SELECTING AN E-(TEXT)BOOK: EVALUATION CRITERIA

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Abstract

This paper aims to propose a repository of pre-use evaluation criteria for language teachers who wish to introduce e-books or e-textbooks to their own teaching practices. By selectively using a set of such criteria, they will be able to evaluate to what extent a given e-book/e-textbook lends itself to utilisation within their own teaching context.

The paper briefly reviews the potential advantages of technology-enhanced language teaching. Then, it presents a range of manners in which e-books have been defined, outlines their most essential features, and demonstrates exemplary classifications of e-book types.

The evaluation criteria proposed are informed by an analysis of three independent studies into the guidelines for e-book and e-textbook design, as well as the types and features of e-books presented within the paper. The outcome is a list of evaluation criteria pertaining to three aspects of an e-book: (i) layout and design; (ii) content and functionalities; and (iii) the reading device, file format and distribution.

1. Introduction

The e-book market is growing rapidly, with sales increasing annually. For example, the value of consumer e-book sales increased by 366% in 2011. In the first three months of 2012, the increase amounted to 188% and was expected to reach the level of 376% by the end of the year (Guardian, 2012).

Comparatively, in the first six months of 2011, digital sales constituted 7.2% of the total value of book sales, while within the analogical period of 2012, they nearly doubled to reach the 12.9% mark (CILIP, 2012).

A similar trend, albeit much slower in its growth rate, is observable with the sector of education. According to the estimates of the 2010 Simba Information report on the use of e-textbooks in higher education (Simba Information, 2010) the sales of e-texts will continue to grow in the course the year 2013 at the rate of 49%, while e-texts will constitute an estimated 11% of textbook sales.
Reynolds (2011) estimates that by the year 2015 e-textbook sales on the higher/career education markets in the United States will have reached the 26% mark, whereas in 2017 e-textbooks will compose 44% of the United States textbook market.

As Miller et al. (2012) report in a research study, a steady growth in the introduction of e-textbooks into education is observable, particularly among younger undergraduate students, and those who take technically-oriented college courses.

Overall, it may be stated that despite the lack of conclusive research findings which would demonstrate a significant impact on the effectiveness of learning (Murray & Pérez, 2011), an increased implementation of e-textbooks seems imminent. The more that it is likely to be driven by the support of e-textbooks among students (McFall et al., 2006) and teaching/academic staff (McFall et al., 2006; Embong et al., 2012).

This paper aims to assist language educators interested in implementing e-books or e-textbooks in evaluating the extent to which particular e-publications lend themselves to utilisation within a specific teaching context. This paper offers a repository of pre-use evaluation criteria pertaining to the following aspects of an e-book: (i) layout and design; (ii) content and functionalities; and (iii) the reading device, file format and distribution.

The greatest emphasis has been placed on the first two aspects, with the third one, as the most technical of the three, being only signalled here. However, it must be underlined that evaluation to be conducted by an individual language teacher will only be complete if the criteria discussed in this paper are supplemented with the generic criteria conventionally used for the purpose of selecting language teaching materials at large.

2. Background

2.1. The merits of technology-enhanced language education

The use of information and communication technology in language education has a number of potential advantages, which depending on the actual implementation modes may, or may not, become a part of the learning experience.

By and large, technology can enhance language learning by motivating learners, stimulating teacher-student and student-student interaction, increasing the range of learning resources (Lee, 2000; Warschauer, 2004) and individualising instruction. In addition, it helps learners develop their ICT skills (Gaible & Burns, 2005).

The individualisation of instruction is brought to the fore by Taylor and Gitsaki (2003), who maintain that when teachers assess students’ learning progress, they can obtain
essential data from computer language learning programs which may enable them to provide learners with feedback tailored to their learning needs.

Gaible and Burns (2005) discuss a range of benefits that computer technology, including the Internet, can bring to teacher development. Yet, their suggestions, which are presented below, simultaneously imply how technology may facilitate learning at large.

