

## **TECHNOLOGY IN SELF-ACCESS: AN EVALUATIVE FRAMEWORK**

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### **Introduction**

Self-Access Centers are said to be ‘technology-rich’ environments and are often cited as examples of pedagogical innovation. Interestingly, not much is known about the use of technology in self-access and the ways in which it is used to support student learning. Partly this may be because there is no framework against which to evaluate and compare centers. In this paper such a framework is proposed based on examples from general education and tailored to the specific pedagogic environment in self-access. Applicability and practicality were assessed by applying the framework to 46 centers in five different countries.

### **1. Literature review**

Self-access centers face a number of specific challenges in supporting student autonomous learning. Reinders & Lázaro (2006) summarise some of the characteristics of self-access centers as follows: 1) use of self-access centres is mostly voluntary, 2) learners determine what they learn, how and when, 3) there is little or no formal assessment, and 4) staff are available and through advice, selection of materials and activities encourage reflection and autonomous learning skills among the students. Self-access is thus a highly flexible (learners play the central role in establishing their own curriculum) and highly fluid (learners may or may not come back or come regularly to study).

This resulting flexibility poses challenges to those working in SAC and practitioners have often looked at technology to support the wide range of student learning characteristically found in self-access. In a

review of the literature Reinders & Lázaro (ibidem) found that the use of technology had been mostly limited to alternative forms of providing language learning content. In the area of language advising use was made mostly of email for communicating with the learner. Only recently have new developments taken place that attempt to provide learning support (in addition to language content). However, conclusions based on the literature are tentative and necessarily superficial as they are not, and at present cannot be, based on a systematic comparison for a lack of an evaluative framework with which one centre could be compared against another. This is surprising because there is a large body of literature on the use of technology in the field of general education that includes a wide array of assessment and evaluation measures.

Fotos and Brown (2004) describe seven different types of CALL activities: (1) writing (e.g. word processing, spelling and grammar checkers, text analyses, desktop publishing and communication over a LAN); (2) communicating (e.g. e-mail exchanges, student discussions on a LAN, MOOs, real-time chat); (3) multimedia (courseware presented on CD-ROM or online, teacher-created programs); (4) Internet (e.g. Web searches for information, student construction of home pages); (5) concordancing and referencing (e.g. corpora to examine the range of usages for grammar and vocabulary, online dictionaries); (6) distance learning (e.g. online courses, courses with online components); and (7) test taking. This classification is quite broad and could be used as a basis for a comparative framework. The above activities are however also pedagogically neutral, in that they are presented separate from their possible pedagogic uses. An evaluative framework for a specific educational context (such as self-access) will necessarily need to describe the technology-related components in terms of their pedagogic role.

Zhao (2005) suggests that the use of technology in language education can have a range of benefits such as: (1) providing access to linguistic and cultural materials (e.g. enhancing access efficiency through digital multimedia technologies, enhancing authenticity using video and the Internet, enhancing comprehensibility through learner control and multimedia annotations); (2) providing opportunities for communication (e.g. interactions with the computer, interactions with remote audiences through the computer); and (3) providing feedback (e.g. computer-based grammar checkers and spell checkers, automatic speech recognition technology, tracking and analyzing student errors and behaviors). Individual CALL materials or settings where CALL materials are made available could be analysed and compared on the basis of the extent to which they offer the above. However, this list does not include self-access specific uses such as for support for learning (self-) management, language advising and learner training, amongst others.

Dieter Wolff (1994) points out the importance of computers as cognitive tools in the language classroom. Starting from a constructivist standpoint, he concludes that the value of the computer as a cognitive tool lies in: (1) prestructuring complex domains such as semantic relations between vocabulary items (e.g. the classificatory functions of some electronic dictionaries); (2) rendering complexity more transparent or analyzable (e.g. concordancing); and (3) supporting the performance of complex tasks (e.g. a word processor and its various functions support the task of writing). These are helpful components for the developments of an evaluative framework but leave out administrative, communicative and other aspects related to self-access learning.

Types of classifications such as the above focus on general CALL contexts, and may not be entirely relevant to self-access. Some elements may not apply in the same way in self-access as in other contexts. For example, 'feedback' takes on a very different meaning in self-access with its unstructured learning content and its wide range of learner backgrounds. The classifications above also do not include some elements important to self-access, such as metacognitive aspects of learning (e.g. learner training, needs analysis, etc). Although it is interesting to draw on these general classifications for the development of a framework, the case of self-access requires us to look further.

