

A PORTRAIT OF OLAS AS A YOUNG INFORMATION LITERACY TUTORIAL

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ABSTRACT

This article begins with an analysis of the Information Society, discussing its repercussions and defining the term, information literacy. It also describes the need for, as well as the creation and development of, an online information literacy tutorial, named OLAS* at Waterford Institute of Technology Libraries. OLAS follows international best practice and its overall framework is based on US, Australian and UK information literacy models, while its learning outcomes follow those produced both by CAUL and Peter Godwin, South Bank University, London. OLAS aims to introduce basic and advanced concepts of information literacy to the broadest possible range of learners both on-campus and remotely. Dewald's (1999) characteristics of good library instruction form the basis of its pedagogy. OLAS is currently being piloted at WIT. It is freely available from WIT Libraries' website, apart from the integrated commercial database product to which access is contractually limited to WIT students & staff. Further development is focussed on building an improved version of the course in the WebCT virtual learning environment. The WebCT version will include more richly interactive content, will facilitate credited assessment of WIT registered students, and will address outstanding accessibility issues.

*A created word, the English language pronunciation of which sounds very similar to the Irish Gaelic pronunciation of the word "eolas", meaning "knowledge" or "practical understanding" (Ó Dónaill, 1977)

KEYWORDS

Information Society, Information overload, Information Literacy, Online courses, Learning Support, Lifelong Learning, Academic libraries, WebCT, Virtual Learning Environments (VLEs), Library Instruction, Pedagogy.

Introduction

The global knowledge society in which we in the developed world participate is characterised by a super-abundance of information, all of which is broadcast available and all of which is conveyed around the world by ICTs (Information & Communications Technologies). ICTs are capable of generating volumes and varieties of information in very short time spans. Potentially, they contribute to one of two human conditions.

Information overload, or 'information fatigue syndrome', describes a condition felt by people "who no longer can deal with the tidal wave of information that washes over them" (Wilson, 2001). In this pathology, sufferers are overwhelmed by a constantly evolving array of media spouting endless information. The lack of a single definitive source to satisfy an information need disturbs them. Victims feel increasingly frustrated and hopeless and ultimately controlled by ICTs.

Information literacy, "*the overarching literacy essential for 21st century living*" (Bruce, 2002, 1) is an empowering and enabling force. It describes the process of recognising when information is needed, where it is located, how it is to be evaluated and effectively used. Information literacy makes for the creation of information literate individuals, who *know how to learn because they know how information is organised, how to find information and how to use information in such a way that others can learn from them* (ALA, 1989). Information literacy: "*a pre-requisite for participative citizenship, social inclusion, creation of new knowledge, personal empowerment and learning for life*" (Bundy, 2003, 2).

The individual within our society must develop information literacy skills or risk succumbing to "information overload". In recognition of this stark reality, The Boyer Commission Report, *Reinventing Undergraduate Education*, advocates the development of "information literacy competencies" and goes on to state that "*Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning.*" (Association of College and Research Libraries, 2000)

National policies follow these recommendations more or less. In Ireland an Action Plan on the Information Society, entitled *New Connections: a Strategy to realise the potential of the Information Society* was released in 2002. It outlined the government's current position on information literacy and lifelong learning and cited the White Paper on Adult Education: *Learning for Life* (2000), which *highlights the importance of mass familiarity with ICT applications in the knowledge society, especially in preventing new forms of exclusion, as well as the vital role ICT can play as an innovative pedagogical tool, as a key access route to knowledge and information, an important motivator in learning and as a vehicle in overcoming barriers of distance, timing and mobility, particularly for those with disabilities, older people and those in the workforce* (*New Connections*, 2002, 35)

Information Literacy at WIT

Strategically, Waterford Institute of Technology has tried to align itself with government policy. In 2002 a Strategic Plan for the future development of WIT was agreed that tried to reflect government policy and the concepts discussed above. The Plan's main policy supports learning for everyone, committing the Institute to the production of information literate individuals.

