dictionary*, but it is not at all easy to find. A user would need to use some advanced detective skills to find it. Firstly, in the treatment of non-frequent words, on the right of the comment on form there is a link to Using the dictionary.

Figure 4.3.9.1.1 Using the dictionary link in Macmillan Dictionary

This link takes to user to a very useful help section, which includes an *Anatomy of an entry*, which is a labelled diagram of a dictionary article, as part of a very comprehensive user guide.

Figure 4.3.9.1.2 Anatomy of a dictionary entry in Macmillan Dictionary

The only problem is, that if a user is looking up a frequent word (of which there are 7500 marked in this dictionary) they will not find that link. The breadcrumb trail at the top of the user guide is *> Resources > Dictionary entry*, and a user can use that trail to find the user guide if they had seen it before, but Resources is not necessarily an obvious place to find a user guide. If the user looks at the bottom of the webpage, they will find menu items such as *About* and *FAQ*, but neither of these take them to the user guide.

Figure 4.3.9.1.3 Menu items at the bottom of webpage of Macmillan Dictionary

If the user clicks on the *Resources* tab at the top of the webpage, they are taken to a page with various links to language resources, including language articles, blog posts, and a collection of language jokes. Only by scrolling down, would the user find a glossary of dictionary terms and the anatomy of a dictionary entry.
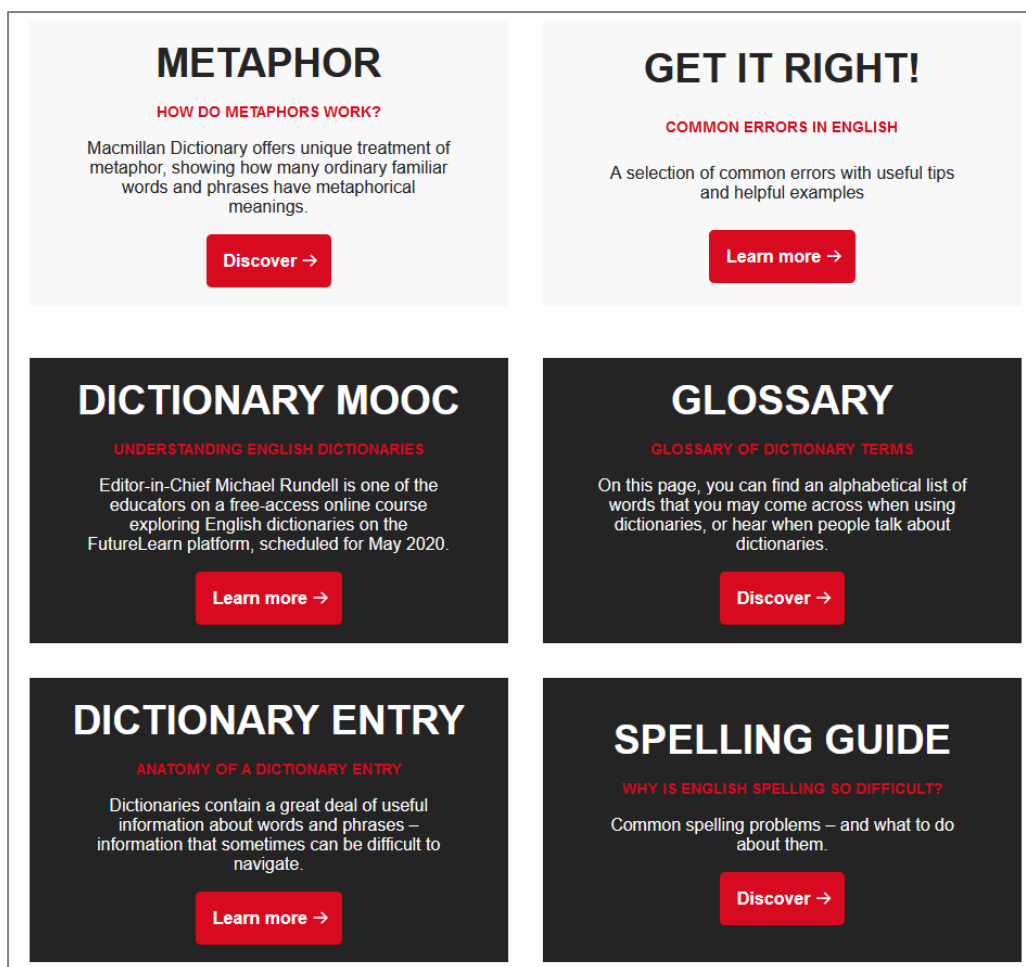
Figure 4.3.9.1.4 Links to Glossary of dictionary terms and Anatomy of a dictionary entry in Macmillan Dictionary

These resources are very well put together, but are not at all easy to find.

4.3.9.2 Cambridge Dictionary

The help section in the *Cambridge Dictionary* is a lot easier to find, but not as comprehensive. Every webpage in the dictionary has a band along the bottom that contains links in columns headed: *Learn*, *Develop*, *About*. In the *Learn* column is a menu item: *Help*.

Figure 4.3.9.2.1 Menu in bottom band of Cambridge Dictionary webpage

Clicking on the *Help* menu item takes the user to a *Frequently Asked Questions* page, which would hopefully guide the user to the support they need.

Help

These are answers to the most frequently asked questions about Cambridge Dictionary. If you have a question which isn't in this list, or if the answer given does not satisfy you, please contact us with your question.

- How are words added to the dictionary?
- Do you have an online thesaurus?
- How can I find out a word's pronunciation?

- What do the phonetic symbols mean?
- What do the codes in the dictionary entries mean?
- What do *sb* and *sth* in entries mean?
- What do the A1, B2, C1, etc. labels mean?

How are words added to the dictionary?

We have a team of lexicographers who are always on the lookout for new words appearing in the English language. They look at the Cambridge English Corpus to check the frequency of the word, and where it is used (in newspapers, in casual conversation, in academic texts, etc.). If the word is used in many different contexts over a period of time, the lexicographers add it to the dictionary. If the lexicographers think that a new word might be ephemeral, they keep a record of it to review at a later date.

Do you have an online thesaurus?

There are thesaurus clouds at many of the definitions in the dictionary. These contain not only synonyms, but also related words and phrases. The words in the cloud are bigger or smaller depending on how frequently they are used. You can click on the bar that says 'Thesaurus: synonyms and related words' to reveal or hide the thesaurus cloud.

How can I find out a word's pronunciation?

Figure 4.3.9.2.2 Help section in Cambridge Dictionary

It is interesting to note that one of the FAQs refers to "*sb* and *sth* in entries". These abbreviations of "somebody" and "something" are vestiges of strategies used in print dictionaries to save space. They are not at all necessary in an electronic dictionary. The fact that the question comes up frequently enough to be in the *Frequently Asked Questions* suggests that they are not obvious abbreviations and as such should not be used in electronic dictionary articles.

4.3.9.3 Collins Dictionary

The *Collins Dictionary* does not appear to have a help section at all. Neither the band at the bottom of the webpage nor the menu at the top of the webpage have links to a user guide.
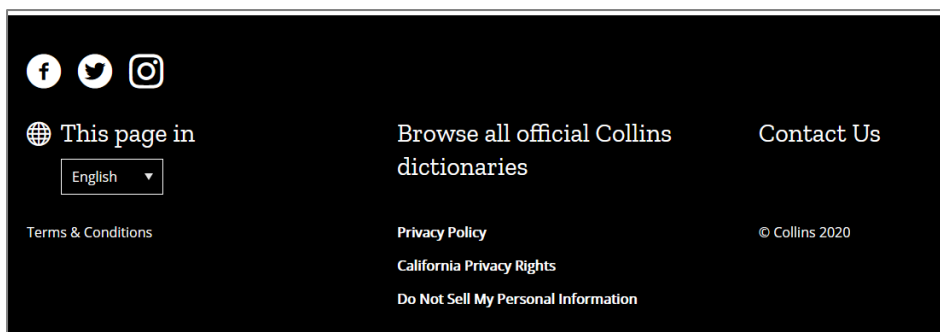
Figure 4.3.9.3.1 Menu in bottom band of Collins Dictionary
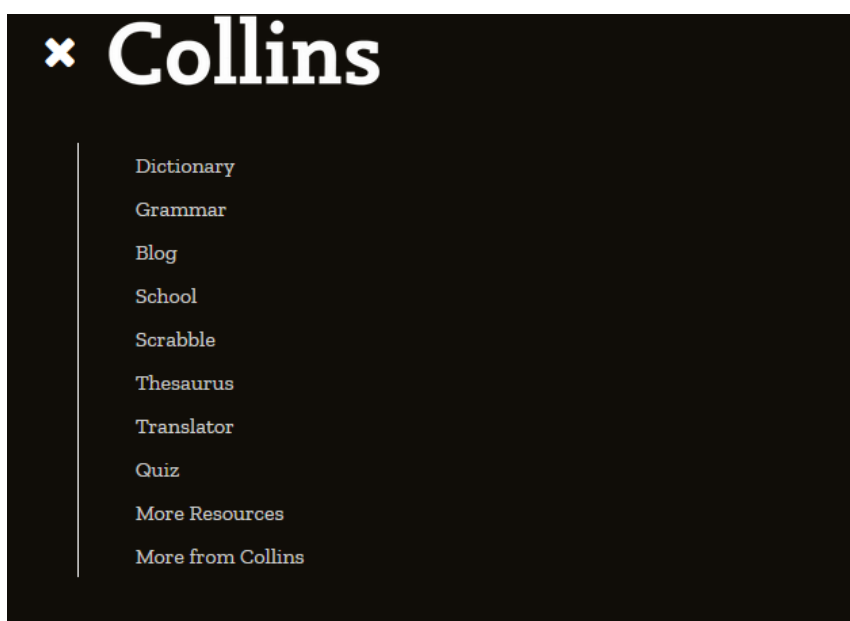
Figure 4.3.9.3.2 Top menu in Collins Dictionary webpage

The *Resources* link in the menu at the top of the webpage takes users to outer texts, such as *Word of the Day*, *Word of the Year* and resources for purchase.

4.3.9.4 Merriam-Webster.com Dictionary

The bottom band of the *Merriam-Webster.com Dictionary* webpage shows a menu that contains *Help* as the second menu item.

Figure 4.3.9.4.1 Menu in bottom band of Merriam-Webster.com Dictionary

Following that link takes to user to a list of frequently asked questions in categories.

Help

Using Merriam-Webster Online

Citing the Dictionary and Other Online Sources

FAQ: Audio Pronunciations

FAQ: Words and Dictionaries

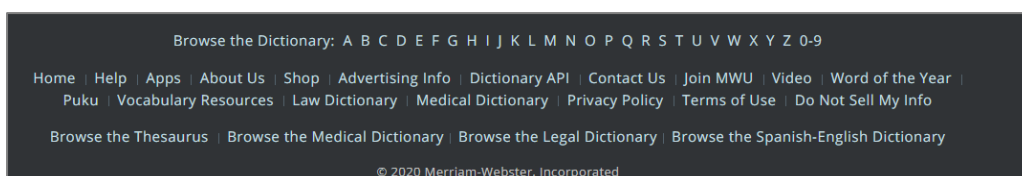## Merriam-Webster Reference Help

Pronunciation Key: Quick Reference

Pronunciation Full Guide: PDF download

Explanatory Notes to the Dictionary

Explanatory Notes to the Thesaurus

Merriam-Webster Mobile App Help

FAQ: Merriam-Webster iPhone and iPad Apps

FAQ: Merriam-Webster Android Apps

Figure 4.3.9.4.2 Help menu with categories in Merriam-Webster.com Dictionary

It is not very clear where to go, but *Explanatory Notes to the Dictionary* appears to provide the most user support for the dictionary.

Figure 4.3.9.4.3 Menu of items in Explanatory Notes to the Dictionary in Merriam-Webster.com Dictionary

This user support is fairly comprehensive and easy to find.

4.3.9.5 Merriam-Webster Learner's Dictionary

An interesting feature of the *Merriam-Webster Learner's Dictionary* is the feedback section at the end of each article. It asks users why they looked up that word and whether they have comments about it. In some instances, users ask questions about the articles and a dictionary editor replies.
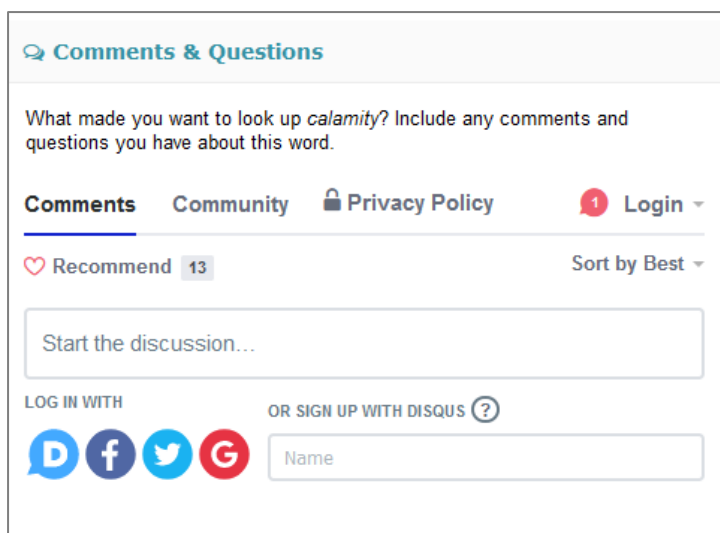
Figure 4.3.9.5.1 Comments and questions section in Merriam-Webster Learner's Dictionary

A link to the actual help section can be found in the menu at the bottom of the webpage, but it is very small and hard to find.
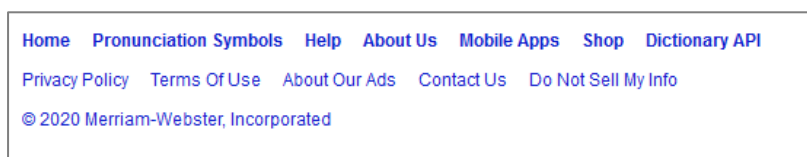
Figure 4.3.9.5.2 Menu at bottom of webpage of Merriam-Webster Learner's Dictionary

The *Help* link takes users to a page offering a guide to IPA symbols and a *Contact Us* link which opens a query form to send to Merriam-Webster. There is no actual user support for the dictionary.
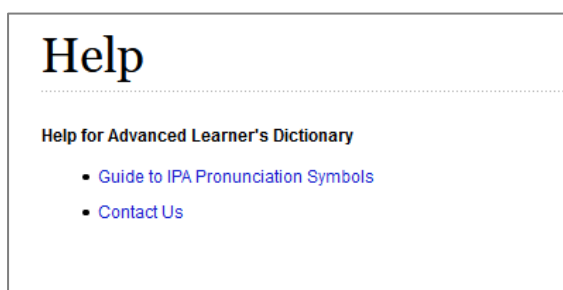
Figure 4.3.9.5.3 Help page in Merriam-Webster Learner's Dictionary

4.3.9.6 Lexico.com

Lexico is another online dictionary that appears to not have a user guide or help section in any form. There is an *About* section which contains frequently asked questions about the dictionary, but none of them refer to actual user support.

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4.3.9.7 LDOCE

The menu in the band across the bottom of the LDOCE webpage contains a menu item *How to use*.
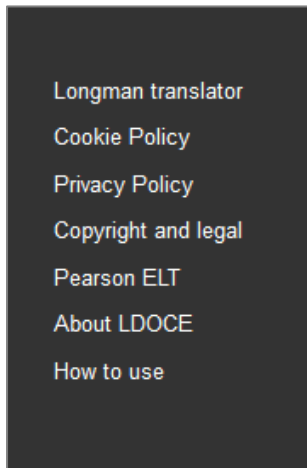
Figure 4.3.9.7.1 Menu in bottom band of LDOCE

Users clicking on this link get taken to a page that offers support in the form of the instruction: "Just key a word or phrase into the search box — infinitives, verb forms and plurals are all fine. We'll even try hard to match misspelt words" (Pearson Education Limited, 2020). There are also options to browse Longman dictionaries as well as a guide to the IPA symbols used.

Figure 4.3.9.7.2 How to use page in LDOCE

4.3.9.8 Dictionary of South African English

The *DSAE* has the easiest to find help section, as well as the most comprehensive user guide. A user does not have to scroll to look for the help section – it is one of the menu items in the band at the top of the webpage.

Figure 4.3.9.8.1 Menu at the top of the DSAE website

The *Help* menu offers users *Getting Started*, *Entry Structure*, *Advanced Functions*, and *Symbols and Abbreviations*.

The *Getting Started* page guides users on how the dictionary works, with explanations of each section of a dictionary article.
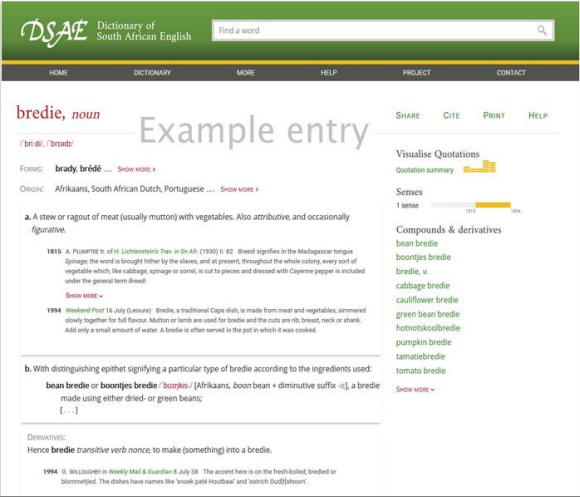
Figure 4.3.9.8.2 Getting Started section of the Help section of the DSAE website

The *Entry Structure* page gives the user a more detailed explanation of the dictionary articles. Each data category and feature is described and an example is provided.
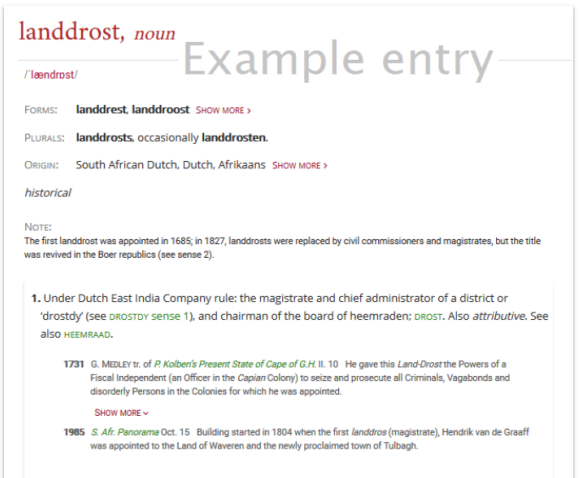
Figure 4.3.9.8.3 Entry Structure in the Help section of DSAE

The *Advanced Functions* gives explanations on functions such as filters and sorting options.
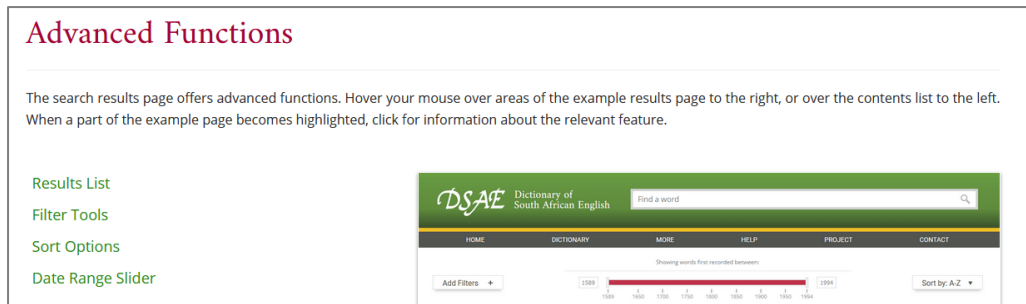
Figure 4.3.9.8.4 Advanced Functions in the Help section of DSAE

The *Symbols and Abbreviations* section gives lists of IPA symbols and other abbreviations used in the dictionary.

This is by far the most comprehensive user guide out of all of the online dictionaries examined in this study.

4.3.9.9 Wordsmyth Children's Dictionary

The *Wordsmyth Children's Dictionary* contains a menu item for frequently asked questions in the top menu bar.

