Chapter VII
Learning Objects: Projects, Potentials, and Pitfalls

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ABSTRACT

This chapter provides an overview of the field of digital objects and repositories. It introduces the concepts of digital objects and repositories, their purposes, and their abilities to develop a coherent understanding of their nature and function. It continues by identifying and describing a number of generic and language-specific repositories. Examples of language objects are given to illustrate potentials and pitfalls. The review and dissemination of knowledge about these innovative resources assists educators in embracing new portals for teaching and learning languages with the most recent technologies. How they are being used and how this might fit into the future of language education is outlined to capitalize on their potential while avoiding the pitfalls. It is argued that showcasing repositories, promoting leading practice among language educators, and advocating high-quality digital resources prevents the further marginalization of language education in online environments. The main issue of standardization and neutrality are outlined, and the tension of value-free learning objects vs. the values embedded in the cultural aspects integral to language teaching and learning are explored. The chapter concludes with future research opportunities on learning objects, specifically in relation to the field of language acquisition to ensure adequate design and thus worthwhile use of future digital resources.

INTRODUCTION

This chapter is a reference for practitioners and researchers interested in learning objects, and their potential and application in the field of language education. The principal goal of this chapter is a general introduction to learning objects: their definition, current trends, and future directions in the field. The more specific objectives include an understanding of the basic terms, an outline of the current discussion on their various abilities, the main issues in creating and reusing learning
objects, specific examples and applications, a discussion on the contradictions of value-free content and cultural values, and suggestions for future research.

The intention of this chapter is to stimulate original approaches, to introduce innovative resources, to encourage leading-edge practice in order to utilize the potential, and to pave the way for future research. It is argued that there is a marginalization of languages in online environments and that familiarity with digital learning objects and their active usage is needed to counteract this trend. Also, it is hypothesized that advocacy is required to ensure high content quality, cultural appropriateness, and relevance in the development of future learning objects.

The main section of the chapter covers the conceptualization, standardization, and application of learning objects and repositories. It introduces and promotes learning objects and repositories to raise awareness and interest. A definition of key terms and the clarification of main concepts are followed by an identification of commonalities and differences in the variety of digital resource offerings and how this relates to integration into existing language acquisition programs. A ready-made collection of relevant, quality digital repositories is presented to facilitate use and to build a community of practitioners.

The contradictions of the striving for valuefreeness of digital resources is explored and contrasted with the realities of value richness in culturally based languages.

The gap in the literature on discussions of the lack and future incorporation of cultural aspects in language learning objects is uncovered. It identifies potential implications for practitioners interested in the development of additional digital objects and highlights the need for research in that area. By identifying disparities and distinct approaches to the design of learning objects for language education, the importance of considerations for future development of new digital resources is emphasized.

Overall, the chapter aims to add to existing knowledge about learning objects within the specific context of language education by outlining definitions, explanations of abilities, relevant applications and models, considerations for the development of new digital resources, and future research opportunities.

BACKGROUND

Over the last few years, there has been an explosion of digital resources, namely learning objects and repositories. Currently, more than 65.8 million learning objects and 511 million digital repository references are readily available through Web-based applications. They are either commercially provided or through the efforts of universities and funded projects of governments around the world.

Previously, each online course had been mostly designed as a whole and thus in undividable units, with some providing modular subsections.

Current e-learning practice is moving away from developing whole modules or courses towards producing the resources that form the components of these blocks of learning (Wharrad & Leeder, 2003). These blocks of learning are packaged as learning objects, which can be easily downloaded, modified, repurposed, and used on CD, DVD, or other electronic environments such as intranets and learning management systems (i.e., WebCT™ and Blackboard). The distinctive feature of learning objects is the fact that they can be used either independently as a standalone activity or part of a larger unit of work. The latter can be achieved through assembly of several learning objects to form a cluster of activities or incorporation of a learning object into an already existing course. It is this flexibility in addition to a number of other “-abilities” that comprise the superiority of learning objects over traditional online delivery (McGreal, 2004).
The concept behind learning objects is not new, as educators have shared text-based resources on the Web since its inception (i.e., Dave’s ESL Café, http://www.eslcafe.com/; super Language Web sites, http://www.uni.edu/becker/):

In the mid-1990s, relatively simple learning objects were made available informally, as instructors shared syllabi, lesson plans, and learning activities. Later, more complex and/or topic-specific repositories came into existence as museums, journals and magazines, educational television, and other organizations placed content on the Web and encouraged it to be used for educational purposes. (Smith Nash, 2005, p. 218)

However, learning objects can include any media type (e.g., text, graphics, audio, video, animation, games, tests, and simulations), macro skill, and teaching purpose.