"Waterford Institute of Technology will apply excellence in teaching, learning and research within an inclusive student-centered environment to foster graduates of distinction who are ready to take a leadership role in business, the professions, industry, public service and society". (WIT, 2002, 8)

WIT Libraries' 2002-6 strategic plan has in turn aligned itself with the Institute's strategic vision. This plan, to quote, Ted Lynch, Head Librarian, WIT Libraries: *acknowledges the fact that the Information Age imposes a new responsibility on academic libraries: librarians must equip students with skills and reflexes to evaluate and make use of the proliferation of information, which defines modern civilization.* (Lynch, 2002)

The policy of WIT Libraries is that information skills are an integral part of every learner's education. The library service recognises the role of Information skills "in creating information-literate citizens for the Information Age"(WIT Libraries, 2002,1). One of the most important initiatives to date is the establishment of a Learning Support Centre in the Luke Wadding Library, which makes provision for those who are free to come to a physical location for information literacy training within a limited range of hours. The Learning Centre consists of a contact/help desk and a fully equipped library classroom where Learning Support librarians train large numbers of staff and students in the effective use of library information sources and technologies.

The Centre is instrumental in developing independent, information literate lifelong learners at WIT. It currently hosts a series of programmes including introductory information skills sessions for undergraduates, refresher courses for 2nd to final years, and research support sessions for postgraduates and staff. The ultimate aim of these programmes is to equip participants with transferable information literacy skills in order to improve the quality of their research output and boost their potential for lifelong learning.

Learning Support staff liaise with academic staff to integrate the information skills sessions into academic courses and to tailor the content according to the needs of specific groups. The training process follows a classroom model and initially appeared to serve the majority of learners well. As the results of our recent library survey reveal, learner needs are constantly evolving, however. Many students are unable to attend library training either because they are not based on campus for much of their time or because they work many hours during the academic year.

The survey was completed by over 1100 undergraduate students and consisted of 20 main questions covering 6 specific categories: usage, access, environment, information technology, services and overall satisfaction. While the overall satisfaction levels were high, results from the services category revealed that just 1 in 3 students have attended library information skills tutorials. This is not surprising when we analyse the results from the Usage and Access categories - 51% of those sampled rely on remote access facilities, 75% regularly visit the library after 6pm, and 33% visit at weekends. (WIT Libraries, 2003)

These results confirm that on-campus, face-to-face library training does not cater to every student's needs. We know that our clients include a mix of traditional and non-traditional users and recognise that not all learners are free to attend a library tutorial in a specific location within a limited range of hours. We also realise that for some learners flexibility and convenience of choice are crucially important, as is user-friendly, just-in-time library support.

The library response at an early stage was to develop an Internet tutorial, created and hosted on the library website. A series of subject guides were also put online in 2002. Such developments highlighted the need and paved the way for a more comprehensive approach. A new priority was now the creation of an online information literacy course at WIT Libraries, a course that would be place and time independent, available to all learners 24 hours a day, 7 days a week, 365 days a year, that would offer greater flexibility and convenience to each individual learner, and would complement, and where necessary, replace, our existing face-to-face offerings.

OLAS is the result. OLAS is a web-based, self-paced information literacy tutorial that enables us to reach more learners than we can through face-face instruction alone. It places user centred developments at WIT Libraries within the context of information literacy initiatives in third level libraries worldwide and allies us with international best practice in the field - q.v. RIO (University of Arizona, USA), PILOT (Queensland University of Technology, Australia) and SAFARI (Open University, UK).

We intend to further develop OLAS as a WIT accredited core-skills module. We plan to do so in partnership with our academic colleagues using the WebCT virtual learning software package as recently acquired by WIT. WebCT allows for the creation and delivery of web-based educational courses, such as OLAS, online.

A Framework for OLAS

When creating OLAS, specifications were prepared with a close eye on similar developments elsewhere. Rather than trying to find one perfect template for OLAS, and deliberately ignoring a 'one size fits all' approach, we decided to conduct broad range searches for a framework or series of frameworks that we could, if necessary, customise according to our own ends. The sets of standards and lists of related learning outcomes for the US, Australia and the UK provided us with a choice of information literacy models for OLAS. In addition, comprehensive online tutorials from libraries worldwide provided us with backdrops from which to create an online tutorial to meet local needs.