Figure 4.3.9.9.1 Top menu bar in Wordsmyth Children's Dictionary

This link to FAQ takes the user to a list of questions in categories.
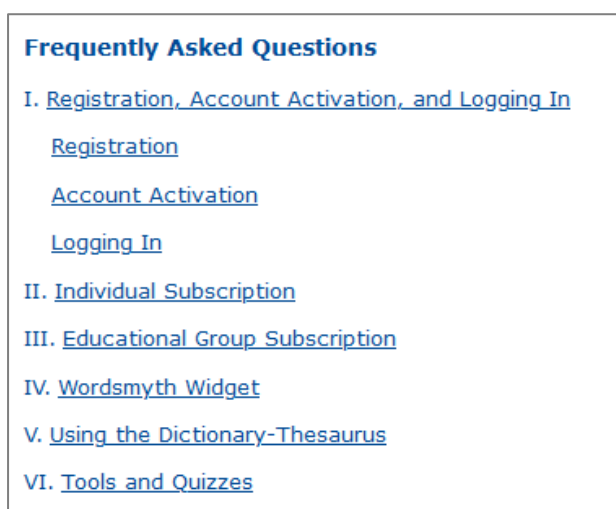
Figure 4.3.9.9.2 List of frequently asked questions in Wordsmyth Children's Dictionary

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The category: *Using the Dictionary-Thesaurus* offers the most user support in the actual use of the dictionary.
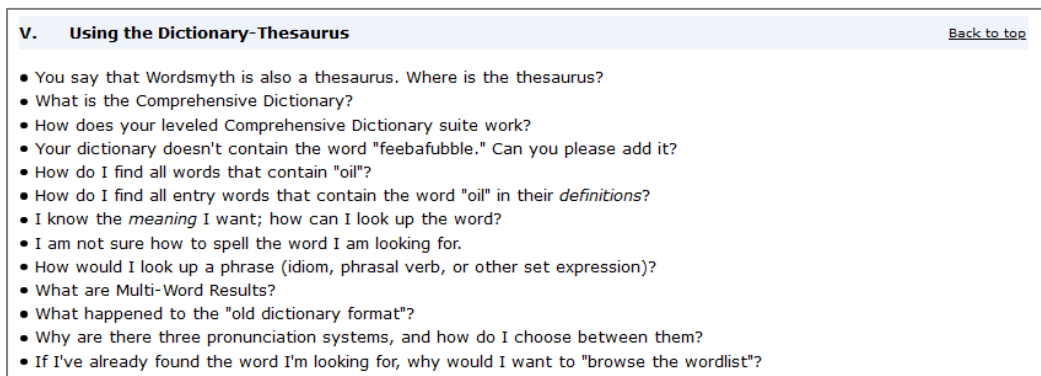
Figure 4.3.9.9.3 Questions in the Using the Dictionary-Thesaurus section in Wordsmyth Children's Dictionary

The questions in this section appear to cover the main issues users might have while using the dictionary. The answers are clear and age-appropriate for the users of the *Wordsmyth Children's Dictionary*.

As can be seen in this section, many dictionaries are lacking easily accessible user support and while user support is a "compulsory outer text in a dictionary" (Gouws, 2004:74) some dictionaries are actually lacking this support entirely. There is an argument to be made that electronic dictionaries should be so user-friendly and using them should be so intuitive, that user support is not necessary, but more research needs to be done to establish whether this is true, and whether users of online dictionaries would manage without such support. Help in the form of "Just key a word or phrase into the search box" is not very helpful at all.

4.4 Conclusion

This chapter shows what data types are included in school dictionaries, and how those data types are presented. It also shows what data types are included in electronic dictionaries and how those data types are displayed. In printed school dictionaries, the amount of data and how they are presented is weighed up against the availability of space. In electronic dictionaries, the presentation of the data is evaluated against the potential to overload the user, especially when advertising is included in the screenshot structure. These processes, of examining and comparing what each set of dictionaries contain and how they display their data, help to inform the design of my model dictionary articles, in terms of what is appropriate to include and how best to present it.

Chapter 5 Teacher interviews

5.1 Introduction

As one of the first steps to establishing the needs of learners and how to develop a dictionary that would best support them, I interviewed teachers who teach English to First Additional Language learners in English-medium primary schools. Teachers from two schools were interviewed. Their anonymity was a condition of ethical clearance, so the schools will be referred to as School A and School B.

School A is a privately funded primary school in a very poor township. Because it is privately funded, it is incredibly well resourced and learners have access to iPads in class. There are two classes per grade, and classes are small, with a maximum of 30 learners in each class.

School B is a government school in a lower-income suburb. It is under resourced and learners and teachers have very little access to electronic learning resources. There is a computer room, but the computers are rarely used. Classes are much bigger, with up to 40 learners in a class. There are three classes per grade.

Teachers, not learners, were interviewed because it was felt that teachers would be able to give insight into the needs of learners that learners would not necessarily identify. As can be seen in these interviews, the teachers are very much aware of their learners' needs and abilities. They were able to engage with the idea of an electronic dictionary design with the purpose of supporting these learners in particular.

An interview, rather than a questionnaire was used because it was necessary to engage the teachers in discussion and gain clarity from their responses. A questionnaire would not have elicited the detailed responses that were required.

Because the interviews were used to develop a new dictionary, and not evaluate the teachers, there was little room for social desirability bias. The teachers were aware that the interviewer did not represent the education department or a publisher, and were thus assumed to be honest in their responses.

The interview questions comprised three sections: Section 1 was to establish descriptions of the school and class, Section 2 to establish dictionary use, and Section C was to establish what teachers want in a new dictionary. In many cases, the interview took on the characteristics of a conversation rather than an interview, with the teachers having more of a

discussion than simply providing answers. The interview questions can be found in Appendix A.

5.2 Section 1: To establish characteristics of the school and class

The first set of questions in the interviews established class size and make-up.

At School A, three teachers were interviewed: two Grade 5s and one Grade 6. The classes have between 26 and 30 learners. At School B, four teachers were interviewed: two Grade 5s and two Grade 6s. The classes have between 36 and 39 learners. The teachers are all first-language English speakers, except for one whose home language is Xhosa, and one who is bilingual with English and Afrikaans. Both of these teachers are at School B. Two teachers at School A teach English, and one currently teaches Afrikaans and Lifeskills, but previously taught English. At School B all the teachers teach all subjects.

The learners in Grade 5 are 10 turning 11, with some older learners up to 13, and in Grade 6 they are 11 turning 12 with some older learners. Both schools have close to 100% of learners who do not speak English as a first language. There is a maximum of one or two Home-Language English learners in each class. The other home languages represented are mostly Afrikaans and Xhosa, and foreign languages such as Shona. Both schools are co-ed.

5.3 Section 2: To establish dictionary use in the classroom

The second set of questions established dictionary use in the classroom. All of the teachers have dictionaries in the classrooms, to which the learners have access. The teachers all just said they use the "Oxford Dictionary", but in the classes I saw the *Oxford South African School Dictionary* (3rd edition, published in 2010) and the *Oxford School Dictionary*, which is published in the UK. Every class had copies of the *Oxford South African School Dictionary*, with a few copies of the *Oxford School Dictionary* in two classes. Both schools have enough dictionaries for each learner in a class to use at the same time. At School A, there were ten copies in the classroom, but the teachers could borrow from other classes for a lesson. At School B there were 15 dictionaries in a classroom, with teachers borrowing from other classes if necessary. At School B, learners are expected to buy a dictionary in Grade 4 and keep it as they move up the grades. The dictionary is not prescribed, but most learners have the *Oxford South African School Dictionary*. Another teacher at School B said that very few learners have their own dictionaries. They keep them at school because they are too heavy to keep in their bags. Learners generally do not take dictionaries home.

The South African school curriculum, CAPS (National Curriculum and Assessment Policy Statement), does not allow for specific dictionary lessons, so teachers need to find ways to incorporate dictionary use in class. The teachers described some of the ways in which dictionaries are used in their lessons. They are used to assist with homework and to check vocabulary from other subjects. One teacher said they are used rarely, and when they are used, it is informally, where one learner consults the dictionary to find a word used in class and explains or reads the entry for that word to the rest of the class. A teacher regrets that they do not have dictionary lessons, but there is no time to fit them in. One of the teachers said that the dictionary is used in class as a fun exercise, but that these exercises are rare. One teacher at School A mentioned that the reader support teacher would give learners in the reader support group half an hour to play with their dictionaries and look for words.

When asked if the dictionaries were available for other lessons, a teacher at School B specifically said that the learners use their dictionaries in all lessons because the vocabulary used is not in their home language. The other teachers confirmed that dictionaries were available in other lessons. In most cases, if there was a word that learners wanted to know, one or two learners would volunteer to consult the dictionary and share the meaning with the class. There appeared to be very little independent use of the dictionary.

The teachers were then asked whether the school dictionary they used was appropriate for their learners in terms of their age and language proficiency. Some of the teachers said that it was appropriate, while others said that it was not appropriate because learners need help using the dictionary. A Grade 5 teacher at School A said, "I think by Grade 5 our learners should have more practice and should find words easier than they do. A lot of them struggle with basic alphabetising". One teacher said some learners managed while others struggle. Another specifically said that the dictionary is appropriate for home-language learners but not First Additional Language (FAL) learners, who need more basic vocabulary and simpler definitions. This is an important consideration that lexicographers need to take into account. At School B, two of the teachers said the dictionary was not appropriate, because the definitions were too complicated. One said that the learners find the word they are looking for, but then have to look up other words in the definition. Another teacher said she has to explain the meaning and tell the learners whether the word is a noun or a verb.

When asked if the dictionary had what they needed, some teachers said "yes" or "yes, but…". A teacher at School A said that "entries are often confusing, when they have multiple

meanings and multiple parts of speech. For a second language speaker they don't know if they are looking for a noun or a verb. Simpler would be nicer." Another said that the learners struggle to find the word they are looking for, for example "when a word can change, like happy – happiness – unhappy. Then they have to hunt and know what the root word is to find the word they are looking for." A teacher at School B said that the learners do not know which explanation to use. Another said that she has to break down the entry for the learners, and help them to find the part of speech or the context in the example sentence. A few of the teachers mentioned that they sometimes could not find the word they were looking for. One teacher gave examples of words that were in an assessment, but not in the textbook, and not in their dictionary. The examples she gave were "liana" and "emergent".

The teachers were then asked if the *Oxford South African School Dictionary* was easy to use for the learners. As with the previous answers, these responses confirm that there is a difference between the first- and second-language English speakers, and their familiarity with and ability to use the dictionary. One teacher said that the dictionary was easy to use for about a third of the class. She acknowledged that it was difficult to say whether it is the dictionary or the learners. Other teachers said that polysemous entries and homonyms were difficult, as the learners did not know which sense or word to use. A teacher at School B said that "they do find it easy to use, but then they ask which meaning to use". A teacher gave the example of the entry for *legend* which his class looked up recently. In the *Oxford South African School Dictionary 3e*, the two senses in the entry for *legend* are presented as follows:

> **legend**
>
> 1. An old story that is perhaps not true: *the*
> *legend of Robin Hood*
> 2. A very famous person or event: *He was a*
> *legend in the world of music.*

The learners did not know to read past the first sense and if they saw that it did not fit what they were looking for they gave up or asked the teacher. The teacher did not expand on the circumstances of the dictionary consultation, and whether it was a text reception or a text production activity that preceded the dictionary search. As an aside, the first example in this article is problematic, because the paraphrase of meaning refers to "an old story" but the

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example refers to a story and a person. This would be confusing to a learner who is confronted with the choice between the story and the person as two possible meanings.

A teacher at School A said that the learners "often get confused between the examples and the definition". It is interesting to note that much research and careful design goes into keeping definitions and examples distinct, but that assumes a dictionary culture or dictionary skills that are not being taught and practised.

The teachers were asked if learners know what they can get out of an entry. Most of the teachers said that their learners do not know the different parts of an entry, and the ones who do know, only know the basics, such as part of speech and definition. Another teacher said "they don't know the different parts. They should know – we do tell them. But we explain and explain and explain and they don't learn."

5.4 Section 3: To establish what the teacher wants in a dictionary

The final set of questions was used to determine what teachers would like to see in an electronic dictionary – beginning with features that they like in their current dictionary, which in all cases was a print dictionary. It is important to acknowledge that the teachers were being asked to evaluate their print dictionary in preparation for an electronic dictionary, which is a very different medium, and perhaps difficult for someone to conceptualise if they have not been exposed to digital dictionaries before. However, it is essential to consider features that the teachers do like in their print dictionaries, as these are the dictionaries that they know and use. An assumption is that by the time new dictionaries have been developed and compiled, more schools and learners will be ready to use electronic dictionaries. The first school in this study is already using iPads, and they would welcome a suitable electronic school dictionary to use on their tablets. It is also useful to hear teachers' wishlists when they are not familiar with electronic dictionaries, as they are not constrained by what they have used before or know to be available.

Some of the features that teachers liked that are not relevant to digital dictionaries, are that their school dictionary is "easy to use, not too thick and intimidating". Other features include the headword being in a different colour, and the font being large. Every teacher at School A mentioned illustrations as being an important inclusion. At School B, only one of the teachers mentioned illustrations.

One of the teachers liked the pronunciation guides. The *Oxford South African School Dictionary* uses respelling, which she feels is clear and easy to understand and follow. Another teacher likes that the parts of speech are not abbreviated. One of the teachers at School A commented on the South African examples and would like to see more references to South African contexts. A teacher at School B said that she liked the example sentences and would like more of them in a dictionary.

The next question asked which features the teachers would like to see in an electronic dictionary. A variety of responses was given, starting with a search by incorrect spelling, or phonetic spelling. One of the teachers also suggested including a search by dictation, which would require a voice-to-text functionality. A teacher at School A wanted a "hybrid dictionary/thesaurus, with more than just a list of suggested synonyms". She found that when presented with a list of synonyms, learners tend to choose the biggest word, even when it does not suit the context. This teacher also suggested more explanations to accompany the parts of speech. She suggested a link that takes the user to a page explaining the part of speech in question, along with different types of that part of speech. This teacher also suggested including multiple languages, to support learners in their home language. She concluded her list by saying, "the number one requirement would be child-friendly definitions".

There were also requests for more colloquial language, such as figures of speech, idioms, proverbs, and other expressions that the learners come into contact with in their daily lives. Teachers also requested more local examples that would be familiar to learners. Other features suggested were more illustrations, more synonyms, more opposites, more examples, more usage notes, and more prefixes and suffixes. One teacher suggested a "hybrid between a children's dictionary and an older dictionary" which would have the lemma list appropriate to an older learner, with the accessibility of a dictionary aimed at younger learners.

The teachers also wanted the different senses in a polysemous word to be more distinct, as well as a clearer indication of which option to choose when faced with a pair of homonyms. One of the teachers said the learners need more help "separating the different meanings" and more contextual support to help the learners determine which sense they are looking for.

The next set of questions consisted of yes/no questions. The first one asked the teachers whether they would like encyclopaedic information as part of the dictionary entry. Most of the teachers liked that idea, except for one who was concerned about that information being

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outdated. There are ways around this, but it is a valid concern. Teachers who liked the idea of encyclopaedic information mentioned the fact that their learners have a very small world view. They are not exposed to wildlife shows on television, they do not travel, and they do not have access to the internet at home. So any extra interesting information that they can access at school would be very appealing to them. Another teacher said that the learners at this age are so curious, so the encyclopaedic information would feed into their curiosity.

The next question asked whether the teachers would like each part of the entry labelled. Again, the teachers liked the idea of data-identifying indicators. This would mean that instead of a typographical difference between the definition and example, for example, where the definition is in a roman font and the example in italics, the definition would be labelled *Definition*, and the example would be labelled *Example*. One of the teachers at School A suggested being able to toggle this feature on/off for learners who do need the data-identifying indicators and for those who do not.

When asked if teachers would like to see usage notes in the main dictionary entry, they all said that the usage notes they see in their dictionary are very useful, and they would want to see them. (This question was asked because at this stage, the envisioned design was going to make use of tabs in the articles.)

The teachers were then asked whether they would like a section with themes. All of the teachers at School A were very positive about themes. One said "there could be a word bank on photosynthesis or cars or the human body" and another said "it would definitely help with comprehension, and to help the learners connect the dots between words". The third teacher in School A said that themes "would be very useful for writing exercises. So there would be a cluster of words that have some synonyms" and other related words that are not synonyms. The teachers at School B were less enthusiastic about themes, with only two teachers saying they would be useful, one wanting themes to be connected to CAPS curriculum themes. However, one teacher said that "we don't work in themes" and another said that "themes might change from one year to the next". They possibly misunderstood the question, or thought I meant that the words would only be accessible via a word bank and not alphabetically or by search.

The final yes/no question asked whether the teachers would like audio for the definition and examples as well as pronunciation, or just the pronunciation. Most teachers liked the idea of more audio, as they wanted their learners to hear the natural flow of the language in use. One

teacher said that audio would make the dictionary more interesting to learners and capture their attention. She said she found the learners to be very auditory, in that they take in information better when they hear it. One teacher felt audio was not necessary for older grades. A teacher at School A said that "our children are fairly proficient in speaking English because they have been exposed to only English as medium of instruction from Grade R". She went on to explain how she had taught at a high school where the learners had come from a primary school where there was a lot of codeswitching between English and Xhosa, and these learners had very poor English fluency. The Grade 8s and 9s were reading English below Grade 1 level. So for these learners, more audio would be incredibly beneficial. A teacher at School B said that they have a big problem with pronunciation at the school so more audio would definitely be better.

The next question asked the teachers what features they felt would help second language learners in particular. These responses were similar to those given to the earlier question that asked about desired features in an electronic dictionary. The teachers wanted more idioms and other expressions, with searches for expressions; clear pronunciation support; multilingual functionality; searching via incorrect spelling; help with irregular verbs; more examples; more usage notes; and simpler definitions using simpler English. A teacher asked for figures of speech, such as personification, because the learners love that. They also asked for more visual support, such as more colour pictures, and also GIFs and videos. One teacher asked for different spelling varieties, for example, showing words with American spelling.

The final question asked what platforms would suit learners in these schools. The teachers at School A, which has iPads in the classrooms, all said that an iPad app would be best, or for the dictionary to be web-based, so that it can be accessed by any tablet or computer or cellphone. Teachers at School B said that some classrooms do have computers, in which case a CD would be best, because they do not have internet access.

5.5 Conclusion

To summarise the findings of the teacher interviews: some of the main shortcomings of current dictionaries that the teachers mentioned are: insufficient illustrations, complicated definitions, confusing pronunciation guides, polysemous articles that are not clear, homonyms that are not clearly differentiated, and different parts of the articles not being distinct enough.

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The teachers spoke of the following aspects of dictionaries that learners generally struggle with: polysemous articles and how to determine which sense is appropriate; homonyms and which word to choose; irregular verbs; and a lack of familiarity with microstructural elements of articles.

The following items are a summary of what teachers want in an electronic school dictionary: more illustrations, encyclopaedic information, more examples, and more grammatical help in the form of language notes, links to synonyms and antonyms, and thematic word banks. Many teachers requested simpler definitions.

Recommendations for future electronic dictionaries, based on these teacher interviews are to take advantage of increased space and allow for better paraphrases of meaning that explain the lexical item, more examples, more illustrations, more cross references to synonyms and antonyms and other elements of lexical sets; give learners clickable options to open even more illustrations and more examples; take advantage of electronic capabilities, and provide more audio, and other multimedia; provide pop-up explanations of labels.

This research has identified some areas in which teachers would like to see improvements in electronic school dictionaries to provide more support for second language learners in English medium schools. This support is valuable to 90% of learners, so it is certainly worth providing, or at least attempting to provide. These interviews were able to establish from teachers how dictionaries are used in classrooms and what dictionary features would benefit learners the most.

Chapter 6 Initial design of model dictionary articles

6.1 Introduction

This chapter will present and explain the initial design of the model dictionary articles. The design which is presented here was based on the literature studied (Chapter 2), the online dictionaries examined (Chapter 4), and the teachers interviewed (Chapter 5).

The seven articles that were designed for the model dictionary were selected based on the following criteria: at least one noun, one verb, one adjective, and one phrase needed to be represented; labels, such as *formal*, *literal*, *figurative* needed to be included; articles that contain collocations, derivatives, inflections, polysemy, etymology, a usage note, synonyms, and opposites needed to be included. The lemmata also needed to be ones that would be included in a primary school dictionary. These criteria led to the selection of the articles of the following lemmata being designed: *banana*, *bright*, *gesture*, *get away with*, *legend*, *omit*, and *venom*.

This process would take the Wiegand theoretical approach, along with the Bergenholtz and Tarp theoretical approach, and combine them with a pedagogical approach, which contains a didactic aspect.

From the literature describing the South African school situation, it is clear that there is a need for user-friendly school dictionaries that support learners in both language production and language reception tasks. The user of such a dictionary is a learner, aged between ten and twelve years old, who is learning in an additional language. The communicative tasks that they will be involved in are language production: both oral and written, and language reception: both oral and written. They are also likely to be involved in translating, both from their L1 to L2 and from their L2 to L1. They will also need to learn about grammar and vocabulary as well as the world in general.

Some items that will be beneficial or necessary in such a dictionary are the lemma, part of speech, paraphrase of meaning, synonyms, examples, lexical relationships, and collocations. There should be no abbreviations in either the metalexicographical text or the data in the article stretches and articles. The use of pop-up windows is beneficial as are pictorial illustrations and the use of colour. A good search function should offer suggestions for misspelled words, and should be able to accommodate searches for phrases. The selection of lemmas should be carefully considered, especially with respect to polyseme and homonym

presentation. There should be sufficient examples that provide cotextual support as well as grammatical support, and collocations should be clearly presented. It is important that both example sentences and collocations are given and that collocations are given a partial treatment. In a school dictionary in particular, collocations are extremely valuable. Synonyms also need to be offered. Items giving synonyms should be placed in such a way that the user can know that they apply to a specific sense of a polysemous word. It is especially important to use the appropriate article structures and search zone selection to accommodate and display the data needed to respond to the identified functions of the dictionary. These functions have been recognised as a result of having identified both the lexicographic needs and the reference skills of the intended target users.

