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Guiding principles for the appraisal of English-teaching software

Shoadi Ezekiel Ditaunyane^{1*}  and Gary Wayne Collins² 

¹*Human Sciences Research Council, Pretoria, South Africa*

²*Department of Applied Languages, Tshwane University of Technology, Pretoria, South Africa*

*Correspondence: LDitaunyane@hsrc.ac.za

Abstract: This qualitative study was motivated by the lack of appropriate guidelines and criteria for the assessment and selection of suitable Computer Assisted Language Learning (CALL) applications focusing on English First Additional Language (EFAL) for Senior Phase (Grades 7-9) learners in Gauteng. Therefore, the study set out to formulate guiding principles that evaluators could reference in assessing and selecting EFAL CALL applications. A developmental research design was adopted to facilitate the inductive development of guiding principles suitable for the appraisal of EFAL CALL applications. A purposively selected sample consisting of Grade 7-9 learners, Grade 7-9 EFAL teachers and education officials was used to collect qualitative data. Development sessions were repeated until nothing new emerged. After a process of analysis and constant refinement of codes emanating from the data, eight guiding principles were determined. The findings of the study provide essential perspectives on the use of English-teaching software through the lens of learners, teachers and education officials. These perspectives are crucial in shaping the discourse on the use of technology as a lever for the enhancement of the quality of teaching and learning in the classroom. They provide voices that are often lacking in high-level policy discussions undertaken by Umalusi, the Council for Quality Assurance in General and Further Education and Training in South Africa.

Introduction

Computer Assisted Language Learning (CALL) applications are becoming increasingly prominent among the material produced by commercial publishing houses and often escape the critical scrutiny employed for other, more familiar, learning material. Thus, CALL evaluators 'must choose teaching and learning material tools with a critical eye' (Coetzee 2009: 4). Sangeetha and Aparna (2022: 351) posit that most of the materials used in classrooms are developed by software vendors with little or no understanding of the pedagogy of material development. No attempt has been made to examine and analyse the software used by the colleges and schools critically. Most of the teachers have been using simple checklists to get feedback about these materials.

There is also a need to determine the degree to which the software is used and whether its use is effective. Therefore, EFAL CALL evaluation helps the teacher decide whether to use the software in the future and, if so, whether to use it in the same way or differently. It also adds to the teacher's general understanding of what learners do with the software, which can influence future evaluations and implementation decisions (Sangeetha and Aparna 2022).

Often, the potential benefits of using computer-based resources, which include more efficient use of time, convenient access to learning material, accessibility for people with disabilities, and multimodal learning, are diluted by incongruous selection and evaluation practices. Many of the difficulties associated with selecting and evaluating CALL applications became apparent to the researchers when involved in assessing and selecting Learning and Teaching Support Material (LTSM) for quintile 1-3 schools, i.e., those schools that do not charge fees.

No definitive or bespoke criteria were referenced during the process of evaluating digital material earmarked for these schools. Assessors and selectors of e-learning applications were inclined to focus only on the curriculum requirements of the multimedia applications being appraised, to the exclusion of other aspects, such as learner fitness, language teaching approaches, and the technical specifications of the application. More significantly, the Gauteng Department of Education

(GDE) confirmed that a set of guidelines or a framework was not in place to assist evaluators in the selection and evaluation of digital learning material (Nkumane 2019). The checklist used as an evaluation instrument to assess the LTSM, including Information Communications Technology (ICT) applications, was deficient in holistic criteria that cover essential aspects of CALL applications, such as learner attributes, language teaching approaches, application type, and the various idiosyncrasies related to the implementation of a CALL application.

In one of the few studies conducted in South Africa, Louw (2011: 34) addressed the lack of contextually applicable studies on CALL software evaluation by emphasising that none of the articles that report on the evaluation of software are comprehensive enough to guide practice and inform decision making properly regarding the most suitable CALL products to purchase. The problem is aggravated by the fact that none of these guidelines explicitly states the link between what is evaluated and what is part of the design. This makes it difficult for those tasked with this important undertaking to make informed decisions in the appraisal of CALL software. In addition, the tools and the criteria used to evaluate other types of LTSM do not accommodate the characteristics of CALL software, such as tutorials (drill-and-practice), games, grammar checkers, test reconstruction, and simulations.

Considering the complexity and distinct nature of CALL software evaluation, Ahmadi (2018:121) suggests a comprehensive set of criteria grounded in sound overarching (guiding) principles with application transcending the evaluation instrument itself are required to address the dearth of guidelines on selection. This article reports on a study that sought to develop, through an inductive process, a set of guiding principles that are contextually relevant, descriptive (instead of prescriptive), and flexible.