We noted that in the United States a National Forum on Information Literacy was set up in 1989 that led to the inclusion of information literacy as a goal in a National Education Technology Plan in 2000. That same year, the US Association of College and Research Libraries (ACRL) published their Information Literacy Competency Standards for Higher Education. These standards profile the ideal information literate student. S/he

- *determines the nature and extent of the information needed.*
- *accesses needed information effectively and efficiently.*
- *evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.*
- *either individually or as a member of a group, uses information effectively to accomplish a specific purpose.*
- *understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.*
(Association of College and Research Libraries, 2000)

In Australia Information Literacy conferences have taken place every two years since 1992 and the Australian Information Literacy Standards draw upon the American standards but cover additional areas. The Australian standards use the generic term 'people' rather than specifically referring to the 'student' emphasising the belief in Australia that information literacy is not just for students, but is a prerequisite for lifelong learning for everyone.

We chose to use the Seven Pillars Model of Information Literacy drawn up by the UK and Irish Society of College, National and University Librarians (SCONUL) in 1999 as the framework for OLAS. It shares a great deal in common with the US and Australian models and is consistent with the evolving national thinking on the shape of the information literacy programs in the future. The 'seven pillars' model graphically charts the progression from 'novice information user' to 'information literate person'. It displays an iterative process whereby information users make this progression from novice, through competency, to expertise by practicing the skills.

The model suggests a progression from

1. recognising information need to--

2. distinguishing ways of addressing information gap to—
 3. constructing strategies of locating information required to—
 4. locating and assessing information to—
 5. comparing and evaluating found information to—
 6. organizing, applying and communicating found information to lastly—
 7. synthesising and creating new knowledge
- (Webber and Johnston, 2000, 382)

OLAS is generally structured according to SCONUL's model with one variation: the subdivision, for practical purposes, of the 'Locate and Access Information' pillar into three constituent parts:

1. Locate and Access Information using Books
2. Locate and Access Information using Journals
3. Locate and Access Information using the Internet

This subdivision allowed us to build a substantial proportion of practical examples of the use of different media into the course in a controlled way.

The next challenge was to find a set of learning outcomes, which fleshed-out the framework laid down by the Seven Pillars Model. Research led us to a detailed and comprehensive set of learning outcomes as produced by CAUL (Council of Australian University Librarians), which is practically applied in Queensland University of Technology. The QUT Library web pages provide a detailed information literacy syllabus, including Proficiency Maps, Learning pathways and an Acquisitions Table. (QUT, 2003)

As regards SCONUL's model, Peter Godwin's "Information Skills Benchmarks" is one notable attempt to draft detailed learning outcomes to justify the model. These outcomes form the basis of content for InfoSkills, the information literacy tutorial at South Bank University, London.

In developing our own set of learning outcomes for OLAS, we decided (with kind permission) to use the learning outcomes in the CAUL document and the Seven Pillars structure as explored in detail in Godwin's Benchmarks.

Developing OLAS

At this stage, we had a foundation for OLAS, which in its final form consisted of nine online modules, which are further organised into multiple sections, according to their learning outcomes. OLAS is a variation of the SCONUL 7 Pillars Model. Each module covers a particular aspect of information literacy and can be accessed either on a step-by-step basis, or as user needs dictate:

1. Understand your need for information and define your topic
2. Types of information sources and choosing suitable sources for research
3. Using search tools to locate & retrieve information
4. Locate and access information using Books
5. Locate & access information using Journals
6. Locate & access information using the Internet
7. Comparing and evaluating information and thinking critically
8. Organising & citing Information. Using information ethically & appropriately.
9. Keeping up to date, communicating information and contributing to new information

OLAS was designed and developed by three staff at WIT Libraries over Summer 2003. The total lead time for the project was five months. Content was mostly created in Microsoft Frontpage, with quizzes created in the free Coursebuilder add-on to Macromedia Dreamweaver. Graphics and animations were created using Adobe Photoshop. Initial drafts concentrated on content and were essentially linear, textual and non-interactive. A subsequent version of OLAS relies on a combination of linear

and modular designs. Its overall design remains linear, in the sense that it progresses from Section 1 to Section 9, whereas each individual section is designed as a self-contained unit, facilitating navigation and cross-navigation. Thus, it caters both for those who wish to work through it systematically as well as for those who would rather skip directly to the sections they see as relevant.