During the examination of the online dictionaries (Chapter 4), it was clear that the most attractive and appealing dictionaries are the ones that are the least cluttered. They are clear, and it is evident what each segment is, either due to the data-identifying indicators or typographical consistency. Although most of the dictionaries discussed in the study are not learner's dictionaries, and thus were not designed with learners as users in mind, and certainly not children, some design elements are still applicable to school dictionaries. The notable features and segments that were taken from each dictionary are discussed below.

Macmillan Dictionary contains morphological inflections at each article, not exclusively at lemmas with irregular morphology. There is also clear sense division, which is important for learners who are grappling with polysemy. The *Cambridge Learner's Dictionary* makes use of clear signposting to each sense and contains many examples, as well as a link to more examples. A single font is used throughout. Lists of related words are displayed. *Collins Dictionary* makes use of two colours, which makes the dictionary articles look very clean and neat. *The Merriam-Webster.com Dictionary* provides grammatical support with the use of hyperlinks to grammatical notes at the part of speech. This dictionary also has prominent sense numbers. The *Merriam-Webster Learner's Dictionary* contains grammatical support in the articles as well as cross references to related lemmata. The most clear and uncluttered dictionary is *Lexico*, which manages to remain uncluttered while still providing a lot of learner support in the form of easy access to synonyms and etymology. This dictionary also contains usage notes and grammatical support that is easy to access. *LDOCE online*, which is a learner's dictionary, contains topics, word family information, clear presentation of collocations and phrases, a thesaurus section with synonyms, as well as a verb table. It also makes use of audio for examples, not just for the pronunciation of the lemma. The *DSAE* is

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very neat and uncluttered and contains browsing opportunities in the form of browse arrows to the previous and following lemmas in the article stretch, and a link giving users the opportunity to browse related words by category. The *Wordsmyth Children's Dictionary*, which is the only children's dictionary in this study, contains extra features such as a word explorer, word building, word parts, homonym notes, language notes, pop-up explanations of parts of speech, as well as a table with lemmata with similar spellings. This is the contemplative component of the study, where existing dictionaries are examined, and features from these dictionaries are noted as appropriate for the dictionary articles devised in this study.

According to the teachers interviewed, learners need support in navigating the dictionary article and finding the data they need, determining which sense or which homonym they are looking for, as well as irregular verb inflections. The teachers would like more pictorial illustrations, more encyclopaedic data, more examples, and more grammatical support. They would also like links to synonyms and opposites as well as thematic word banks. Teachers emphasised the need for simpler paraphrases of meaning.

Using criteria from metalexicography, including the structure of the article, the theory of design in printed dictionaries, and some insights from the theoretical papers discussed in Chapter 2, as well as the examples of existing online dictionaries, the following seven dictionary articles were devised. These principles from existing dictionaries and theories were used, along with some innovative ideas to design a dictionary article where new insights were applied to traditional lexicography. This is the transformative component of the study, where cognisance of traditional article design was taken, while introducing a new approach.

The original articles described in this chapter constitute vehicles for feedback from learners and experts.

6.2 Designs

The article designs take the form of screenshots, which would show what the user sees on the computer screen.

*Figure 6.1 Model article for **banana***

The article for *banana* shows the layout for a non-complex article with a lemma that represents a monosemous word. The lemma sign as the guiding element of the article is shown in the top banner, along with a search bar and a Help button. Clicking on the help icon or the word *Help* would take the user to a user guide. The top banner also contains browse arrows so that users can easily move between consecutive articles.

Banana is a noun with a regular plural. Even though the inflection is regular, this is still shown in the comment on form in the WORD FORMS box. The item giving the plural is displayed on the screen and not hidden behind a clickable data-identifying indicator. The WHAT IS A NOUN hyperlink would open a pop-up window explaining nouns. The comment on form also contains two items giving pronunciation: an audio button as well as a written pronunciation guide using respelling rather than IPA. A guide to the respelling system used would be included in the user guide. Data-identifying indicators are grey and unobtrusive, but clear.

In the comment on semantics, the paraphrase of meaning is clear and also contains an audio button so that the user can hear the paraphrase of meaning being spoken in a fluent and

natural way. Examples show both the inflected and uninflected use of the word represented by the lemma, and more examples are available should the user need them. The MORE EXAMPLES hyperlink would open a pop-up window with further examples. The examples are also available as audio. The pictorial illustration is clear and simple and full colour. I commissioned the artwork for the articles from a local illustrator who has experience illustrating school textbooks. In the comment on semantics, the paraphrase of meaning, example sentences, and pictorial illustration are all compulsory components.

Each article will contain a number of extra features, such as a thematic word bank, a collocations box, a *Did you know?* box and a word family box containing derivatives. These features are not compulsory. In this article there is a WORD COMBINATIONS box that provides hyperlinked collocations, a WORD BANK that displays hyperlinked words in the lexical set of fruit and a DID YOU KNOW? box that gives encyclopaedic data for interest. Many of these extra features are in the right hand column in order to restrict scroll down activities as much as possible. It was decided that the WORD BANK would be in a cloud shape to add a bit of interest and break up the monotony of squares or rectangles for the features. The cloud shape was chosen because it is reminiscent of a tag cloud, which digital natives (Digital native, 2020) would be familiar with. Items within the WORD BANK can be different font sizes according to their relative frequency, or their proximity to the lexical item that they are related to.

The features that encourage browsing, such as the arrows at the lemma sign and the WORD BANK in the *banana* article, are included because one of the intentions for this dictionary is to give users that sense of rambling through the dictionary and seeing what one finds on a page, or while following cross references in a printed dictionary. This unexpected finding of new or interesting words and connections is lost when one types a word in a search bar and lands on one article.

The text in the article is all in the same font, with italics, small caps, and colour used as typographical structural indicators.

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*Figure 6.2 Model article for **bright***

The article for *bright* is longer because three senses are treated. This shows a typical adjective and provides the comparative and superlative for the adjective in the WORD FORMS box. In this article there are also opposites and synonyms. The term "opposites" was used instead of "antonyms" because "opposites" is more likely to be understood by the learners at that age. Learners know the term "synonyms" and there is not a synonym for "synonym" in English

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that would be more appropriate. The SYNONYMS and OPPOSITES are links to those articles in the proposed dictionary with the respective synonym or opposite as lemma sign. They could also be links to a thesaurus page, which explains the relationships, rather than to the individual articles. This article contains a box called WORD FAMILY, which includes derivatives of *bright*, with the part of speech and an example. Each subcomment on semantics is accompanied by a pictorial illustration that illustrates the use of the word in one of the relevant example sentences. Usage frequency informs the order of the senses.

A dictionary article layout for "gesture":

← gesture 🔊 → | 🔍 SEARCH | ⓘ Help

SAY: **jes**-chur

Do you mean the noun?

OR

Do you mean the verb?

PART OF SPEECH   noun   *WHAT IS A NOUN?*

WORD FORMS
plural: **gestures**

DEFINITION 🔊 **1** a movement of part of your body that gives a message

EXAMPLES 🔊
- She gave a thumbs up **gesture** to tell him she was fine.
- The umpire gave the **gesture** to signal a four.
- The conductor uses different **gestures** to tell the orchestra how to play the music.
- That driver gave me a rude **gesture**.

MORE EXAMPLES

SYNONYMS signal, motion, action

DEFINITION 🔊 **2** an action that you do to send a message

EXAMPLES 🔊
- Bringing tea was a thoughtful **gesture**, thank you.
- The protest action was a political **gesture**.
- Laying the wreath is a symbolic gesture.

MORE EXAMPLES

SYNONYMS action, display, expression

PART OF SPEECH   verb   *WHAT IS A VERB?*

WORD FORMS
present participle: **gestures**,
past tense: **gestured**,
past participle: **has gestured**

DEFINITION 🔊 **3** to make a movement or sign that gives a message

EXAMPLES 🔊
- Our teacher **gestures** for the class to keep quiet.
- The lady **gestured** for me to come in while she held the door open for me.

MORE EXAMPLES

SYNONYMS beckon, sign

WORD BANK
signal action *motion* beckon *nod* smile *wave*

WORD ORIGIN
from Latin *gerere*
'bear, wield, perform'

WORD COMBINATIONS
gesture of goodwill, hand gesture, kind gesture, physical gesture, rude gesture, symbolic gesture

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*Figure 6.3 Model article for **gesture***

The article for *gesture* is, in terms of Wiegand and Gouws (2011:242), a single complex article consisting of two partial articles. This article shows the question offering users the choice between the noun and the verb in this complex article. Both senses of the noun and the single sense of the verb are treated in this article. The inflections are lined up with the item giving the part of speech. The WORD FORMS box for the verb shows the present participle, the past tense, and the past participle. These are the inflections that are taught at this level at school. As well as the WORD BANK and WORD COMBINATIONS, this article presents an etymology of the lemma in a WORD ORIGINS box. The WORD BANK contains cross references to lemmata that are in the synonyms lists in all three subcomments on semantics. It also contains related words that are not synonyms.

Figure 6.4 Model article for **get away with (something)**

The article for the phrase *get away with (something)* was selected to show how phrases would be treated and to show that the phrase would not simply be found as part of the *get* article or the *away* article. The phrase is treated the same as other articles, with a paraphrase of meaning and examples and illustrations. There are also RELATED PHRASES, with explanations and examples, and a WORD BANK with related lemmas. There is no item showing pronunciation in the form of respelling.

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Figure 6.5 Model article for **legend**

The lemma *legend* was chosen because it was brought up by one of the teachers as a word that is confusing to learners. As with *gesture*, this article provides a signpost, which asks the users which sense they want, with the associated illustrations for each sense. If the learner is looking for data on the story, they can easily find that part of the article by seeing the

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matching illustration. Because there is only one collocation, an example sentence is supplied instead of a hyperlinked list.

*Figure 6.6 Model article for **omit***

The lemma *omit* was selected because it shows the use of the FORMAL label and how a formal lemma is treated in the examples. The example sentences show the lemma in use as well as a less formal version of the sentence. This can be used in both text reception and text production situations. In a text reception situation, the learner can use the simpler example to help understand what *omit* means, and in a text production situation, the learner can see a simpler way of saying what they would be saying with *omit*.

*Figure 6.7 Model article for **venom***

The article for *venom* was chosen to illustrate the treatment of a word that has both a literal and a figurative sense. It also shows a noun that has no plural (countable and uncountable nouns are in the curriculum, but the terminology is not used at this level in school). This article also has a usage note with a common error that people make, using the terms *poison* and *venom* interchangeably. *Venom* is particularly problematic because in some languages, such as Afrikaans, *poison* and *venom* have the same translation equivalent (*gif* in Afrikaans). The USAGE NOTE box would also contain spelling notes and confusing words and mnemonics.

Some examples of USAGE NOTES in other articles are:

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- *borrow and lend*. You lend *to* someone and borrow *from* someone.
- *affect and effect*: *affect* is a verb (The sun *affects* my mood) and *effect* is a noun (The sun has an *effect* on my mood.)
- *necessary*: to remember how to spell *necessary*, remember that one Collar and two Sleeves are neCeSSary for a shirt.
- *lose and loose*: *Lose* has lost its second *O*. *Loose* is not tight enough for one *O*.
- *stationery and stationary*: pEns and pEncils are stationEry, and a trAin is stationAry in the station.

6.3 Conclusion

As can be seen, the articles presented in this chapter fulfil the requirements that were set out for them: they represent three different parts of speech and a phrasal verb, they contain labels, collocations, derivatives, inflections, polysemy, etymology, a usage note, synonyms, and opposites. There is also a Did you know? feature in one article and an illustration in each subcomment on semantics.

Chapter 7 Learner tests and expert consultations

7.1 Introduction

Once the microstructure was designed, the model dictionary articles were subjected to user tests with learners in Grades 5 and 6 and thereafter sent to experts for their opinions and recommendations. This chapter describes how both the potential users and the experts responded to the dictionary model, and the changes that were made to the model, based on these user tests and expert consultations.

7.2 Learner tests

As discussed in Chapter 3, the learner tests were carried out at the same schools as the teacher interviews. Most of the learners speak English as a second language, with English as their language of learning and teaching at school. The user tests were intended to establish whether these learners found sufficient support in the model dictionary articles, and whether the design of the dictionary articles was appealing to them.

The learner tests were anonymous and the only personal information provided was school and Grade. At School A there were 27 learners in both the Grade 5 class and the Grade 6 class. At School B there were 19 learners in the Grade 5 class and only three learners in the Grade 6 class who had been given permission from their parents or guardians to participate in this study. This makes a total of 76 learners who were given the questionnaire. While this number is too small to be representative of Grade 5 and 6 learners in South Africa, it was sufficient for my needs of getting an idea of responses to the model articles.

Grade 5 learners are generally aged 10 turning 11, and Grade 6 learners are 11 turning 12. According to the South African education policy, they would have been learning in English since Grade 4, with mother-tongue education happening before that. However, in practice, both these schools teach in English from Grade 1.

The learner tests were divided into three sections. See Appendix B for the questionnaire.

Section A

Section A of the learner tests was intended to establish prior dictionary use by learners and whether they had any experience with electronic dictionaries. The learners were asked to answer these questions before looking at the model articles they had been given.

These questions were predominantly multiple choice, with the option of giving more than one answer in some cases.

The first question, *When you look up a word in the dictionary, what do you usually want to find?* allowed for more than one answer. The options were *Spelling*, *Pronunciation*, *Definition*, *Examples*, *Other*, with space to fill in what the *Other* was. *Definition* was the most popular result, with 64 learners (84%) indicating that they usually want to find the definition. That was followed closely by *Spelling*, with 61 learners (80%) indicating that they were looking for spelling. 32 learners (42%) selected *Examples* and 19 (25%) selected *Pronunciation*. Of the five learners who indicated *Other*, two wrote "word combinations", one wrote "part of speech", one wrote "different language", and one wrote "how to write the word". I do wonder if "how to write the word" should have been included in the figures for *Spelling*. It can be noted that the two learners who wrote "word combinations" were at different schools, so they would not have copied the answer from each other. The responses totalled 181, which means that most of the learners indicated more than one answer.

The second question, *What dictionary do you usually use?* gave the options of *Book*, *Electronic*, or *Both*. Here, exactly half the respondents indicated *Book* and half indicated *Both*. In School A, the majority (62%) indicated *Both*, while 38% indicated *Book*. By comparison, in School B, 77% of the learners use book dictionaries and 23% (five learners) use both book and electronic dictionaries. It is important to note that both School A and School B have printed dictionaries in the classrooms and learners have access to them at all times at school. For learners to have used electronic dictionaries previously would mean that they would have had to search for such a dictionary independently, either on a cellphone or a computer at home. Learners in School A have iPads at school, but their use is controlled and learners do not have free time to explore the internet. If they did have free time, they would be unlikely to use that time to look for dictionaries online.

The third question, *Do you find what you are looking for?* was intended to establish whether the learners were generally satisfied with their previous dictionary consultations. The results here were fairly positive, with 14 learners (18%) indicating *Yes*, 12 learners (16%) indicating *Usually*, and 52 (68%) indicating *Sometimes*. None of the learners answered *No*.

The fourth question was *What was the last word you looked up in the dictionary?* It was interesting to note similarities in answers here, as for those who could remember, there were

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some themes in their answers. Half of the learners could not remember what they had last looked up, but the ones who could gave the following answers:

> School A, Grade 5: *cunning*, *telekinesis*, *extraordinary*, *zebra*, *despite*, *quest*, *corpse*, *nephew*, *oracle*, *anonymous*, *redemption*, *legend*, *mentor*, *pneumonia*, *receive.*

> School A, Grade 6: *silence*, *discombobulate*, *defiance*, *demigod*, *migod**, *sangoma and inyanga*, *venom*, *defiance*, *sangoma*, *zebra*, *legend*, *demigod*, *defiance*, *defiance.*

> School B, Grade 5: *approximately*, *tuberculosis*, *disease*, *precipitation*, *disease*, *cornwart**, *tuberculosis*, *tuberculosis*, *health.*

There were no answers from School B, Grade 6. It is interesting to note that there appear to be no similarities in the words provided by School A Grade 5, while School A Grade 6 had some repetitions and clear themes, such as *defiance* (provided four times), *demigod* (twice), *migod** (which may have been a misspelt or misheard *demigod*). There are also two instances of *sangoma* and one of *inyanga*, which could have something to do with a lesson on traditional medicine. *Venom* and *legend* are two words which are in the selection of dictionary articles supplied to the learners, so I am curious as to whether that is coincidence or whether the learners had looked through the samples before answering this section. They were asked to complete this section **before** looking at the articles, but the articles were handed to the learners at the same time as the questionnaires, so they could well have paged through the articles first. In School B, Grade 5, *tuberculosis* was mentioned three times, with *health*, *disease* (twice) and *cornwart** possibly from the same class discussion or exercise on health and disease. *Cornwart** could have been the learner confusing two words: *corn* and *wart*, which are both skin conditions, or making up a word to describe a skin condition. This is all speculation, as I did not establish the reasons or circumstances under which the learners looked up these words. Another interesting repetition is the word *zebra*, which one Grade 5 learner and one Grade 6 learner looked up.

Out of the 38 words that learners supplied, 26 of them can be found in the *Oxford South African School Dictionary 3e*, which is the dictionary available to the learners at both schools. Words that cannot be found in the dictionary are: *telekinesis*, *oracle*, *redemption*, *discombobulate*, *defiance*, *demigod*, *migod**, *cornwart**. This school dictionary's lemma list was compiled from "a corpus made up of a range of approved textbooks for all subjects from Grades 4 to 9" (Reynolds, 2010) so words that learners are looking up that have to do with

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their schoolwork should be included in the dictionary. However, learners could be looking up words that have nothing to do with their schoolwork but for their own interest.

An interesting issue that came from this question is the word *defiance*. A Grade 6 learner at School A had mentioned it as a word they had looked up and found that it was not in their school dictionary. I checked the dictionaries that had been analysed in Chapter 4 of this study and found that while *defiance* was treated in each of the online dictionaries (except for the *DSAE* online dictionary because *defiance* is not a South African English word), only *The Merriam-Webster.com Dictionary* made reference to the relationship between *defiance* and *defy*.

Definition of *defiance*
1 : the act or an instance of defying : CHALLENGE
// jailed for *defiance* of a court order

*Figure 7.1 The paraphrase of meaning, cross references, and example phrase of the first subcomment on semantics of **defiance** in the Merriam-Webster.com Dictionary*

In the printed school dictionaries, *Longman* does not make reference to the relationship between *defy* and *defiance* and *Francolin* does not treat either word. In *Pharos*, the article for *defiance* does not mention *defy*, but in the article for *defy*, *defiance* is listed as a derivative, along with *defiant*. In *SAOSD3e*, *defiance* is not treated, but at *defiant* there is a cross reference to *defy*, with the direction, "The verb is **defy**". At *defy* there is a cross reference to *defiant*, with the direction, "The adjective is **defiant**". In *SAOISD*, *defiance* is not treated in the dictionary, but at *defy*, there is a word building note explaining that "If you defy people, you are a **defiant** person".

It is interesting to note that of the five printed school dictionaries, three note the connection at least between *defy* and *defiant*, if not *defiance*, with only one of the electronic dictionaries making reference to the connection.

The dictionary devised in this study would note the connection both at the article for *defy*, where it would be in the WORD FAMILY box and in the article for *defiance*, with *defy* presented in the WORD FAMILY box.

The final question in Section A, *When do you usually look words up?* was intended to establish the function of the learner's dictionary and the user situation prompting the look up. The options provided were: *while reading*, *while writing*, *while listening*, and *while speaking*.

Again, learners could indicate more than one answer. The results show that writing was the most common activity that learners were engaged in when they needed to consult the dictionary. This was indicated by 60 learners (79%) followed by reading, indicated by 44 learners (58%). A further 22 learners (29%) indicated listening, and only four (5%) said they consulted a dictionary while speaking. The responses totalled 130, which means that many learners gave more than one answer. Two options were ticked by 31 learners, ten learners indicated three activities and one learner ticked all four options. Writing is a text production activity, while reading and listening are text reception. Of the 130 responses to this question, 64 (49%) referred to text production (writing and speaking) and 66 (51%) referred to text reception. This suggests that a school dictionary needs to give the same priority to support both of these activities.

Section B

When learners got to Section B, this was the first time they should have actually looked at the model dictionary articles. The learners were given the articles in paper format although the planned dictionary will be an electronic dictionary. Paper was used for practical reasons, as the schools did not have computers in their classrooms. However, for the purpose of this test the medium is not important as the test was for the contents not the medium.

The section is introduced with a line saying, *Look through the dictionary entries that you have been given. Imagine that they are on a computer screen*. The intention with this section was to encourage the learners to engage with the model dictionary articles and to find out their impressions of the design. It was also intended to establish whether they understood how to use it and whether the information was accessible and appealing to them. This section asked for opinions on the whole design as well as on individual elements and features. It is unknown how much familiarity the learners have with computers and the internet and conventions such as hyperlinks and icons. In general, users of this age are referred to as digital natives, as people who have "grown up in the digital age, rather than having acquired familiarity with digital systems as an adult" (Digital native, 2020), but these particular users come from poorer, less online communities and will not have had as much exposure to electronic devices and the internet.