Context

The schooling system in South Africa is divided into four phases, namely, the Foundation Phase (Grades R-3), Intermediate Phase (Grades 4-6), Senior Phase (Grades 7-9), and Further Education and Training (FET) Phase (Grades 10-12). The study focused on learners who are in the Senior Phase (Grades 7-9). These learners are typically from 13 to 15 years of age, and the majority are located at public primary schools across Gauteng, with some being at independent primary schools. According to the Department of Basic Education (DBE 2013: 9), in 2013, there were 170 463 Grade 7-9 learners at independent schools in Gauteng and 1 497 671 Grade 7-9 learners at public schools in Gauteng. It is worth noting that even though some Grade 7-9 learners are located at either independent or public primary schools, most primary schools end with Grade 7. This means that Grades 8 and 9 are more likely to be offered at secondary schools. As a Language of Learning and Teaching (LoLT), English presents numerous challenges for learners and teachers in Grades 4-6 and Grades 7-9, especially for learners whose home language is not English (Howie et al. 2017). The GDE is one of nine Provincial Education Departments (PEDs) in South Africa. This Department consists of a head office based in Johannesburg and 15 Districts across Gauteng. These districts are located within the designated local government boundaries.

As part of its 2017/2018 service delivery improvement plan, the GDE identified e-learning as one of its priorities and conceptualised a project called 'Schools of the Future' to integrate digital technology and e-learning within the South African schooling system (GDE 2018: 45). The Schools of the Future project aims to deliver digital classrooms at 377 'no-fee paying' secondary schools. Even though the project does not include primary schools yet, it is an indication that the GDE is focusing on transforming its schools into e-learning institutions.

CALL and ICT infrastructure

CALL is not immune to the South African education system's infrastructural challenges in relation to the incorporation of computer technology into education. For example, if schools do not have computers, CALL cannot be implemented. Louw (2011: 36) thus emphasises that CALL success depends on the environment, and the whole context of the teaching situation influences the effectiveness of the CALL system. Therefore, the successful implementation of teaching and learning initiatives that include CALL hinges on sufficient funding and provision of ICT infrastructure at schools,

e.g., functional computers, Internet connectivity, adequate bandwidth, etc. These considerations emphasise the importance of a well-thought-out evaluation process suitable for the contextual and pedagogical realities. It would seem self-evident that until adequate attention has been given to providing reliable infrastructure consisting of suitable resources and skills, CALL can only be used as part of a supplementary learning strategy. Garrett (2009: 733), however, cautions against allowing budget-driven constraints to thwart the implementation of innovative learning and teaching practices that are certain to yield positive long-term results. A sensible contingency plan that is not reliant on unaffordable or unreliable technological infrastructure would need to be in place. These could include paper-based alternatives to online content, etc.

Evaluation of CALL software

Amid the literature on CALL software evaluation, two significant contributors stand out, i.e., Hubbard and Chapelle (see McMurry et al. 2016: 3).

Hubbard's Methodological Framework

Philip Hubbard, a linguist from Stanford University who pioneered work related to CALL evaluation, traces his own methodological framework to the work of Martin Phillips, who developed a framework linked to language teaching methodology in 1985. According to Hubbard (2006: 4), Phillips' framework included categories for the types of CALL applications in existence during his era but also described dimensions such as language difficulty, learner focus (i.e., skills such as listening, speaking, reading and writing) and language focus (i.e., grammar, lexis and discourse) relevant to the language learning aspects of the application.

In 1988, Hubbard took Phillips' model and integrated it with the model developed independently by Richards and Rodgers (1982) to describe and analyse language teaching methods. Richards and Rodgers' model divided language teaching methods into three distinctive categories, namely, (1) fundamental language learning theories 'assumed by the method'; (2) a design that is in step with these basic assumptions, including the syllabus model, general and specific objectives of the method, and the roles of the students, teacher, and materials; and (3) the various classroom activities that facilitate the realisation of the design (Hubbard 2006: 4).

Hubbard (1988) reformulated the approach, design and procedure constructs according to categories describing the critical elements of evaluation and renamed them *teacher fit*, *learner fit*, and *operational description*, respectively. This has become known as Hubbard's Methodological Framework (HMF). The HMF evolved into an evaluation module that included modules for courseware development and implementation (Hubbard 2006).

Chapelle's Computer Applications in Second Language Acquisition Framework

Carol Chapelle draws her ideas on CALL software evaluation from what she dubbed Computer Applications in Second Language Acquisition (CASLA). Chapelle's CASLA ties in with Hubbard's idea of second language acquisition-based (SLA) approaches to CALL software evaluation. In essence, Chapelle grounds her evaluation criteria on SLA-based research. She argues that given the need to make judgements about CALL software applications, many teachers and CALL enthusiasts have 'developed guidelines, checklists and evaluation rubrics for CALL materials as a means of setting some criteria for what can be considered good CALL' (Chapelle 2001: 51).

Chapelle (2001) further argues that three needs must be addressed to improve CALL evaluation, namely, (1) the incorporation of evaluation criteria into findings and theory-based research about ideal conditions for SLA; (2) clear guidance on how criteria should be used by articulating a theory of evaluation; and (3) theory and criteria applicable to both software and tasks designed by teachers for learners.