For instance, Gaible and Burns (2005) state that ICT may diversify access routes to learning material by enabling learners to reach content far beyond their immediate classroom environment, i.e. the books or reference sources which are available to them at school. This may be facilitated by the utilisation of multimedia materials, including textual, audio and video cues; a point of view which was also expressed by Felix (1998) and Krajka (2007; 2012).

Another argument shared by Gaible and Burns (2005), Warschauer (2004) and Bélisle (2007), is that computer technology facilitates collaborative learning, i.e. peer-to-peer cooperation, as it permits communication.

Moreover, Gaible and Burns (2005), similarly to Carrier (2006) and Bélisle (2007), cite interactivity as another value which computers offer. It may work on two different levels: on the one hand, learners can search and select materials from which to learn; on the other hand, they can engage in constructivist learning, i.e. interact with the material which they are using, as well as other learners.

Bélisle (2007) adds that modern technology helps learners solve actual problems rather than learn passively by simply internalising knowledge (Bélisle, 2007). In Bélisle's words, technology transforms the nature of cognition into "understanding as doing and solving problems" (Bélisle, 2007, p. 4). All in all, Gaible and Burns (2005), as well as (Downes, 2005), maintain that ICT activates learners and shifts learning from teacher-centred to learner-centred forms.

O'Dowd (2003) points out that computer technology highlights the cultural context of the target language or raises learners' cultural awareness. Corbett (2003), Bandura (2007) and Marczak (2012) demonstrate how ICT may foster the development of intercultural competence.

Finally, Motteram and Sharma (2009) state that computer technology extends the language learning environment to contexts both in and outside the classroom through blended learning, i.e. blending face-to-face and online instruction. This may materialise through the use of electronic coursebooks, which allow learners to use materials illustrated with
multimedia content, as well as e-readers, which permit them to download content while studying at home.

In conclusion, technology is largely believed to facilitate language instruction. However, what must be brought to light is the fact that the above advantages of ICT-enhanced language education are not inherently featured within technology per se; they are rather to be perceived as a number of potentialities which may be exploited by learners, depending on the informed decisions taken by their instructors or themselves.

2.2. The e-book as a teaching aid

2.2.1. Definitions

There is a vast range of possible definitions of an e-book. Diaz (2003) defines it as an interactive system through which information is delivered. However, Magnik (2001) suggests that the very name is obscure and expresses clearly neither the form nor the function(s) which it may perform. As he posits, any digitalised document which is available to readers on a portable storage medium could classify as an e-book.

This obscurity of meaning is illustrated by Lynch (2001), who distinguishes between three different interpretations of the term e-book:

(i) an e-book as digital content which can be transported on a portable storage medium or via a computer network;

(ii) an e-book reading device, i.e. an appliance which is capable of displaying digital content on a high-quality display screen and is not equipped with a keyboard; and

(iii) computer software, i.e. computer applications, which will permit one to read electronic content, e.g. on the regular desktop computer.

A number of authors have already stressed the fact that an e-book bears resemblance to its traditional, printed predecessor (Landoni & Gibb, 2000; Chen, 2003; Diaz, 2003; Crestani et al., 2005; Carden, 2008). Crestani et al. (2005) define an e-book as the integration of the concept of a conventional paper book with additional useful features provided electronically. Interestingly enough, they suggest that a good e-book contains electronically encoded information with a degree of added value.

By contrast, Davy (2007) believes that the very conversion of a paper textbook into the digital format does not suffice to improve learning. Therefore, he recommends a departure from the familiar concept of a book by actually decomposing the structure of a paper textbook, as it is conventionally perceived, into constituent elements and making them accessible electronically through a variety of search routes. To his mind, that kind of solution
can turn an electronic textbook into a really useful learning resource which will effectively serve particular learning objectives.

2.2.2. Features
An analysis of publications by Crestani et al. (2005), Davy (2007), Carden (2008) and most recently Hatipoglu and Tosun (2012) yields a range of the most vital characteristics of e-books, as presented below.

By definition, e-books come in the digital format, which may involve a variety of technologies, including e-paper (Davy, 2007). As they constitute a lesser or greater departure from the conventional paper book, e-books offer an extensive storage capacity, as well as portability in that their content can be easily downloaded and even printed at the time of need (Crestani et al., 2005).

