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Executive Summary

- ▶▶ Literacy Tools website is a welcome addition to the adult literacy sector and is seen as a timely response to the increasing use of ICT in all aspects of everyday life.
- ▶▶ Although in the early stages of development, Literacy Tools has the potential to become an effective distance learning tool, attracting adults who are not able, or choose not to, access literacy learning through the national network of schemes.
- ▶▶ Access to on-line computers in appropriate settings is essential if the distance learning potential is to be realised. Learning on-line gives learners the opportunity to use and develop their computer skills at the same time as improving their literacy skills. Literacy Tools is a free resource and can be used in conjunction with other literacy learning methods and/or other modules such as computers.
- ▶▶ Learners and tutors need basic computer skills to access Literacy Tools. An introductory computer packages such as Equalskills could be a useful starting point.
- ▶▶ Tutor training in the effective use of ICT in literacy learning is needed. Courses need to address the immediate and future needs of tutors working in the sector. It was suggested that a Training Trainers Course would ensure that expertise and support was available at local level.
- ▶▶ The two strands of Literacy Tools, the print and interactive exercises, offer choice to both the learner and the tutor.
- ▶▶ Literacy Tools is designed specifically for the Irish based learner and this is reflected in the choice of material on the website. Choice and balance between being informative and enjoyable are important criteria. It was recommended that information which is often inaccessible, or difficult for people with literacy difficulties to understand, be included. This could include information on citizens right or accessing services.
- ▶▶ A number of improvements to the interactive aspect of Literacy Tools are currently being implemented based on the feedback from users. Because Literacy Tools is an on-line resource it is not static and can be updated at any stage.



Introduction

As part of its commitment to ensure adult literacy learners have access to a wide range of high quality learning options, the National Adult Literacy Agency (NALA), developed an on-line adult literacy learning website called Literacy Tools. Literacy Tools was added to the NALA website in the Summer 2002 in pilot mode, with the intention of getting feedback from users on how the site could be improved. The emphasis was on accessing the effectiveness of the navigation and the interactive aspects of the site. This project began with a CAIT (Community Application of Information Technology) grant from Department of Enterprise of €19,681 August 2001.

The site is aimed at learners who would like to improve their literacy skills using computers. It is a resource for learners in adult learning centres, as well as learners who want to improve their literacy skills independently of joining a scheme. Literacy Tools is NALA's first experience of offering on-line learning and it recognises that there are a number of challenges in using computers as a distance learning tool. However NALA is confident that these challenges can be addressed in time.

This is a qualitative report which documents the development of Ireland's first on-line adult literacy learning website. It begins setting the scene and giving an overview of how the growth in ICT has impacted on society and the implications this has for adults with literacy difficulties. It moves on to explain the features of Literacy Tools in pilot mode and records the feedback from users during the pilot phase. It concludes by outlining the changes that are currently being made to the website and makes proposals on the development of Literacy Tools to ensure that Literacy Tools is used to its full potential in the future.

Aim of the Report

This report aims to document the development of Literacy Tools in its first six months and make proposals for its improvement.

The three objectives are to:

- ▶▶ give an overview of the growth of ICT and how this impacts on adults with literacy difficulties;
- ▶▶ evaluate Literacy Tools in pilot mode; and
- ▶▶ and make proposals for the future development of Literacy Tools.

Each objective is examined in separate chapters.

Timing of Literacy tools

One of the questions frequently asked during the pilot was what prompted NALA to develop an on-line learning resource. In some instances the question was spurred by a certain curiosity and scepticism about people with literacy difficulties using computers, not to mind using them to learn other skills!

NALA's decision to develop Literacy Tools was influenced by a number of factors.

- ▶▶ The exponential growth in the use of ICT in all aspects of social and economic life meant that society is fast being divided into “those who can” and “those who can't” use ICT. Those who “can't” have less opportunities open to them and risk exclusion, or greater exclusion if already excluded. Part of NALA's remit is to work towards greater social inclusion and redress measures which lead to social exclusion.
- ▶▶ The commitment of the adult literacy sector to offer learners skills which could be useful in everyday life and access opportunities requires the sector to respond appropriately to changes which impact on learners lives. NALA's Strategic Plan (2002-2006) aims to develop and implement a plan for the integration of ICT into literacy work.
- ▶▶ The Department of Education & Science gave a commitment in the 2000 Green Paper on Lifelong Learning to offer adult learners the chance to learn ICT skills. It also acknowledged the potential of the internet as a distance learning tool.
- ▶▶ Adult learning centres were responding to their learners interest in developing ICT skills in an ad-hoc way and without training and support. Requests were being made to NALA for training and support in the effective use of ICT within the literacy learning environment.
- ▶▶ There was a growing demand from tutors for computer software which was relevant to the Irish based learner.

Precursor

There are two points worth noting before reading the report.

- i) The parameters of the report are broad yet limited to a specific period of time. It is therefore important to keep in mind that the some of the content may be out of date or replaced given the fast changing nature of new technologies. It is also important to remember that Literacy Tools is being currently being updated and because it is an on-line resource it is constantly evolving.
- ii) The pilot was evaluating the features of the website and not the actual learning value of the exercises which were limited and intended to test the features.



Methodology

This is a qualitative report aimed at collecting information and feedback on the development of Literacy Tools, NALA's first on-line learning website. In pilot mode, the emphasis was on finding out whether users found it easy and enjoyable to use. The actual content, in terms of the topics and the learning value was limited but sufficient to test the interactive function and other features such as the menu bar and feedback mechanism.

The emphasis was on finding out users level of satisfaction with overall features and the interactive aspects of the site. Four methods were used

- i) Questionnaires aimed at getting views from users.
- ii) Focus group meetings with professionals in adult education and web design.
- iii) Looking at other learning websites and interactive multimedia programmes.
- iv) Reviewing relevant reports and research on educational website.

Feedback

Feedback on Literacy Tools was gathered in three ways

- i) questionnaires from six adult learning centres
- ii) two meetings with professionals
- iii) ongoing feedback from independent users through the on-line feedback mechanism set up during the pilot.

Questionnaires and Participants

The purpose of the questionnaires was to get feedback on the:

- ▶▶ Look and feel of the site;
- ▶▶ Interactive features of the site.

Six learning centres were identified and agreed to take part in the evaluation. They were selected based on their target learning group and access to on-line computers. The centres were:

- ▶▶ A programme for traveller women in Tara Education Workshop, Dundalk. 3 learners and 1 tutor took part.
- ▶▶ A programme for adult learners in Dublin Adult Learning Centre (DALC). 3 learners and 4 tutors took part.
- ▶▶ A Community Training Workshop for early school leavers in Dun Laoghaire. 5 learners and 1 tutor took part.
- ▶▶ A programme for adult learners in Bray Adult Learning Centre. 1 learner and 1 tutor took part.

- ▶▶ A Youthreach Centre for early school leavers in Miltown Malbay. 5 learners and 1 tutor took part.
- ▶▶ A programme for adult learners in Limerick City VEC. 7 learners and 1 tutor took part.

The 24 learners represented a gender, age and spatial mix between urban and rural areas. Six tutors agreed to take part and in one centre three tutors completed questionnaires of their own volition. Their comments are recorded. All nine tutors were paid part-time and full-time staff.

None of the centres had used Literacy Tools prior to the questionnaire. As part of the evaluation was to assess how easy the site was to access and use, no induction was given prior to distributing the questionnaire. Tutors were given discretion on how they to conduct the questionnaire, either individually with learners or as a group.

Learners were asked to complete three questionnaires relating to:

- i) first impressions of the site and the opening page
- ii) feedback on their selected worksheets and exercises
- iii) agree/disagree with a list of statements on a scale of 1-5.

The amount of time learners spent looking at the site was left to the discretion of the tutors though most tutors opted to devote one session to using Literacy Tools and completing the questionnaire. Learners spent on average between 30 minutes and 2 hours looking at the site and attempting exercises.

Tutors were asked to observe how learners interacted with the site and how much support they required compared to when they used other computer learning tools.

Tutors were asked to complete two questionnaires relating to:

- i) overall impression and their observations of the learners while using the site and
- ii) agree/disagree with a list of statements on a scale of 1-5.

Follow-up phone conversations took place with four of the six tutors after the questionnaire was returned. The purpose was to clarify some of the points and get some feedback on what tutors observed compared with what their learners had written in their questionnaires.