This stimuli combination offered through the multimedia content exceeds traditional learning resources. It makes learning objects surpass previous Web-based resources.

Currently, a number of terms are in use (e.g., learning objects, digital objects, content objects, educational objects, information objects, knowledge objects, media objects, units of learning) to identify units that are “digital, reusable, and are intended to support learning” (McGreal, 2004, p. 9). The lack of consensus on the definition and terminology is caused by different focus and conceptual underpinnings. In the context of this chapter, the term of learning objects—coined in 2000 by Wayne Hodgins—is most appropriate and will be used (Jacobsen, 2001). The choice was based on learning, indicating its inherent purpose within educational settings, and object, denoting an asset that can be used and reused in a variety of ways.

However, while every video clip, text document, picture, graph, and so on in digital file format can be used as an online resource and constitutes a digital object, it is not automatically a learning object. Learning objects “have special characteristics that distinguish them from the more common learning resources with which most educators would be familiar” (Sosteric & Hesemeier, 2004, p. 32).
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The picture in Figure 1 is used to exemplify the difference between a digital object and a learning object. By itself, the picture can be used as a multimedia element to support computer-assisted language learning. However, to become effective it needs to be embedded into instructional context that is underpinned by a particular pedagogical intent. For example, this image might be aimed at illustrating architecture of the target country via a typical street scene; or it might be geared towards discussion on appropriate clothing due to climatic conditions; or it might be directed at common ways of shopping via street vendors; or it might be utilized to introduce a dialogue for purchasing tropical fruit; or it might be utilized to make the cultural point of negotiating prices for items on sale. Without the contextual information, educators have no guidance on how to use the image and must be reliant on their own background information or their own creativity in interpreting the teaching and learning potential of each resource. From a pedagogical perspective, the difference that distinguishes a learning object from any other digital resource is therefore the instructional information, the teaching context, and the underpinning educational intent. From a technical perspective, the Learning Technology Standards Committee of the Institute of Electrical and Electronics Engineers (IEEE, 2007) clarifies that:

Learning Objects are defined here as any entity, digital or non-digital, which can be used, re-used or referenced during technology supported learning. Examples of technology supported learning include computer-based training systems, interactive learning environments, intelligent computer-aided instruction systems, distance learning systems, and collaborative learning environments. Examples of Learning Objects include multimedia content, instructional content, learning objectives, instructional software and software tools, and persons, organizations, or events referenced during technology supported learning.

These learning objects or digital objects are kept in a collection or in a storage area called a digital repository. Repositories help to locate and deliver the learning object(s). Most repositories are standalone. “A digital repository provides a flexible and discipline-independent mechanism for storing and managing digital objects, thus enhancing integrating learning and research environments” (Richardson, 2004, p. 6). Learning object repositories are rather new, with a number of universities and funded government projects around the world having established them as recently as 2003 (i.e., eduSource and SchoolNet in Canada, Curriculum Online in the UK, HEAL and iLumina in the U.S.). Given that in 2000, 98% of public schools in the United States had Internet access, with 12.2 million computers available in American classrooms and 76.6 million students, and a total of $380.4 billion spent on the public school system (U.S. Census Bureau, 2007), the use and reuse of electronically available materials in digital repositories by educators and students alike is a financially savvy strategy.

PROJECTS COMPILING GENERIC LEARNING OBJECT REPOSITORIES

The reason for presenting a collection of repositories here in this section is twofold: promotional and practical. Firstly, they raise awareness of and facilitate use in repositories and learning objects among educators interested in delivering content through the Word Wide Web; and secondly, they provide practitioners with a ready-made collection of relevant, quality electronic resources in language learning contexts, thus making best use of the time available by preventing cumbersome searches.