Reflections on Hubbard and Chapelle's CALL evaluation frameworks

Both Hubbard's and Chapelle's CALL evaluation frameworks provide a valuable resource for selecting appropriate teaching and learning tools. However, they do not articulate principles upon which a comprehensive set of selection and evaluation criteria can be based within an EFAL context,

such as the EFAL context in South Africa. For example, schools in South Africa must contend with a multiplicity of contextual variables, such as multiracial and multicultural schools, differences in learners' and schools' socio-economic status, etc. The HMF and CASLA are generic in terms of their scope, while the current study was meant to consider context-specific issues.

Methodology

The study adopted a developmental research design to formulate guiding principles for assessing and selecting EFAL CALL applications for Grade 7-9 learners at schools in Gauteng. Richey and Klein (2005: 24) define *developmental research* as the systematic study of designing, developing and evaluating instructional applications, processes and products that must meet the criteria of internal consistency and effectiveness.

A developmental research approach was adopted because it is a pragmatic type of research that offers a way to test 'theory' that has only been hypothesised and to validate practice that has been perpetuated essentially through unchallenged tradition. In the context of this study, a developmental research approach was followed to improve the way EFAL CALL applications are assessed and selected, as this task is currently undertaken without reference to a set of clearly articulated guiding principles.

A development team was selected based on a model development and model validation proposition and included learners, teachers and education officials. Table 1 provides a summary of the composition of the development team and how they were selected for this study.

These participants were purposively selected based on their skill and experience pertaining to the use of CALL applications to provide a balanced perspective on selecting and evaluating EFAL CALL applications. Focus group interviews were used as a data collection technique for the three groups that formed part of the development team (Grade 7-9 teachers and learners, and education officials). Even though the researchers met with the three groups separately, they were all considered part of the same development team. The contributions of all focus groups were analysed as one dataset reflecting the views of all participants.

The development team was exposed to an evolving set of guiding principles and then invited to participate in focus group discussions about their opinions on what should constitute best practice in the appraisal and selection of EFAL CALL applications. This allowed the guiding principles to be developed and improved.

Transcripts of all focus group interviews were tagged using codes. The codes were subsequently sorted into predetermined categories based on HMF as the initial descriptive framework to structure the coding. Those with characteristics and properties in common were grouped into sub-categories. A set of criteria derived from HMF was determined for each element against which the codes and categories could be compared. This allowed for the codes and categories to be 'reassembled'

Table 1: Population description for data collection

Population group	Population description	Population and sample size	Method of selection
Grade 7–9 learners	Age Group: 13-15 years Offered EFAL All genders	Ten learners formed part of the development team and were sampled from one public school in Tshwane North District.	Purposively selected
Senior Phase EFAL teachers	Teach EFAL to Grade 7-9 learners All females	Four teachers formed part of the development team and were sampled from one public school in Tshwane North District.	Purposively selected
Education officials	Curriculum experts whose main responsibility is to develop and monitor the implementation of the South African school curriculum.	Six curriculum experts formed part of the development team. They were sampled from a national quality council.	Purposively selected

into guiding principles. The guiding principles were articulated in a formulation suggested by Van den Akker (1999: 9). The principles can be broken down into the characteristics, procedures and arguments that form each principle's constituent parts. Van den Akker's formulation of design and development principles was used as a basis for the explication of the guiding principles.

The main elements of Van den Akker's (1999) formulation of design and development principles are *substantive emphasis*, *procedural emphasis*, and *arguments*. He argues that, while the design and development principles cannot guarantee success, they are intended to select and apply the most appropriate substantive and procedural knowledge for specific design and development tasks. The suggested formulation is typically expressed as follows:

If you want to design intervention X (for the purpose/function Y in context Z), then you are best advised to give that intervention, the characteristics A, B and C [substantive emphasis], and to do that via procedures K, L and M [procedural emphasis], because of arguments P, Q and R (Van den Akker 1999: 9).

Substantive emphasis refers to the substantive characteristics of an intervention (in terms of what it should look like) that can be extracted (partly) from a resulting intervention itself. *Procedural emphasis* refers to the set of design and development activities that are considered most promising in developing an effective and workable intervention. The value of knowledge resulting from a development research project will strongly increase when it is justified by theoretical *arguments*.

The study's trustworthiness (especially aspects of credibility and dependability) was established through *member checking* to constantly review and refine the inputs of all participants, and through a *constant comparative method*, which involved coding, sorting and analysis of data. The study received ethical approval from a research ethics committee. The researchers submitted an ethical clearance application that contained details of the process that would be followed in collecting the data from various participants, namely, applying to obtain permission from the GDE to collect data from schools (permission was given); writing letters to schools to interview Grade 7-9 teachers and learners; as well as applying for permission to interview the education officials.

Findings: a summary of the guiding principles

Guiding principles were inductively formulated from a constant comparative analysis of seven focus group interviews held with a purposively selected development team. A summary of the guiding principles will now be presented using the researchers' interpretation of Van den Akker's formulation described earlier.

Guiding principle 1

To effectively assess and select EFAL CALL applications, it is important to have access to a trial version of the application to enable evaluators to conduct a thorough appraisal of the application before making a commitment to purchase it. The appraisal should focus on the compatibility of hardware, software capabilities, complementary devices and connectivity.