Independent users were invited to give feedback through the on-line feedback facility. An explanatory note was added to the Literacy Tools homepage explaining that the pilot was being carried out. There was no criteria and questionnaire as it was felt that this could limit the responses. Users were therefore free to forward any comments or suggestions. The explanatory note gave a few examples of what the feedback could be about, such as opinions on the colour, the font the content and so on. Feedback from independent users and the questionnaires was also posted on the site at regular intervals to keep visitors up to date and encourage feedback.

Seven people gave feedback over a four month period. All seven were tutors. All contributions were acknowledged and clarification and further detail was given when asked.

Meetings

Individual meetings with experts in the areas of accessibility, adult learning, literacy and IT design took place the early stages of the pilot. These meetings provided feedback on the existing site and advice on the development of the site.

A group meeting took place in January 2003 with a range of experts. The purpose was to give suggestions on the future shape of the site and what the content should include.

At a follow up in February (with some of that group), a sample of new interactive exercises was available off-line for the group to see. They gave feedback and suggestions on the question samples and the correction mechanism.

Individual meetings were also held with NALA staff.

Looking At Other Learning Websites and Interactive Multimedia Programmes

A number of websites and CD Roms were viewed during the pilot, based on recommendations from the six learning centres, independent users and people attending the meetings. Links from one website to another also lead to a wide range of sites being viewed. The websites were all on-line adult learning websites developed in the UK, Canada and the U.S.A.

Tutors and learners were asked to recommend CD Roms and interactive sites and/or highlight aspects they thought worth including in Literacy Tools. Among the most frequently used were the recently designed on-line [bbc.skillswise](#) and CD Roms such as *Issues in English* (Australia) and the *Driving Theory Test* available from the Department of the Environment and Local Government.

The purpose of reviewing these was to get ideas for developing Literacy Tools. Of particular interest were the opening pages, the look of the site, the navigation, the content and the overall appeal of the websites and CDs.

Review of Research and Evaluations

A review of research and other evaluations was undertaken relying on:

- i) Research papers on learning websites
- ii) Evaluation studies on ICT and adult literacy learning

As this is a relatively new literacy learning method, there was no material available which relatively specifically to designing and developing an on-line adult literacy learning website. Papers were available on different components such as establishing criteria of evaluating educational websites and more generally on distance learning.

Research Issues

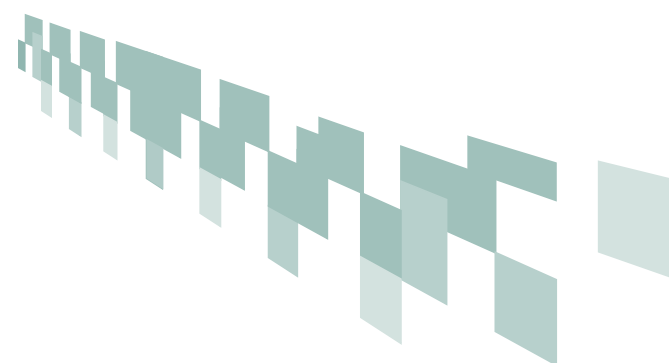
A number of issues arose which impacted on the feedback.

- ▶▶ Participants previous knowledge and experience of using computers varied considerably. As a result many the responses to questions were influenced by learners level of computer skills rather than specifically to the site. An example of this would be in relation to navigating the site
- ▶▶ Most of the content was at the same level and therefore did not suit learners whose abilities were above or below that level.
- ▶▶ Over half the participants were aged between 16-18 years, who were not envisaged as the main target audience for Literacy Tools, and therefore the overall appeal of the site and its content were unlikely to get a favourable response.

Suggestions

Based on this experience the following suggestions may be worth considering before embarking on a future evaluation.

- ▶▶ Ensure that learners literacy levels match the content and that a wide variety of learners are part of the target audience.
- ▶▶ Consider the possibility of asking learners to compare the pilot site to another site, or a site of their choice.





ICT and Literacy Learning

The section starts by giving an overview of ICT use in Ireland and then looks at how ICT is currently being used with adult literacy learning. It examines the barriers which people with literacy difficulties face in using and accessing ICT and what the implications are and will be, if not addressed.

It goes on to summarise the main findings of an IT and Literacy Survey carried out by NALA in the Spring 2001 which gives an insight into how computers are currently being used in adult literacy learning. Some of the findings of this survey provided valuable information on what training and supports tutors need to ensure that ICT, and in particular Literacy Tools, is used effectively and integrated into literacy learning.

ICT Use in Ireland

Information and communication technology, known as ICT, applies to new technology such as the internet, email, mobile phones and interactive TV. Access and regular use of ICT has growing considerable over the last 5 years. 85% of Irish adults use a mobile phone and over a quarter of a million households, representing 20.5% of Irish households have internet access (Central Statistics Office 2001).

A survey carried out by the Irish Information Commission Society Commission (ISC) in 2000 to establish patterns of internet and computer usage among Irish households, showed that 48% of Irish households do not use the internet or most other new ICT's. Although there is no research connecting literacy problems to low ICT use, the profile of the households in the ISC survey is similar to those most likely to have literacy difficulties: they include people with no qualifications, unskilled workers, unemployed, those with incomes less than €1000 per month and older people. (www.itech-research.ie).

ICT and Adults with Literacy Difficulties

Given that some level of literacy and computer literacy is needed to use ICT, it is safe to conclude that people with literacy difficulties are less likely than people with no literacy difficulties to use a range of ICT. So the question, why develop a literacy learning tool which relies on a medium seldom used or accessible by the target group, needs answered.

There are two reasons.

Firstly, ICT is an increasingly essential requirement for participation in daily life. Using an ATM, receiving and sending text messages or booking a holiday on-line offer additional choices and options available to people who can access and use ICT. They offer tangible benefits such as having access to money when the bank is closed or being able to avail of cheap flights. The personal benefits attached to being able to use ICT should not be underestimated. The personal satisfaction of being able to reply to a text or book a flight on-line, is very significant

and particularly so for literacy learners who find themselves excluded or comprised in many aspects of daily life. Being able to use ICT, even at a basic level, can make a real difference to self-esteem.

Secondly, ICT use is linked to exposure. The greater the exposure, the more likely someone is to develop the skills. Skills can be developed by either experimenting and by being shown how to do something, or a combination of both. Literacy learners involved in adult learning are in an ideal environment to develop ICT skills, and literacy tutors are in an ideal position to provide help and support to learners who are new to ICT or want to use it more effectively.

Adult literacy learning is based on the principle that adult learning is most effective when the learner can use and apply their learning in their everyday lives. Tuition has always centred around what the learner needs to know in order to do something. For example if a parent cannot help (or monitor) a child using the internet, they can feel inadequate, excluded or even irresponsible. By having some knowledge of how the internet works, they can become involved in their child's learning and regain some of the authority they lost. If a learner's exposure is linked to immediate use and has tangible benefits, the learner is more likely to be motivated to learn more about ICT.

ICT and Social Inclusion

Recent statistics produced by the Irish internet research company Itech (2002) show that among the least likely users of ICT are those with literacy difficulties, living in poverty, unskilled, the long-term unemployed and older people. Complacency in responding appropriately to gaps in access could further widen the gap between those who can participate fully in society and those who are excluded. Although it may be argued that use of ICT may not be as critical to social inclusion as other factors, indications are that the chances of being able to participate fully in society are increasingly linked to the ability to use a computer and other forms of ICT.

ICT and the Workplace

Those who can access and use ICT have many more options open to them thus broadening opportunity to participate in all aspects of society. For example employers are increasingly requiring applicants and employees to be able to use computers and other forms of ICT such as touch screens or computerised cash registers. Employees whose literacy problems did not previously impact on their work find that familiar paper methods and transactions are being replaced with new technologies. Anecdotal evidence suggests that employees may be leaving jobs work for fear of exposure and/or anxiety that they will not be able to adapt to the new technology.

Increasingly the ability to work effectively or act independently depends on being able to use some form of ICT. Therefore as part of its commitment to ensuring that adult literacy learners are able to participate fully in all aspects of social, political and economic life, the adult literacy sector must respond to changes which impact on learners lives.

Benefits of ICT in Adult Literacy Learning

As identified above ICT is increasingly becoming a fact of life and so as workers and consumers, knowledge of its workings is required. Computer literacy also facilitates the adult learning by giving the learner the option to improve their literacy skills by using the computer. The learner can go-line and select from the many adult literacy websites or install a CD Rom. This learning can take place in an adult learning environment and can be done in conjunction with other literacy skills learning. Alternatively learners can access the on-line learning websites from a place of their choice and at a time that suits.