These repositories are chosen foremost because of their high quality, with some being appraised by fellow associates in their areas of expertise. This point is illustrated on MERLOT (see below for more details), which is:
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...largely modeled on the academic peer review process for scholarly research and publication familiar to a university faculty. The MERLOT Web site currently supports 14 discipline-specific communities, each with an editorial board that guides peer review policies and practices. (Nesbit & Belfer, 2004, p. 145)

All selected repository project sources and providers are essentially non-profit organizations. The target audience is either pitched at a particular educational level (i.e., primary, secondary, and tertiary) or geographic vicinity (i.e., school clusters, university networks, states, countries), and all details are current.¹ The generic repositories hold scholarly articles on the wider theme of language acquisition and the area of applied linguistics. Designated sections are created for language learning objects, which can be readily employed in the classroom. In the language acquisition context, some of the repositories are bilingual and are thus equally useful as authentic materials in teaching and learning context, and as a professional development opportunity for language proficiency maintenance of teachers. The following generic repositories are listed in alphabetical order.

Curriculum Online

All the resources offered are supporting the British curriculum and its division into key stages from school entry age to about 16 years of age. The digital resources are searchable by key stage; subject and topic with some are available for purchase while others are free (http://www.curriculumonline.gov.uk/).

EdNA (Education Network Australia)

The network is a joint initiative of the Australian government and state and territory governments. More than 16,000 materials are freely available for teachers and learners. The online resource collection is divided into educational sector (e.g., early childhood, vocational, and technical education; adults and community education; higher education). A wide range of subjects are covered (http://www.edna.edu.au/edna/go).

eduSource (Canadian Network of Learning Objects Repositories)

This is a fully bilingual (English/French) project designed for Canadian learners that caters for users with disabilities. A smaller format (thumbnail) is provided as a visual reference, and a button allows viewing of the metadata (full record and summary) for each learning object (http://www.edusource.ca/).

MERLOT (Multimedia Educational Resource for Learning and Online Teaching)

Designed for higher education purposes, namely academic staff and students, this is a free and open collection. It is undertaken by the California state university system and provides learning materials, assignments, and reviews. The MERLOT World Languages Portal is divided into tips for teaching, learning materials, a member directory for networking, professional organizations, and regular showcases (http://worldlanguages.merlot.org/).

The Le@rning Federation

An initiative funded by the Australian, state and territory, and New Zealand governments which produces learning objects free to primary and secondary schools in Australia and New Zealand (http://www.thelearningfederation.edu.au/tlf2/).

The above inventory of repositories is not intended to be comprehensive, but rather to present a ready-made collection of reputable and stable projects that enable the novice entry into
the subject matter and provide educators with a repertoire of digital resources and best practice examples for general educational purposes.

PROJECTS COMPILING LANGUAGE-SPECIFIC LEARNING OBJECT REPOSITORIES

The overall criteria for selection and inclusion of the next repositories correspond to those described in the above section on generic repositories. These repositories are specific to language education and are suggested as the basic foundation for an ever-expanding collection. This directory in the area of language acquisition extends the general repertoire of repositories to discipline specific ones and are particularly relevant to the professional practice of language educators as they are considered examples of best practice.

ARIADNE (European Knowledge Pool System)

The collection contains materials on a wide variety of interactivity levels in many European languages (i.e., Dutch, English, French, German, and Italian) (http://www.ariadne-eu.org/).

Languages Online

A free site provided by the Department of Education and Training in Victoria, Australia, for students learning French, German, Indonesian, or Italian. There are over 800 tasks and games in 33 topic-based sections which are self-paced and self-correcting. Over 170 printable worksheets with a variety of guided speaking, reading, writing, and research tasks complement the online activities (http://www.education.vic.gov.au/languagesonline/).

LearningLanguages.net

A portal with online foreign language resources for teachers of French, Japanese, and Spanish. It is aimed at English-speaking students from primary to secondary age (http://www.learning-languages.net).