Guiding principle 2

To effectively assess and select EFAL CALL applications, the evaluation process must consider the purpose of the intended curriculum as one of the factors. The intentions of the curriculum are articulated in the official curriculum in the form of requisite language and development skills and other policy imperatives.

Guiding principle 3

Assessment of learner performance is a critical factor to consider in the assessment and selection of EFAL CALL applications. Thus, CALL applications should include one or all of the following forms of assessment that are aligned with the national curriculum: assessment of learning (summative assessment), assessment for learning (formative assessment), and comprehensive feedback and reporting.

Guiding principle 4

In making judgements about the appropriateness of an EFAL CALL application, one of the factors to consider is whether such an application supports EFAL teaching approaches and methods to enhance learner proficiency in EFAL.

Guiding principle 5

When evaluators evaluate EFAL CALL applications, the socio-cultural diversity of the learner population should be considered in terms of multilingualism, the relevance of content, and generational idiosyncrasies (youth culture).

Guiding principle 6

When evaluating EFAL CALL applications, it is important to consider their affordability by paying attention to the following cost elements: the quintile classification of the school, the price of the software, licence costs, cost of software updates, connectivity costs, and costs related to corresponding hardware – where applicable.

Guiding principle 7

When evaluating and selecting an EFAL CALL application, it is important to determine the degree to which the application is learner-centred and the extent to which it prioritises the needs of learners by paying attention to the following: the use of multimedia, learner interest and needs, enhancement of learning, quality feedback, and game features.

Guiding principle 8

The training of teachers in the use of EFAL CALL applications should form part of their in-service teacher training. For this to happen, the evaluators of EFAL CALL applications need to include teacher training in their evaluation criteria to ensure schools are able to implement CALL initiatives effectively.

Discussion and literature reflection

What follows is a discussion of the findings of this study, together with an attempt to link these findings to the relevant literature. The inductive development and formulation of guiding principles applicable to this study reference HMF. The framework provided valuable conceptual elements upon which predetermined categories were based. It is for this reason that the discussion and literature reflection will be organised into the following clusters: technical requirements; intended, enacted and assessed curriculum; and learning context.

Technical requirements**Access to a trial version**

It is axiomatic that anybody who wants to evaluate an EFAL CALL application should have access to the application to make informed judgements. Chapelle (2001: 52) asserts that the evaluation of CALL software itself constitutes the first level of analysis in the process. This is the level where the evaluators of the software ask all the operational and technical questions about the appropriateness of the software.

Bradin (1999: 172) thinks that, if possible, learners should be allowed to try the CALL application themselves using a checklist prepared by their teacher. This can shed light on the learners' initial impression regarding the software. Chapelle (2001: 52) proposes the following question as the main focus of this stage of evaluation: 'Does the software provide learners the opportunity for interactional modifications to negotiate meaning?' Her focus is on what the learner stands to benefit from interacting with the application. This is reflected in the guiding principle pertaining to the benefits of learner-centred software.

However, Duffy (2015: 2) argues that there are significant logistical issues associated with free trial versions and points out that a minimum of a week is required for a user to get a sense of how the

application works and to make sufficient progress for something other than a rudimentary evaluation to take place.

Robb and Susser (2000: 46) found that most teachers who had made decisions to purchase software did so after evaluating the software themselves. The teachers tried different methods to test the software, such as evaluating the advertised features, obtaining a copy or demo of the software, and allowing a handful of learners to try it under classroom conditions.

Learner-centred software

The overriding consideration for applying the guiding principle related to meeting learners' needs is whether a CALL application is 'learner fit'. International trends show a shift from the traditional teacher-centred approach to a learner-centred approach (Schreurs and Dumbraveanu 2014: 36). In a learner-centred approach, learners are makers of knowledge who are co-responsible for knowledge creation. They are also presented with real-life problems in a collaborative and social environment.

A learner-centred environment is not limited to the classroom. This can include any place that a learner finds useful for meaningful learning and the creation of knowledge. Sujee (2015: 55) argues that a learner-centred approach is more beneficial for achieving learning outcomes, even though teacher-centred methods, such as the grammar-translation method of memorisation and written language, may still be used effectively together with learner-centred methods.

In a learner-centred approach, the role of the teacher changes from that of being the sole custodian of knowledge to being a facilitator of learning. As a facilitator of learning, the EFAL teacher's responsibility is to create a learning environment that supports the learning activities appropriate to achieving the intended learning outcomes (Schreurs and Dumbraveanu 2014: 37). Therefore, the EFAL teacher should consider the learner's learning needs when participating in a CALL evaluation process.

The participants expressed their preference for computer gaming in learner-centred CALL applications. Learning through computer gaming is beginning to receive more attention and is a promising area of study. Initial research suggests that simulations and games are indeed beneficial for language acquisition (Ní Chiaráin and Ní Chasaide 2017: 229). Ní Chiaráin and Ní Chasaide (2017: 230) assert that computer games can enhance learning because they mimic *interaction* in real-life situations and create virtual worlds. The findings of the current study are that, even though learners are interested in CALL games, they are not just interested in the entertainment value of these games. They actually want to learn and enhance their proficiency in EFAL.