The first question, *Do you like how the dictionary entries look?* offered *Yes*, *No*, and *Sort of* as options. 60 out of the 76 learners (79%) answered *Yes*, with 16 (21%) answering *Sort of*. One learner did not answer. None of the learners said *No*. When asked whether they would

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use the dictionary, 68 learners (89%) said they would, and 8 (11%) indicated *Maybe*. One learner did not answer. These questions may be subject to social desirability bias, in that the learners wanted to give the researcher the "correct" answer. However, the dictionary is so different from their printed dictionary, and so much more appealing in terms of colour and layout that they are very likely to have been honest in their previous two answers.

The responses to question 3, *Why or why not?* referring to the previous answers, support the responses that learners like the dictionary and would like to use it. The responses here are varied, and generally very positive.

Fourteen learners referred to the data contained in the articles, with phrases such as "all the information about a word you need", "so much information", "plenty of information", "a lot of amazing information", and "more information about the words". One learner said that "it gives me information that can help me", while another said it has "lots of very important information". A learner also wrote that "there is more than just the definition, the saying and examples". These responses mentioning the word "information" show that the learners appreciate the data about the words that are provided in the articles.

Fourteen learners also mention that the dictionary looks easy to use in their responses. They used phrases such as "easy to use", "easier to look for words", "easy to find", "easy to look through", and "easy to work with".

Twelve learners' comments refer to how the dictionary looks, with phrases such as "looks very nice", "looks colourful", "looks much brighter", "looks pretty and clear", "looks fun and exciting to use", "looks beautiful", "looks really beautiful", "looks interesting", "looks like a nice dictionary".

Eleven responses referred to new words, with phrases such as "a lot more words than a dictionary we use", "kind of words I didn't know". The learners also said things like "it will have the words I struggle looking for", and "it looks like it gives any words you are looking for", and "it has some of the words a normal dictionary doesn't have". These responses mentioning new words are interesting, because the learners only saw seven articles and had no way of knowing which words would be treated. However, as the verb phrase *get away with (something)* is not in their school dictionary, it might suggest a longer lemma list than they see in their school dictionary. Hyperlinks to similar words in the Word Bank, synonyms, antonyms, and collocates are also indicative of a more substantial lemma list.

Ten responses refer to the illustrations as reasons they like or would use the dictionary. Learners used phrases such as "it has pictures" and "colourful pictures". One learner said that "the pictures are bright, they don't come in black and white". The dictionary that the learners are currently using has very few illustrations, in black and white, so colour illustrations at every article would be very appealing to them.

Eight of the responses contain the word "interesting", such as "looks very interesting", "sounds so interesting", "it seems more interesting and really beautiful".

Seven responses refer to the examples, with explanations such as "it examples the words in a good way", "it gives you examples of how you can use the word in a sentence", and "it gives a lot of examples and I like that".

Six responses contain the words "help" or "helpful", with phrases such as, "help me better", "help me find words", "help me look up words", "help more", and "much more helpful".

Five responses refer to the definitions or explanations, with phrases such as "gives you the full definition", "tells more than one meaning", and "it's giving more explanation".

Other answers refer to the new features in this dictionary model, such as the Word Bank, Word Combinations, and Word Forms. One learner states that they like it "because it is new and I am really looking forward to look at it".

One learner declared that they would like to use it "because you can type in the word and it will send you to it rather than looking for a word all day long in a book dictionary". This response suggests a computer literacy where the learner knows about the search function without it being pointed out, as well as the access structure of a digital dictionary, which would include a search function. One can understand the appeal of not "looking for a word all day long".

Of the eight learners who answered "maybe" to Question 2, *Would you like to use this dictionary?*, four gave very positive responses to Question 3, *Why or why not?* For example, one said "Maybe, because I can use it for words I don't know", one learner said "it is sort of fun", one said "I maybe would like to use it because it is a bit easy and has much information about the word," and one said "it is a nice dictionary and will help us a lot". This shows that although they responded that they would "maybe" use it, their explanations were more positive.

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One of the maybes is not legible, and the other three gave explanations such as "the computer screen is too bright". This could refer to normal computer use, where the learner has trouble seeing on computer screens. It does not look like it is an actual concern for the dictionary model, which the learners only saw on paper. One of the learners said "maybe" because "I haven't used it yet". Another explanation is, "We don't have a computer or electronical device everyday so it will be hard to use it because we don't all have wi-fi". This is a valid concern about the use of electronic dictionaries and the accessibility of the internet in South Africa. If the learners do not have access to electronic devices on which to use the dictionary, it does not matter how good or clear or interesting the dictionary is lexicographically. It is expected that learners will be given more access to the appropriate technology in the future, but for now this is a valid concern, especially in poorer areas and more rural parts of South Africa.

Question 4 in Section B asks learners to refer back to the first question in Section A: *When you look up a word in the dictionary, what do you usually want to find?* This question then offers *spelling*, *pronunciation*, *definition*, *examples*, or *other* as options. Question 4, Section B asks learners if they would be able to find that easily in this dictionary. It was intended as a way to find out if learners could find the different elements that they usually look for in a dictionary consultation. Most learners (56 learners or 74%) said that they would find what they were looking for, two of them said they would not, and 17 (22%) chose the *not sure* option. This shows that even after spending very little time with the sample articles, the learners felt that they would be able to navigate them.

The next set of questions in Section B referred to the box features in the dictionary articles, namely Word Bank, Word Family, Word Forms, and Word Combinations. The questions, 5, 6, 7, and 8 asked learners what they would expect to find in each of those boxes respectively. Unfortunately, it seems that the learners misunderstood the question, and gave a list of words that were found in the boxes, rather than a description of the contents of the box. These questions should have been phrased differently to establish if learners understood the functions of these features.

Question 9 in Section B asked learners if they thought any of these features should have different names, and if so, what names the learners suggested. 71% of learners said that the names should stay as they are. This contradicts the findings of the previous four questions, which supports the idea that those questions were not understood by the learners and were

badly phrased or not explained clearly. One of the learners wrote, "I'm not used to these words but I can get used to them when I use this dictionary".

Of the 18% that thought that the names of the features should change, very few offered useful suggestions, or even indicated that they understood what the features were. Some useful suggestions, however, were "Helping box", "Helping Prep", "Finding out", "Language grammar box", "Key words", "Synonyms", "Tenses", and "Similar words". Unfortunately, most of these suggestions cannot be used, because they do not express exactly what is in each box. For example, the Word Bank does not only contain synonyms. It also contains opposites and near-synonyms, as well as other words from the lexical set of the word being treated. "Key words" could be a viable alternative. Another name for Word Bank could possibly be Theme or Topic Words, but none of the learners suggested that. "Grammar box" could be used for Word Forms and is worth consideration. However, as 71% of the learners said they were happy with the names of the features, it would be preferable to keep them as they are.

Questions 10, 11, and 12 referred to the illustrations. Each article in the sample set has one or more illustrations and it is the intention where possible, that each sense of each article in the dictionary model should have an illustration. Question 10 asked the learners if the illustrations help them to know and understand what the word means, with the following options: *yes*, *no*, *maybe*. Here, 90% of the learners said *yes*. One learner said *no*, five answered *maybe*, and one learner did not answer. The next question asked if learners thought every article should be illustrated, with *yes* and *no* as the only options. Here, 84% said *yes* and 15% said *no*. The remaining three learners did not answer.

Question 12 asked *Why or why not?* Many learners made reference to understanding the articles better when they are illustrated. Some examples are, "So that I can understand", "For people to understand", "For smaller children to understand", "It makes the word more understandable and it is nice and colourful with pictures", "Because not all people understand the meaning or definition", "Every entry should be illustrated because it is easy to understand the word if you also see the picture", "Because if there were no pictures you won't really understand the word", "If you don't know what the word is you can look at the picture and maybe you can understand it", "It will help understand the word quicker", "Because I love drawn pictures". Other learners made reference to illustrations making it easier to learn. Some examples of this are, "To make it easy to know", "To learn easier", "So that it can be easier and you can also have the image in your mind". Some learners referred to younger

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children in their answers, for example, "Many words have the same name as others so the pictures will help younger learners know what you are talking about", "So the little children could know what it means and understand", "To show kids that cannot read", "So children can find it bright and illustrated".

Other nice answers to why every article should be illustrated are "So that a person can have a clearer vision of what the word means", "So that you know the meaning and you have the picture in your head", "If somebody forgot what the word looks like or they need to draw it, they can check there", "So we can see the difference and to make it exciting", "Because it's nicer to look at colourful things than reading all the time" (this was not the same learner who looks up words "all day long"), and "Because it's better".

Of the eleven learners who did not think every article should have illustrations, three mentioned words that were "underage" or "inappropriate". As one learner said, "No, because sometimes there might be pictures that are inappropriate for children to see". This is an interesting point and worth investigating further. If there is concern about such illustrations, various strategies could be employed to protect the innocent, while still illustrating every article. For example, such illustrations could be hidden behind a warning, or require a password or similar. These protective measures, of course, might make these illustrations more attractive to learners, but further investigation into this issue can be carried out. Lexicographers also need to take cultural sensitivities or taboos into account in this area.

Of the other learners who said *no* to illustrations at each entry, one seemed to misunderstand the question, as their reason was "If there were no pictures you won't really understand the word". Other learners thought that some words were easy to understand without illustrations, such as the learner who wrote, "Not every word needs pictures because I can understand some without pictures". Another learner wrote, "Because some children in Gr 5 and 6 know what are easy objects". One learner said "No because pictures can't always help us".

Questions 13 to 20 in Section B asked learners about their preferences to certain elements in the articles, with predominantly yes/no options. In this section it is important to note that two learners did not answer any question, with one or two other learners omitting some of the other questions. These will be noted at each question.

Question 13 asked whether learners would like pronunciation to be written as well as audio. The assumption is that because the dictionary is electronic, where audio is available, audible pronunciation is preferable. This question asks learners if they would also like written

pronunciation, and the majority (89%) indicated that they wanted written pronunciation as well.

Question 14 asked learners if they would use audio for the paraphrase of meaning and examples, as well as for pronunciation, or only for pronunciation. This question was based on one of the requests in the teacher interviews (Chapter 5) which was for audio for the paraphrase of meaning and examples so that learners can hear a natural, fluent reading of those data categories. Again, the majority preference for this was clear. Of the 75 learners who answered the question, 71% indicated that they would use audio for the definition and examples. Twelve percent said they would not, and 17% said they would use it sometimes. One learner answered both *yes* and *sometimes*.

Question 15 referred to synonyms and asked if learners know what a synonym is. Ninety-seven percent said *yes*, 3% said *no*. Of the two learners who said *no*, one was in Grade 5 and one was in Grade 6.

Question 16 also referred to synonyms, asking learners if a list of synonyms helps them to understand a word. Eighty-nine percent said a list of synonyms does help.

Question 17 asked if the learners know what an antonym is. Of the 75 learners who answered, 100% said they do. It is interesting to me that more learners indicated that they know what an antonym is, than those who know what a synonym is. They are usually taught together, and if anything, I assumed learners would be more familiar with the term *synonym* than *antonym*.

The following question asked learners if they would prefer *opposites* to be called *antonyms*, and again, the majority (75%) said *yes*.

Question 19 referred to the *Did you know* box that is in one of the articles. The question specifically asked if the learners like it or if it is a waste of space. Ninety-five percent do like it and three learners did not answer. In the teacher interviews, the teachers thought encyclopaedic information would be a welcome addition to a dictionary, so these learner responses confirm that, supporting the need to satisfy the cognitive function.

The final question in Section B referred to the signposting in some of the articles. These signposts ask the dictionary user which sense of a word they are looking for. In one case, in the article for *legend*, the user is asked if they are looking for the person, with the illustration that is at that sense, or the story, with the relevant artwork. In the *gesture* article, the user is asked if they are looking for the noun or the verb. Learners were asked in the user tests

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whether they found these signposts useful or not. The majority (75%) found them useful, while 24% ticked *Not useful*. Four learners (1%) did not answer.

This set of questions in Section B is very valuable to the research as it indicates clear preferences from the learners.

Section C

The questions in Section C were task based and intended to establish whether learners could answer language questions using the dictionary. They were encouraged to find the answers in the dictionary even if they knew the answers. My hypothesis for this section was that if the learners supplied the correct answers to the questions, then the dictionary was easy to use. Unfortunately, this did not yield the results I was looking for or expecting, and this could be a result of the dictionary not being easy to use as it is, or it could be a result of the questions not being clear or not at an appropriate level for the learners. As I was walking around the classes during the learner tests, many learners asked for clarity about these questions – either not understanding the question, or not understanding what was expected of them. This suggests that the learner tests should have been tested before using them in the classrooms, in order to make them more understandable to the user group. (It was tested by one learner who was in the correct age group, but he is a first-language English speaker and thus not in the target group of users. He understood the questions and gave suitable answers.)

The first question asked *Which of these entries is an adjective?* with the correct answer being *bright*. At School A, 85% of the Grade 5 class answered correctly, and 81% of the Grade 6 class answered correctly. At School B, 63% of the Grade 5 class answered correctly and 66% of the Grade 6 class answered correctly. This shows that either the learners found the item giving the part of speech indicated in the articles, or they knew the answer before answering.

The second question, *Which of these entries is a verb?* was ambiguous in that it did not specify how many answers could be provided. In the case of the adjective question above, there is only one adjective in the set of model articles, so learners only needed to give one answer. For question 2, it was unclear whether learners only needed to supply one verb or whether they needed to list all of the verbs. It was also trickier because *gesture* is labelled as a noun and a verb, and *get away with (something)* is labelled a phrasal verb. However, despite the ambiguity, 74% of School A Grade 5s answered correctly and 79% of School B Grade 5s answered correctly. Of the Grade 6 learners in School A, 78% answered correctly, while only 33% of the Grade 6s in School B answered correctly. One needs to bear in mind that School

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B only had three Grade 6 learners participating in this study, so their results cannot be representative.

Question 3 asked whether *gesture* is a noun or a verb in the following sentence: *I gestured for her to start singing*. Again, this is a difficult question because the question refers to *gesture* in its uninflected form, but the sentence has the past tense of *gesture*, which may have been confusing for the learners. The intention for this question was for learners to look through the article for *gesture* and find an example that was closest to the sentence in question. They would have found it in the examples for the verb, and perhaps the use of the past tense helped them to find the matching example, as the second example for the verb presents the past tense. I can see now that it would have been better to be explicit in the instructions and tell the learners exactly how to find the answer. Only 41% of School A Grade 5s answered this one correctly, while 63% of School B Grade 5s answered correctly. Most of the learners in Grade 6 answered correctly, with 70% of the learners from School A and 66% of the learners in School B giving the correct answer.

Question 4 asked *What would you do if you want to know what a Banana Republic is?* This is another poor question. Firstly, *Banana Republic* is unlikely to be in a dictionary aimed at this age group. It is not a necessary term for primary school and should not have been included in the Word Combinations box in the article. Secondly, as an open ended question, it did not guide learners to the answer. The answer I was looking for was along the lines of looking in the Word Combinations box in the *banana* article. This was clearly too specific an answer for an open question, and the responses included "I will search for it", "I will look for it in the dictionary", "look at the examples", "I will look up the word republic", "look in Word Family", "look at Word Bank", "I would look in a useful dictionary". The most common answer referred to looking it up or searching for it. These answers are not technically incorrect, but they are not as specific as I was hoping for.

Question 5 was *What would you do if you need another word for bright?* Here, I was surprised at the poor responses. I was expecting learners to indicate the lists of synonyms or the Word Bank, but they gave similar responses to the previous question, such as "look it up", "search the dictionary", "look on the internet", "ask a teacher", "look at the examples". Ten Grade 5 learners from School A mentioned the synonyms or Word Bank. Four Grade 5 learners from School B mentioned synonyms or the Word Bank. The Grade 6s did better,

with 60% from School A answering correctly, but only one of the three Grade 6 learners from School B answered correctly.

Question 6 gave a list of the seven treated lemmas and asked which of the articles has more than one meaning. The question did not specify whether learners were to give one example, or indicate each polysemous article. When analysing the results, I arranged the responses into categories of *All correct*, *One/some correct*, *Incorrect*, and when adding the *All correct* and *One/some correct* groups, the learners did well, with 96% of School A Grade 5s getting all or some correct, and 94% of School B Grade 5s getting all or some correct. Most Grade 6 learners also got all or some answers correct here, with 93% of School A Grade 6 learners, and all of the School B Grade 6 learners getting some correct.

Question 7 gave seven sentences, and asked learners to fill the correct word or form of the word in the sentences. This question was intended to get learners to engage with the different parts of the articles and see what information they could find in the articles to assist with a text production task. Below is a table with the sentences and the percentage of learners from each grade who answered correctly.

Sentence	Grade 5	Grade 6
a. Her stories are [**legend**, adjective]_____.	76 %	63%
b. There are [**legend**]_____ about mermaids who sing to sailors at sea.	41%	57%
c. How do I turn up the [**bright**, noun] _____ on my phone?	57%	47%
d. Please excuse the [**omit**, noun] _____in the list.	59%	33%
e. Be careful – I think that snake is [**venom**, adjective] _____.	65%	57%
f. This is my [**bright**] _____ running shirt.	48%	60%
g. His hand [**gesture**]_____ are confusing.	48%	57%

Table 7.1 Percentage of correct answers for Section C, Question 7

The low scores in this section could have to do with the fact that the learners did not understand what was expected of them and how to get to the correct answers. The average

score for Grade 5 is 53%, excluding the first question. The unusually high result for the first question (76%) is because many learners asked for help with this question, and I talked them through the process of finding the answer. Thus many of them found the correct answer with my support. The average for Grade 6s (including the first question, because fewer Grade 6s asked for help) is 53%. However, even though the results are lower than I was expecting, a majority still answered most of the questions correctly. Again, the instructions in the question could have been more explicit or explained exactly what the learners were required to do. The fact that this is the first time the learners have seen this model of a dictionary, and indeed for many learners, the first time they have been exposed to a digital dictionary, albeit on paper, needs to be taken into consideration.

Question 8 asked learners to rewrite a sentence using a less formal word for "omitted". To do this, they were expected to consult the article for *omit* and read the examples. In this article, the examples are each presented with a less formal version, so the learners could compare their sentence with the examples in the article. Very few learners answered this correctly. It is unclear whether the question was ill-defined, or whether the learners did not know how to find the support in the examples in the article. They certainly would not have come across the convention of adding a simpler version of the example with the example sentence. This could also have been the first time the learners had come across the word "omit" and its use in a sentence. Of the Grade 5 learners, only 17% answered correctly, and 33% of the Grade 6 learners answered correctly.

Question 9 asked learners to give the opposite meanings of the bold words in the following sentences:

     a. I'm going to paint my room a **bright** _____colour.
     b. We can **omit** _____ the boys' names from the list.
     c. It's so **bright** _____on a cloudy day.

To find the correct answers, learners were expected to consult the model articles of the words in bold, and find a suitable opposite in the list of opposites. Here, 59% of Grade 5s got the first two correct, and 63% answered the third one correctly. Of the Grade 6 learners, 83% answered the first question correctly, 77% answered the second one correctly, and 48% gave the correct answer for the third sentence. The difference in scores between the Grade 5s and the Grade 6s could be an indication that the question was too advanced for most Grade 5 learners.

Question 10 asked learners to describe a situation in which they or someone else *got away with something*. The intention with this question was to find out whether the learners understood the meaning of the phrasal verb "get away with" and whether they could apply it to a real life situation. While walking around the classrooms, I found that many learners did not want to expose their friends or get someone in trouble with this answer. I needed to explain what the intention was, and that the questionnaires were all anonymous and that neither I nor their teachers would be able to track down the culprit of their story. I also assured them that they could make up a story – that it did not have to be about a real incident. Despite these assurances, many learners left this question out, and only 50% of the Grade 5s wrote stories that gave the impression that they understood the phrase. Seventy percent of the Grade 6 learners seemed to understand the phrase and wrote appropriate stories. Eight learners simply wrote "No" as their answer. This could be in answer to the question "Can you think of a situation where you or someone else got away with something?" This is another example of a badly-phrased question, as the learners who responded with "No" did answer the question correctly, but did not give the answer I was looking for. Some of the other answers were about someone doing something and not getting away with it, which demonstrates that these learners either did not understand the question, or they did not understand the phrasal verb and the explanation in the model dictionary articles.

The final question, which some learners gleefully pointed out to me was erroneously labelled as 6, but was really 11, asked learners to indicate which of the three sentences provided used the word *venom* figuratively. The intention of this question was to establish whether learners could find and understand the figurative label in the dictionary article for *venom*. The three sentences were:

a. I am quite sure venom will pour from my fingertips, but I'm happy now.   ☐
b. How many snakes can spit their venom?   ☐
c. All he will do is spew hatred and venom into the world. ☐

The first and third sentences use *venom* figuratively.