Contrary to the assumption that adults with literacy difficulties do not want to use computers, there is ample evidence to suggest that learners are both motivated and enthusiastic to use computers (IT and Literacy Survey NALA 2001). The Green Paper on Lifelong Learning (2000) links this enthusiasm to pedagogy pointing out that:

“ICT can improve the quality of the educational experience by providing rich, exciting and motivating environments for learning”¹.

It goes on to say that:

“Most educationalist researchers refer to the high motivation evidenced by students using ICT’s for learning. Others refer to the opportunities which ICTs present to encourage the development of creativity, imagination and self expression”².

Adult literacy learning places huge emphasis on acquiring skills which are useful in everyday life because learners are motivated to learn skills which have relevance and meaning for them. Learning ICT skills acknowledges the context in which people work and live.

ICT and Independent Learners

The International Adult Literacy Survey (OECD 1997) estimated that one in four adults in Ireland had literacy difficulties. In 2002 NALA estimated that approximately 24,000 learners enrolled in an adult literacy course ³. In other words, approximately 4% of adults with a difficulty are attending literacy tuition in designated adult literacy schemes.

Among the possible reasons for this low uptake is the stigma attached to having literacy difficulties, with embarrassment and shame being major deterrents to seeking help. Although some learners overcome this obstacle by joining a scheme in a different catchment area, this is not always an option in many rural areas or areas with limited public transport. Even where this is an option, learners may not want to get involved in a structured learning environment as it can be too rigid and inflexible.

One way of helping to overcome issues around access and anonymity is the development of literacy provision through ICT. Television, which has been used as a distance education medium for decades has proved an extremely successful medium for NALA in recent years. The viewing

¹ The Green paper on Lifelong Learning page 99: Department of Education & Science 2000

² Ibid, page 100

³ NALA Annual Report 2002/03 figures for adults attending VEC courses.

figures for the Read Write Now television series, show that an average of 187000 people tuned into each episode⁴ (Read Write Now Evaluation report 2002).

The evaluation report on the second Read Write Now series cited privacy and flexibility among the main appealing factors in TV based learning. Learners can choose to tune in and are under no obligation to tune in. Another factor in the success of the series was the relevance of the content to the Irish audience. The content was adult focused and the programme format centred on a number of characters doing everyday familiar things in role.

Although it is too early to predict if computers will ever be as popular or accessible a learning tool as TV, their potential as a supplement to existing learning methods and as a distance learning option is certain to appeal to some learners.

Access to Computers

The introduction of computers to adult learning centres is relatively recent. Anecdotal evidence suggests that although there has been investment in computers in all sectors of education, the take up by some adult learning centres has been slow. This may be due to the part time nature of some of the centres which can make it harder to keep up with and avail of new initiatives.

Some centres opt to use the computer facilities of neighbouring organisations such as FAS and the VEC. Public libraries also have computers available to the public, though anecdotal evidence based on tutor feedback indicates that the demand from the general public is high and the rigidity of time slots can be a deterrent for learners. Although libraries are very responsive to the needs of literacy learners, the perception of libraries as the domain of accomplished readers, is still held by many learners.

It is impossible to estimate the number of potential literacy learners who have a personal computer. Combining what we do know about the socio-economic profile of people with literacy difficulties with the profile of home PC owners, it is probable that many people who have literacy difficulties do not have access to a home PC. If websites such as Literacy Tools are to offer a viable distance learning option for independent learners then it is essential to explore ways in which computers can be accessed in supportive environments.

The Current Extent of ICT Tuition in Adult Literacy Centres

In early 2001 NALA conducted an IT and Literacy Survey⁵ to establish the extent to which computers were being used as part of literacy tuition. 97 centres completed the survey. The results showed that although the majority of adult learning centres had access to computers there were a number of barriers preventing their use as learning tool. These included a:

- ▶▶ lack of ICT knowledge among tutors;
- ▶▶ lack of knowledge in how to effectively use ICT in adult literacy learning;
- ▶▶ lack of training in ICT for literacy tutors;
- ▶▶ limited technical expertise in centres;
- ▶▶ limited availability of, and access to, computers in suitable environments;

⁴ Evaluation Report: Read, Write Now TV Series 2, NALA 2002

⁵ NALA ICT survey 2001

- » lack of funding for computers, upgrades and packages;
- » lack of suitable material for Irish based adult learners.

The survey also showed that the vast majority of centres were highly motivated and enthusiastic to provide computer based learning and that tutors were overwhelming in support of offering different forms of ICT tuition.

Despite the barriers outlined above, a number of centres gave examples of how IT and Literacy were being offered as part of group learning sessions, and to a much lesser extent one to one learning. Examples given included texting, basic computer skills such as using a mouse and keyboard as well as using CD Roms and the internet. Some centres are offering introductory computer courses to adult learners, including learners with literacy difficulties. Offering computers skills, as opposed to literacy skills, is a very effective way of attracting learners who would not join a literacy class because of the stigma attached. This is known as a hook, offering the inducement of computers while at the same time addressing literacy difficulties. A recent evaluation report by Learndirect (2000) on ICT Learning found that men are far more likely to be hooked in this way. This could prove to be an effective way to “address the under-representation of men in literacy and other basic education programmes”⁶.

The Equalskills initiative, which is specifically designed to help people with no computer knowledge to use computers, has been very successful in introducing learners to computers⁷. Some tutors gave examples for working with the computer tutor in the centre, designing course programmes to suit learner’s needs.

Some centres described how adult literacy software or CD Roms are being used in conjunction with the traditional 1-1 and group learning. However none of the software mentioned is produced in Ireland and indications are that most of what is used is Australian produced. Although tutors were positive about the quality of the software, they felt that Irish produced software should be available. Another problem associated with software is its high cost, which limits the number of software packages that a centre can buy.

In conclusion, the NALA survey (2001) indicates that the majority of literacy centres are offering some form of access to computer learning, though in an ad hoc way. Without training and guidance on using ICT effectively, the quality and extent of provision is unlikely to improve. As a consequence the adult literacy sector is likely to continue lagging behind the pace of ICT development in society generally. In the absence of a course programme or curriculum, staff resources are diverted away from tuition and into producing programmes for learners.

An ICT strategy would help centres plan according to their needs and help identify areas which need to be developed further (appendix 3). In a submission to the Information Society Commission in 2002 NALA argued that a national ICT literacy co-ordinator should be appointed. This person would be responsible for producing high quality learning materials

⁶ Adult Education Green Paper page 89

⁷ The Equalskills Initiative was launched by the Department of An Taoiseach in 2001 as a pilot project aimed at ensuring widespread computer literacy. One of the aims is to provide an enjoyable introduction to computers for participants, (mainly late adopters of technology) and assist them to retain a basic understanding of computer use.

specifically for the Irish context and Irish curriculum.

Explaining the Lack of ICT Expertise

A number of factors, including lack of training and the voluntary nature of much of literacy provision present real challenges in developing ICT expertise in the sector. The literacy service up to recent years was underfunded and this had implications for how ICT was used in schemes: use of ICT was now seen as a curriculum issue. Literacy tutor profiles in Ireland also shows that the majority of tutors fall into the least likely computer literate groupings ie women over 35 and older people. The lack of knowledge and expertise means that some centres do not offer any computer based learning. If literacy learning is to retain its ethos of providing the learner with the skills needed for everyday living, then centres will need help and support to move with the changes presented by technological advances.

ICT Training

In November 2001 the tutor training course on Integrating Literacy into ICT was designed and delivered by NALA to coincide with the development of Literacy Tools. A number of valuable lessons were learned from the training day. Firstly, tutors level of existing knowledge and experience varies considerably as does their ability to effectively use their knowledge in the literacy context. In responding to this, NALA recognises that courses need to be designed to train and support tutors with different needs and offer some progression in terms of course levels. Currently a new Integrating Literacy into ICT course is being designed. .

Secondly, NALA realises that it is neither feasible or practical to ensure that all tutors are computer literate. For tutors with limited or no knowledge the Equalskills programme provides an ideal starting point from which to develop basic computer skills. Tutors could then decide if they wished to progress further.