Alessi and Trollip (2001: 296) have cautioned against pitfalls associated with creating and using games as teachers need to be careful when choosing games as a methodology for learning. Among the pitfalls that they identified are the negative perceptions that teachers may have about games and the possible conflict between educational goals and the characteristics of the games. To avoid these pitfalls, Alessi and Trollip (2001) suggest *prototyping* as a possible solution. Prototyping means trying out a partially completed CALL application or a mock application on potential users to ensure they consider it enjoyable. Therefore, in line with the principle regarding access to a trial version, EFAL teachers can prototype a computer game with their learners before recommending its purchase.

Lastly, learners who were part of the focus group indicated that they prefer CALL software that uses plenty of audio-visual material, such as videos, animations, pictures, and audio files. One of the distinct advantages of using audio-visual material in the teaching of EFAL is that such material tends to be non-linear and learning foreign vocabulary is facilitated when annotations are provided in a text and multimedia format, rather than solely in a text or picture format (Vasconcelos 2012: 640).

Intended, enacted and assessed curriculum Curriculum

Seitz (2017: 73) points out that what 'societies envisage as important to learn constitutes the "official" or "intended" curriculum'. The 'implemented' or 'enacted' curriculum is what is delivered in the classroom. The 'achieved' or 'assessed' curriculum is what students learn.

The official national curriculum is a crucial consideration in assessing and selecting EFAL CALL applications because the DBE expects all schools registered on its system to teach the content prescribed.

Jacob's (2011: 33) definition of a curriculum aligns with the applicable guiding principle: 'an interrelated set of plans and experiences that a learner completes under the guidance of the school or learning institution'. The definition of curriculum is based on two main concepts, i.e., plans and experiences. Plans are understood to be a collection of plans about teaching. These could be plans on a national level (macro-planning), institutional level (meso-planning), and classroom level (micro-planning). Experiences refer to how the learners' experience the learning process. Therefore, the inclusion of CALL applications should form part of the EFAL teacher's micro-planning at classroom level to ensure effective utilisation of CALL applications.

Furthermore, evaluators need to ensure that the content of the CALL software aligns with the national curriculum, which is the macro-plan. The knowledge and competencies required for EFAL in Grades 7-9 are extensively and clearly outlined in Section 3 of the national curriculum for English First Additional Language (EFAL) (DBE 2011: 15). The prescribed EFAL content is summarised as follows: listening and speaking; reading and viewing; writing and presenting; and language structures and conventions.

Assessment

Assessment is 'a continuous planned process of identifying, gathering and interpreting information about the performance of learners' (DBE 2011: 119). Assessment is not a once-off event but a process that takes place throughout the academic year. Dliwayo (2019: 28) states that 'assessment is a cyclical process which involves teaching, assessment, analysis, re-teaching, re-testing and remediation'. Understanding assessment as a process implies that teachers need to use feedback from assessments to assist learners during the learning process. CALL software should include elements of assessment for several reasons, partly because it is a requirement of the national curriculum for the teaching and learning of EFAL in Grades 7-9, and mainly because of its educational value for both teachers and learners in the teaching and learning process. In both formative and summative assessment, regular feedback should be provided to learners to enhance their learning experience.

The national curriculum has prescribed formal and informal assessment tasks for each academic year in Grades 7-9. The forms of assessment used must be age- and grade-appropriate. The design of these tasks must cover the content of the subject and include a variety of tasks designed to achieve the objectives of the subject (DBE 2011: 120). Tasks should be based on the knowledge and skills covered during the academic year. Teachers are required to use the term plans for each grade to select the kind of activities and the set of skills required for each part of the formal assessment task (DBE 2011: 120).

Assessment activities in the EFAL CALL applications should include feedback functionality for both teachers and learners. For teachers, the feedback must consist of reports on the performance of all learners in various tasks. For learners, the feedback must include reports that indicate their areas of excellence and weakness. Unfortunately, not all kinds of feedback provide learners with information that adds value to their learning. For example, merely awarding a score to the learners' work does not say much about their areas of strength and weakness.

Therefore, the use of feedback improves performance only when it is focused on what needs to be done to improve, and when it gives specific details about how to improve (Jacobs 2011: 281). Feedback provided by a CALL application should be valuable enough for an EFAL teacher to compile a comprehensive report on the learner's performance and report to the learner's parents about their child's performance. The teacher can use the same feedback to review their teaching methods and approaches to determine possible gaps and future improvements. Hence, the need for the inclusion of criteria that appraises the quality of feedback on learner performance. Furthermore, assessment activities must be weighted appropriately in line with the requirements of the national curriculum. Chapter 4 of the Curriculum and Assessment Policy Statements (CAPS) document

provides teachers with the necessary information regarding assessment requirements, including the weighting, moderation, recording and reporting of assessment outcomes.

Pedagogy

The guiding principle pertaining to pedagogy concerns the approaches and methods used in the teaching and learning of EFAL. The overriding question to be asked under this guiding principle is whether the CALL software being reviewed is teacher fit.