Simple, natural language is used throughout. Textual content includes definitions, compact explanations and 'real life' examples. Each module includes graphics and animations to aid visual cognition, interest, and interactivity. Regular, predictable page structures facilitate scanning. Graphical elements are consistent, allowing for intuitive navigation. Procedural and help screens, such as About pages, Menus, Glossary and Help features assist the learner throughout. Opportunities for active learning in the shape of self-test quizzes have also been enhanced.

OLAS has recently been re-compiled in WebCT. This version of OLAS is used for training purposes. It forms an excellent testing ground and showcase for WebCT and provides a forum for all prospective users to practice the look and feel of an online course. WebCT includes many features and facilities that potentially enhance OLAS and we are currently exploring the package as a platform for the ongoing development of the information literacy project at WIT.

Pedagogical Concerns

WIT Libraries' Learning Support model is based on the premise that information literacy training is perhaps the predominant professional duty of today's librarian. Our face-face sessions follow best practice of classroom pedagogy, with the format including lecture, discussion and activity. Students are instructed in the use of print and electronic information resources and are encouraged to become critical information users. An example of a critical thinking activity is 'The Story Game' – students answer questions based on their interpretation of a short piece of text. The answers are, then, discussed to illustrate how we all make varying assumptions and draw particular inferences when we are reading text. (Reference to a Discussion with Tina Hurley referring to Kirby, Andy (1992) *Games for trainers. Vol.3.*)

In creating OLAS we were faced with the challenge of how to transfer best principles of face-face training to an online environment. As with classroom-based courses, good online teaching and learning practices were of paramount importance, but although pedagogical considerations are equally as important for online courses as they are for face-face ones, the emphasis in many respects, is different online.

Teaching online requires a different set of skills and a different pedagogy to that of the face-face classroom, none of which can be developed quickly or easily. (Donnelly & O'Brien, 2003)

The online instructor is not, for instance, as visible as her face-face colleague. "*Facial and body language cues are removed from communication*". (Palloff & Pratt, 2002, 173) She cannot instantly gauge the level of interest and understanding among the class and so has to rely on alternative ways of communicating with the students. For their part, the students, too, have to adapt to learning online. A less structured process applies. Students are encouraged to learn by active techniques, and then, to reflect and communicate on the process, to learn by learning how to learn, as it were.

The teacher's role is also modified. She has to make the transition from being the traditional teacher or lecturer to being the course facilitator. While her function remains unchanged - she still helps students to construct knowledge and encourages the learning and reflective process - she does not have the same authoritative classroom presence online. An open, flexible and creative approach to her new role is required.

An instructor who is willing to use collaborative, active learning techniques and ideas, and who allows for personal interaction, brings in real-life examples and builds

reflective practice into teaching, is a good candidate for teaching online. (Palloff & Pratt, 2002, 174)

A learner centred approach is a vital element of any successful online course. Teaching online requires us to move beyond traditional models of teaching and to adopt new perspectives that facilitate student learning. OLAS is based on a set of learning techniques that help students become effective learners in the Information Age.

Dewald's characteristics of good library instruction (Sharpless-Smith, 2001, 5-6) provided us with guidelines for the pedagogical development of OLAS. The first of these characteristics emphasises the importance of establishing clear objectives for instruction. When listing the learning outcomes for OLAS the primary pedagogical goal identified was to introduce basic and advanced concepts of information literacy to the broadest possible range of learners at WIT. In fulfilling WIT's lifelong learning remit the aim of OLAS is to be truly learner- centered: sufficiently flexible to accommodate a variety of users from a variety of different subject areas and to cater for all time constraints and learning styles.

OLAS overall framework is pedagogically sound. The information process is clearly visible as a 9-stage sequence of events: this reduces its complexity significantly and allows the user to work through the modules in a flexible and self-directed way. Individual thematic problems or interests are used as starting points for each module and to trigger learning processes. Examples refer to a variety of subject areas and 'real-life' study scenarios.

As far as learning concepts are concerned (See Dewald's characteristics above), OLAS goes beyond the Ask a Librarian approach and the simple teaching mechanics of many existing user-education programmes. OLAS has as central elements in its modules important information literacy concepts, such as critical thinking, search strategies, Boolean logic and evaluation techniques. These concepts are presented in simple, realistic formats within the context of the student's own coursework.