The field of distance language education has for many years now attempted to provide optimal learning support, and has increasingly done so online. Distance education shares with self-access a concern for the development of learner autonomy, as both learning contexts tend to require greater self-management on the part of the learners (White 2003). For this reason it is useful to look draw on work in this area.

White (ibidem) proposes a taxonomy of online distance courses that includes satellite-delivered classes to several sites with medium-sized numbers, augmented by print materials and weekly computer conferences; Print-based courses with CD-ROM and real-time chat systems; Multimedia courses, combining a range of synchronous and asynchronous media; Broadcast TV, supplemented by print and audio materials, and some chat facilities; Print-based courses with electronic support systems to relatively large numbers; and Web-based courses.

Most web-based courses use a learning management system (LMS) or virtual learning environment (VLE) as their main tool for integrating learning activities and learner support. LMS are not only used in distance learning, but also are being used more and more as a complement to conventional classes. The advantage of this type of systems or environments is that they generally combine a range of administrative and learning support functions.

White includes a list of functions of integrated electronic learning environments. She defines eight main groups, namely: (1) course information (e.g. background information on the course, a timetable of major events and deadlines, requirements, aims of the course and syllabus); (2) course orientation; (3) course content (e.g. text, audio, video, graphics, simulations); (4) interactivity (e.g. asynchronous as in e-mail, discussion groups, bulletin board and synchronous as in chat); (5) testing (e.g. self-assessment questions and computer-marked quizzes and tests); (6) assignments; (7) course management (e.g. maintenance of student records, course evaluation processes, management of student progress details); and (8) support services (e.g. access to library resources, access to technical, academic, personal and administrative support). This classification is very comprehensive, and gives a clear idea of the potential of this type of learning environments. Again, however, the list describes functions but not their pedagogic contribution and as such can not be used directly for evaluating self-access.

Edutech, which is a mandate of the Swiss Virtual Campus program, has developed a framework for evaluating different LMS. It includes the following criteria: (1) general criteria such as multilinguality (e.g. selection of interface language); (2) user-related criteria (e.g. ease of use, compliance with common web technology, functional environment features as keyword search, configurable environment, effective navigation aids or collection of tools); (3) teaching-related criteria (e.g. ease of use, communication features, student management options, activity tracking); (4) criteria related to course development (e.g. ease of use, flexibility as a development framework, support for developers, compatibility with common authoring tools, support for e-learning standards, adaptability) and finally, (5) criteria related to system management and administration (such as security, one server - multiple institutions/faculties service, flexible authentication schemes and documentation). As can be seen the evaluative framework is very comprehensive, but focuses exclusively on comparing the learning environments themselves, not the learning supported through them.

Summing up, due to the nature of self-access, none of the reviewed classifications and typologies uses can be used directly for evaluating the use of technology in self-access. We will now describe a framework based on the above literature but specific to the pedagogic context of self-access.

## **2. An evaluative framework for self-access**

Despite the large body of research and systematic evaluations of LMS in other fields, little or no similar literature exists in the area of self-access language learning. This is despite the fact that self-access centers (SAC) are said to be heavy users of technology (Gardner & Miller, 1999). One reason could be that no evaluative tool exists that is specific to the self-access context that would allow a meaningful evaluation of

and comparison between centers. Here such a framework is proposed that draws on the general literature described above.

The evaluative framework consists of two parts. Table one reports the types of support offered and Table two the types of tools used to provide the different types of support.

Table 1: types of support

<b>PRACTICAL SUPPORT</b>
Electronic catalogue
Direct (electronic) access to resources
Communication tools
Administrative support
Evaluation processes
<b>LEARNING SUPPORT</b>
Language learning materials
Learning activities
Computer-mediated language advice
Needs analysis tools
Learning process planning tools
Learner training
Learning process monitoring tools
Assessment

The framework was adapted to take into account the particular characteristics of the self-access environment. As described above SAC aim to develop learning skills and foster autonomy and the framework reflects this focus by including two main sections: practical support and learning support. The literature discussed above tends not to differentiate between practical and learning support, but simply describes the tools used, or describes only the pedagogic use of technology without taking into account its practical applications. Due to the nature of self-access, it is important to distinguish between both types of support in a single framework.