SLOOP Project (Sharing Learning Objects in an Open Perspective)

This project aims to produce a digital repository of free learning objects in several languages. It is co-funded by the European Community (http://sloop.tes.mi.it/sloop/).

NLN (National Learning Network)

This project, funded by the UK government, holds 2,251 learning objects designed for the Adult and Community Learning Sector, with one of the main topics being English for Speakers of Other Languages. It is password protected and requires setup of an account with a waiting time of up to 48 hours until access has been granted (http://www.nln.ac.uk/).

This concludes the portion of the chapter that provided examples of repositories and a short description of their offerings. It introduced some of the current applications that are being used, gave a general overview with selected generic repositories, and then moved into language-specific examples of learning object collections, while aiming to offer readers the opportunity to embrace new technologies and to exploit their potential.

Overall, there is a rich assortment of various digital learning objects across disciplines with a pronounced shortage in the area of language acquisition. Observable is rapid growth in repositories for the natural sciences, with focus on teaching and learning content on computer science and mathematics. Increasingly, discipline-specific repositories are emerging in the social sciences.
In stark contrast, the field of linguistics is notably under-serviced, language teaching and learning specific repositories are scarce, and few learning objects have yet been developed.

While the area of learning objects is still in its infancy and repositories are growing only for the more prevalent languages, practitioners are encouraged to increase their professional expertise by using learning objects, but also to develop and contribute their own materials to repositories. This will ensure that the languages domain is well resourced and represented to avoid a peripheral existence.

INITIAL PITFALLS AND POTENTIAL OF LEARNING OBJECTS AND REPOSITORIES

One of the drawbacks is that some “learning object repositories or ‘LORs’ can be difficult to navigate, and the object difficult to integrate into one’s online course” (Smith Nash, 2005, p. 218). At the time of Smith Nash’s writing, these navigation problems were most likely due to repositories still being under construction and learning objects being partially non-compliant. In the meantime, fine-tuning has been completed due to moving through the last phase of improvement in the traditional instructional ADDIE model. During the last stage—the actual evaluation—users give feedback, which in turn is brought in to overcome any problems. Eliciting feedback from teachers and students during earlier ADDIE stages such as the Analyze, Design, or Development phase prevent difficulties in the end stage. Alternatively, the piloting of scaled-down versions provides opportunities to identify and subsequently eliminate some of those navigation difficulties. Even so, as pioneers in the field consolidate their efforts, digital repositories and learning objects will become more user friendly.

At the same time, enabling easily, quickly, and cheaply constructed learning objects may lead to low quality, or it may lead to mass production and thus oversupply of similar objects, which is confusing for the user and wasteful for the educator-designers (McGreal, 2004).

Nevertheless, easier access and use is strongly fostered by the development of the IEEE’s Learning Technology Standards and the increasing compliance towards it. They apply to the development of new learning objects and the upgrading of existing digital resources. Standards will ensure that the “-abilities” of individual learning objects are increasing and that learning object integration into existing courses will be much more easily achieved.

The current potentialities and pitfalls of learning objects depend on the technical and pedagogical characteristics. This is equally true for those wishing to create learning objects as it is for those merely wanting to use any of the abundant and free learning objects that are already available. In both instances, understanding of the basic principles is needed to exploit the promise of this new medium and to avoid the downside. In terms of the technical characteristics, the “-abilities” of learning objects form the basis of design specifications and are crucial for standardization; in terms of pedagogical characteristics, neutrality of learning objects form the basis for contextualization and didactic support.