Thirdly, and finally, the NALA training highlighted how important it is that ICT course trainers are familiar with adult literacy learning and literacy issues. The ethos and learning process is unique and not understood by trainers used to working in other settings. For training to be effective and transferable to the context in which tutors work, ICT trainers need both knowledge of the literacy subject and the context.

Summary

ICT skills are increasingly required in daily transactions and communications. As adult literacy learning is concerned with ensuring that people with literacy difficulties are able to participate fully in society, it is essential that learners get the chance to learn ICT skills. As well as developing ICT skills for everyday use, these skills can open up other options, particularly in relation to accessing literacy learning through computers.



Literacy Tools in Pilot Mode

This chapter describes the look and content of Literacy Tools in pilot mode before going on to examine the feedback from the questionnaires and meetings. It looks at the implications of some of the feedback on the development of the website.

Jennifer Lynch, NALA's Literacytools Co-ordinator started to work on literacytools in September 2001. Digital Crew were recruited to carry out the technical requirements and Dr Paul Walsh of Maths and Computers Department CIT was the technical advisor to NALA throughout the project. The site was designed along with content over a 9 month period before the piloting process. NALA did not have a history of developing software and so this project was challenging and developmental. The evaluation of the site began in pilot mode October 2002.

Description of Literacy Tools in Pilot Mode

At a basic level there are two aspects to a website:

- i) the ease of use which involved getting around the site and the overall look of the site; and
- ii) the content which is the information on the site.

The emphasis in pilot mode was to get feedback on the first point and to get ideas and suggestions on developing the content for the future.

Target Audience

The target audience were both tutors and learners. It was envisaged that most learners would be accessing the site in centres with tutor support available.

Using Literacy Tools

Users were given 2 options to choose from:

- 1 Worksheets that could be printed off and used as hard copy or viewed on line, called Printable Exercises.
- 2 Worksheets that could be viewed, completed and corrected on line, called Interactive Exercises.

i) Print Exercises

The Print Exercises consisted of worksheets which could print off and used at any time. The worksheets were in pdf format and downloaded using Acrobat Reader. A link to download Acrobat Reader was installed on the site free of charge. Users could choose from a selection of 10 topics with a total of 59 worksheets. Although the print exercises could be read on the

computer screen, the accompanying exercises could not be done on-line. The majority of this material was commissioned especially. The majority of this material was suitable for learners up to FETAC foundation level. All worksheets were approximately 4-5 pages in length.

ii) Interactive Exercises

These exercises could be viewed, completed and corrected on-line. The term interactive describes the mechanism of engagement between the learner and the computer. Questions are posed and the answer is built into the programme, but concealed from view. The only answer which is accepted as correct is the pre-installed answer. For example if the question is, “what is the opposite of small?”, and the pre-set answer is big, other possibilities like large or tall are deemed incorrect, regardless of whether it is spelled correctly.



In Literacy Tools there are six interactive topics to choose from with one worksheet in each topic. Each worksheet has between 3-12 questions to attempt on-line. When a worksheet is completed, the learner gets a breakdown of the number of questions answered correctly and incorrectly.

The material was sourced from workbooks and the questions were adapted to fit with into one of three question formats:

- i) cloze exercises where the learner filled in a missing letter to word;
- ii) word families where the learner could add letters to the beginning or end of a core word to make a new word; and
- iii) questions with one word answers.

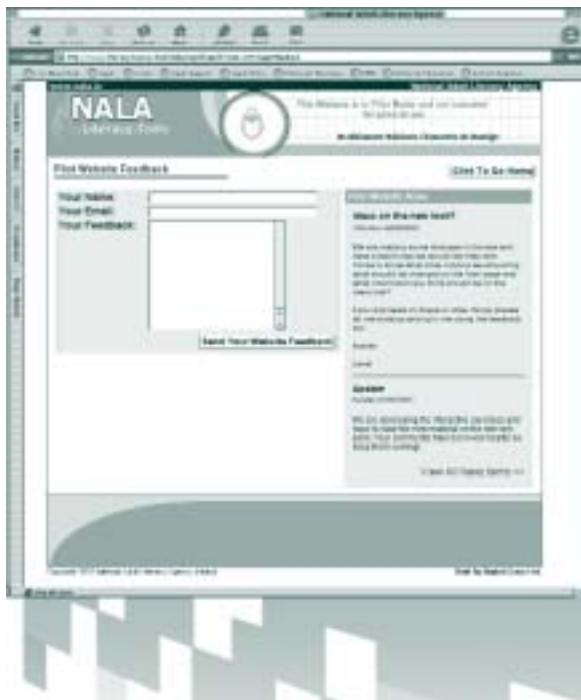
Homepage and Menu Bar

The homepage has links to all the information contained on the site, either through the menu bar or directly to the exercises.

The introductory text was changed three times during the pilot, the first time alerting users that the site was being evaluated, the second time asking for feedback on content and the third time alerting users that the updated site would soon be ready.



There were five options on the menu bar



- i) **The Website Feedback**
Site users were aware that the site was in pilot mode. Throughout the pilot learners and tutors were encouraged to feedback their opinions and suggestions on how the site could be improved. The Website News was regularly updated with feedback and progress updates. The feedback was sent down line as an email to the NALA office.
- ii) **About this site** give background information on the funding and the development of the site as well as information on how to use the site.
- iii) **Literacy Links** lists a number of websites which could be accessed directly through the site. The list included learning websites as well as links to tutor material and information.

Other Features on The Homepage

Logging-In

The learner is given the option to track their results by logging in and registering their email details which were stored and available when the user logged in again. Their results are displayed in a coloured horizontal bar indicating how many questions they answered correctly and incorrectly.



Findings

Literacy Tools Questionnaire and Feedback

The purpose of the questionnaire and feedback option was to get the views and opinions of learners and tutors on the site in pilot mode. The emphasis was on finding out if people found it easy and enjoyable to use and what could be improved. The content part of the questionnaire relates to the topic choices and not the actual learning value of the exercises.

Feedback on the site

The feedback is divided into two sections, one dealing with the ease of use and the other looking at the content of the site. The views of learners and tutors are combined, unless otherwise stated. The implications for the development of Literacy Tools are recorded at the end of each section.

Ease Of Use - or Look and Feel

The look and feel relates to the visual appeal of the site and the ease in which the user can move around the site. The question asked was

“Did you like the look and was it easy to get to where you wanted to go?”

Site colours: Literacy Tools colours are green, yellow and white. The background pages are white and the colours are used in footers and headers.

Views were divided equally among those who liked and disliked the colours. The younger users were particularly critical suggesting that it be *“jazzed up”*, whereas the older users felt it was a *“bit dull”* or fine. Opinions on colours tend to be subjective and it was encouraging that there was no criticism that the colours had a negative impact on being able to use the site.

Font Style and Size: the font size varied, though it was predominantly 14 Arial. In the early stages of the pilot there were a range of font sizes on the opening page. The smallest font was used to direct tutors to supplementary information but this was later removed from the page, following tutors advice.

All the learners and tutors agreed that the font style was fine and that font size 14 was preferable. Some tutors commented that the inconsistency in font size on the opening page lead to confusion as to whether the target audience was the tutor or the learner. (see above)

One tutors suggested that the Arial font was too formal and should be replaced with a more *“friendly”* style font. Comic Sans was suggested as an alternative.

Graphics: Graphics were included in the worksheets and not on the site pages. The style of graphics varied in the print exercises from sketches to cartoons, and the interactive had some clip art. Literacy Tools did not have a style of graphic which was used consistently on the site.

The lack of graphics was criticised by younger learners who wanted more pictures however, the graphics were not an issue for the older learners. Tutors emphasized that the graphics had to be appropriate for adults and photographs were suggested as an option. It was also suggested that text needed to be interspersed with graphics and that they should be used in place of text or, where appropriate, together.

Tutors suggested that icons be used for frequently used directions, such as Go Home and Click Next Page.

Navigation: Although opinions can depend on the users familiarity with computers and their ability to read and follow the directions given, there were mixed views on how easy it was to move around the site. Although there was little feedback from learners directly, tutors whose learners used other sites observed that that learners required more help when navigating Literacy Tools. This could be due to familiarity with other sites. However, unless sites are being compared on equal terms, comparisons cannot be drawn between Literacy Tools and other sites.

Some tutors pointed out that the written instructions were more complex than necessary and could have been replaced by icons.

Some of the learners who commented on this aspect said:

".....it wasn't clear where to go next".

"I found it hard to follow and not user friendly."