While there are numerous language teaching approaches that an EFAL teacher may consider, the national curriculum is explicit on the preferred teaching approaches for EFAL Grades 7-9. This means that assessors and selectors of EFAL CALL applications should familiarise themselves with the language teaching approaches recommended in the national curriculum. They must then analyse the teaching approaches included in the EFAL CALL software to ensure that they do not completely deviate from the quintessential principles espoused by the language teaching approaches recommended in the national curriculum.

Richards and Rodgers (2001: 19) define a language teaching approach as a set of correlative assumptions dealing with the nature of language teaching and learning. An approach is axiomatic and describes the nature of the subject matter to be taught. These authors distinguish an approach from a method when they point out that an approach is axiomatic and a method is procedural. Richards and Rodgers (2001: 19) go on to define a method as 'an overall plan for the orderly presentation of language material, no part of which contradicts, and all of which is based upon the selected approach'.

The language teaching approaches outlined in the national curriculum are an essential consideration for inclusion in the criteria for assessing and selecting EFAL CALL applications. The extent to which the purchased software supports the use of various approaches and methods known to be effective will determine the success of the enacted curriculum.

Each language teaching approach and method is underpinned by a specific theory or theories of language teaching and learning. This means that EFAL CALL software developers show a preference for certain methods because of what they believe (language theory) about language teaching and learning. It is also worth noting that EFAL CALL software is not a turnkey solution for all matters related to EFAL teaching and learning. As the learning facilitator, the EFAL teacher should still mediate the learners' interaction with CALL software.

In her seminal book, Chapelle (2001: 55) refers to the software's language learning potential as an important element to be considered in determining its appropriateness. She argues that language learning potential refers to the extent to which the activity can be considered a language learning activity rather than simply an opportunity for language use. She argues that the difference between language learning and language use lies in whether or not the software promotes beneficial focus on form. In line with the guiding principle on pedagogy, this study argues that language teaching approaches should also be considered an important criterion to determine a CALL application's language learning potential.

Learning context

Cultural context and diversity

The guiding principle pertaining to cultural context and diversity addresses the peculiarities of the learning and linguistic context in which learners learn.

Given the multilingual nature of the South African society, guiding principle 5 accentuates the need for developers of EFAL CALL applications to consider the inclusion of a translation functionality in the software so that learners can read content in their home language and gain a better understanding. In an attempt to address the identified need for a multilingual tool, Sujee (2015: 92) asserts that the desegregation of formerly whites-only schools has created a new linguistically diverse environment and innovative ways of teaching that are necessary to accommodate multilingualism in schools. Therefore, multilingualism is a crucial factor in the process of evaluating CALL software.

In the South African context, learners come from different walks of life and speak different languages. Madiba (2010) argues that in the learning process, using one's primary language to

access knowledge presented in another language provides a foundation for contextualising newly acquired knowledge within pre-existing knowledge. Madiba's assertion supports this study's finding concerning the need for the learner's home language to be included within a translation function of a CALL application.

Furthermore, the reality of youth culture is a critical contextual consideration in assessing and selecting Grade 7-9 EFAL CALL applications. Youth culture refers to the common norms, values and practices shared by adolescents and young adults. Social media has become a significant characteristic of youth culture. EFAL CALL applications should incorporate aspects of youth culture, such as using social media, to maintain relevance with the youth as the target end-users.

The benefits of social media can be built into the development of CALL software to give learners a relatable learning experience. However, the use of social media in EFAL teaching is not without challenges, as observed by Songxaba and Sincuba (2019) in their study focused on WhatsApp as a tool to teach learners essay writing. They assert that the efforts of language teachers are designed to perfect and sharpen language efficiency. Therefore, WhatsApp language has to be closely monitored so that it does not have a negative influence on the essays written by learners (Songxaba and Sincuba 2019: 3).

Affordability

Affordability refers to the ability of schools to purchase the EFAL CALL applications. To address the economic imbalances caused by the legacy of apartheid in the South African education system, the Department of Education (DoE) published the National Norms and Standards for School Funding in 2004. According to these norms and standards, public schools are classified according to their quintile status based on the national poverty distribution table, also called the poverty table (DoE 2004a). Based on the poverty table, DBE works out its national table of targets for school allocation, according to which schools are allocated funds per learner.

More government funding is given to poorer quintiles than the richer quintiles. To this end, the 'adequacy benchmark' is used to allocate the minimum funding that the department believes is needed by each school. In terms of the disbursement of funds by schools, the National Norms and Standards for School Funding state unequivocally, 'it is important that schools should use the school allocation in such a way that education is improved in the school' (DoE 2004a: 9).

In assessing and selecting EFAL CALL applications, quintile 4-5 schools have the autonomy to conduct their own assessment of the software and make their own decisions regarding purchasing the software. Thus, the process outlined under the guiding principle on access to a trial version with reference to collective decisions is more relevant to this category of schools.