TECHNICAL CHARACTERISTICS OF LEARNING OBJECTS

Learning objects are the modular building blocks of digitalized learning content and are frequently compared to LEGO building blocks. Just like individual bricks are standardized to fit together in many different ways, learning objects are being normed through metadata. Standardization issues progressed rapidly (IEEE, 2007). Widespread acceptance and adoption of the technical standards is fundamental for the implementation of learning objects. Standardized metadata en-
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ables fitting parts together to form larger parts (interoperability), which can be assembled yet again into a larger unit, thus creating unlimited possibilities for constructions. Learning object metadata also contain identifiers, helping search engines to find (discoverability) specific items, which enables an efficient hunt through the use of sharply focused search criteria—thus being the most practical and directly useful ability for teachers and learners. Learning objects allow for one-off use or repeated use, and their key advantage and arguably superiority over other digital resources is their reusability. The reuse of learning materials—whether they are in traditional or digital forms—is the most cost-, time-, and energy-efficient strategy for teachers and their employing institutions. Learning objects hold a number of other “-abilities” that are also worthwhile knowing. McGreal (2004, pp. 1-2) has compiled a comprehensive list and detailed descriptions, with a synopsis provided here:

- **Accessibility**: Instructional components can be accessed from one remote location and delivered to many other locations.
- **Interoperability**: Components can be developed in one location with one set of tools (platform) or in another location with a different set of tools.
- **Adaptability**: Instruction can be tailored to individual and situational needs.
- **Reusability**: Components can be incorporated into multiple applications.
- **Durability**: Instructional components can be used when base technology changes, without the need for redesigning or recoding.
- **Affordability**: Learning can be increased, while reducing time and costs.
- **Assessability**: Pedagogical effectiveness, price, and usability can be assessed.
- **Discoverability**: Components can be easily found using simple search terms.
- **Interchangeability**: One component can be substituted for another.

- **Manageability**: Components can be found, inserted, replaced, and substituted.
- **Reliability**: The other ‘abilities’ can be counted on to work.
- **Retrieveability**: Components can be retrieved when and where you want them.

In summary, technical qualities endow learning objects with accessibility, discoverability, interchangeability, and manageability of learning objects, while affordability, durability, reusability, and retrieveability enable simple, inexpensive, and speedy production. Easily, quickly, and cheaply constructed learning objects may lead to low quality, or it may lead to mass production and thus oversupply of similar objects, which is confusing for the user and wasteful for the educator-designers (McGreal, 2004).

PEDAGOGICAL CHARACTERISTICS OF LEARNING OBJECTS

The technical characteristics of learning objects allow the patching together of a number of single learning components into an instructional segment. These session parts can be stitched up into lessons, with several lessons being tailored into a custom-made course. Thus constructed, these specifically built language acquisition programs cater for personalized learning opportunities. In terms of pedagogical characteristics, they enable the compilation of highly individualized pathways. These purposely created avenues can be used either for a single learner with distinct learning needs or for a group of learners with a particular learning motivation, educational focus, and outcome in mind.

Previously, the interest, research, and subsequently literature in the area focused mainly on the technical features. This aspect was explored in the preceding discussion on the “-abilities” of learning objects. The technical features alongside the pedagogical aspects originated their superior-
ity and have given rise to the expeditious development of learning objects and the establishment of digital repositories over the last four years, which has opened up new potentialities for teaching and learning. As discussed, learning objects are seen as building blocks, mere chunks of information that can be put together in countless ways to create larger stacks of content for teaching and learning. This view of learning objects as information representations divorces from educational philosophy and creates a pedagogical vacuum.

This is in line with Richards, McGreal, Hatala, and Friesen (2002), who initially asserted that learning objects and repositories are purely instructional and pedagogically neutral as they do not address issues of pedagogy. If this were true, everything could constitute a learning object even if it contains violent, racist, or pornographic images or messages. However, as the discussion around the example of the learning object in Figure 1 implied, the selection of learning objects is based on educational worth and grounded in preconceived notions. This pedagogical partiality is geared towards usefulness, significance, meaning, and importance. The chosen teaching and learning goals and the subsequent instructional focus is selected and prioritized against an array of other possible objectives and outcomes. It is therefore argued that pedagogical neutrality does not exist and that the notion of pedagogical partiality is inherent in all learning objects.