"I had no problems"

Implications for Literacy Tools

The feedback in this section is partly subjective and based on users own preferences. However there are a number of points which concur with accessibility guidelines on good design and which would make the site both visually appealing and easy to use.

- » The colours used need to be consistent and appealing. The colours selected should not distract from the information or make it the text difficult to read.
- » The font size needs to be consistent and easy to read. The Arial font currently used in Literacy Tools is clear, though in time other fonts, acceptable under the accessibility guidelines could be used.
- » Above all, graphics tend to be the feature which young people identify with most. However, Literacy Tools has a wider audience and needs to use graphics which have broad appeal, reflect the aims of the website and the sector and do not cause offence. Although photos were suggested by a number of users, the option to experiment with alternatives such as sketches/cartoons could be explored down the road.

The Content

Learners chose from the interactive and print exercises. The question asked was

" What did you like/dislike about the exercises?"

Print Options

Learners were very positive about the range of material available on the site. They commented that the material was adult focused and informative. The health section in particular was mentioned by a number of learners. One learner commented that:

"I learned things I didn't know about – what to look for when the baby's sick".

Tutors were very positive about having a source of material which they could download. It was suggested that the material should be categorised into different levels and that users would get some information about the type of exercises in each worksheet.

Tutors highlighted that the inconsistency in formatting within worksheets as well as variations in font size were confusing and made the content difficult to follow.

It was also felt that having to download Acrobat Reader to print the pdf files could present difficulties, particularly for basic learners.

Interactive options

There is a limited range of interactive exercises compared with the print options. There are a number of reasons for this including the fact that the development of the interactive aspect of the site was resource intensive and it would have been costly to continue developing material without first getting feedback from users. Experience was limited and NALA, the writers and the web design company were all feeling their way with how the interactive exercises would actually work. Pragmatism prevailed and only sufficient material was made available for pilot purposes.

The content choices included skills based exercises on spelling and numbers as well as exercises on the topics of shopping and hobbies and interests. With the exception of the shopping exercise which had an introductory text, the rest of the exercises started a series of questions.

The feedback on the interactive part of the site focused on content, navigation and the correction mechanism.

Content

Tutors and learners noted that there was very little content on the interactive site compared with the print option. Unlike the print exercises which followed the textbook model of text followed by questions, the interactive format was unfamiliar to some of the learners. When they selected a topic they were immediately presented with a series of questions/activities, rather than the familiar introduction.

Learners views varied from the exercises being too simple, unclear or not having a point. Their focus was on working out where the answers had to go. One learner commented that

“Difficult to navigate – windows opening on top of another window”.

Tutors commented that in some cases learners were asked to do a series of exercises which had little or no relevance to the topic they selected. They also commented that some of the activities did not seem to support a specific learning point making it difficult to see the point of the exercise.

“Its like a workbook (without the usual hints or tips you get in a workbook) on computer”.

Some tutors felt that it would have been useful if each set of questions started with a completed example to guide the learners.

Overall, views varied according to learners abilities and some tutors commented that the directions required good reading skills.

“The questions were not clear and so people did not know what to do”.

"I found it difficult as there were too many occasions where you had to click on 3-4 links to get to an exercise".

Among the suggestions for improving the interactive part of the site were:

"More explanation of what the learner is being asked to do. Where explanation is given it requires good reading skills" (tutor)

"Need to contextualise the learning points in familiar formats, eg put new spelling put into sentences rather than asking the learner to spell the word in isolation" (tutor).

"Each exercise needs to start with a completed example" (tutor)

One of the learners pointed out that the answers were not always correct:

"Some of the exercises are incorrect – the opposites of some of the words are incorrect"

Although this can be subjective, it highlighted the need for questions and answers to be unambiguous to avoid confusion.

Interactive Correction Mechanism

The correction mechanism came under the most criticism from learners and tutors.

Specific problems identified were:

- ▶▶ Learners did not know if the answer was right or wrong until they finished the series of questions.
- ▶▶ Learners were not given the option to correct their answers and have another try.
- ▶▶ The right answer appeared on a separate page making it difficult to compare answers.

Learner suggestions included the following:

"It should show my wrong answer and the right answer together".

" Would be better if sound or cartoon character told you when you got answer right"

Other learners had similar views and got frustrated with having to move backwards and forwards between screen pages. Some learners who appeared to have limited computer skill and/or more basic literacy skills did not comment beyond saying that it was not good, which could indicate that they could not work out the mechanism.

All tutors felt that the correction mechanism was too rigid as it did not:

- ▶▶ allow learners to self-correct and have another go;
- ▶▶ show the incorrect and correct answer on the same screen page so learners could not compare or see where they went wrong; and
- ▶▶ offer any encouragement, hints or advice.

“There was a lack of feedback after each question... the opportunity to do wrong answers again” (tutor).

Implications for Literacy Tools

Tutors welcomed the prospect of having the option to do exercises on- line. However the consensus was that the existing material offered minimal learning value and did not provide any encouragement or direction to the learner. In its current format the exercises were “stand alone” and did not build on existing exercises giving no continuity or linkage between the exercises, which tutors would have preferred.

When asked if they would use the site again, over half the learners said they would. The other half, comprising mostly of the younger users, said that the lack of content was the main reason why they would not use the site again. However given that the interactive content was deliberately limited in the pilot stage, this will be addressed as the interactive part of the site is being developed.

The following suggestions were made on ways to improve the interactive aspect of the site:

- ▶▶ Users get the chance to correct their answers
- ▶▶ Users should not be able to continue if their answer is wrong
- ▶▶ Users should be able to see the right answer alongside their original answer
- ▶▶ Examples should be given before each exercise.

On the print exercises:

- ▶▶ Continue to develop the content under the same topics
- ▶▶ Have material for learners at different levels.

Feedback from Meetings

Two meetings took place with experts in the fields of web design and adult literacy education⁸. The purpose of the first meeting was to get feedback on Literacy Tools and discuss how it could be improved. The purpose of the following meeting was to give feedback on a new sample of interactive questions based on the feedback received to date.

Although there was broad discussion on various aspects of the site, both meetings concentrated on the content of the site and how the content could be accessed by the learners. There was agreement that;

- ▶▶ The site should be accessible by independent learners working without tutor support. Although it was agreed that Literacy Tools would be used most in literacy centres in conjunction with other approaches, it has to be developed with its future potential audience in mind.

⁸ Dr Paul Walsh, Computer lecturer in Cork Institute of Technology and technical advisor to Literacytools . Charlotte Holland, Department for Education in DCU, specialising in web design interfaces. Dan Mackey and Cormac McCathy, of Digital Crew. Sharon Hennesey and Mary Corrigan, tutors from Blanchardstown Adult Learning Centre and Tara Workshop, Dundalk. NALA staff: Inez Bailey, Helen Ryan, Blathnaid Ni Chinneide, Tanya Murphy and Fergus Dolan.

- ▶▶ The content needs to be developed at different levels to suit as broad a range of abilities as possible. In the absence of clear guidelines around levels it was felt that three levels could be devised and content could be categorised from very basic up to FETAC Foundation stage.
- ▶▶ The current range of topics provided variety and covered topical issues of interest to adult learners.
- ▶▶ The learning outcomes could be made explicit at the beginning of each exercise and each set of worksheets could include a revision section.
- ▶▶ It was suggested that a skills based section, focusing initially on reading, spelling and numeracy, should be developed as an interactive option. This suggestion was based on what learners themselves often identify as their immediate learning need. This could be expanded to other skills areas or integrated into the topic option as the website develops.

Summary

The questionnaires and meetings provided valuable qualitative data essential in shaping the future of Literacy Tools. With the exception of the actual look of the site, there was overwhelming consensus on what aspects needed to be improved and how the content should be developed. Both of which are detailed in the final chapter.

The main findings:

- ▶▶ Overwhelming support that Literacy Tools is being developed
- ▶▶ Tutors are very positive that a repository of material relevant to the Irish based learner is available through the print option.
- ▶▶ Constructive feedback on how the interactive aspects could be improved to make the experience more enjoyable and worthwhile.
- ▶▶ Need to have material that suits a range of learner abilities and learning styles
- ▶▶ Literacy Tools needs to encourage and motivate the learner and deliver clear learning outcomes

The next chapter looks at best practice in educational website design. Many of the suggestions made by those who participated in the feedback are included under the relevant headings.