## **2.1 Practical support**

The category *practical support* includes administrative, communication, and resource-related features (such as electronic catalogues), as well as evaluation processes. These all facilitate learning. The main types of practical support are:

*Electronic catalogue:* access to resources is very important in self-access centers, as it is the basis of students' self-directed learning. In order to facilitate access to resources, many centers develop specialised catalogues that allow searching by level, language skill and sub skill (e.g. 'writing' or 'writing expository essays'), topic, etc. This type of support is included in Zhao's (2005), White's (2003) and Edutech's classifications.

*Direct (electronic) access to resources:* many centers offer learners direct electronic access to resources. The resources can include authentic materials, in-house created materials and commercial materials. In self-access environments such access is seldom through simple lists of available resources but generally through an electronic catalogue as described above.

*Communication tools:* communication between language advisor and learners, and learners among themselves can be supported through synchronous and asynchronous communication tools such as e-mail, chat facilities, and discussion forums. Communication can serve both administrative and pedagogical purposes. The latter is classified in our framework under 'learning support' below; a distinction not made in the literature reviewed earlier.

*Administrative support:* self-access centers use technology for administrative purposes similar to how LMS are used in distance education.

*Evaluation processes:* this includes evaluation for research purposes as well as the recording of student use of the centre. Most LMS record the type of use learners make of resources and support systems. This provides a comprehensive picture of the time spent in each area, the use of materials and activities, the work conducted by learners and other information relevant for future decision-taking.

## **2.2 Learning support**

*Learning support* is any intervention in the students' learning process. The difference between practical and learning support is crucial within this evaluative framework as it allows the classification of pedagogical uses of technology. Learning support includes the following components:

*Language learning materials:* one of the main objectives of self-access centers is to offer learners a wide range of learning materials to accommodate learners of different levels, learning styles and backgrounds.

*Language learning activities:* self-access centers foster autonomy as a social concept through pair work and group activities. The use of technology offers great potential in an environment where different learners come to learn different things at different times. Collaborative tools such as e-mail, chat, and discussion forums are increasingly used to offer opportunities for interaction.

*Computer-mediated language advice:* many SAC offer a so-called language advisory service. This type of service involves one or more meetings between an advisor and a student to help identify learning needs, plan learning, monitor progress and give advice, model strategies and offer encouragement (cf.. Mozzon-McPherson & Vismans 2001). In an increasing number of cases this type of support is offered online or within a LMS.

*Needs analysis tools:* the needs analysis process lies at the heart of many self-access centers. Technology is often effectively used to support this process and to individualise and monitor students' self-directed learning.

*Learning process planning:* this includes tools for determining priorities, for allocating a certain amount of time to each priority, for setting goals and sub goals, etc. Normally this planning process takes place in an integrated module as part of the needs analysis process.

*Learner training:* technology is used in different ways to support or encourage students in developing their learning skills and to engage in metacognitive processes. This can be done for example through providing information about learning strategies or by analyzing learner styles and learning patterns within the self-access centre.

*Learning process monitoring tools:* self-access centers regularly monitor *how* students learn. For example, how do students select tasks and how do these relate to their learning needs? How often do they make use of the centre and what materials do they use for what purpose? The use of databases of students' leaning activity can be helpful in determining when students may need additional guidance. This is now sometimes done through e-portfolios, which allow learners to reflect on their own learning.

*Assessment:* self-access centers attempt to measure both learning *outcomes* as well as to measure changes in how students approach the learning *process*.

On the surface there appears to be some overlap between these two sections (practical and learning support). For example, ‘evaluation processes’ and ‘learning process monitoring tools’ appear to be similar. The difference is in the focus. Where evaluation processes involve for example recording page visits for the purpose of evaluating the system and procedures in place, monitoring involves tracking learning progress in relation to a (student- or advisor-generated) learning plan or other outcome. Similarly ‘communication tools’ support processes such as making bookings or sending out announcements, whereas ‘learning activities’ involve pedagogical activities the students engage in for the immediate purpose of learning something.

### 2.3 Types of tools used

The second part of the framework records the types of tools used for providing the practical and pedagogical support. This allows us to differentiate between (practical or learning-related) functions and the tools with which they are implemented.