Even if the notion of pedagogical neutrality is accepted, it creates a vexed issue, as Friesen (2004) points out, that “specifications and applications that are truly pedagogically neutral cannot also be pedagogically relevant” (p. 5). The problem of pedagogically neutrality and relevance of learning objects lies in the fact that they are not pinned in either instructional theory, namely behaviorist, cognitivist, constructivist, or situationalist paradigms. It effectively detaches learning objects from the larger context of pedagogy and the body of knowledge on learning theories and instructional design. Consequently, it amputates learning objects from their discipline-specific communities of practice and their culture in which the knowledge, skills, and outcomes of learning actually is based. However, it could be counter-argued that any—even unintentional—underlying paradigm can easily be extracted from any attached exercise or activity. To illustrate this point, an example from Languages Online (http://www.education.
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Figure 3. Pedagogical paradigms underpinning learning objects

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
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<tbody>
<tr>
<td>das Ohr</td>
<td>die Ohren</td>
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<tr>
<td>der Zahn</td>
<td>die Zähne</td>
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<tr>
<td>die Hand</td>
<td>die Hände</td>
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<tr>
<td>der Fuß</td>
<td>die Füße</td>
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<tr>
<td>der Zeh</td>
<td>die Zehen</td>
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<tr>
<td>das Bein</td>
<td>die Beine</td>
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<tr>
<td>das Knie</td>
<td>die Knöchel</td>
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<tr>
<td>der Arm</td>
<td>die Arme</td>
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<tr>
<td>das Auge</td>
<td>die Augen</td>
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<tr>
<td>der Finger</td>
<td>die Finger</td>
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<tr>
<td>die Schulter</td>
<td>die Schultern</td>
</tr>
</tbody>
</table>

Any language educator with command of German will quickly detect the educational paradigm and the language methodology theory underpinning this exercise, which requires changing the noun from the singular to the plural form.

Blandin (2004) and Wiley (2005) assert the existence of pedagogical neutrality and see it as an advantage, as it implies impartial and value-free learning objects that can support any educational method because they are unbound by any particular pedagogical approach. In entertaining this line of thinking, it could be argued that learning objects created in a pedagogical void put the focus solely on the technology rather than the learning process. Undeniably, the development of multimedia enabled instructional designers to assemble sophisticated learning objects, but this does not automatically ensure that a learning process or an actual learning outcome occurs.

Pedagogical objectives—whether they are cognitive, emotional, or social—are an intrinsic part of the instructional design. Learning objects need “thoughtful and informed pedagogical design to generate effective and compelling educational experiences” (Marshall, 2004, p. 11). This is why more recent publications (Smith Nash, 2005; de Salsa & Ellis, 2006) advocate selection of an explicit learning design to support learning objects and repositories for educational purposes.

Furthermore, the notion of learning objects freed of any pedagogy assumes a learning situation devoid of any educational features. It denies the presence of learning styles and preferences, which are inherent characteristics of any learner and thus any learning episode. It seems to assume that the endowed neutrality of learning objects caters to every learner, regardless of their aptitudes, circumstances, and the context of their learning. Friesen (2004, p. 61) alerts that learning objects:
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...are introduced into educational contexts and practices clearly bearing the stamp of their technical origin. Instead of being presented in terms familiar and meaningful to educators, they bear connotations that appear unclear or even negative in these practical contexts.

Perhaps it is for these reasons, that there is slow and deficient adoption of learning objects in real-life contexts by practitioners despite the huge financial investments by governments, organizations, and higher education providers worldwide. Acceptance and implementation by educators is based on relevance, which seems to be a missing element under the existing conditions. Mason (2003) places the blame for this position firmly in the educators’ corner, which has left the technologists in charge. The responsibility for changing this situation now lies with all practitioners.

LANGUAGE LEARNING, CULTURAL LEARNING, AND LEARNING OBJECTS

This section will give a short synopsis of language education and teaching culture based on the assumption that readers will be familiar with the literature. The brief summation will serve as a springboard to explore the link with learning objects.