As with classroom-based courses, the practicalities of how to motivate learners are a major issue for OLAS. Best pedagogical principles advocate an active, self-directed learning model. Active learning is a way of teaching and learning that relies on a set of learning activities to stimulate and promote interaction and reflective thinking in its audience. Examples include simulation, manipulation of objects and quizzes, any activity, indeed, that induces problem solving and self-assessment among learners.

Active learning techniques encourage students to become empowered learners. Active learning is entirely possible online and is, if anything, enhanced by this environment.

The unique capabilities of the web (however) can be used in combination with good pedagogy to create active and creative online learning experiences for students. (Dewald, 1999, 26)

OLAS incorporates such interactive elements as real-time database searches and self-test quizzes. We are currently creating an updated version of OLAS to be delivered via WebCT. This version will include several interactive opportunities for the user. Using FrontPage, the course creator can, for example, create a scenario whereby a question is posed to the student and a dialogue box is provided for him to type and submit his answer. When the answer is submitted, the student can then see a sample answer to the question with which he can compare his own answer.

Templates are available within WebCT for the creation, timing and automatic grading of four different types of quiz (Multiple-choice, Matching, Calculated and Short answer). Statistics on quiz results can be generated within WebCT for instructor and/or student information. WebCT also includes a self-test feature, which works in

conjunction with course content and which enables individual students to gauge their own level of knowledge at various stages throughout the course.

Instructional Design

Despite the importance of web-based interactivity as a motivating force, learners cannot live on interactivity alone. Sound pedagogy also emphasises the importance of instructional design. International best practice emphasises this.

As an instructional medium, online technologies will not in themselves improve or cause changes in learning. What improves learning is well-designed instruction. (TAFE,1998)

As regards instructional design an additional pedagogical consideration for OLAS relates to whether or not it can cater for different learner levels. An online course will ideally be basic enough to motivate the beginner while also being sufficiently complex to stimulate the advanced user. Although the current version of OLAS does allow the user to focus on particular sections or topics as he/she desires, we as creators of the course are not satisfied that it makes adequate provision for differing levels of pre-existing information skills among users.

One possible solution to this problem is to create different versions of OLAS within a core OLAS model. A basic version might cater for students new to third-level education by gently introducing concepts they may not have previously encountered, while an advanced version might target the expert by asking her to follow a more complex path. Different versions could be created according to subject areas, i.e. different versions which explain the same principles but which use examples relevant to the student's particular subject area, be that business or engineering or any other subject. Following this model, different learner experiences can occur within the same setting. A number of learning outcomes are also catered for.

Within each of the different levels or subject specialist versions, a truly learner-centred approach would necessitate that different content is presented to users depending on their own interaction with the course. In this scenario, if a user, for example, chooses an incorrect answer to a quiz he should not be baldly informed that the answer is incorrect and shunted on to the next question none the wiser for having incorrectly answered the previous one, but should be given an explanation as to why the answer is incorrect, as well as the option to re-visit the point being examined, where he would be presented with an alternative and more detailed exposition of the relevant learning outcome than on his first visit. Using the current OLAS as a base, these developments are entirely possible.

The Future

As technology and technological know-how develops, it is envisaged that OLAS will be updated and revised to become a truly online course and to provide what Laurillard describes as

“a learning environment that permits intensive and relevant engagement with the subject matter, being individualised and self-paced, allowing immediate access to large amounts of data, asking questions to test student understanding, and providing guidance when errors or misconceptions are noted” (Laurillard, 1992, 159)

WIT's recent acquisition of WebCT is a first step towards this end. WebCT is a content management system that facilitates the creation and delivery of web-based courses, such as OLAS, online. Its range of educational and administrative tools supports quality learning and communication activities. The content module provides for the delivery of course material in an enhanced format, while a suite of course tools encourages interpersonal interaction *to promote higher order learning, such as analysis, synthesis and evaluation, rather than rote memorization.* (Berge, 1995)

WebCT also includes a tracking feature that allows us to track student use of OLAS as well as student performance on the quizzes.

A first version of OLAS is currently hosted on WebCT, as a training template for the development of additional online courses at WIT. We are working in close collaboration with a number of the academic staff here at WIT to further develop the course within the WebCT framework, and we aim to integrate it into some of the core subject areas in the curriculum by September 2004. The possibility of developing OLAS as an instructional tool for para-professional staff is also in an early planning stage. WebCT lends itself nicely to these projects.