Only one learner in Grade 5 at School A gave both sentences, but 15 ticked one sentence correctly. At School B, three Grade 5 learners answered correctly and nine gave one correct answer. This means that 61% of Grade 5 learners were on the right track. For the Grade 6 learners, 70% indicated one or both answers correctly.

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Of the 76 learners who were given questionnaires, seven omitted most of the answers. They answered most of Section A but left out either the whole of Sections B and C or large parts thereof. Learners could also have been tired or bored, as many of them were working on this for almost an hour, which is a long time for them to be concentrating on something new. One learner in Grade 5 gave very strange answers. This learner was either being facetious or really did not understand much of the task. The Grade 5 teacher at School B told me that three of her learners were "remedial learners" and needed support, so she read all of the questions to them. I do not know the extent to which she helped them, and their questionnaires were mixed up with the others. There is no indication that three of the questionnaires stand out as having had excessive teacher help.

Impact on the study

While many of the questions were not well-formulated, and did not give the results that were anticipated, as mentioned at problematic questions above, these questionnaires did contribute significantly to the design process of the model dictionary articles, and as will be explained later, some responses had a substantial impact on design changes.

Apart from the formulation and selection of questions, this process of learner testing might have been more helpful and yielded different results if learners had been given a lesson on using this dictionary before, in which the features were described and explained, and ways to find the information could have been explained.

7.3 Expert consultations

As part of this study, six experts in the fields of lexicography, pedagogical lexicography, electronic lexicography, and lexicographic design were consulted for their assessment and opinion of the dictionary design. The experts consulted were: Dr Annette Klosa, researcher at the *Institut für Deutsche Sprache*, Mannheim, Germany, a specialist in online dictionaries; Professor Herman Beyer, associate professor in the Department of Language and Literature Studies, University of Namibia; Dr Phillip Louw, Head of Dictionaries and Dictionary Data at Oxford University Press of Southern Africa; Prof Dion Nkomo, associate professor at the School of Languages and Literature at Rhodes University; Dr Michele van der Merwe, a senior lecturer in the Department of Curriculum Studies: Afrikaans, at Stellenbosch University and Ms Brigitte Le Du, Senior Editor at the Dictionary of South African English. These experts were either engaged in discussion (Dr Klosa, Prof Beyer, Dr Louw, and Ms Le Du) or asked specific questions via email. They were shown or sent the seven dictionary

articles that had been designed and used in the learner tests. Their comments were taken into consideration when reviewing the model dictionary design. None of the meetings were recorded, but notes were taken during the consultations. The experts were not all asked the same questions. The comments and suggestions from these experts were discussed with Professor Rufus Gouws, supervisor of this dissertation. From these discussions some additional suggestions came to the fore. In the next section, only the most salient points from the conversations are discussed.

1. Dr Klosa

The first meeting was with Dr Annette Klosa in October 2019. As her specialisation is in electronic dictionaries she gave valuable feedback and insight based on her own research and practical experience. She was instrumental in the planning and compilation of the electronic dictionary *elexiko*, which can be found at www.owid.de. "OWID is a portal for scientific, corpus-based lexicography of the Institute for German language" (Leibniz-Institut für Deutsche Sprache, n.d., translated from the original German). Within OWID there are different dictionaries, of which *elexiko* is one. *Elexiko* is a corpus-based dictionary for contemporary German language. Dr Klosa does not have experience in school dictionaries, however, as her expertise is in adult dictionaries. This may have an impact on how she evaluated the dictionary model as it is aimed at users with whose lexicographic needs and dictionary skills she is not familiar. (Dr Klosa also works in a first-world country, and may not have the insight into the needs of this particular target market, which includes learners from very poor and often rural communities, who have not been exposed to the internet and do not have dictionary skills. The users that she is familiar with are likely to be much more familiar with online dictionaries, and have a more robust dictionary culture.)

Her first comment was that the dictionary design looks very cluttered and busy. She felt that there were too many colours and too much happening in each article.

She suggested making the features, such as Word Combinations and Word Bank, into links as questions, or tabs. The questions she suggested could be along the lines of "Do you want to find other words in the same theme/topic?" and this link would take users to the Word Bank.

Dr Klosa also asked if the Help was in the right place and whether it should have the word as well as the icon, which is likely to be familiar to users. She also commented on the fact that the search bar has the word as well as the magnifying glass icon and felt that it was unnecessary to have both.

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It was suggested that there is a section on the left hand side of the article with a list of nearby lemmas. This feature would replace the left and right arrows that are on either side of the headword, as it is not clear what purpose they serve. Dr Klosa gave the example of *elexico*, where the left hand column contains a list of nearby words.

```
2843 - 2867 (15676)   ▲ ▼
│ Gefühlsverstärker
│ Gefühlsverwirrung
│ Gefühlswallung
│ Gefühlswärme
│ Gefühlswelt
│ Gefühlswert
│ Gefühlswort
│ Gefühlszustand
│ gefühlvoll
│ geführt
│ gefüllt
│ Gefummel
│ gefunden
│ Gefunkel
│ gefunkt
│ gefurcht
│ gefürchtet
│ gefürstet
│ gefurzt
│ gefüttert
│ gegabelt
│ Gegacker
│ gegängelt
│ gegangen
│ gegart
                      ▲ ▼
```

Figure 7.2 List of nearby words in elexico

Dr Klosa wondered whether users would know what to do with the arrows at the headword.

This consultation was useful because even in areas where I did not agree with Dr Klosa, it made me interrogate my reasons for some of the elements of the design. For instance, the model articles are colourful because they are aimed at ten- and eleven-year olds, not adults. The extra features are intended to appeal to and be accessible to learners who need the extra language support and may not have the dictionary skills or internet literacy to know where to find things that are not obvious and clear. The icon for the search function, the magnifying glass, is not universally used as a search icon, and can also indicate a zoom function, so I feel that the word is necessary to complement the icon. The icon and word for Help are also, in my view, necessary for this target user.

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2. Professor Beyer

I met with Prof Beyer in February 2020. Prof Beyer is Associate Professor of Afrikaans, in the Department of Language and Literature Studies at the University of Namibia. He specialises in school dictionaries.

My first question to him asked for a general impression of the articles and he said that for an audience of learners, they were very appealing and attractive and not cluttered. Prof Beyer had also discussed these articles with his niece who is in Grade 6 and whose mother tongue is Afrikaans, so she would be an ideal candidate as a user for this dictionary. Prof Beyer's niece also found the model articles to be attractive and appealing. She found the articles easy to navigate and the data contained were easy to understand.

Prof Beyer queried the use of the term *Definitions* as a data-identifying indicator, and whether *Meaning* would be better. He also wondered whether full sentence definitions would be better for this dictionary. He lamented the fact that there is so little dictionary research carried out in schools in southern Africa, which would help to answer these questions.

When asked if he thought the articles were too cluttered and busy, he did not think that was a problem for this age group and felt that the data contained in the articles were relevant and useful to learners. He liked the illustrations and felt that they were helpful at each sense. Articles such as *gesture*, which is particularly busy, could be made less cluttered by removing a few examples at each sense.

Prof Beyer felt that the senses could do with being made more clearly separate, or the information contained in each sense should be kept together – either with the use of alignment or grouping, with bigger spaces between senses or even a line or a frame separating two senses.

This meeting was useful as Prof Beyer is knowledgeable about the requirements of learners who do not have English as a first language, and it was especially useful having the opinions of his niece who would be a potential user of this dictionary.

3. Dr Louw

Dr Phillip Louw is a practical lexicographer who works for Oxford University Press Southern Africa, and has a great deal of experience with school dictionaries. His work also affords him an understanding of the people who make purchasing decisions for school dictionaries and what they are looking for, which is often different to what the prevailing research shows.

My first question to Dr Louw was whether the model dictionary design was too cluttered or complex for this age group and he said that it was not at all. He felt that the different features displayed on the page were appealing to learners. He did not agree that features should be hidden behind a clickable link.

We discussed where to add a translation equivalent in order to give home language support to learners, and we agreed that it would need to go either at the beginning of the article, below the headword, with the part of speech and pronunciation, or at the end of the sense marker, in a different font to the paraphrase of meaning. Dr Louw emphasised that the translation equivalent would need to be a simple, single translation, for the purposes of text reception. For example, a learner would come across an unfamiliar English word and look it up. Along with the paraphrase of meaning and example, they would see the term in their home language, which would give them a better understanding of the word.

Dr Louw discussed the hierarchy of elements in the dictionary article, and explained that the most important elements are orthography, followed by semantics, which would be the paraphrase of meaning or translation equivalent, followed by important information, such as usage notes. The other elements, he felt, are more for interest, and do not need to be emphasised in the design. With this in mind, he pointed out that the bright red audio symbols are too prominent and draw one's eye far more than they should. He suggested a more unobtrusive design for them, such as a more subdued red, a different colour, or a red symbol instead of a white symbol inside a red circle.

In terms of sense discrimination, as previously discussed with Prof Beyer, Dr Louw agreed that the senses need to be made clearly separate, and suggested larger sense numbers.

This consultation was valuable because Dr Louw has a great deal of experience with design, compilation, and market testing of school dictionaries.

4. Professor Dion Nkomo

Prof Dion Nkomo is Associate Professor in the Department of African Languages, in the School of Languages and Literature at Rhodes University. He is an expert on language learning and teaching, and southern African lexicography.

I emailed four questions to Prof Nkomo, who replied with very thoughtful and well-considered responses. My first question asked for his impression of the articles, and whether they were too cluttered, bearing in mind the target user group. His response was very

favourable, "I think the articles offer relevant content for Grade 5 and 6 learners. I can imagine learners getting all the answers and general assistance with respect to the individual lemmata, i.e. spelling, pronunciation, type of speech information, meaning, usage examples, word combination, etc." He added that he thought the presentation was "great", and that "the use of different colours for different data types is a good example of optimal use of the online features that enhance appeal of the articles and the dictionary in general". In terms of whether the articles were too cluttered, he suggested reducing the quantities of examples, and turning the *Do you mean…?* feature into a clickable menu. He acknowledges that the price of this is more clicking, but "the reward would be avoiding exposing learners who are sure of what they need to unnecessary data. Those who are unsure can click both and compare for them to decide on the most appropriate information."

An interesting point that he brought up was that written pronunciation is not very useful because "additional language learners of English usually struggle to interpret written pronunciation codes, particularly where English differs significantly phonetically and orthographically from their mother tongue". Since I had only ever looked at respelling pronunciation guides from a first-language English speaker perspective, this is not something I had previously considered and will need to give some serious thought to. It also confirms studies that show that learners "interpret sounds of a foreign language through the filter of their native language phonological system" (Lew & Mitton, 2012:229), as discussed in Chapter 2 of this study.

The second question referred to translation equivalents, which were not in the design that was sent to Prof Nkomo. I explained that they would be placed below the pronunciation data, at the top of each article. He agreed with the inclusion of translation equivalents, and said that that position would be fine for lemmata with one sense, but that would be problematic in polysemous articles. He recommended that translation equivalents should be placed as close to paraphrases of meaning as possible "so that consistency of sense reference is achieved between English and learners' home languages".

I then asked Prof Nkomo if the features, such as Word Bank, Word Combinations, Word Origin, should be behind a clickable link or whether they should remain as they are and the user does less clicking. Here Prof Nkomo was happy with these features as they are.

When asked for any other comments, or general impressions, Prof Nkomo noted that he liked the diversity he saw in the illustrations. He referred to literature that mentions the "need to

consider the users' cultural frame of reference in children's dictionaries" and the few illustrations that he saw "seemed to do that well". He commented that he felt that this project is a worthwhile one.

This email discussion was beneficial as Prof Nkomo is well-placed to understand the needs of second-language dictionary users in South Africa.

5. Dr Michele van der Merwe

Dr Michele van der Merwe is a senior lecturer in the Department of Curriculum Studies: Afrikaans in the Faculty of Education at Stellenbosch University. Her lexicographic research interests are educational lexicography and electronic lexicography.

I emailed the seven dictionary articles to Dr Van der Merwe along with four questions asking her opinion on different aspects of the design. The first question asked simply whether she thought the articles were too complex for the target age group, and her reply was that her first instinct was that they were "not too complex for grade 5's and 6's". She commented that she thought the articles "look very good".

The second question asked whether the extra features, such as the Word Bank and Word Family should be hidden behind clickable links opening pop-up windows, or whether the intended users would prefer not to click. Dr Van der Merwe's response was that she would prefer clickable options, "provided that a teacher explains the concept to children of how the dictionary actually works". She said this would be better than confusing them with an overload of information.

The third question was with regards to the translation equivalent and its placement. Dr Van der Merwe was simply asked if she agreed with placing the translation equivalent along with the semantic information, rather than at the end of the article, and she agreed.

The final question asked if Dr Van der Merwe had any other comments, and she suggested changing the metalanguage from *Definition* to *Meaning*, as it would be "more user-friendly, as it explains exactly what is being provided".

This email exchange was useful as Dr Van der Merwe's main research interests are school dictionaries and electronic dictionaries, so she understands the needs of the users and the potential of the medium.

6 Ms Bridgitte Le Du

Ms Bridgitte Le Du holds a Masters in Linguistics and is Senior Editor on the *Dictionary of South African English* (DSAE). Her main interests include the effects on dictionary design brought about by the shift from print to computer-mediated lexicography. She has hands-on experience in lexicographic design from leading the design of South Africa's first fully responsive online dictionary.

Ms Le Du was sent the seven dictionary articles, as well as some questions about her opinion of the design. We had a Zoom meeting in April 2020 and discussed the design for well over an hour. Her first comment was that the screen shots of the articles should be presented as landscape pages and not portrait. This would replicate the computer screen better and allow for more horizontal space. She felt that some of the busier articles, such as *bright*, would benefit from simply making that change.

We also discussed the audio buttons and their prominence and placement. Ms Le Du suggested moving the button away from the headword banner and instead putting it at the pronunciation guide, after the written pronunciation. She gave advice on the design and colouring of the audio button to make it less prominent.

With regard to the browse arrows before and after the headword, she said that functionally they are justifiable, but visually they are not great. She suggested that they are moved to below the headword banner, or better, replaced by a word wheel, similar to the one used in the online *Oxford English Dictionary*. A word wheel in a school dictionary would not need to show as many headwords before and after the current one.

Jump to:	
Entry ▾	Date ▾
self-involvement, n.	1821
self-ionization, n.	1903
selfish, adj. and n.	1628
selfishly, adv.	1645
selfishness, n.	1628
selfism, n.	1731
self-isolate, v.	1925
self-isolated, adj.	1837
self-isolating, adj.	1841
self-isolation, n.	1834
selfist, n.	1649
self-judge, v.	1645
self-judged, adj.	1641
self-judgement	sel...	1525
self-judging, n.	1623
self-judging, adj.	1619
self-justiciary, n.	1644
self-justification, n.	1628
self-justificatory, ...	1817
self-justified, adj.	1656

Figure 7.3 Example of a word wheel, from Oxford English Dictionary

Ms Le Du also recommended increasing the size of the search bar. She explained that according to user experience principles it is much better to have a bigger search bar.

In terms of keeping the senses together and looking like a coherent group of related items, she suggested keeping the sense information (sense number, part of speech if relevant, paraphrases of meaning, examples, synonyms, opposites) within a shadow box. The box should not have a bold border and should not contribute to clutter, but rather a very faint border to keep the items together. She was concerned that in the busier articles, such as *bright*, it was not always clear what data went with what.

Ms Le Du also suggested changing *Definition* to *Meaning* as the metatext. She would have preferred no metatextual data-identifying indicators for *Definition* and *Examples* at all, but agreed that for this target user they were important. She also recommended taking out the heading for the Word Forms box, as each inflection was also given a data-identifying indicator inside the box. For example, at countable nouns, the data-identifying indicator, plural, is given in the Word Forms box before the actual item giving the plural.

Ms Le Du had other very useful comments and suggestions, but it was felt that changing the design too drastically at this stage would warrant the learner tests invalid, as the learners had seen the previous version, so I could make superficial changes but nothing too extensive.

A more significant change that she suggested would be to rearrange the whole article, keeping features and a word wheel in a coherent column on the right hand side, and placing the features into accordion boxes that would expand when the user clicked on the + symbol and collapsed when the user clicked on the – symbol that would be visible when the box was in its expanded form.
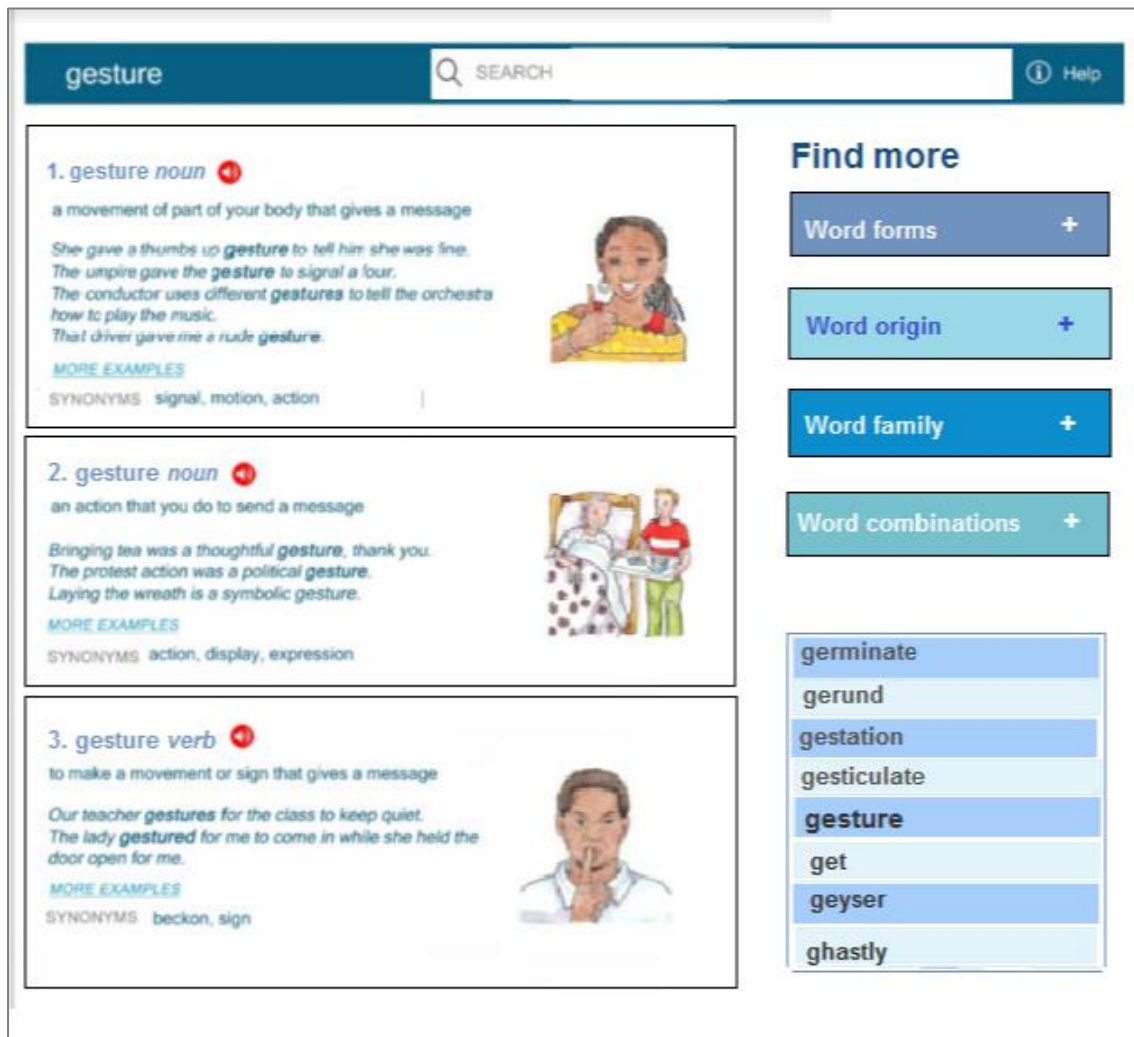
Figure 7.4 A mock-up of an article as suggested by Ms Le Du

The consultation I had with Ms Le Du was incredibly valuable because her background and experience in design took me away from my intuition and gave me recommendations based on real design and user experience research.

The suggestions of the experts were then discussed with Professor Gouws, supervisor of this dissertation. The particular conversation where we discussed the design of the articles in depth, was held over Zoom in May 2020.

Prof Gouws was impressed with the general design of the model dictionary articles, and gave some very thoughtful suggestions on improvements or areas where I could consider changing the design. Firstly, he noticed that all the pictorial illustrations matched the first example sentence, except for the second sense of the article for *bright*. He suggested that the order of example sentences change so that that convention of illustrating the first example remains consistent. He also suggested that any extra features that are found in every article should be placed in the same position in the article. We discussed the Word Bank as being in the bottom left corner in most, but not all, of the articles, and that placing it in the same position would make it more easily accessible to learners. Prof Gouws also pointed out that in the article for *gesture*, the senses are numbered 1 – 3, while the verb sense should rather be numbered 1.