Table 2: types of tools used

<b>TOOLS</b>
E-mail
Chat
Discussion boards/ forums
E-mail lists
Online courses
Internet resources
Electronic materials
Software (produced commercially or in-house)
Electronic tests
Electronic portfolio
Activity report
Students notes
LMS
Electronic questionnaires
Online booking system

Every tool can be used to provide different types of support, for example email could be used for language advising as well as for monitoring learning progress. Most tools are self-explanatory. Online courses are types of courses normally embedded in LMS that integrate a wide range of electronic tools (see White, 2003). Electronic materials is a category of resources that do not reside on the Internet. An electronic portfolio is a repository where students can record reflections on the learning process. An activity report either automatically records or allows students to record materials used, activities completed, etc. Students' notes are a type of student record, for example for newly learned vocabulary. LMS was included as a tool because some SAC offer a custom-made learning environment designed to support student learning. Activities, materials and help are usually provided through this environment. An online booking system allows the booking of language learning resources and support services such as advisory sessions or workshops.

### 3. Applying the evaluative framework

To determine to what extent the framework matched the reality of self-access in a range of settings around the world it was applied to 46 SAC in five countries. The results are summarised below (see for the full results and a discussion, Reinders & Lázaro, 2006).

Table 3: types of support provided through technology

<b>PRACTICAL SUPPORT</b>	<b>n= 46</b>
Electronic catalogue	32 (70%)
Direct (electronic) access to resources	13 (28%)
Communication tools	34 (74%)
Administrative support	3 (7%)
Evaluation processes	14 (30%)
<b>LEARNING SUPPORT</b>	
Language learning materials	45 (98%)
Learning activities	15 (33%)
Computer-mediated language advice	16 (35%)
Needs analysis tools	13 (28%)
Learning process planning tools	7 (15%)
Learner training	7 (15%)
Learning process monitoring tools	9 (20%)
Assessment	9 (20%)

Table 4: evaluated tools

<b>TOOLS</b>	<b>n= 46</b>
E-mail	35 (76%)
Chat	4 (9%)
Discussion boards/ forums	2 (4%)
E-mail lists	2 (4%)
Online courses	4 (9%)
Internet resources	33 (72%)
Electronic materials	21 (46%)
Software (produced commercially or in-house)	44 (96%)
Electronic tests	7 (15%)
Electronic portfolio	5 (11%)
Activity report	9 (20%)
Students notes	1 (2%)
LMS	6 (13%)
Electronic questionnaires	6 (13%)
Online booking system	2 (4%)

The results of the evaluation show that the framework can be applied to a range of self-access centers from around the world. The framework includes all the types of support offered by the investigated SACs. No other types of support were found that could not be categorised as one of the available types. The range of tools in the framework was larger than that reported here and included tools such as blogs and podcasts; however, as these were not used in any of the SAC they were left out.

#### **4. Discussion**

The proposed evaluative framework was designed to allow for a meaningful comparison of SAC in terms of their use of technology to provide both practical and learning support. Having applied the framework to 46 centers from five countries it appears to sit well with the reality of self-access. The framework also appears to be of practical use as the results shown above give a useful overview of the use of technology in the specific educational context of self-access. The results also show that there are significant differences in how commonly different types of support are offered. Some types of support are offered very frequently (e.g. language learning materials 98%, communication tools 74% and electronic catalogue 70%), as are some types of tools (e.g. software 96%, e-mail 76%, Internet resources 72% and electronic

materials 46%). All other types of support and tools are offered relatively infrequently. Such data can help analyse and compare how technology is put to use in self-access and allows for evaluative research studies to be undertaken. For example, when we know that certain types of support are not frequently offered, we may investigate why. When comparing two or more centres and find that one centre uses a much wider range of tools than another; with the above framework we could identify to what pedagogical uses such tools are put and whether the differences are as big as they may seem at first.

As said earlier, none of the classifications of the use of technology that were reviewed above could be directly applied to the self-access context. The classifications above do not include some elements important to self-access, such as metacognitive aspects of learning (e.g. learner training, needs analysis, etc). In addition they do not separate tools from their pedagogic function, or when they do, do not take into account administrative and other aspects important in a comprehensive evaluative framework.

The proposed evaluative framework includes categories for both practical and learning support as well as a separate 'tools' category. This allows us to differentiate the tools from the (practical or learning-related) functions they support. Monitoring the specific use of a tool as a means for implementing one or more pedagogical functions can be a useful way for centers to determine which tools to choose for which purpose. A framework such as this could be used to identify for what practical and pedagogical purposes technology is used and to determine to what extent SAC practitioners in general turn to technology to support their work (see for an initial attempt, Reinders & Lázaro, 2006b). SACs are often cited as examples of educational innovation. A framework will allow such claims to be tested with respect to the use of technology.

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