Due to electronic delivery, they render course contents easily accessible (Crestani et al., 2005; Hatipoglu & Tosun, 2012). Interestingly enough, their accessibility does not seem to be affected by the fact that e-books inadvertently require the use of e-readers, i.e. devices which permit the reading of digital content, as mobile phones or handhelds are now used ubiquitously (Davy 2007). What is more, in Carden's (2008) view, e-reading devices have now become so attractive that they themselves can encourage potential readers to use e-books.

E-books add to the range of document formats through which content can be delivered to learners, e.g. text documents (.doc) or Flash animations (.swf) (Carden, 2008; Hatipoglu & Tosun, 2012). Carden (2008) observes that such a diversity of formats additionally affects the range of distribution channels available.

Electronic books render content searchable and linkable; they permit the use of annotation and bookmarking tools (Crestani et al., 2005). They are also a dynamic teaching aid which can be edited, re-edited and updated, as a result of which they permit the creation of multiple versions of content (Crestani et al., 2005).

Due to the rapid advancement of technology, they are relatively cheap. Although the purchase of compatible e-readers may incur costs, once an institution or an individual has reached beyond this stage, expenditure is limited (Hatipoglu & Tosun, 2012).

They are portable teaching aids in that they can be accessed at the time of convenience and irrespective of the place (Hatipoglu & Tosun, 2012), which makes them suitable for learning contexts both in and outside the classroom.
They provide textual content enhanced with a selection multimedia, including audio and visual cues, as well as opportunities for the use of live broadcasts, depending on the technical functionalities of the e-reader (Davy, 2007; Hatipoglu & Tosun, 2012).

E-books enable the learner to interact with the content through varied routes of his own choice; in effect, the reader can, as it were, journey through the content without having to follow the linear structure of a paper book (Davy, 2007). That in turn fosters the individualisation of the learning process, as it enables learners to make use of their preferred learning styles (Davy, 2007; Hatipoglu & Tosun, 2012).

2.2.3. Types of e-books
A variety of e-book classifications have been proposed to date. The three major categories into which e-textbooks fall are: (i) simple e-textbooks; (ii) complex e-textbooks; and (iii) advanced e-textbooks (Allison, 2003).

(i) **Simple e-textbooks** are digitalised, downloadable versions of conventional textbooks. If they are e-books, e.g. electronic versions of the literary classics, they may even be distributed to readers free of charge, provided that the copyright has already expired. Occasionally, simple textbooks may be enriched with basic hypertext functionalities.

(ii) **Complex e-textbooks** are all ameliorated by more sophisticated forms of hypertext-based functions, and they fall into three sub-categories. The first sub-category comprises e-textbooks which contain hyperlinks to selected external audio-video components, including: audio clips, animated images and video clips. Within the second sub-category, the e-textbooks featured offer readers a choice of additional resources which are intended to supplement the text proper; these resources may take the form of supplementary texts or even complete websites. It is worth observing that such ancillary components may require readers to pay an additional fee to the publisher. Finally, the third sub-category refers to e-textbooks which have hypermedia elements incorporated directly into their content.

(iii) **Advanced e-textbooks** combine a multitude of audio-video components which accompany the content with an element of interactivity, whereby the reader is given the opportunity to search through and use the features available, depending on their individual needs (Allison, 2003).

A sophisticated extension of the latter category of e-textbooks/e-books or perhaps even the fourth, freshly emerging category in its own right, could embrace e-books involving all the multimedia and hypermedia technologies mentioned afore in combination with functionalities which would permit detailed studies of e-book usage, such as those that have
been implemented as part of the *SuperBook* project (Rowlands et al., 2007). This project is administered by the Department of Information Studies at University College London in order to track the use of e-books by academic teachers and students in the United Kingdom's higher and further education.

A more detailed classification of e-books has been proposed by Crestani et al. (2005), who delineate types of e-books according to the technological and learning affordances which they offer. Thus, they classify e-books as: (i) page turners; (ii) scrolling books; (iii) portable books; (iv) multimedia books; (v) hypermedia books; and (vi) cyberbooks.