Language teaching and learning is currently dominated by the communicative approach, which rose to popularity during the 1980s. It originated from Dell Hymes’ (1972) idea and detailed-yet-abstract discussion that communicative competence is more than the mastery of the vocabulary and grammatical rules of a particular language. Since achieving communicative competency is the ultimate goal of learning another language, the four distinct parts as identified by Michael Canale (1983) have to be managed: grammatical competence (e.g., pronunciation, syntax, vocabulary), discourse competence (language structures in and for a variety of contexts), sociolinguistic competence (appropriateness in given situations), and strategic competence (negotiating meaning, repairing misunderstandings). Celce-Murcia, Zoltan, and Thurrell (1995) added actional competence based on the recognition that language requires action (e.g., apologizing, bullying, comforting, encouraging). All of these five competencies are shaped by culture. The ‘teaching of culture’ has also undergone successive waves. According to Risager (1998), the ‘foreign-culture’ approach was popular prior to the 1980s, with the ‘intercultural’ approach being the dominant method in the late 1990s. In multi-ethnic societies such as Australia, she predicted the emergence of a ‘multicultural’ approach, which she expects to be replaced by a ‘transcultural’ approach through the effects of globalization and internationalization.

This short overview makes two points: First, language and culture are intrinsically linked. Both aspects need to be considered not only during the actual teaching and learning stage, but also in the development of learning objects.

For example, the screen shot in Figure 4 is from an animation of the Learning Federation (http://www.thelearningfederation.edu.au/), which shows a Japanese quiz show. The host’s physical appearance, especially the curly blond hair and the facial features, is not depicting a Japanese person, thus conveying a culturally inappropriate image. The assertive body gesture of the female’s arms resting on her hips is also objectionable.

Secondly, approaches to ‘teaching culture’ are not static. They are undergoing change according to complex outside factors (e.g., societal changes, different learner needs), much like approaches to the teaching of languages did progress over time. These significant developments in conceptual understandings and the building of new theoretical frameworks have practical implications for the actual teaching and learning of languages and subsequently the production of learning materials.
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For learning object developers—whether they are instructional designers or language practitioners—the challenge lies in identifying the cultural learning goals for each language that is being taught and incorporating them into learning objects to achieve cultural learning.

FUTURE TRENDS

Introduced were the notions of learning objects that are free of any pedagogical approach and indicated some of the complexities involved in the debate.

The idea of educational objects being devoid of an educational approach and the resulting implications need further investigation. Research is suggested to examine the effects on the learner, and to gain a better understanding of the relationship between learning objects and pedagogy in order to develop best practice. Ideally, this would need to occur prior to the rapid and expensive development of additional learning objects and repositories to ensure time, energy, and effort is well spent.

In examining a few contemporary learning object offerings, it becomes evident that they are solely focusing on content. In the language education field, the majority of learning objects are designed for beginning levels, often containing only basic topic vocabulary (see Figures 3 and 4). While some providers make attempts to incorporate culturally relevant situational contexts for the introduction of the lexical items, these are not explicit to learners. Implicit indication of unfamiliar cultural settings may not raise awareness, nor encourage analysis or even comparisons and understanding or appreciation.

The previous discussion indicated that the existing thinking on learning objects has several limitations and that future theoretical developments will be dealing with these. Part of the dilemma is the bonanza that saw the production of large quantities of learning objects because of the availability of substantial funding and the apparent aspiration by educational stakeholders to have presence in the new technological arena. It is assumed that this caused emphasis on the fast manufacturing of large amounts of learning objects, thus concentrating on speed and quantity.
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at the cost of quality. It was furthered by the firm grip of the learning object development area by technologists, as indicated by Robson (2004). The lacking influence and thus subject-specific expertise of language educators and practitioners added to the calamity.

Not only did this race for e-learning resources and visibility in the technology area by key stakeholders result in the production of large amounts of learning objects, it also furnished online environments with multiplication of efforts, as similar instructional content was created and released in various places all over the world. This preoccupation with the build-up stage of construction might be part of the reason for the negligent attention to pedagogical aspects. Another factor might be the lack of in-depth studies on the educational consequences of learning objects. Future trends are the emerging of recognition of attentiveness to the dynamics that contributed to the existing gaps in the literature. Starting points are implementation and subsequently discussions of practical examples, the developing of applications past the beginner’s level, assessment of learning outcomes, and learning effectiveness of the new innovation. Research is needed to develop real units of learning to investigate and identify effective aspects of pedagogical designs, to gather empirical findings, and to be able to learn from the experience of practitioners. Research is also needed into the very advantage of learning objects, namely reusability and its pragmatic implications and the creation of individualized learning paths.