At the lemma sign in the article for the phrasal verb, Prof Gouws recommended taking out the bracketed word "something" as the brackets imply that that part of the lemma sign is optional, and in this case it is not.

Prof Gouws liked the *Do you mean?* feature found at the article for *legend* as well as *gesture*, but felt that that feature would be better serving a homonym pair, rather than within a polysemous article. He felt that the different partial articles representing senses within the complex article were well represented by the paraphrases of meaning, the example sentences, and the pictorial illustrations and that asking users *Do you mean?* at some complex polysemous articles but not others would be confusing to learners. He recommended including a homonym pair in the final set of model dictionary articles, to demonstrate this innovative feature.

In the article for *omit*, Prof Gouws pointed out that the entry "Formal" looks more like a data-identifying indicator, rather than a pragmatic marker. He was afraid that it was not salient enough and that users might not notice it. We discussed alternative positions and typography for the label.

This discussion with Prof Gouws was very useful because we were able to discuss solutions to problems with the design that I would otherwise not have considered.

Impact on study

These consultations were all incredibly useful and it has been helpful to tap into the insight and expertise of different experts. Some changes that were made to the dictionary design based on these consultations are: the page was reoriented as landscape rather than portrait, as this better replicates the screen view that the users will have. Some of the meanings were

written in more natural language, and do not follow the traditional style of print dictionaries. The metatext changed from *Definitions* to *Meanings*. Examples have been reduced in articles that were too cluttered, as these examples can always be found under the *More examples* link. This allows a bigger space between senses in those articles. Sense numbers were increased in size and prominence.

The audio symbol was designed to be less prominent in the article – I experimented with more muted colours or the size of the symbol, while retaining the well-known audio symbol. It was also moved from the headword banner to the pronunciation line.

As to the inclusion and placement of translation equivalents, I added them and experimented with the best placement in terms of the senses and paraphrases of meaning. I also considered the written pronunciation and whether to exclude it altogether or make it less prominent, and chose to keep it. The *Do you mean…?* feature was removed from the two polysemous articles and a new article with a homonym pair was included in the set of model articles.

Specific changes to the articles include the ordering of the example sentences in the *bright* article, and moving the Word Bank to the bottom left in all of the articles. In *gesture*, the verb sense was not numbered. The "formal" label was changed to be more accessible to learners.

It would be a wonderful future opportunity to do user tests in schools on a new design based on the more extensive changes that Ms Le Du recommended. This would include the word wheel that Dr Klosa and Ms Le Du both suggested. It would also rearrange the entire article and make use of the right hand column for the extra features. The written pronunciation guides can be made into a feature that can be made visible or invisible, depending on user preference.

On the whole, the experts were complimentary and encouraging about this project.

7.3 Conclusion

Despite the drawbacks of the questionnaires, the user tests yielded valuable data which can be used to improve the model dictionary articles. The expert consultations were more productive in terms of refinements, and together the user tests and expert consultations led to significant improvements on the model dictionary articles, which were devised and intended to respond to the need for a South African school dictionary that offers more support to non-mother-tongue speakers of English who are being taught in English.

Chapter 8 Final design of model dictionary articles

8.1 Introduction

This chapter will present and explain the improvements to the design of the model dictionary articles based on the learner tests and expert consultations, which can be seen in the preceding chapter. The initial design, which was presented in Chapter 6, was taken to learners who participated in user tests with these model dictionary articles and a questionnaire. It was also shown to experts in pedagogical lexicography, electronic lexicography, and lexicographic design, who were asked to comment on the design. This chapter presents the changes that were made to the design according to that feedback as well as my own scholarly look at the articles. The final set of designs is shown and described in this chapter. The chapter will conclude with recommendations for further improvements. These designs are available for further feedback and future work.

Some of the decisions on whether to make changes were difficult to make as either experts' opinions were contradictory or learner tests contradicted the expert opinions, or it was difficult to keep consistency through the articles[3].

No changes were made to the design based on the learner tests, as the tests mostly confirmed the design decisions that had been made. The only place where the user tests suggested a change was changing the data-identifying indicator OPPOSITES to ANTONYMS, as indicated in Chapter 7, but more thought needs to go into this change as, strictly speaking, the word "antonym" is not synonymous with "opposite". From a linguistics point of view, the term "opposite" is better because all opposites are not antonyms. Antonymy is one type of semantic opposition.

An option at a later stage in the development of an actual dictionary based on this model would be comparison tests where learners would be presented with options for them to choose which they prefer. Options would include changing the names of some of the features, for example, where they would be offered WORD BANK, TOPIC or THEME as the data-identifying indicators for the word bank. Comparison tests are more likely to produce concrete data that can be used to make design decisions. The "did you like this feature" questions are less useful for these decisions.

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[3] Once I stopped looking at the articles in alphabetical order, and arranged them according to the type of article, it was easier to maintain consistency through the set of articles.

8.2 Designs

Some changes were made to the model dictionary articles based on the expert consultations. These changes are divided into two categories: firstly, the changes that were made to the design for this study, and secondly, changes that are recommended for an actual dictionary based on this model. The second set of changes were not made to the model articles, because they would make the model articles too different from those shown to and tested on learners, making those tests invalid for this study.

Firstly, the more superficial changes were to present the design in landscape orientation rather than portrait orientation; and to increase the size of the search bar. The data-identifying indicator for DEFINITIONS was changed to MEANING. Some examples were removed to make articles less cluttered. A translation equivalent was included in proximity to the paraphrase of meaning. In these example articles, translation equivalents are provided in Xhosa and Afrikaans. In an actual dictionary, the user would choose from the available languages and that language would be presented throughout the dictionary. The function of this item is to provide extra support for the learner. When the learner is using the dictionary while engaged in a reception task and they are looking for the meaning of an English word they have come across in their reading, the translation equivalent is provided to support the paraphrase of meaning and confirm the semantic value for the learner who may not be confident of the meaning from the paraphrase of meaning and example alone. The translation equivalent could also be a clickable option: to reveal the translation equivalent if the user clicks on it, or, as in *Lexico*, to function as a cross reference to a bilingual article.

The sense division was made clearer: with a more prominent sense number and a line between each sense. The user will be able to find all the data related to the relevant subcomment on semantics in one segment, including the paraphrase of meaning, examples, pictorial illustration, synonyms, opposites, and WORD BANK.

The audio symbols were made less prominent and the first one was moved from the lemma banner to the pronunciation line. The audio symbols at the paraphrases of meaning and examples were moved to the ends of those lines. The data-identifying indicator was removed from the WORD FORMS box, as each inflection in the box already has an item giving the type of inflection.

More significant changes, such as making the features expandable headings, a word wheel instead of browse arrows, and an option to hide the written pronunciation guide, would need more extensive study before being implemented.

The new model article designs are as follows (full page versions of the articles can be found in Appendix C):

*Figure 8.1 Final version of model article for **banana***

Here, the article for *banana* is shown, with the comment on semantics including the WORD BANK. The Afrikaans translation equivalent has been included in the comment on semantics.

The WORD COMBINATIONS and DID YOU KNOW? boxes are shown below the comment on semantics, as these non-compulsory features do not interfere with the compulsory items in the article and in longer articles they can be found by scrolling. "Banana republic" was removed from the WORD COMBINATIONS box as it is not a relevant term to be included in a primary school dictionary.

Figure 8.2 Final version of model article for **bright**

In the article for *bright*, it was suggested that the order of the examples for the second subcomment on semantics be changed, so that the pictorial illustration consistently illustrates the first example sentence. Each subcomment on semantics gets its own WORD BANK, so that users do not have to try to work out which lemmas in the WORD BANK are applicable to their purpose. The comment on form is separated from the subcomments on semantics by a line, because the inflections apply to all three senses of the lemma.

The paraphrases of meaning have also been changed to full sentences. This is because in the teacher interviews, teachers emphasised the need for simpler definitions that are easier for second-language learners to understand and are more "child-friendly". It was felt that the lexical items representing nouns and verbs in this set of model articles did not require full-sentence definitions, but the lexical items representing adjectives did. As emphasised by Tarp and Gouws (2012) the paraphrase of meaning should be presented "in such a way that the intended target user can achieve an optimal retrieval of information without being impeded

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by … syntactically reduced paraphrases of meaning" that are traditional in printed dictionaries as a result of "high levels of textual condensation and the use of unnatural language in conveying the data" (Tarp & Gouws, 2012:341). The sentences show what can be described by each sense of *bright*, so that users can see that the first sense describes "something", the second sense describes a colour, and the third sense describes a person.

*Figure 8.3 Final version of model article for **gesture***

The article for *gesture* contains three subcomments on form and semantics and two parts of speech in two partial articles. The menu asking the user which part of speech they are looking for has been removed. Each subcomment on form and semantics contains an item giving the part of speech as well as the inflections. The addressing of these features is less ambiguous now, because the proximity leads to immediate addressing. The numbering of the subcomments on semantics has also changed, so that the noun senses are numbered 1 and 2 and the verb partial article is numbered 1. The option to move the WORD COMBINATIONS to below the noun subcomments on semantics was considered, but rejected. Although in this case the word combinations all contain the noun *gesture*, and there is no instance of the verb, it was felt that the consistent position in the article took priority, so learners could always expect to find word combinations at the end of the article. This would be explained in the user guidelines of the dictionary.

*Figure 8.4 Final version of model article for **get away with***

In the article for the phrase, the *(something)* was removed from the lemma sign, as *something* is not part of the actual lemma.

*Figure 8.5 Final version of model article for **legend***

In the article for *legend*, it was recommended that the menu at the top of the article was removed. The menu had been included because teachers brought it up as a confusing word, but it was felt that a menu in a polysemous article would not be necessary because the confusion between the two senses would be eliminated by the clear illustrations and examples. It was suggested that a homonym pair should be included in the design to illustrate the use of the menu feature, as it would be better to apply this feature consistently to homonyms.

Thus, the article for *bark* was devised. This article treats a homonym pair with two senses for the first article and a monosemous second article. The traditional approach to homonymy is to present different homonyms in different articles as they are different lexical items. Traditionally, "homonyms are linguistically distinguished as formally identical but separate lexemes on the grounds of semantic non-relatedness and/or different etymologies, each represented by a separate lemma sign and dictionary article" and polysemes are related semantically and can be assigned to one article (Beyer, 2018:2). In this model dictionary, it is proposed that homonyms are treated in one comprehensive article, with a complex search area that contains two or more partial search areas to accommodate the treatment of different homonyms. This approach signals to the user that this is a homonym. While linguistically homonyms and polysemous lemmata are different entities and it would be linguistically incorrect to treat them the same, users at this level do not know the difference and cannot be expected to search for these lemmata with a clear understanding of homonymy and polysemy.

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*Figure 8.6 Final version of model comprehensive article for **bark***

The comment on form contains the the guiding element of the comprehensive article and the item giving pronunciation, as these are common to the lemmas of both articles. Then the comprehensive article contains a search zone in the form of a question asking the user which meaning of *bark* they are looking for. The very brief "the sound a dog makes" and "the outer covering of a tree" are used along with the relevant illustrations to suggest the different meanings to users. It has been suggested that this menu is clickable and takes users to the relevant article, but in this article, the user can see the relevant article in its partial search area in the same screenshot. This is another component that needs to be tested with users before a final decision can be made as to whether to hyperlink the menu items to the appropriate comment on semantics.

Users are likely to be familiar with the convention of using the superscript [1] and [2] to indicate the different homonyms of *bark*. Each partial search area contains an item giving the part of

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speech, an item giving the inflections, as well as the relevant comment on semantics, which includes the translation equivalent in the learner's home language.

Below the partial search area for *bark¹*, the etymology is presented with the data-identifying indicator, WORD ORIGIN. Phrases using the term *bark* are also presented in this zone, as they refer to *bark¹*.

The partial article for *bark²* is presented with the item giving the part of speech and the item giving the inflections, as well as the comment on semantics. The user can see at a glance that the two nouns, the sound a dog makes and the outer covering of a tree, have different inflections, even though they are both nouns. The second comment on semantics is also followed by an etymology so that learners can see that *bark¹* and *bark²* have different etymologies.

*Figure 8.7 Final version of model article for **omit***

In the article for *omit*, attention was drawn to the fact that the pragmatic marker FORMAL looked too much like a data-identifying indicator and thus was not salient enough for the user to distinguish between it and the data-identifying indicators. It has thus been moved to immediately precede the paraphrase of meaning, where the non-typographical structural indicator of a pair of brackets is used to distinguish it from the item giving the paraphrase of meaning. There would be a list of labels appropriate to this level of user in the user guide in

the dictionary. The label could also have mouse-over text explaining labels when the cursor hovers over the label.

*Figure 8.8 Final version of model article for **venom***

The article for *venom* has changed in the same way that the other articles with lemmata representing polysemous lexical items, such as *bright* and *legend*, have changed. The subcomments on semantics are now clearly differentiated and the WORD BANK has been split into the two to negotiate the different senses, with each WORD BANK containing lemmas only applicable to that particular sense of *venom*. The WORD FAMILY and USAGE NOTE are below the subcomments on semantics, available to learners who want to find out more. As with *omit*, labels can be hyperlinked to an explanation, as well as included in a list in the user guide.

To summarise the features that are included in these designs, the compulsory features are that all data types contain data-identifying indicators so that learners do not have to rely on typographical indicators or experience with using dictionaries; the paraphrases of meaning are simple and explain the meaning of the lexical item; there is a translation equivalent at each sense, giving the learner the lexical item in their own language; there are hyperlinks to explanations of the parts of speech at each item giving the part of speech; inflections are provided at every noun, verb, and adjective, whether regular or irregular; there are pictorial illustrations at each sense; examples are presented at each sense, with a link to more

examples for if the learner wants to see more; and audio is provided for paraphrases of meaning and examples, as well as at the lemma sign.

The non-compulsory features are that cross-references to synonyms and opposites are offered where applicable at each sense; a thematic word bank is offered where applicable at each sense; phrases and collocations are displayed in a separate box where applicable; language notes are given where applicable; *Did you know?* boxes with encyclopaedic data are provided where possible; an etymology is provided in some articles; *word family* boxes containing derivatives are presented where applicable; and in the case of homonyms, a menu is displayed at the top of the article, giving learners easy access to the different meanings.

8.3 Conclusion

There are still many possibilities for changes and potential improvements to these designs, but these and further changes would require further user testing before implementing. However, it is believed that these designs would go a long way to fulfilling the need for user-friendly school dictionaries that support learners who are learning in their additional language. They are clear and uncluttered, they are all illustrated, and they contain extra features that would either support learners' understanding of the word they are looking up, or encourage browsing and finding relationships between words and their uses, or simply help them to enjoy using their dictionary.

Chapter 9 Conclusion

This chapter provides a summary of the results of the research and the steps taken to achieve these results. This chapter also contains a discussion of the impact of this research in theoretical lexicography, practical lexicography, and for learners. Recommendations for further research are also made.

9.1 Problem statement

The problem statement, as described in the introduction to this dissertation, is that there is a need for an electronic English school dictionary that supports learning, text production and text reception in learners at South African schools, most of whom are not first language English speakers.

The aim of this study was to design a model for the user interface of an electronic school dictionary that can be used in South African primary schools to support text production, and text reception for second language learners of English. The need for learners in South Africa to become fluent in English is crucial to their access to education and later employment.

9.2 Results

The result of this study is the design of the user interface of model dictionary articles that can be seen in Chapter 8. These model articles include the following features that will specifically support second language learners of English:

- All data types contain data-identifying indicators so that no guesswork is needed for learners to know where items are in the article
- Simple paraphrases of meaning, which explain the lexical item, are given
- Translation equivalents in the learner's home language are provided for each lexical item
- Links to explanations of different parts of speech are presented at every item giving the part of speech
- Inflections are shown at every noun, verb, adjective, whether regular or irregular
- Pictorial illustrations are presented at each sense
- Usage examples are presented at each sense, with a link to open more examples if required

- Simple alternatives to examples are presented in articles for formal lexical items

- Audio is provided for paraphrases of meaning and example sentences

- Synonyms and opposites are offered where applicable at each sense

- A word bank containing thematic words is offered where applicable at each sense

- Phrases and collocations are displayed in a separate box where applicable

- Explanatory language notes are given where applicable

- There are Did you know? boxes with interesting and encyclopaedic information

- There are word family boxes with derivatives and examples showing how they are used

- An etymology is supplied in some articles

- A menu is displayed in the case of homonyms, showing users which options are available for the word they looked up.

These features, along with a clear and uncluttered design, contribute to addressing the concerns that teachers raised about their current dictionaries and the learners in their classes who need more language support from their dictionaries. The designs are also intended to be attractive and appealing to learners, making their dictionary use a pleasant and satisfactory experience, and encouraging more dictionary use.

The following process was undertaken to achieve this result: the literature was examined to gain an understanding of the context of South African primary school learners, of whom around 80% are being taught in a language that is not their home language. The examination of the literature also led to an understanding of the theoretical lexicographical landscape with regards to electronic lexicography, pedagogical lexicography, as well as article structures and components. Grade 5 and 6 teachers were interviewed to gain insight into the needs of learners, specifically second-language learners, in terms of their dictionaries and the support that they would benefit from finding in their dictionaries. Printed school dictionaries were then compared and evaluated in terms of items that are included or omitted in articles, and the presentation of these articles. Electronic dictionaries were also compared and discussed in terms of their article design and what items are presented to users and how these items are displayed. The help sections of the electronic dictionaries and their accessibility were also evaluated. An initial design, which took into consideration the teacher interviews, the literature, and the comparison and evaluation of other dictionaries, was then developed. This design was presented to learners and used in user tests in four Grade 5 and 6 classes. The

designs were also shown to professionals who are experts in the fields of electronic lexicography, pedagogical lexicography, and user design. Based on the learner tests and the expert consultations, the designs were altered and improved. This led to the final design which is presented and discussed in Chapter 8. It can clearly be seen how the design of the articles evolved though this process. It is shown how the initial design, that was developed after consultation with teachers and the literature and the exercise comparing the two sets of dictionaries, changed after the user tests and expert consultations and careful consideration by the researcher. The new article designs are a vast improvement on the initial ones. It was only through this process of user testing and expert consultations that the final design could be achieved and it is felt that this design could go a long way in contributing to learners' success in their education.

The design of a model for a dictionary of this nature is significant because it goes some way to closing the gap between first- and second-language learners and giving second-language learners access to meaningful support in the classroom.

9.3 Implications

The implications that this study is expected to have for theoretical lexicography are that other researchers will be able to use this research as a basis for further exploration into school dictionaries, electronic dictionaries, and bilingualised dictionaries. As the potential of electronic lexicography is further realised, the scope for more research into that field increases. Dictionary user research is in short supply, especially with regards to pedagogical dictionaries, and any contribution to the body of user research will be a valuable contribution to the field of lexicography. This research can also be replicated for dictionaries aimed at other grades, or for dictionaries designed to support learners in other languages. It can also be replicated for other electronic dictionaries. This research is also a contribution to the body of research involved in the development of print dictionaries.

The implications for practical lexicography are that publishers can take this model and adapt it for a particular target market and develop dictionaries that are better able to provide support to learners who are learning in their second language. Although the future is online, many quality print dictionaries are still being produced and this research can also contribute to the development of print dictionaries, in terms of which items are included in articles and how they are arranged. The versatility of this model can be exploited to develop print dictionaries,

electronic dictionaries, monolingual dictionaries, bilingual dictionaries, bilingualised dictionaries, school dictionaries, and learner's dictionaries. Comparable models can also be used for subject-specific school dictionaries.

The South African Education Department can make provisions for such a dictionary to be incorporated in the collection of resources that are made available to schools. This dictionary model could go some way to fulfilling the need that was identified in the introduction to this study. This need is for a school dictionary that offers more support that is easily accessible, to second-language learners in South African primary schools.

The model in this study is specifically designed for Grade 5 and 6 learners in South Africa, but it can be adapted for other grades and learners from other countries for use with other languages.

The implications of this study for learners are that it should improve the language skills of learners, which will have an enormous benefit to the rest of their education. It is also likely to improve their confidence in speaking and writing English. A reliable school dictionary that is accessible and appropriate for learners' age and fluency will improve their dictionary skills and in turn lead to a more established dictionary culture in South African schools. This can culminate in a dictionary culture of lifelong learning.

The use of electronic dictionaries in schools is not yet established in South Africa, so the full potential of this medium has not yet been realised.

This dictionary model, while directed at a very clearly defined group of users can be adapted to suit any group of users. One of the main aims of this dictionary model is to devise a dictionary that is appealing to users, and that appeal, along with reliability, can encourage users to depend more on dictionaries in the future.

9.4 Recommendations for future research

There is scope for much more research in this area. As the development of electronic dictionaries for schools is still in its infancy, particularly in South Africa, there is much work to be done to design school dictionaries that are appropriate for South African learners who are learning in their second language. More user tests can be carried out. User tests that take the form of the one done in this study, with sample articles and a questionnaire can certainly be repeated, as long as the questionnaires are designed in such a way to elicit more usable

data. Tests that make use of think-aloud protocols would also have a place in further research, as would studies involving eye-tracking protocols.