(i) *Page-turning e-books* fall into a spectrum ranging from electronic copies of paper books, including the same lay-out and elements of content, to those which imitate the paper version but offer new interaction patterns to the reader. With these kinds of e-books the reader may turn the pages while reading, but also annotate, bookmark or highlight the content (Crestani et al., 2005).

(ii) *Scrolling e-books* discard the concept of a proper book page and replace it with a text scroll, i.e. a scrollable space, where irrespective of the screen size large amounts of content may be published. Such e-books contain both text and graphics and may feature hyperlinks to the relevant sections. As a result, to some extent they resemble web pages. However, they do not completely break away with the conventional book metaphor, as they still include a title section, a table of contents, chapters, indices, or references (Crestani et al., 2005).

(iii) *Portable e-books* are either digital versions of paper books which can be read on a portable computer, or, alternatively, they may be sophisticated publications involving the use of *digital ink* and *flexible electronic paper* pages, to which content can be downloaded (Crestani et al., 2005).

(iv) *Multimedia e-books* are diversified in the content through the incorporation of animations, sound and video materials into content, already composed of text and digital images. As Crestani et al. (2005) underline, due to the importance of the visual aspect of this kind of e-books, they require a well thought-out design of the user interface.

(v) *Hypermedia e-books* may be viewed as a more elaborate version of multimedia e-books in that they integrate an array of the afore-mentioned multimedia into the content, while permitting the reader to access all elements through alternative routes. Crestani et al. (2005) note that due to the hyperlinking technology involved here, such e-books may cause navigation problems or overwhelm the reader with the number of media available.
(vi) Cyberbooks are publications which exist in electronic format, exclusively. They are free from the constraints of the book metaphor, and as such function rather as repositories of information and resources with which the reader can dynamically interact.

The gradual diversion from the conventional paper book metaphor, observable within the types of e-books presented above, is succinctly illustrated by the third classification. Here, Carden (2008) exemplifies to what uses modern day e-books may be put and what possible functions they may perform. Thus, he distinguishes between e-books as: (i) databases; (ii) learning objects; (iii) viewable resources; (iv) narratives; and (v) imagery.

(i) Databases are electronic reference publications, such as dictionaries or encyclopaedias. Their content is not accessed by users in a linear fashion, but rather searched through for specific information (Carden, 2008). It is, therefore, essential that such e-books be equipped with effective search functionalities.

(ii) The concept of e-books as Learning objects resounds Davy's (2007) idea that e-textbooks can be deconstructed into separate learning components which learners will use most effectively when they are empowered to select optimal options. Carden (2008) agrees with Davy (2007) that such an objective-driven environment will enrich the learning experience. Thus, e-books functioning as learning objects are computer applications where assessment tools, homework management and learning environments are added to the content, while access and learning are facilitated by searching, annotation and highlighting tools.

(iii) Viewable resources stand for academic monographs which are available to users through online repositories. Readers either scour the content as a reference source, looking for longer fragments of text relevant to their current interest, or scan the publications in search of ideas which will inform their further academic work. Carden (2008) highlights that such e-books call for effective content listing, search and bookmarking functionalities.

(iv) Narratives are e-books featuring fiction or academic discourse papers delivered and read electronically through portable devices. Although linear consumption of the content seems to work against the electronic format, due to screen size or display issues, Carden (2008) observes that narratives are popular both with fiction readers as well as academics.

(v) Finally, E-books as imagery are publications where textual content is enriched, and perhaps brought more to life, through the addition of animated graphics and interactive elements. In this manner the narrative of the e-book can either be provided mostly on the visual plane, e.g. for young readers, or it may simply be significantly enhanced by graphics.
3. E-book evaluation criteria

In the light of the types and characteristics of e-books cited above, as well as the outcomes of research projects which aimed to devise design guidelines for the authors, publishers of electronic (text)books and educational hardware and software developers a set of criteria for the pre-use evaluation (Tomlinson 2003) of e-books can be inferred.