It is imperative that WebCT be deployed properly if it is to achieve its full potential however, not just technically but pedagogically as well. Good practice is the basis of success. Technological know-how is readily achievable through 'hands-on' training courses. WebCT is extremely user-friendly: individuals learn the basics very quickly. In addition, the tools in WebCT have proven themselves to be pedagogically sound, capable of supporting a range of teaching and learning styles.

That is only half the battle, though. The facilities and features of WebCT will not, in isolation, improve or cause changes in learning: what improves learning is well-designed instruction. Expert intervention is necessary in order to effectively and efficiently harness a course such as OLAS towards the achievement of optimum sets of teaching and learning outcomes. To quote Ferguson on this point:
"Tools are not teaching: tools are for teaching. Teaching will always remain the responsibility of the instructor. Knowing why you should use a tool makes the how, an easier task. No matter how good any course management software is, without the underlying pedagogy, it will be an empty tool. Good online courses do not happen; they are created." (Ferguson, 2001, 93)

Berge, too, makes the point clearly:

"I want to emphasise in the strongest way that when developing and delivering instruction, whether online or not, the use of technology is secondary to well-designed learning goals and objectives. What distinguishes online instruction from entertainment or recreation is the purposefulness of the designers and developers in provoking certain intelligent responses to the learning materials, context and environment." (Berge, 1995)

Evidently, then, the teacher persona, *a human connection in learning* (Dewald, 1999, 31) is not something that technology, no matter how far advanced, can substitute for. The need for the instructor presence in the online environment is second to none. Classrooms are synonymous with teachers/ instructors who moderate learning interaction and guide knowledge building. Best pedagogical practice supports their presence and emphasises their valuable co-ordinating and leadership skills. Such skills are also necessary online.

A course co-ordinator or group facilitator, he whom Gilly Salmon has dubbed an "e-moderator"; one of the new generation of teachers and trainers who work with learners online; is an essential element of any web-based course. The e-moderator works in a different environment than the traditional teacher: the on site classroom has become an off site virtual reality. His role has also changed: the man at the top of the classroom has become the man at the other end of the PC, yet, his function remains the same: the teacher persona is still the teacher persona. He is the one who sets the tone, the pace and the outcomes and who supports learning in all its shapes and forms.

All WebCT courses need to incorporate such a presence if they are to succeed as effective and efficient learning mechanisms online.

"Networked computers can provide vehicles for learning materials and interaction but

students still need the 'champions' who make learning come alive – the e-moderators.” (Salmon, 2000,12)

OLAS is no different. A constant teacher presence will have to be assured. We recognise the role that we, as librarians, play in this process and are looking to our academic colleagues to partner with us on this one.

There are major opportunities available for librarians and educators to bring about changes in education. Librarians are especially well positioned through their information expertise to prepare and train others, particularly students, for effective performance in the Information Age. In partnership with educators, librarians now have opportunities to emerge as trainers and teachers, to prepare citizens for productive work and lives in the Information Age. (Rader, 1997, 52)

Work in Progress

OLAS is taking shape as a remarkable initiative in information society education in terms of its sound, well developed pedagogical basis. Its overall framework relies on SCONUL's Seven Pillars Model of Information Literacy. Its learning outcomes are devised from those created by CAUL and Peter Godwin and form the basis of its content. It applies Dewald's characteristics of good library instruction to an online environment, and is currently exploring the potentials of using WebCT as a platform for curriculum-based, course delivery.

OLAS has come a long way from its early drafts when it was little more than a web version of a set of class notes, and is now hosted on WIT Libraries' website as a developing web-based information literacy tutorial, accessible to all registered WIT staff and students from any web browser anywhere. Library and academic staff at WIT believe that a sustainable future for OLAS involves its integration into the curriculum at WIT because already OLAS is seen as an opportunity for academic and library staff to work together to build an information literacy curriculum that can benefit students for the rest of their lives.

OLAS signals the way forward for the library as an educational driver in the Institute. At present, we are in the early stages of a complete and entire online information literacy programme. Its final version will take time, collaboration and effort to accomplish, but the team involved is in no doubt as to the strategic potential of OLAS. To quote Dewey (2001, xv) on this point, *purposeful and well-planned programs need to be put in place to expand the integration of IL or information fluency throughout the curriculum and as a basis for lifelong learning.*

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