Key Components in Educational Website Design

This section gives an overview of the key ingredients in designing an educational website and considers how some of the ingredients could be applied to an adult literacy learning website. It looks firstly at the technical aspects of website design, the look and feel, the navigation and the accessibility. It then looks at the content of educational websites under the headings, audience, accuracy and objectivity.

This section assumes that the three prerequisites to learning on-line are in place:

- i) access to a computer with internet connection;
- ii) a sufficient grasp of computers to install a CD Rom, navigate and access a learning website; or
- iii) on hand help to demonstrate, support and advise.

Technical Aspects

The technical aspects of educational websites relate to “the processes that control a person’s ability to access the content”⁹. There are a number of components which contribute to the ease of access.

Look and Feel

A visually appealing website is one that “uses colour and graphics to enhance the impact of the information”¹⁰. In other words, the graphics and colour should make it easier for the user to understand the content. Too many colours, or extensive use of strong colours, on a screen can be overpowering and make it difficult to read text. Equally, graphics have to be selected on the basis that they are appropriate to the target audience. Too many graphics can also slow down the loading of material leading to frustration, possibly resulting in the learner leaving the site. “The right combination of colour and graphics will encourage the user to stay in the site and explore the site more thoroughly”.¹¹ The accessibility of the site is also effected by the type and number of graphics.

Navigation

Navigation describes the ease in which the user can move around the website. It charts the journey from the start to the destination. The homepage is the starting point. This is the

⁹ K. Boklaschuk & K. Caisse Evaluation of Educational Websites, Research Paper 2001

¹⁰ Ed’s Oasis 1997

¹¹ *ibid.*

content summary of what the site contains. From here the learner can select where they want to go. The summary is usually in the form of a menu, a site map, an index or a set of images which the user can easily identify with. From their arrival on the home page the user is navigating through the site. If a site is easy to navigate the user can get to where they want to go with ease. An educational website is considered user-friendly if “the content is no more than three clicks away from the main page.”¹² Any more than that and the user could become frustrated and distracted. In the case of users who are new to computers and have literacy difficulties the navigation is key to getting the user to stay on line.

Each subsequent page should also be labelled so the user has a point of reference and knows exactly where they are. Each worksheet should have a page number and the total number of pages should be included (a 10 page worksheet would be numbered 1/10, 2/10, 3/10 and so on). The learner then knows how many pages are in each exercise and if they log without finishing they know where to pick up from when they log on again. It is essential that the learner can return to the homepage or the start of the chosen topic at any stage they want.

A consistent layout is necessary if the learner is to feel confident in using the site. For first time users, the move from one page to the next can cause uncertainty, but the recognition of colours, symbols and layout provides the necessary reassurance that they are still on the right path (or website). Consistent use of the same graphics or style of graphics and icons allows the learner to memorise their meaning. With each visit the learner uses their previous experience and knowledge to get to their destination. Any variations from the norm can be off putting and confuse the learner.

If the site has more than one target audience, learner and tutor, it is essential that the target audiences are easily distinguishable at points of variance, in order to avoid the user going to the wrong information. It is necessary to separate information which is not relevant to both audiences. The aim is to avoid the learner being confused by seeing material that isn't relevant to them. Learners will not stay at a site that they find difficult to use or not relevant.

Accessibility

There are three aspects to accessibility that need to be considered in designing any website.

- i) **Computer specifications:** In designing a website, designers need to know the specification of the computers most frequently used by the target audience and work within those parameters. Although the pace of computer developments is very fast, web designers need to develop content to suit the basic personal computers that are most commonly used. Web designers also need to design on the basis that the target audience do not upgrade their computers each time there are advancements in personal computers.
- ii) **Accessible environments:** The enjoyment and success of any learning experience is linked to the physical environment in which it takes place. In the case of on-line learning, it is important that the learner feels comfortable and not pressurised by time constraints or inhibited by the lack of privacy. In the case of literacy learners, computer

¹² Oregon Public Educational Network 1997-2001

access is limited to designated learning centres where use is often restricted to course participants. Although libraries do offer internet access to the public, they can be intimidating environments for literacy learners. As they offer the only public internet access, the computers are in constant demand and the time limits can be too short for many learners. Free of charge access in locations where the users purpose can remain anonymous is necessary to reach the target audience.

- iii) Accessible by the target audience: a website has to be accessible by all the people within its target audience. If the target audience is defined as adult learners it therefore has to be accessible by all adult learners unless otherwise stated. Features such as increased screen size for people with sight problems and sound options can help increase accessibility. Accessibility guidelines, known as WAG (web accessibility guidelines) set down the required criteria which tests the accessibility of a site for generic audiences. Among the areas tested are the navigation, images, fonts and screen size. Compliance is scaled under one of three pre-set standards. See website www.dfi.ie. Literacy Tools is being developed in line with the guidelines set out by the National Disability Authority and is aiming towards full compliance. Literacytools website will include a sound feature which is a very exciting accessibility feature.

Developing The Content

The audience profile should determine the content and how it is presented. “Matching the audiences academic level with well matched information, materials and activities”, is critical in achieving its aim.¹³ There are a number of aspects which determine the quality of the content on an educational website.

Matching the Audiences Abilities

With an educational website the content and activities should match the audiences academic level. Where the target audience spans a range of academic levels, the homepage has to be designed to suit the lowest academic level. However learners have to do a certain amount of self selecting initially in order to find suitable content. New users will often look at the first level and judge quickly whether it suits their abilities. From this they can experiment, and randomly check out the material and self assess where they fit in. The confidence to do this comes from knowing that they can get back to where they want by clicking the homepage.

Multiple Intelligences

Another factor in determining the target audience and the content is cognisance of the different ways in which people learn. Charlotte Holland in her research on Interface Web Design emphasizes the importance of ensuring that learning websites are designed to appeal to the range of intelligences which learners use.¹⁴ These intelligences, identified by Gardiner in his Theory of Multiple Intelligence, state that the brain is has seven distinct intelligences which can be developed, ignored, strengthened or weakened throughout life. They are biological potentials and not skills. All seven are part of each persons intelligence and are used to greater or lesser extent depending on opportunities and motivation. They are verbal-linguistic, logical-

¹³ K. Boklaschuk & K. Caisse Evaluation of Educational Websites, Research Paper 2001

¹⁴ C. Holland Conference Paper presented at BERA conference 2002- Designing an Online Literacy Interface

mathematical, bodily-kinesthetic (doing a action while learning), musical (using rhythm patterns such as tapping or sayings “i before e”), inter and intra personal, naturalist (recognise and catagorise things in the natural environment) and existential intelligence (discussing philosophical questions).

The implications of Multiple Intelligence is that a learning website should have activities that appeal to a range of the intelligences. This could include text, audio, visual, graphics, information searching, discussion or chat rooms and collaberating with other learners. In reality a site will not cater equally for every intelligence but should appeal to a variety of intelligences and avoid concentrating on a small number of intelligences. Not only could this limit the type of activities but it exclude potential learners and reinforce negative feelings about learning.

Accuracy

To say that the content should be accurate seems to be stating the obvious. However it is necessary to mention that accuracy both in terms of the information given and the accuracy of the grammar, typing and formatting requires careful scrutiny. Although the web developers may be responsible for transferring content on to the site, it should be edited and proof read by the content writers.

Factual information contained should be checked at source and a cautionary note attached if the information should be checked at source in case of changes. Sources should be accurately stated and contact details supplied.

Up to date

If a website is not updated regularly, it calls into question the accuracy of the information and the authority of the site itself. In the case of an interactive site like Literacy Tools, it is essential that learners can see the site is active. Regular news updates, new material, information updates and so on, show that the site is being managed and maintained. It indicates to the learner that the provider is working constantly to keep the learner supplied with new material and things to do. At a subliminal level, the learner knows that the people managing the website are looking after them.

Objectivity

If the purpose is to promote learning then, the website has a responsibility to be objective. In terms of content, this means that it is free from bias and stereotypes. The content must be neutral or positive in tone and should not reflect the opinions of the author, unless stated.

Pedagogic Factors

The content and presentation of the site should be adult orientated and rooted in a pedagogic approach in order to achieve its objectives. In developing Literacy Tools a number of factors influenced the choice of content.

Relevance to Irish based learners

Learners are far more likely to use and learn from material which they are familiar with and is relevant to their own lives. Familiar examples and reference points connect the learner to the content and allow the learner to use previously learned knowledge to anticipate and predict answers. This increases the learners confidence and encourages them to continue using the site.