Three such studies were reviewed: the EBONI project (Wilson et al., 2002), the VisualBook project and the HyperTextBook project (Crestani et al., 2005). While the EBONI and HyperTextBook projects focused on the development of recommendations for the design of textbooks, the VisualBook tackled mostly the visual aspects of the production of electronic books.

In addition, Carden's (2008) paper on the differences between e-books and their paper counterparts was analysed with regard to the author's comments on the devices and file formats involved in the delivery of e-books to users.

As a result, inferences from the afore-mentioned resources were converted into questions which could serve as an evaluation checklist for teachers and students to use while selecting a particular e-book or e-textbook for language education. The emergent list of criteria has been divided into three basic categories pertaining to three different aspects of e-books: (i) layout and design; (ii) content and functionalities; and (iii) device, format and distribution.

(i) Layout and design

- Does the layout of the e-book mimic the paper book or is it a cyberbook publication?
- Does the e-book contain an informative cover, featuring the name of author, the title, the date of publication, and the publisher's details?
- Does it have a clearly defined or user-friendly layout (sections, chapters)?
- Is it accompanied by a table of contents which provides an introduction to the content as well as the layout?
- Is the content laid out on pages or within scrollable areas?
- Are particular sections of the content (e.g. pages) labelled clearly through page numbering or any other system?
- Does the interface feature other navigation clues which make particular elements of content accessible?
- Are colour schemes used to aid searching?
• Are the fonts visible?
• Is the content indexed, so that necessary details, e.g. names or terminology, can be easily accessed?

(ii) Content and functionalities

• Is the content delivered in manageable chunks, given the format of the e-book and the functionalities of the e-reading device?
• Are related elements of the content hyperlinked?
• Are multimedia/hypermedia part of the e-book?
• Do the multimedia/hypermedia enhance the content and constitute added value?
• Is the e-book equipped with an advanced search tool which permits the reader to take a variety of search routes and use a range of search queries?
• Can the reader customise elements of the e-book to his own liking/needs?
• Are bookmarking and annotation tools available to the reader?
• Is the content supplemented with extra online materials, e.g. multimedia or companion websites?
• Does the e-book feature usage data mining functionalities?
• Can the e-book function as: a database, a narrative, a set of learning objects, a package of viewable resources or as imagery?

(iii) Device, format and distribution

• Does the e-book require an e-reader which is relatively cheap and available?
• Is the e-book file format open, i.e. will it be read by multiple brands of reading devices or a desktop computer?
• Are reading rights restricted in any way, e.g. through a digital rights management (DRM) system?
• Is the retail distribution of the format restricted in any way?

4. Conclusions
The above evaluation criteria are by no means exhaustive, and they are supposed to be approached rather as a repository out of which prospective evaluators can selectively choose
the criteria which would best correspond to their language teaching circumstances. To the mind of a particular evaluator, a good e-book/e-textbook will not necessarily meet all of these criteria and the relevance of each of them must be subjectively assessed before a final checklist is compiled.

Consequently, it seems desirable that researchers attempt to particularise the generic evaluation checklist presented above by identifying sets of criteria which to take into account in clearly specified language teaching contexts. The results of such studies would ease the teacher’s job consisting in the adaptation of the generic checklist to their own circumstances.

What is more, in order to verify the validity of the predictive evaluation checklist e-books should be further subjected to two types of evaluation advocated by Tomlinson (2003): whilst-use and post-use evaluation. These evaluation modes would measure the actual outcomes of the implementation of particular e-books in the middle and at the end of a language teaching course, respectively. The findings would inform teachers about the actual benefits as well as possible problems that the use of e-books is likely to entail; particularly, if such evaluation was complemented by: (i) the results of action research which would investigate how selected e-book features translate into various learning modes; as well as (ii) evidence from interviews with teachers and learners involved in e-book-based education.

Last but not least, e-book evaluation should by no means be limited to the content and software, but it should additionally embrace the hardware, i.e. the e-readers, and the various digital formats available, which may also exert influence on the efficacy of e-book-enhanced language instruction.

References