Regarding quintile 1-3 schools, the standard approach is for PEDs to buy LTSM and other resources in bulk and ensure timeous delivery of these resources before the beginning of a new academic year. The schools determine to varying degrees the resources they want to procure, and where this approach is pursued, it is important for schools to receive adequate information regarding the monetary value of the resources they receive (DoE 2004a: 21). The DBE assesses LTSM for such schools and publishes a national catalogue of materials for quintile 1-3 schools to choose from.

Teacher training

The Draft White Paper on e-Education (2004) remains the most important legal document that legitimises the integration of e-education at schools in South Africa. Chapter 5 of the White Paper states the following as one of its strategic objectives: 'every teacher, manager and administrator in General and Further Education and Training must have the knowledge, skills and support they need to integrate ICTs in teaching and learning' (DoE 2004b: 25). Therefore, the guiding principle on teacher training acknowledges the importance of such training as one of the pre-conditions for successfully implementing a CALL application in the classroom. For this to happen, the criteria used to assess and select CALL software should include a teacher training component as an evaluation factor.

Hubbard (2008: 181) argues that one of the reasons for the failures in CALL teacher training is the lack of experienced and knowledgeable trainers. This includes trainers or instructors who can

offer the kind of training that EFAL teachers will find useful and appropriate. Hubbard (2008: 181) emphasises the value in recognising the institutional roles of CALL specialists and professionals, the skills of which have not always been adequately acknowledged. The shortage of CALL specialists is particularly evident in South Africa, where CALL is still a budding field of study. Designers and developers of CALL software can always be used in the training of teachers because of their technical knowledge of the products. Livingstone (2012: 14) argues that while technologies can make learning more convenient, it requires substantial involvement of a teacher training programme, and preparation and production of appropriate materials for such learning to become more effective. Thus, training should incorporate aspects of the intended, implemented and assessed curriculum for it to be effective.

Conclusion

The eight guiding principles outlined in this article articulate substantive and procedural practices that would allow for the production of effective and adequate resources that could be used in selecting and evaluating CALL applications for Grade 7-9 learners in South Africa. These resources could take the form of checklists, models, a framework, or other evaluation and assessment schemes that could be used by the various stakeholders tasked with selecting suitable LTSM. The eight principles encompass the tangible evaluation of trial versions of potential purchases, curriculum considerations, pedagogical approaches, socio-cultural realities, affordability, learner centeredness, and training requirements.

The study bridged a significant gap in the appraisal of EFAL CALL applications because to date, evaluators have adopted a more intuitive or ad hoc approach. Often, the same approach for selecting other LTSM has been used, which is not always appropriate because the approach lacked contextual relevance. Firstly, a similar study can be undertaken focusing on English Home Language and other official languages in South Africa. While the findings of this study are relevant to EFAL in Gauteng, there is plenty of scope for future studies in other languages. Further studies can potentially use learner populations in other grades, such as Grades 1-6 and Grades 10-12.

Secondly, each of the eight guiding principles warrants further research focusing on them discretely. Therefore, research studies focusing on each guiding principle could provide deeper insights into their usefulness in different contexts. Thirdly, further research could be conducted on how assessment criteria can be developed based on the principles emanating from this study because the guiding principles are more generic in scope, and the criteria could focus on specifics. Lastly, there is potential for future studies investigating the assessment and selection of different types of EFAL CALL applications.

ORCID iDs

Shoadi Ezekiel Ditaunyane – <https://orcid.org/0000-0003-1438-7587>

Gary Wayne Collins – <https://orcid.org/0000-0001-8053-8529>

References

- Ahmadi MR. 2018. The Use of Technology in English Language Learning: A Literature Review. *International Journal of Research in English Education* 1: 116–125.
- Alessi MS, Trollip SR. 2001. *Multimedia for Learning: Methods and Development* (3rd edn). Boston, MA: Allyn and Bacon.
- Bradin C. 1999. CALL issues: Instructional Aspects of Software Evaluation. In Egbert J, Hanson-Smith E (eds), *CALL Environments: Research, Practice and Critical Issues*. Alexandria, VA: TESOL.
- Chapelle CA. 2001. *Computer Applications in Second Language Acquisition: Foundations for teaching, testing and research*. Cambridge: Cambridge University Press.
- Coetzee RW. 2009. *Beyond Buzzwords: Towards an evaluation framework for CALL in the SA FET Sector*. MPhil mini-dissertation. University of Stellenbosch, South Africa.
- Department of Basic Education (DBE). 2011. *Curriculum and Assessment Policy Statement*. Pretoria: DBE.