In the case of a new site like Literacy Tools, certain assumptions about what material to include are made. Therefore it was decided that the content would focus on issues which would be of use to people in their day to day lives.

Once the site is up and running the learners should be encouraged to make suggestions on the additional content and what they would like to learn. This could be done in a fun way, such as “casting your votes” or completing a “what do you really like?” style questionnaire. The aim is to make it as enjoyable to do as possible.

New Learning

Learning new things and/or being able to do things better than before is a key outcome of all learning. A learner needs to feel that they are progressing and that their needs are being met by using the website. Three areas are identified as possible areas of new learning in Literacy Tools.

- i) Literacy skills – learners want to learn new things on an ongoing basis. Doing exercises on what is already known or slow paced learning is a turn-off. Exercises should be reinforcing what has been learned and introducing new learning at the same time. Revision of previous learning can be done through specially written worksheets or through pop up questions.
- ii) Computer skills – learners are using and developing their computer skills while using the site. With regular use the learners confidence develops and they are less anxious about making mistakes. It could also lead to exploring other functions such as the internet and email and word processing skills.
- iii) Information – having content which gives useful information for the learner has two functions. Firstly it helps maintain interest and motivation to continue, and secondly, it can result in positive changes in other areas of life. An example would be applying for a benefit they didn't know they were entitled to or being able to vote.

Interactive

For a site to be truly interactive, the learner must see a connection between their input and what appears on the screen and get immediate feedback. For example when the learner answers a question, their answer appears on the screen. The site then relays back whether the answer is right or wrong.

One of the criticisms levelled at Literacy Tools in pilot mode was that the interactive exercises were designed like a test, with a series of questions and no help. It was suggested that the site should be more tutorial based where the learner would be guided through the site and exercises by clear and easy to follow directions. The style and tone would be encouraging and familiar and hints, tips and advice would be peppered throughout. Learners need to be congratulated

when they get questions right, or if they get them wrong, they're given the chance of another go or the option of help. The development of the sound device will really enhance the interactive aspect provided that the voice is one that the learner can relate to.

Option to connect with an on-line tutor for additional help and support

A well designed site should be capable of dealing with difficulties the learner may experience. There is always the possibility that the learner will need to get help through tutor support. Being able to access an on-line tutor through the feedback mechanism would provide the learner with this link and give assurance that help is at hand. The support mechanism needs to be communicated clearly on the website. Offering on-line support should involve a timeframe. Failure to respond within the stated timeframe means a loss in credibility and trust. The learner feels let down.

The experience of Literacy Tools to date and the Read Write Now television series has been that tutor support is rarely used. However as suggested in the Read Write Now Evaluation Report (NALA 2002), various methods of tutor support should be considered. One option would be to assign tutors to learners so that learners could have contact with the same tutor as required. Tutors could initiate the contact and check in with learners by agreement. Another option could be to offer a Literacy Tools folder to learners who want keep records of their work. This could lead to on-line support.

Although anonymity is one of the reasons why learners may choose to use Literacy Tools, on-line support is essential. The aim is to make it available in ways that encourage and support a learner to ask for help. If it is not used, then the mechanisms may need to be reviewed.

Learner could see their progression and learning

A learner is far more likely to use a site again if they see and feel that they are making progress. Assuming that the learner finds material suitable for their level, the aim would be to progress to other exercises, adding new skills and reinforcing new learning as they go along. In order to sustain enthusiasm and progress, the site has to be designed to have bite size learning outcomes which the learner can recognise as easily attained successes, as well as the ongoing, less clearly defined outcomes.

The inclusion of explicit learning outcomes at the beginning of every exercise helps the learner know what they can expect to learn. It becomes a reference point for what was covered and helps clarify for the learner what they have learned.

Summary

This chapter has set out what the essential components are in developing an educational website and separated the various strands which need to be looked at individually. In bringing together the various stands, the actual building of the site begins. In the case of Literacy Tools, the culmination of the users feedback, professional inputs and the academic reviews form the basis for this building to happen.



Developing Literacy Tools for the Future

This section presents the rationale for the development of Literacy Tools to the next stage of its development. It draws on the main themes and points of the previous chapters and the findings of the feedback process.

Developing Literacy Tools

The development of Literacy Tools into a website of choice hinges on the site being easy to use and worthwhile as a learning aid. The points below summarise the main considerations in developing Literacy Tools into the future. The site and content are looked at separately.

The Site

- ▶▶ The target audience needs to be explicit. It was agreed that the Independent Adult Learner would be the target audience and that the development of the site would reflect this.
- ▶▶ The language should follow NALA's Writing and Design Guidelines (see appendix 2).
- ▶▶ Computer jargon should be explained on drop down menu. Learners need to understand frequently used terms which are necessary to use Literacy Tools and similar sites.
- ▶▶ A clear and useful explanation of how to use the site should be available through the menu bar for new users or as a reference. The menu bar should include information on how to use Literacy Tools and links to other sites. The information should be informative and clear and if appropriate symbols should be included on the menu buttons.
- ▶▶ Instructions should be clear, friendly and encouraging.
- ▶▶ Explanations should be clear and positioned in relevant places. Directing the learner to the menu for further information is a better alternative to having explanations frequently appearing, congesting the screen and frustrating the user.
- ▶▶ Exercise questions should start with an example.
- ▶▶ Graphics should appeal to adults and not affect the accessibility of the site.
- ▶▶ Hints should be given to Learners who are having difficulty with questions. The learner could opt for a hint or it could be given after a number of incorrect attempts. The learner should have the option to continue and return to a question at a later stage so as to avoid frustration.

- ▶▶ Literacy Tools should comply with the National Disability Authority accessibility guidelines and be constantly monitoring its compliance.
- ▶▶ The navigation should be easy and the learner should get to where they want to with minimal number of clicks. The learner should get to the start of their chosen area within 3 clicks or less. Each new click should bring further relevant information.
- ▶▶ The print should be clear and appealing, neither formal nor too ornate. Research indicates that font types based on ARIAL are the most easily understood. Other fonts such as Comic Sans and Sans Serf could also be options.
- ▶▶ The search option should contain a breakdown of the elements within the main skill areas, spelling, reading and numbers, as well as the range of topics and information relating to the site.
- ▶▶ Learners and tutors should have separate links to other sites taking into account the type of sites likely to be of interest.

Developing the Content

- ▶▶ The development of the content is critical in getting learner to use Literacy Tools and to continue doing so. The following suggestions were made:
- ▶▶ Content should be pitched at different levels to suit different learning levels. A mechanism by which a learner can quickly find content to suit their level should be made available also.
- ▶▶ There should be a choice of skill based exercises as well as topic based exercises.
- ▶▶ The skills developed on the site should include spelling, reading and numbers.
- ▶▶ There should be more exercises based on topics, reflecting the variety of interested users. Topics could include hobbies and interests, living in Ireland, employment and family.
- ▶▶ Games should be included in the site- this was particularly requested by younger adults.
- ▶▶ An introduction to the site through a film would be appreciated.

The idea of offering skills as well as topic options arose from discussions on what learners identify most frequently as their learning need. Very often, spelling and reading are identified and it was suggested that independent learners in particular could feel reassured if they saw them.

The topics were selected because they combine useful information and topical interest stories. It was felt that Literacy Tools could provide a civil function by communicating information which people might not otherwise know. Content based on health issues, benefits and entitlements, finance, education, voting are all areas which impact on everyone's lives, and yet are often not understood or acted on by people with literacy difficulties.

Literacy Tools has the added advantage that content could be added at any time, keeping people up to date with relevant information and topics. This could be particularly useful when changes in benefits or entitlements were announced or elections were pending. Equally information specific to certain times of the year could be added/deleted as appropriate.

The Challenges

As Literacy Tools is a new medium of learning it will take both time and proactive measures to ensure that it is both used and used to its full potential. The proactive measures relate to training, publicity, computer access and on-line support

Training

ICT tutor training is essential if ICT, and in particular Literacy Tools, is to be offered and used effectively. There are a number of ways in which this can be done:

- i) Offer a range of training courses aimed at effectively using ICT with literacy learners. The purpose of the training is to skill the tutor to teach effectively so that the learner can use ICT when as they need to.
- ii) Include an ICT input in New Tutor Training courses.
- iii) Develop a Training Trainers programme designed to train ICT experts to provide training and support at local level.
- iv) Provide an on-line ICT training programme for tutors, with on-line support.