As recommended by Tarp and Gouws (2020), dictionary research needs to begin "in the situations prior to the [dictionary] consultation process when the needs [for dictionary consultation] occur" (Tarp & Gouws, 2020:25).

Out of all the processes carried out during this project, the teacher interviews and expert consultations were the most valuable. Further feedback and collaboration of this nature can play a tremendous role in the planning and design of future dictionaries.

User tests can also be carried out on different aspects of the dictionary articles. For example, there is much work to be done on the paraphrases of meaning and making them simpler and easier to understand. User tests can be employed to determine the best style of paraphrases of meaning. In this study it was decided that only adjectives should get full sentence paraphrases of meaning, but this is an area that is open to more research.

User tests can also be carried out using an electronic format, with sample articles containing working cross-references. The user tests carried out using paper, as in this research, are limited in what they can test, so electronic testing would be a valuable contribution to the development of electronic dictionaries.

Similar studies can be carried out in different regions in order to establish whether the needs of learners with other home languages are similar to the needs of learners established in this study. Teachers could be involved in further user testing, and of course, studies with larger sample groups would go a long way to determining a better understanding of the needs of the users.

9.5 Conclusion

This study shows how through the process outlined above, model dictionary articles for a school dictionary were devised and improved. The completed model articles are presented as a response to the need for a South African school dictionary that offers more support to non-mother-tongue speakers of English who are being taught in English.

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Bibliography

Dictionaries

Printed dictionaries

Bullon, S. 2007. *Longman South African School Dictionary*. England: Pearson Education Limited.

De Kock, C. 2014. *Pharos English Dictionary for South African Schools*. Cape Town: Pharos Dictionaries.

Dictionary Unit for South African English. 1999. *Illustrated School Dictionary for Southern Africa*. Cape Town: Francolin Publishers.

Hiles, L. 2008. *Oxford South African Illustrated School Dictionary*. Cape Town: Oxford University Press.

Reynolds, M.J. 2010. *Oxford South African School Dictionary 3e.* Cape Town: Oxford University Press.

Online dictionaries

Cambridge University Press. 2018. *Cambridge Learner's Dictionary*. [Online] Available at: https://dictionary.cambridge.org/. [29 July 2020]

Dictionary Unit for South African English. 2018. *Dictionary of South African English*. [Online] Available at: https://dsae.co.za/. [29 July 2020]

HarperCollins. 2020. *Collins Dictionary*. [Online] Available at: https://www.collinsdictionary.com/dictionary/english. [29 July 2020]

Macmillan Education Limited. 2020. *Macmillan Dictionary*. [Online] Available at: https://www.macmillandictionary.com/. [29 July 2020]

Merriam-Webster. 2015. *Merriam-Webster.Com Dictionary*. [Online] Available at: https://www.merriam-webster.com/. [29 July 2020]

Merriam-Webster. 2020. *Merriam-Webster's Learner's Dictionary*. [Online] Available at: https://learnersdictionary.com/. [29 July 2020]

Oxford University Press. 2020. *Lexico.com*. [Online] Available at: https://www.lexico.com/. [29 July 2020]

Pearson Education Limited. 2020. *LDOCE Online*. [Online] Available at: https://www.ldoceonline.com/. [29 July 2020]

Wordsmyth. 2018. *Word Explorer Children's Dictionary*. [Online] Available at: https://kids.wordsmyth.net/we/. [29 July 2020]

Other sources

Abecassis, M. 2007. Is lexicography making progress? On dictionary use and language learners' needs. *Lexikos,* 17:247-258.

Adamska-Sałaciak, A. & Kernerman, I. 2016. Introduction: Towards Better Dictionaries for Learners. *International Journal of Lexicography,* 29(3):271-278.

Alipour, M., Robichaud, B., L'Homme, M-C. 2015. Towards an Electronic Specialized Dictionary for Learners in Kosem, I., Jakubíček, M., Kallas, J., Krek, S. (eds.) *Electronic lexicography in the 21st century: linking lexical data in the digital age. Proceedings of the eLex 2015 conference*, 11-13 August 2015, Herstmonceux Castle, United Kingdom. Ljubljana/Brighton: Trojina, Institute for Applied Slovene Studies/Lexical Computing Ltd.

Amsler, R.A. 2012. The future of our field, email to Afrilex members [Online] Available https://www.freelists.org/post/euralex/The-future-of-our-field-Part-1. [29 July 2020]

Atkins, B.T.S. & Rundell, M. 2008. *The Oxford Guide to Practical Lexicography*. Oxford: Oxford University Press.

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Barua, S. 2019. *5 Principles of UX Design*. [Online] Available: https://uxplanet.org/5-principles-of-ux-design-d1579e7267db. [29 July 2020]

Baruda, M. & Sinu, R. 2016. *Research and Practice in Lexicography*. Transilvania: Editura Universităţii TRANSILVANIA Dinăbraşov.

Bergenholtz, H. & Agerbo, H. 2018. A typology of lexicographical tools based on information needs and user types. *Lexicography,* 5:97-121.

Bergenholtz, H. & Gouws, R.H. 2017. Polyseme Selection, Lemma Selection and Article Selection. *Lexikos,* 27:107-131.

Bergenholtz, H. & Kaufmann, U. 1997. Terminography and lexicography. A critical survey of dictionaries from a single specialised field. *Hermes,* 18:91-125.

Bergenholtz, H. & Tarp, S. 2003. Two opposing theories. On H.E. Wiegand's recent discovery of lexicographic functions. *HERMES - Journal of Language and Communication in Business,* 16(31):171-196.

Bergenholtz, H., Bothma, T.J.D., & Gouws, R.H. 2015. Phases and Steps in the Access to Data in Information Tools. *Lexikos,* 25:1-30.

Beyer, H.L. 2010. Kontekstuele bepalers by die beplanning van skoolwoordeboeke. *Lexikos*, 20:52-72.

Beyer, H.L. 2018. On Recent Proposals to Abolish Polysemy and Homonymy in Lexicography. *Lexikos*, 28:1-31.

Beyer, H.L. & Hancock, S. 2015. Monolingual School Dictionaries for Junior Primary. Unpublished paper delivered at the Schoolex Seminar. 28 August, Stellenbosch.

Chen, Y. 2017. Dictionary Use for Collocation Production and Retention: a CALL-based Study. *International Journal of Lexicography,* 30(2):225-251.

De Schryver, G-M. 2003. Lexicographers' Dreams in the Electronic-Dictionary Age. *International Journal of Lexicography*, 16(2):143-199.

De Schryver, G-M. & Prinsloo, D.J. 2011. Do Dictionaries Define on the Level of Their Target Users? A Case Study for Three Dutch Dictionaries. *International Journal of Lexicography,* 24(1): 5-28.

Digital native. 2020. *Wikipedia*. [Online] Available at: https://en.wikipedia.org/wiki/Digital_native. [29 July 2020]

Dziemianko, A. 2012. On the use(fulness) of paper and electronic dictionaries, in Granger, S. and Paquot, M. (eds.) *Electronic Lexicography*. Oxford: Oxford University Press. 319-342.

Dziemianko, A. 2015. Colours in Online Dictionaries: A Case of Functional Labels. *International Journal of Lexicography,* 28(1):27-61.

Dziemianko, A. 2017. Dictionary form in decoding, encoding and retention: Further insights. *ReCALL,* 29(3):335-356.

Dziemianko, A. 2019. Homogeneous or Heterogeneous? Insights into Signposts in Learners' Dictionaries. *International Journal of Lexicography,* 32(4):432-457.

Farina, D.M.T.Cr., Vrbinc, M., Vrbinc, A. 2019. Problems in Online Dictionary Use for Advanced Slovenian Learners of English. *International Journal of Lexicography*, 32(4): 458-479.

Frankenberg-Garcia, A. 2015. Dictionaries and Encoding Examples to Support Language Production. *International Journal of Lexicography*, 28(4):490-512.

Götz-Votteler, K. & Herbst, T. 2008. Innovation in Advanced Learner's Dictionaries of English. *Lexicographica,* 25:47-66.

Gouws, R.H. 1989. *Leksikografie.* Cape Town: Nasou.

Gouws, R.H. 2004. Outer texts in bilingual dictionaries. *Lexikos*, 14:67-88.

Gouws, R.H. 2011. Learning, Unlearning and Innovation in the Planning of Electronic Dictionaries, in Fuertes-Olivera, P.A. &. Bergenholtz, H. (eds.). *e-Lexicography: The Internet, Digital Initiatives and Lexicography*. London: Bloomsbury Academic. 17-29.

Gouws, R.H. 2014. Article Structures: Moving from Printed to e-Dictionaries. *Lexikos,* 24:155-177.

Gouws, R.H. 2018. Internet Lexicography in the 21st Century. *Wortschatz: Theorie, Empirie, Dokumentation.* Berlin, Boston: De Gruyter.

Gouws, R.H. & Prinsloo, D.J. 2005. *Principles and Practice of South African Lexicography*. Stellenbosch: Sun Press.

Gouws, R.H. & Tarp, S. 2008. A new step forward for South African learners' lexicography: the *Oxford Afrikaans-Engels / English-Afrikaans Skoolwoordeboek / School Dictionary. Journal for Language Teaching = Ijenali Yekufundzisa Lulwimi = Tydskrif vir Taalonderrig,* 42(1):65-79.

Gouws, R.H. & Tarp, S. 2016. Information Overload and Data Overload in Lexicography. *International Journal of Lexicography*, 30(4):389-415.

Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. (eds.) 2013a. *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Berlin: De Gruyter.

Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. 2013b. Dictionaries in Modern Society: Current status and perspectives. In *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 1-23.

Granger, S. 2012. Introduction: Electronic lexicography - from challenge to opportunity, in Granger, S. and Paquot, M. (eds.) *Electronic Lexicography*. Oxford: Oxford University Press. 1-11.

Grønvik, O. & Ore, C-E.S. 2013. What should the electronic dictionary do for you – and how? [Abstract] in Kosem, I., Kallas, J., Gantar, P., Krek, S., Langemets, M., Tuulik, M. (eds.) *Electronic lexicography in the 21st century: thinking outside the paper. Proceedings of the eLex 2013 conference, 17-19 October 2013,* Tallinn, Estonia. Ljubljana/Tallinn: Trojina, Institute for Applied Slovene Studies/Eesti Keele Instituut.

Hall, M. 2019. (No More) Walking Dictionaries: the perceived impact of the *Oxford Bilingual School Dictionary: isiXhosa and English* on learners and teachers in the Eastern Cape: an evaluation study. Unpublished paper delivered at the Afrilex Conference, Windhoek. 27 June.

Halpern, J. 2016. Compilation Techniques for Pedagogically Effective Bilingual Learners' Dictionaries. *International Journal of Lexicography,* 29(3):323-338.

Hanks, P. 2012. Corpus evidence and electronic lexicography, in Granger, S. and Paquot, M. (eds.) *Electronic Lexicography*. Oxford: Oxford University Press. 57-82.

Hausmann, F.J. & Wiegand, H.E. 1989. Component parts and structures of general monolingual dictionaries: A survey, in *Wörterbücher. Dictionaries. Dictionnaires. Ein internationales Handbuch zur Lexikographie*. Hausmann, F.J., Reichmann, O., Wiegand, H.E., Zgusta, L. Berlin. New York. 328-360.

Hiles, L. 2009. Examples in South African school dictionaries. Unpublished Master's Thesis. Stellenbosch: Stellenbosch University.

Humblé, P. 2001. *Dictionaries and Language Learners*. Frankfurt: Haag und Herchen.

Kim, S. 2018. EFL Learners' Dictionary Consultation Behaviour during the Revision Process to Correct Collocation Errors. *International Journal of Lexicography,* 31(3):312-326.

Klosa, A., & Gouws, R. H. 2015. Outer features in e-dictionaries / Außentexte in Online-Wörterbüchern / Caractéristiques extérieures dans les dictionnaires en ligne. *Lexicographica,* 31(1): 142-172.

Koplenig, A. 2011. Understanding How Users Evaluate Innovative Features of Online Dictionaries – An Experimental Approach, in Kosem, I. and Kosem, K (eds.) *Electronic lexicography in the 21st century. Proceedings of the eLex 2011 conference*, 10-12 November, Bled, Slovenia.

Laufer, B. 2011. The Contribution of Dictionary Use to the Production and Retention of Collocations in a Second Language. *International Journal of Lexicography,* 24(1):29-49.

Levy, M. & Steel, C. 2015. Language learner perspectives on the functionality and use of electronic language dictionaries. *ReCALL,* 27(2):177-196.

Lew, R. 2011. Space restrictions in paper and electronic dictionaries and their implications for the design of production dictionaries in Bański, P. & Wójtowicz, B. (eds.), *Issues in Modern Lexicography*. München: Lincom Europa.

Lew, R. 2012. How can we make electronic dictionaries more effective? in Granger, S. and Paquot, M. (eds.) *Electronic Lexicography*. Oxford: Oxford University Press. 343-362.

Lew, R. 2013. Online dictionary skills [Abstract] in Kosem, I., Kallas, J., Gantar, P., Krek, S., Langemets, M., Tuulik, M. (eds.) *Electronic lexicography in the 21st century: thinking outside the paper. Proceedings of the eLex 2013 conference*, 17-19 October 2013, Tallinn, Estonia. Ljubljana/Tallinn: Trojina, Institute for Applied Slovene Studies/Eesti Keele Instituut.

Lew, R. & De Schryver, G-M. 2014. Dictionary Users in the Digital Revolution. *International Journal of Lexicography*, 27(4):341-359.

Lew, R. & Mitton, R. 2011. Not the Word I Wanted? How Online English Learners' Dictionaries Deal with Misspelled Words, in Kosem, I. and Kosem, K (eds.) *Electronic*

lexicography in the 21st century. Proceedings of the eLex 2011 conference, 10-12 November, Bled, Slovenia.

Lew, R. & Mitton, R. 2012. Online English Learners' Dictionaries and Misspellings: One Year On. *International Journal of Lexicography,* 26(2):219-233.

Lew, R., Kaźmierczak, R., Tomczak, E., Leszkowicz, M. 2017. Competition of Definition and Pictorial Illustration for Dictionary Users' Attention: An Eye-Tracking Study. *International Journal of Lexicography,* 31(1):53-77.

Leibniz-Institut für Deutsche Sprache. [Online]. [n.d.]. OWID. Available: https://www.owid.de/. [29 July 2020]

Lombard, F.J. 1994. Lexicographer, Linguist and Dictionary User: An Uneasy Triangle? *Lexikos,* 4:204-214.

Lu, H. & Wei, X. 2019. Structuring Polysemy in English Learners' Dictionaries: A Prototype Theory-Based Model. *International Journal of Lexicography,* 32(1):20-37.

Miller, J. 2013. Birds of a Feather Don't Always Flock Together: User Problems in Identifying Headwords in Online English Learner's Dictionaries. *Lexikos,* 23:273-285.

Miller, J., Kwary, D.A., Setiawan, A.W. 2017. Koalas, Kiwis and Kangaroos: The Challenges of Creating an Online Australian Cultural Dictionary for Learners of English as an Additional Language. *Lexikos,* 17:310-345.

Moon, R. 2013. Braving Synonymy: From Data to Dictionary. *International Journal of Lexicography*. 26(3):260-261.

Müller-Spitzer, C., Wolfer, S., Koplenig, A. 2015. Observing Online Dictionary Users: Studies Using Wiktionary Log Files. *International Journal of Lexicography*, 28(1):1-26.

Nesi, H. & Haill, R. 2002. A Study of Dictionary Use by International Students at a British University. *International Journal of Lexicography*, 15(4):277-305.

New language changes planned for South African Schools. 2020. *Business Tech* [Online] 22 May. Available: https://businesstech.co.za/news/government/400673/new-language-changes-planned-for-south-african-schools/. [29 July 2020]

Nielsen, S. 1995. Access Structure in Bergenholtz, H. & Tarp, S. (eds.) *Manual of Specialised Lexicography: the Preparation of Specialised Dictionaries*. John Benjamins Publishing Company. 219-223.

Nkomo, D. 2016. An African User-Perspective on English Children's and School Dictionaries. *International Journal of Lexicography*, 29(1):31-54.

Nurmukhamedov, U. 2017. The contribution of collocation tools to collocation correction in second language writing. *International Journal of Lexicography,* 30(4):454-482.

Pennington, B., Chapman, S., Fry, A., Deschenes, A., McDonald, C. 2016. Strategies to Improve the User Experience. *Serials Review,* 42(1):47-58.

Pretorius, E.J. & Spaull, N. 2016. Exploring relationships between oral reading fluency and reading comprehension amongst English second language readers in South Africa. *Read Writ,* 29:1449-1471.

Prinsloo, D.J. 2012. Electronic lexicography for lesser-resourced languages: The South African context, in Granger, S. and Paquot, M. (eds.) *Electronic Lexicography*. Oxford: Oxford University Press. 119-144.

Prinsloo, D.J. 2017. Analyzing words as a social enterprise: Lexicography in Africa with specific reference to South Africa, in Miller, J. (ed.) *Analysing words as a social enterprise: Celebrating 40 years of the 1975 Helsinki Declaration on lexicography*. Australex publications. 1-16.

Probyn, M. 2017. Languages and Learning in South African Classrooms: Finding Common Ground with North/South Concerns for Linguistic Access, Equity, and Social Justice in Education, in P.P. Trifonas, T. Aravossitas (eds.), *Handbook of Research and Practice in*

Heritage Language Education. Berlin: Springer International Handbooks of Education. 445-463.

Rundell, M. 2015. From Print to Digital: Implications for Dictionary Policy and Lexicographic Conventions. *Lexikos,* 25:301-322.

Schierholz, S.J. 2015. Methods in Lexicography and Dictionary Research. *Lexikos,* 25:323-352.

Spaull, N. 2013. Poverty & privilege: Primary school inequality in South Africa. *International Journal of Educational Development,* 33:436-447.

Statistics South Africa. 2012. *Census in brief.* [Online] Available: http://www.statssa.gov.za/?page_id=3955. [29 July 2020]

Summers, D. 1988. Advantages in Using Computers in Compiling ELT/ESL Dictionaries, with Particular Reference to the *Longman Dictionary of Contemporary English. Lexicographica,* 4:1-10.

Taljard, E. & Prinsloo, D.J. 2018. Multifunctional e-spelling dictionaries from a user perspective. Unpublished paper delivered at the EM Lex Colloquium. 26 March, Stellenbosch.

Taljard, E. & Prinsloo, D.J. 2019. African Language Dictionaries for Children – A Neglected Genre. *Lexikos*, 29:199-223.

Taljard, E., Prinsloo, D.J. & Fricke, I. 2011. The use of LSP dictionaries in secondary schools – a South African case study. *South African Journal of African Languages*, 31(1):87-109.

Tarp, S. 2000. Theoretical challenges to LSP lexicography. *Lexikos,* 10:189-208.

Tarp, S. 2004. Basic Problems of Learner's Lexicography. *Lexikos,* 14:222-252.

Tarp, S. 2008. *Lexicography in the borderland between knowledge and non-knowledge: General lexicographical theory with particular focus on learner's lexicography*, Tübingen: Max Niemeyer.

Tarp, S. 2009a. Beyond Lexicography: New Visions and Challenges in the Information Age, in Bergenholtz, H., Nielsen, S., & Tarp, S. (eds.) *Lexicography at a Crossroads: Dictionaries and Encyclopedias today, Lexicographical Tools tomorrow*. Bern: Peter Lang. 17-32.

Tarp, S. 2009b. The foundations of a theory of learners' dictionaries. *Lexicographica,* 25:155-168.

Tarp, S. 2011. Pedagogical Lexicography: Towards a New and Strict Typology Corresponding to the Present State-of-the-Art. *Lexikos,* 21:217-231.

Tarp, S. 2012. Do We Need a (New) Theory of Lexicography? *Lexikos,* 22:321-332.

Tarp, S. 2015. Preparing an Online Dictionary of Business Communication: From Idea to Design. *Lexikos,* 25:403-423.

Tarp, S., Fisker, K., & Sepstrup, P. 2017. L2 Writing Assistants and Context-Aware Dictionaries: New Challenges to Lexicography. *Lexikos,* 27:494-521.

Tarp, S. & Gouws, R.H. 2010. Skoolwoordeboeke vir huistaalleerders van Afrikaans. *Lexikos,* 20:466-494.

Tarp, S. & Gouws, R.H. 2012. School Dictionaries for First-Language Learners. *Lexikos,* 22:333-351.

Tarp, S. & Gouws, R.H. 2020. Reference Skills or Human-Centered Design: Towards a New Lexicographical Culture. Unpublished article.

Tarp, S. & Miyares, L.R. 2013. Cuban School Dictionaries for First-Language Learners: A Shared Experience. *Lexikos,* 23:414-425.

Taylor, S. & Coetzee, M. 2013a. Estimating the impact of language of instruction in South African primary schools: A fixed effects approach. Working Paper 21. Stellenbosch. University of Stellenbosch.

Taylor, S. & Coetzee, M. 2013b. Mother-tongue classrooms give a better boost to English study later. *Mail and Guardian,* 18 October.