- Department of Basic Education (DBE). 2013. Library services access, e-Education: Departments of Basic Education & Communications briefings. Available at: <https://pmg.org.za/committee-meeting/16210> [accessed: 1 June 2022].
- Department of Education (DoE). 2004a. National Norms and Standards for School Funding: Proposals for Amendments November 2004. Pretoria: DoE.
- Department of Education (DoE). 2004b. Draft White Paper on e-Education: Transforming Learning and Teaching through Information and Communication Technologies (ICTs). Government Gazette No. 2673425-26, 26 August (WPB-2004). Pretoria: Government Printers.
- Dliwayo M. 2019. *The role of examinations as a tool for effective formative assessment practices*. PhD thesis. University of Pretoria, South Africa.
- Duffy J. 2015. The Best Software for Learning Languages. *PC Magazine*, 131–135.
- Garrett N. 2009. Computer-Assisted Language Learning Trends and Issues Revisited: Integrating Innovation. *The Modern Language Journal* 9: 719–740.
- Gauteng Department of Education (GDE). 2018. *Annual Report: 2017/2018 Financial Year*. Johannesburg: GDE.
- Howie SJ, Combrinck C, Roux K, Tshele M, Mokoena GM, Mcleod Palane N. 2017. *PIRLS Literacy 2016: South African Highlights Report*. Pretoria: Centre for Evaluation and Assessment.
- Hubbard P. 1988. An Integrated Framework for CALL Courseware Evaluation. *CALICO Journal* 6(2): 51–72.
- Hubbard P. 2006. Evaluating CALL Software. In: Ducate L, Arnold N (eds), *Calling on CALL: From Theory and Research to New Dimensions in Language Teaching*. San Marcos, TX: CALICO. pp. 99–125.
- Hubbard P. 2008. CALL and the Future of Language Teacher Education. *CALICO Journal* 25(2): 175–188.
- Jacobs M. 2011. Curriculum. In: Jacobs M, Vakalisa NCG, Gawe N (eds), *Teaching – Learning Dynamics*. Cape Town: Heinemann. pp. 31–63
- Jaya S, Zaharudin R, Hashim SNA, Ithnin MA, Zaid SM, Mapjabil J, Nordin MN. 2021. Employing Design and Development Research (DDR) Approach in Designing Next Generation Learning Spaces (NGLS) in Teachers' Pedagogy and Technology Tools. *Review of International Geographical Education (RIGEO)* 11(7): 1237–1246.
- Livingstone S. 2012. Critical reflections on the benefits of ICT in education. *Oxford Review of Education* 38(1): 9–24.
- Louw H. 2011. Design considerations for CALL based upon evaluation criteria for CALL. *Journal for Language Teaching* 45(1): 34–65.
- Madiba M. 2010. Fast-tracking concept learning to English as an additional language (EAL) students through corpus-based multilingual glossaries. *Alternation: Interdisciplinary Journal for Study of the Arts and Humanities in Southern Africa* 17(1): 225–248.
- McMurry BL, West RE, Rich PJ, Williams DD, Anderson NJ, Hartshorn KJ. 2016. An Evaluation Framework for CALL. *The Electronic Journal for English as a Second Language* 20(2): 1–31.
- Ní Chiaráin N, Ní Chasaide A. 2017. Criteria for evaluating a game-based CALL platform. In: Borthwick K, Bradley L, and Thouëсны S (eds), *CALL in a climate of change: Adapting to turbulent global conditions – short papers from EUROCALL 2017*. Voillans, France: Research-Publishing. net. pp. 229–234.
- Nkumane P (Phindile.Nkumane@gauteng.gov.za). 2019. Request for information about E-LTSM. Email to: Ditaunyane SE (Lucky.Ditaunyane@umalusi.org.za). 24 July.
- Richards JC, Rodgers TS. 2001. *Approaches and Methods in Language Teaching* (2nd edn). Cambridge: Cambridge University Press.
- Richey R, Klein J. 2005. Developmental research: Studies of instructional design and development. In: Jonassen D (ed.), *Handbook of research for educational communications and technology* (2nd ed.). Bloomington: Association for Educational Communications and Technology. pp. 1099–1130.
- Robb TN, Susser B. 2000. The Life and Death of Software: Examining the Selection Process. *CALICO Journal* 18: 41–52.

- Sangeetha VB, Aparna P. 2022. Evaluation of software components used in Multimedia Labs: A critical study. *Research Journal of English (RJOE)* 7(2): 351–355.
- Schreurs J and Dumbraveanu R. 2014. A Shift from Teacher Centered to Learner Centered Approach. *International Journal of Engineering Pedagogy (iJEP)* 4(3): 36–41.
- Seitz P. 2017. Curriculum Alignment among the Intended, Enacted, and Assessed Curricula for Grade 9 Mathematics. *Journal of the Canadian Association for Curriculum Studies* 15(1): 72–94.
- Songxaba SL, Sincuba L. 2019. The effect of social media on English second language essay writing with special reference to WhatsApp. *Reading & Writing* 10(1), Art. 179.
- Sujee E. 2015. The effect of computer technology on learning in a multilinguistic language class. PhD thesis. University of Pretoria, South Africa.
- Van Den Akker J. 1999. Principles and methods of development research. In: Van den Akker J, Branch R, Gustafson K, Nieveen N, Plomp T (eds), *Design approaches and tools in education and training*. Dordrecht, Germany: Kluwer Academic Publishers. pp. 1–14.
- Vasconcelos R. 2012. Multimedia Activities in L2 Course Websites: A Case Study of a Site Dedicated to Cultural Topics of Portuguese-Speaking Countries. *CALICO Journal* 29(4): 639–662.