The outcomes of these investigations, particularly the pedagogical relevance of learning objects in terms of language and cultural education, will be of particular interest to readers of this book.

CONCLUSION AND RECOMMENDATION

Electronic resources for language learning and teaching have been growing exponentially, with interest in digital objects and repositories exploding over the last few years. This chapter gave an introduction into learning objects and repositories, and an overview of their technical and pedagogical “-abilities.” The chapter elucidated technical aspects and standards development, and alluded to the current tension surrounding educational aspects while moving the discussion into the field of language education and its specific needs in order to encourage and support educators in adopting innovative technology. It therefore provided teachers in the language learning and teaching field with a ready-made collection of high-quality digital resources. Their usage will facilitate the building of a community of practitioners to ensure the representation of language educators among the other curriculum areas and domains to halt further marginalization. Awareness and utilization of learning objects will add to educators’ repertoire of electronic teaching resources and thus will prevent duplication of effort in designing and developing new materials. It will thus further the development of professional skills and standards, while offering opportunities for engaging in reflective discussions and collaborative exchange of ideas and approaches. It is hoped that embracing these new electronic resources for teaching and learning will utilize their potential, provide educators with a smorgasbord of teaching and learning materials, and empower learners through self-access opportunities.

In the theoretical sphere, current notions of pedagogically neutral learning objects were discussed and the existing tensions of value-free learning objects vs. the implicit values in education were examined, with need to unpack these complexities more. It needs to be further explored, negotiated, and managed to ensure that future investments in the development of learning objects for language learning and teaching promote not only communicative competence but also cultural knowledge.

The potential dangers that the development and re-usage of learning objects are heading
towards, such as the recent bonanza and its resulting implications and the dominance of the area by technologist rather than educationalist, were outlined.

The gap in the literature and subsequently in current research on case studies, practical applications, assessments, and learning outcomes strongly suggests future research by language educators and practitioners for illumination and possible resolution.

REFERENCES


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drama and ethnography (pp. 242-254). London: Cambridge University Press.


KEY TERMS


Institute of Electrical and Electronics Engineers (IEEE): “The world’s leading professional association for the advancement of technology” (retrieved August 10, 2007, from http://www.ieee.org/portal/site).


Learning Content Management System (LCMS): System combining course administration with content creation and storage capabilities, thus offering the potential of both a learning management system and a content management system in one package.

Learning Management System (LMS): Offers an instrument for sequencing content and creating a manageable structure for academic and administrative staff. Examples include WebCT, Blackboard, and Desire2Learn.

Learning Object Metadata (LOM): “A data model, usually encoded in XML, used to describe a learning object and similar digital resources used to support learning. The purpose of learning object metadata is to support the reusability of learning objects, to aid discoverability, and to facilitate their interoperability, usually in the context of online learning management systems” (retrieved August 10, 2007, from http://en.wikipedia.org/wiki/Learning_object_metadata).

Learning Object Metadata Management System (LOMMS): Metadata is data about data, describing a resource so that it can be located. In the case of learning objects, the metadata is either embedded or placed separately. The metadata are indicators that allow identification by search engines. The learning object metadata is handled through a management system.
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Reusable Information Object (RIO): A term introduced by Cisco Systems “…the leading supplier of networking equipment and network management for the Internet” in its 1999 Reusable Information Object Strategy (retrieved August 10, 2007, from http://www.cisco.com/).

ENDNOTES

1 Data gathered through a search engine (http://www.google.com) on August 1, 2007.


3 ADDIE = Analyze, Design, Develop, Implement and Evaluate. One of the first models for instructional systems design, containing five distinct stages.

4 Metadata is basically data on data, usually coded in XML. It identifies a digital object so that it can be found through a search engine (discoverability), thus allowing multiple retrievals (reusability) and providing a standardized fit to enable integration with and into other systems (interoperability).

5 All URLs, descriptors, and other details were current as of August 1, 2007.