Tikly, L. 2016. Language-in-education policy in low-income, postcolonial contexts: towards a social justice approach. *Comparative Education*, 52(3):408-425.

Van der Merwe, M. F. 2016. A study of the use of the HAT Afrikaanse skoolwoordeboek by primary school children. *Lexikos,* 22:352-366.

Vrbinc, M. & Vrbinc, A. 2015. Diasystematic Information in the "Big Five": A Comparison of Print Dictionaries, CD-ROMS/DVD-ROMS and Online Dictionaries. *Lexikos,* 25:424-445.

Vrbinc, M. & Vrbinc, A. 2016. Illustrative Examples in a Bilingual Decoding Dictionary: An (Un)necessary Component? *Lexikos,* 26:296-310.

Wiegand, H.E. 1977. Nachdenken über Wörterbücher. In *Nachdenken über Wörterbücher*. Mannheim/Wien/Zürich: Bibliographisches Institut. 51-102.

Wiegand, H.E. 1984. On the structure and contents of a General Theory of Lexicography, in Hartmann, R.R.K. (ed.) *Papers from the International Conference on Lexicography. Proceedings of the LEXeter '83 conference*, 9-12 September, Exeter.

Wiegand, H.E. 1988. Was eigentlich ist Fachlexikographie? Mit Hinweisen zum Verhältnis von sprachlichem und enzyklopädischem Wissen, in *Deutscher Wortschatz. Lexikologische Studien*. Ludwig Erich Schmitt zum 80. Geburtstag von seinen Marburger Schülern. Hrsg. v. Horst Haider Munske, Peter von Polenz, Oskar Reichmann, Reiner Hildebrandt. Berlin. New York 1988. 729-790.

Wiegand, H.E. 1998. *Wörterbuchforschung. Untersuchungen zur Wörterbuchbenutzung, zur Theorie, Geschichte, Kritik und Automatisierung der Lexikographie. 1. Teilband.* Berlin/New York: de Gruyter.

Wiegand, H.E., Beer, S. & Gouws, R.H. 2013. Textual structures in printed dictionaries: An overview, in *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 31-72.

Wiegand, H.E., Beißwenger, M., Gouws, R.H., Kammerer, M., Storrer, A., Wolski, W. (eds.) 2010: Systematische Einführung/Systematic introduction: *Wörterbuch zur Lexikographie und Wörterbuchforschung/ Dictionary of Lexicography and Dictionary Research*. Bd. 1, A-C. Berlin: De Gruyter.

Wiegand, H.E. Feinauer, I. & Gouws, R.H. 2013. Types of dictionary articles in printed dictionaries, in *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 314-365.

Wiegand, H.E. & Gouws, R. 2011. Theoriebedingte Wörterbuchform-probleme und wörterbuch-formbedingte Benutzerprobleme I. Ein Beitrag zur Wörterbuchkritik und zur Erweiterung der Theorie der Wörterbuchform*. *Lexikos,* 21:232-297.

Wiegand, H.E. & Gouws, R.H. 2013a. Macrostructures in printed dictionaries, in *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 73-109.

Wiegand, H.E. & Gouws, R.H. 2013b. Addressing and addressing structures in printed dictionaries, in *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 273-313.

Wiegand, H.E. & Smit, M. 2013. Mediostructures in printed dictionaries, in *Dictionaries. An International Encyclopedia of Lexicography. Supplementary Volume: Recent Developments with Focus on Electronic and Computational Lexicography*. Gouws, R.H., Heid, U., Schweickard, W., Wiegand, H.E. Berlin. Boston. 149-213.

Zgusta, L. 1971. *Manual of Lexicography.* The Hague: Mouton.

Appendix A Teacher interview questions

Interview questions for Grade 5 and Grade 6 English teachers

Section 1 [To establish characteristics of the school and class]

1. What grade do you teach?
2. What subject do you teach?
3. What is your home language?
4. How many learners are in your class?
5. How many of them are 1st language English speakers?
6. How many of them are 2nd language English speakers?
7. Of the second language English speakers, what is/are their home language(s)?
8. How old are the learners in your class?

Section 2 [To establish dictionary use in the classroom]

1. What dictionary do you use in class?
2. How is it used in class?
3. Do you have specific dictionary lessons?
4. How many copies are available?
5. Do learners have their own?
6. Do learners have access to a dictionary during other lessons? (not just language lessons)
7. Does the dictionary you use feel right in terms of age appropriateness and learners' proficiency/fluency?
8. Does the dictionary have what you need?
9. Is it easy to use?
10. Do learners know how to use it?
11. Do they use it on their own?
12. Do they know the different parts of an entry, and what information they can get from it?

Section 3 [To establish what the teacher wants in a dictionary]

1. What features do you like best in the dictionary your class uses?
2. What do you dislike?

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3. If you could design your ideal electronic dictionary, what features would you include?

4. Do you think encyclopaedic information would be important/useful for your learners?

5. Would you like labels: e.g. plural, pronunciation, etc?

6. Do you want usage notes in the main entry?

7. Would you like entries arranged in themes?

8. What features would help second language English speakers in particular? (e.g. more idioms, expressions, better searches, spelling, collocations, language notes…)

9. Audio: would it be useful just for pronunciation, or also for examples and definitions?

10. What platform would suit your classroom best? (e.g. iPad, PC, …)

Appendix B Learner tests

Learner Test   Grade: _____

Remember, this is to test the dictionary and help me make it the most useful dictionary for you. I am **not** testing **you**. If there is any part of this test that you don't understand, please ask me.

Section A
This section is for **before** you look at the example entries.

1. When you look up a word in the dictionary, what do you usually want to find? (You can give more than one answer.)
   - ☐ spelling
   - ☐ pronunciation (how to say the word)
   - ☐ definition (the meaning of the word)
   - ☐ examples (how to use the word)
   - ☐ other: _____

2. What dictionary do you usually use?
   - ☐ book
   - ☐ electronic
   - ☐ both book and electronic

3. Do you find what you are looking for?
   - ☐ yes
   - ☐ sometimes
   - ☐ usually
   - ☐ no

4. What was the last word you looked up in a dictionary?

   _____

   - ☐ I can't remember.

5. When do you usually look words up? (You can give more than one answer.)
   - ☐ while reading
   - ☐ while writing
   - ☐ while listening
   - ☐ while speaking

Section B
Look through the dictionary entries that you have been given. Imagine that they are on a computer screen.

1. Do you like how they look?
   - ☐ yes
   - ☐ no
   - ☐ sort of

2. Would you like to use this dictionary?
   - ☐ yes
   - ☐ no
   - ☐ maybe

3. Why or why not?
   _____

   _____

   _____

4. Remember your answer from the first question (Section A 1). Would you be able to find that easily in this dictionary?
   - ☐ yes
   - ☐ no
   - ☐ not sure

5. What words will you find in the **Word Bank** cloud?
   _____
   _____

6. What words will you find in the **Word Family** box?
   _____
   _____

7. What words will you find in the **Word Forms** box?
   _____
   _____

8. What will you find in the **Word Combinations** box?
   _____

   _____

9. Do you think any of these features (**Word Bank**, **Word Family**, **Word Forms**, **Word Combinations**) should have a different name? If so, what name do you think would work better to show learners what they will find in that box?

_____

_____

10. Do the pictures help you to know and understand what the word means?
   ☐ yes
   ☐ no
   ☐ maybe

11. Do you think every entry should be illustrated (have pictures)?
   ☐ yes
   ☐ no

12. Why or why not?

_____

_____

13. Do you want to see a written pronunciation guide as well as audio (sound)? (For example, Say buh-**naa**-nuh)
   ☐ yes
   ☐ no

14. Would you use the audio to hear the definition and examples, or only the pronunciation of the word?
   ☐ yes, audio for definitions and examples as well
   ☐ no, audio for pronunciation only
   ☐ sometimes

15. Do you know what a synonym is?
   ☐ yes
   ☐ no

16. Does a list of synonyms help you to understand a word?
   ☐ yes
   ☐ no

17. Do you know what an antonym is?
   ☐ yes
   ☐ no

18. Would you prefer the "opposites" to be called antonyms?
   ☐ yes
   ☐ no

19. Do you like the **Did you know** box or is it a waste of space? (see **banana**)

    ☐ like

    ☐ waste of space

20. Is it useful to see these in entries with different meanings or are they confusing?

PART OF SPEECH   noun

Do you mean the person?

OR

Do you mean the story?

Do you mean the noun?

OR

Do you mean the verb?

[] useful   []not useful

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Section C

Use the dictionary entries to answer these questions. Even if you know the answers, please try to find them in the dictionary. I want to find out if the answers are easy to find.

1. Which of these entries is an adjective? _____

2. Which of these entries is a verb?_____

3. Is **gesture** a noun or a verb in this sentence:

    I gestured for her to start singing.   [] noun   [] verb

4. What would you do if you want to know what a **banana republic** is?

    _____

5. What would you do if you need another word for **bright**?

    _____

6. Which of these entries has more than one meaning?

    1. banana []

    2. bright []

    3. legend []

    4. omit []

    5. gesture []

    6. venom []

7. Fill the correct word or form of the word in the following sentences:

    a. Her stories are [**legend**, adjective]_____.

    b. There are [**legend**]_____ about mermaids who sing to

        sailors at sea.

    c. How do I turn the [**bright**, noun] _____ on my phone?

    d. Please excuse the [**omit**, noun] _____in the list.

    e. Be careful – I think that snake is [**venom**, adjective] _____.

    f. This is my [**bright**] _____ running shirt.

    g. His hand [**gesture**]_____ are confusing.

8. Write the following sentence in a less formal way:

    I omitted our phone number on the invitation.

    _____

9. Give the opposite meanings of the words in bold in the following sentences:

    a. I'm going to paint my room a **bright** _____colour.

    b. We can **omit** _____ the boys' names from the list.

    c. It's so **bright** _____on a cloudy day.

10. Can you think of a situation where you or someone else **got away with** something? What happened?

_____

_____

_____

6. In the following sentences, is **venom** used figuratively? Tick the boxes where it is figurative.

    a. I am quite sure venom will pour from my fingertips, but I'm happy now.

          []

    b. How many snakes can spit their venom?   []

    c. All he will do is spew hatred and venom into the world. []

Finished!

Now you may keep the dictionary entries if you would like to, or you may write on them and make notes for me if you think I should change anything.

Thank you very much!

Appendix C Model article designs

banana →

SAY: buh-**naa**-nuh 🔴

Q SEARCH

(i) Help

PART OF SPEECH   noun   *WHAT IS A NOUN?*

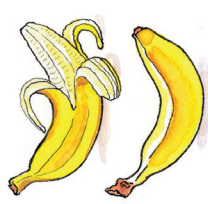MEANING   a long curved yellow fruit with a thick skin that you peel 🔴

AFRIKAANS   piesang

EXAMPLES
- *I eat a **banana** every day for breakfast.* 🔴
- ***Bananas** are my favourite fruit.* 🔴
- *a bunch of **bananas*** 🔴

MORE EXAMPLES

plural: bananas

WORD BANK
pear   *fruit*   apple
grape   peach
watermelon

WORD COMBINATIONS
banana bread
banana skin

DID YOU KNOW?
A single banana is called a **finger** and a bunch of bananas is called a **hand**.

SAY: bark 🔊

Do you mean the sound a dog makes?

OR

Do you mean the outer covering of a tree?

---

bark[1]

plural: barks

PART OF SPEECH	noun *WHAT IS A NOUN?*
MEANING	the loud sound that a dog makes 🔊
AFRIKAANS	blaf
EXAMPLES	• *My dog's **bark** is very loud.* 🔊
	• *I could hear a **bark** from inside the house.* 🔊
	MORE EXAMPLES

WORD BANK
snarl   *growl*
yelp   *yap*

---

bark[1]

present participle: barking
past tense: barked
past participle: barked

PART OF SPEECH	verb *WHAT IS A VERB?*
MEANING	to make the loud sound that a dog makes 🔊
AFRIKAANS	blaf
EXAMPLES	• *The dogs are **barking** at the gate.* 🔊
	• *My dog **barks** at birds.* 🔊
	MORE EXAMPLES

WORD BANK
snarl   *growl*
woof
yelp   *yap*

PHRASES

His bark is worse than his bite (idiom): means that somebody seems more unpleasant and dangerous than they are.

To bark up the wrong tree (idiom): is to look for answers in the wrong place.
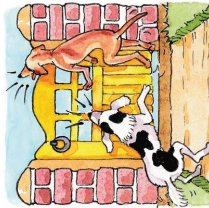
WORD ORIGIN
bark[1] from Middle English *berken*

---

bark[2]

no plural

PART OF SPEECH	noun *WHAT IS A NOUN?*
MEANING	the outer covering of a tree trunk and branches 🔊
AFRIKAANS	bas
EXAMPLES	• *This tree has rough **bark**.* 🔊
	• *If you pull the **bark** off the tree you can see the wood underneath.* 🔊
	MORE EXAMPLES

WORD BANK
trunk   root
branch   *stump*

WORD ORIGIN
bark[2] from Old Norse *börkr*

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← bright →

SAY: **brite** 🔊

ⓘ Help

PART OF SPEECH   adjective   *WHAT IS AN ADJECTIVE?*

comparative: brighter
superlative: brightest

---

1 something is bright when it has a lot of light in it 🔊

MEANING

XHOSA   eqaqambile

EXAMPLES
- *It's a **bright** and sunny day.* 🔊
- *The light in this room is too **bright!*** 🔊

  MORE EXAMPLES

  OPPOSITES   dim, dark

WORD BANK
shiny   **sunny**
clear   *dark*

---

2 a colour is bright when it is strong and easy to see 🔊

MEANING

XHOSA   eqaqambile

EXAMPLES
- *That's a **bright** running top.* 🔊
- *I love **bright** colours!* 🔊

  MORE EXAMPLES

  SYNONYMS   vibrant, brilliant, bold

  OPPOSITES   dull, faint

WORD BANK
dull colourful *Vibrant*
faint **bold** *brilliant*

---

3 a bright person is clever 🔊

MEANING

XHOSA   -krelekrele

EXAMPLE
- *She's the **brightest** child I've ever taught.* 🔊

  MORE EXAMPLES

  SYNONYMS   smart, clever, intelligent

WORD BANK
smart   *intelligent*
clever   brainy
brilliant

WORD FAMILY

brightly (adverb):
The sun shone *brightly*.

brightness (noun):
You can change the
brightness of your screen.

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← gesture →

SEARCH

SAY: **jes-chur** 🔊

PART OF SPEECH	noun *WHAT IS A NOUN?*
MEANING	❶ a movement of part of your body that gives a message 🔊
AFRIKAANS	gebaar
EXAMPLES	• She gave a thumbs up **gesture** to tell him she was fine. 🔊
	• The umpire gave the **gesture** to signal a four. 🔊
	• The conductor uses different **gestures** to tell the orchestra how to play the music. 🔊
	• That driver gave me a rude **gesture**. 🔊
	MORE EXAMPLES
	SYNONYMS signal, motion, action

plural: **gestures**

WORD BANK

thumbs up

motion   action

signal

PART OF SPEECH	noun *WHAT IS A NOUN?*
MEANING	❷ an action that you do to send a message 🔊
AFRIKAANS	gebaar
EXAMPLES	• Bringing tea was a thoughtful **gesture**, thank you. 🔊
	• The protest action was a political **gesture**. 🔊
	• Laying the wreath is a symbolic **gesture**. 🔊
	MORE EXAMPLES
	SYNONYMS action, display, expression

plural: **gestures**

WORD BANK

expression

display

action

PART OF SPEECH	verb *WHAT IS A VERB?*
MEANING	❶ to make a movement or sign that gives a message 🔊
AFRIKAANS	beduie
EXAMPLES	• Our teacher **gestures** for the class to keep quiet. 🔊
	• The lady **gestured** for me to come in while she held the door open for me. 🔊
	MORE EXAMPLES
	SYNONYMS beckon, sign

present participle:
gesturing
past tense:
gestured
past participle:
gestured

WORD BANK

sign   *beckon*

wave

smile   **nod**

WORD ORIGIN

from Latin *gerere*
'bear, wield, perform'

WORD COMBINATIONS

*gesture of goodwill, hand
gesture, kind gesture,
physical gesture,
rude gesture, symbolic gesture*

← **get away with →**   🔍 SEARCH   ⓘ Help

PART OF SPEECH	phrasal verb *WHAT IS A PHRASAL VERB?*

present participle: **getting away with**
past tense: **got away with**
past participle: **got away with**

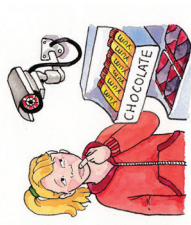**MEANING** ❶ to do something that is not found out or punished 🔊

XHOSA -phuncula ku-/kwi-

EXAMPLES
- *She wanted to steal a chocolate but didn't think she would **get away with it*** 🔊
- *I can't believe you **got away with that!*** 🔊
- *Would you **get away with that** at home?* 🔊

MORE EXAMPLES

SYNONYMS escape or avoid punishment, get off lightly

WORD BANK
lenient get off lightly
escape blame
avoid punishment

MEANING ❷ to be successful at something even though you are not doing it the best way 🔊

XHOSA -phepha ku-/kwi- or uku-/uk-

EXAMPLES
- *You won't **get away with** just a T shirt in this weather.* 🔊
- *I thought I could **get away with** not using a recipe.* 🔊
- *I like radio presenting because you can **get away with** dressing badly.* 🔊

MORE EXAMPLES

WORD BANK
consequence

RELATED PHRASES

get away with murder (idiom):
to do whatever you want without getting punished
He got away with murder when he stayed with his cousins.

off the hook (idiom):
to not be responsible for something
My name's not on the list for cleaning up, so I'm off the hook!

get off lightly (phrase):
to not be punished or harmed as much as you could have been
She got off lightly with just a warning.

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legend

SAY: **le-jind** 🔊

PART OF SPEECH   noun   *WHAT IS A NOUN?*

plural: **legends**

1 a person who is famous for having done something brave or good 🔊

MEANING

XHOSA   iqhawe

EXAMPLES
* *Shaka Zulu is a South African **legend**.* 🔊
* *She is a **legend** in South African music.* 🔊

MORE EXAMPLES

SYNONYMS   hero, heroine, champion
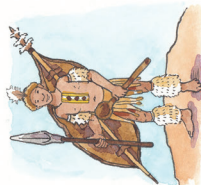
WORD BANK

heroine   *hero*
champion

2 a story from long ago that is probably not true but has been told through generations 🔊

MEANING

XHOSA   intsomi

EXAMPLES
* *We are learning about myths and **legends** from different parts of the world.* 🔊
* *Have you heard the **legend** of the tokoloshe?* 🔊

MORE EXAMPLES

SYNONYMS   story, folk tale

WORD BANK

story   *folklore*
folk tale   *myth*

WORD FAMILY

legendary (adjective):
*His stories about high
school are **legendary**.*

WORD COMBINATION

urban legend:
*The story about crocodiles
in the sewers is an **urban legend**.*

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↓ omit ↑

SAY: oh-mit 🔊

🔍 SEARCH

PART OF SPEECH   verb *WHAT IS A VERB?*

MEANING   (formal) to leave something out, to not include something 🔊

AFRIKAANS   uitlaat

EXAMPLES
- They **omitted** to put cutlery on the table. 🔊
  (They did not put knives and forks and spoons on the table.)
- This article **omits** the names of the researchers. 🔊
  (This article leaves out the names of the researchers.)

MORE EXAMPLES

SYNONYM   exclude

OPPOSITE   include

present participle: **omitting**
past tense: **omitted**
past participle: **omitted**

WORD BANK
exclude *forget*
neglect overlook
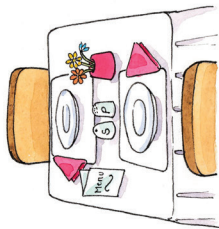
WORD FAMILY
omission (noun):
*There's an omission on
the menu.*

← venom →

SAY: **ve**-nim

SEARCH

(i) Help

PART OF SPEECH   noun *WHAT IS A NOUN?*

no plural

1 (literal) poisonous liquid that some snakes and other creatures use to kill or injure their prey

MEANING

XHOSA   ububuhlungu benyoka

EXAMPLES
- *That snake is very dangerous because its* **venom** *can kill a person.*
- *Moving a lot after a snake bite makes the* **venom** *spread quicker.*

MORE EXAMPLES

SYNONYMS   poison, toxin

WORD BANK

toxin

poison

2 (figurative) strong feeling of anger or hate

MEANING

XHOSA   intiyo

EXAMPLES
- *Her writing is full of* **venom**.
- *You can tell he's angry when his tweets are full of* **venom**.

MORE EXAMPLES

SYNONYMS   malice, spite

WORD BANK

hate   *anger*

malice   *spite*

WORD FAMILY

venomous (adjective):
Watch out for the
venomous *snakes in*
the area.

USAGE NOTE

Don't confuse **venom** with **poison**.
Poison is something that kills or
injures you if you eat or drink it.
A snake is not poisonous, it is
venomous. In other languages
there is no difference between
venom and **poison**.

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