Computer Access and computer skills

Computer access and computer skills are the main obstacles in reaching independent learners. Partial solutions may be found within, and outside, of mainstream provision. Within existing provision for example, libraries may be able to offer learners longer time slots in a suitable setting. Access to a printer would allow learners to print off exercises to do in their own time. For both learners and tutors, knowing how to use a computer is the main block to use. This could be addressed in a number of ways including on-line computer learning such as Equalskills or by having introductory computer training available for tutors and learners in learning centres. New tutor training offers an ideal opportunity to introduce tutors to computer learning and continuing in service training could also be available.

The local adult education centres could develop short introductory courses to ICT, targeting adults known to be excluded from ICT use. Short courses lasting an hour or two would be more likely to appeal to people unsure of what it involves. (using your mobile, ever wonder what the web is about, booking a flight on a computer). The course objectives should be clearly defined and of practical benefit. Attendance could be open and without having to pre- book. Such courses could provide learners with help to immediate problems and/or offer the incentive to take part in further courses.

Publicity

There are two strands to publicising Literacy Tools. The first is publicising it through the NALA network of schemes and affiliated adult learning centres. This would mean that learners attending tuition would become familiar with site. This can happen through the various contact modes such as newsletters, nala website, training events and fora, mailshots etc.

The second strand involves publicising Literacy Tools to the independent adult learner ie joe public. The tried and tested methods such as posters in post offices, libraries and buses could be effective. There is also the possibility of publicising Literacy Tools on future Read Write Now television series, reaching a huge number of the potential independent learners. This could be done by highlighting Literacy Tools at the end of the programme or by introducing it into one of the episodes. This would also be an ideal way of highlighting the library and its services as well as introductory computer courses and Equalskills.

Support

An integral part of distance learning is offering tutor support and contrary to the early concerns that distance learning would dispense with the need for human contact, learners need tutor contact. During the Literacy Tools pilot, support was available through the on-line feedback mechanism, operating as an email. Although this facility was not used, it remains an essential component of Literacy Tools and will certainly be used as the number of users grows. Although there are resource implications attached, the facility needs to be both flexible and effective. The important thing is that learners get a response within the said time frame.

A possible option in the short term would be to dovetail on the support available to the viewers of the Read Write Now series in 2003. This would require the phone support tutors to be familiar with the website and have on-line access when dealing with queries.

On-line support is not limited to learner-tutor feedback. It could be developed into a variation of a chat room, where learner and tutors exchange ideas, problems are posed and answers suggested etc. This would introduce a very interactive mode of communication and appeal to learners who want to use their communication skills in this way.

In the short and long term, on-line learner support is critical to the success of the Literacy Tools. The prospect of personal contact and the privacy of having learning problems addressed on-line cannot be underestimated.

Workplace Literacy

Workplace literacy also offers scope for employees who have access to computers in work, though there is no evidence that this is happening at present. There are a number of issues making it difficult, such as employer reluctance, resource implications and employee non-participation. As a first step and of immediate practical benefit would be to raise awareness of how new ICT can impact on staff with literacy difficulties. Advice and support could be offered to assist organisations with ICT staff training and advise them on policy and procedures relating to the introduction of new ICT.

Employees and employers would both benefit. It makes sense to target employers who tend to have a higher number of employees with literacy difficulties. The construction and hospitality industries have traditionally been sectors where people with literacy problems found employment. If the needs of those with literacy difficulties are not recognised and supported then those with literacy difficulties may be excluded from employment opportunities or pushed out, however unintentionally.

Linking to other sites

Once a learner can access the internet and use a search engine, they are exposed to a vast range of potential learning sites. However, unlike textbook publications, websites do not have to adhere to any guidelines or standards. This situation is unlikely to change unless an international quality control system is introduced which will help the user distinguish between approved and unapproved sites.

Literacy Tools has a responsibility to guide learners to sites that have been reviewed and considered worthwhile.

The criteria for judging sites includes:

- ▶▶ Links suggested by respected educational websites such as www.bbc.skillswise and www.learndirect.org
- ▶▶ Links suggested by academics working in recognised universities, colleges and organisations.
- ▶▶ Links suggested by other adult literacy bodies and practitioners.

The internationally accepted guidelines for selecting links are:

- ▶▶ Relevance and appropriateness
- ▶▶ Credibility
- ▶▶ Bias identification
- ▶▶ Accuracy
- ▶▶ Accessibility
- ▶▶ Navigability.

A check list is available on <http://library.usm.maine.edu/guides/webeval.html>

In the case of Literacy Tools the links to other sites are separated into learner and tutor categories. The reason for this is that learners are likely to want to look at other learning sites, whereas tutors may be interested in a range of related topics. Naturally neither is precluded from browsing either option.

Conclusion

The decision to develop Literacy Tools proves NALA's ongoing commitment to responding to learners needs in a changing environment. It offers a totally new approach to learning, but rather than replacing other methods it is intended to supplement them, giving the learner an increased number of options. For the learner, the opportunity to become computer literate at the same time as improving their literacy skills can be both motivating and creative.

There are challenges ahead, the greatest being the use of Literacy Tools as a distance learning website. However, there are a number of measures which can be explored such as increasing computer access within the current facilities, schools, VEC,'s, libraries or One Stop Shop facilities. The problem of computer illiteracy is being addressed by government initiatives such as Equalskills, which could potentially be offered in adult learning centres as a way of attracting new learners, some of whom might find Literacy Tools useful. However need supported and resourced to do this effectively and in an integrated way.

The Literacy Tools pilot has confirmed that learners are motivated to learn through computers. As the learners in the pilot showed, learners are very discerning and clear about what makes a website worth using. Their recommendations on the development of the content and the presentation of the site will undoubtedly make Literacy Tools a better learning experience for others learners.

Literacy Tools is a free resource using an organic and evolving medium to deliver lifelong learning. The basis is there, as is the commitment to make Literacy Tools the adult literacy website of choice in the future.

Appendices

- 1 Literacy Tools Questionnaires
- 2 Writers Guidelines
- 3 Sample ICT Centre Strategy
- 4 Literacy Tools Jargon

Appendix 1: Questionnaires

NALA Literacy Tools Pilot

Learner Feedback Sheet 1

Name _____

Visit Number _____

Your First Visit –

It's really important to know what your first impressions were, for example what did you think about the colour, the size of the letters, the information, the directions on where to go next.....

OPENING PAGE	YOUR OPINION	YOUR SUGGESTION
Overall impression		
I liked		
Confusing		
I got frustrated		
It would be better if		



NALA Literacy Tools Pilot

Learner Feedback Sheet 2

As you look at and do the exercises, we'd like to know what you thought of the story/text and the exercises.

NAME OF EXERCISE	YOUR OPINION	YOUR SUGGESTION

Overall impression		
I liked		
I enjoyed		
I learned		
I got frustrated		
Confusing		
It would be better if		



NALA Literacy Tools Pilot

Learner Feedback Sheet 3

Thank you for looking through the exercises and giving your opinion. The final set of questions are intended to get your overall impression of the web site so that I can build up a picture of how many people agree or disagree with each statement. The first 8 statements relate to “the look”, or the technical aspects of the site and the rest are about the exercises.

Questions	Agree strongly	Agree	Not sure	Disagree	Disagree strongly
THE SITE					
1	liked the colour				
2	liked the look				
3	liked the graphics				
4	explained things well				
5	kept my attention				
6	easy to follow				
7	got to where I wanted to go fast				
8	found the directions easy to follow				
OVERALL - EXERCISES					
9	liked the range of topics				
10	there was plenty to choose from				
11	layout of the topics was clear				
12	it was clear what you had to do				
13	like the way it corrected answers				
14	wanted more help when I got stuck				
15	wanted to continue				
16	it was enjoyable				
17	it was more enjoyable than doing the exercises on paper				
18	felt that I was progressing				
19	found it frustrating				
20	helped me use my computer skills				
21	prefer to improve my literacy using the computer				
22	it is important that the tutor is there to help				
23	it was as good as or better than other programmes I've used				
24	would use it again				
25	would use it on my own				



NALA Literacy Tools Pilot

Tutors Feedback Sheet 1

Tutors Feedback

In relation to observing and helping your students please comment on

Overall impression of the site as a learning tool
How difficult /easy was it to use
What did learners require most help with?
Would your learners have chosen to use this site if they had a choice?
What sites do your learners enjoy using?
Prioritise what you feel are the greatest weaknesses in the site
1.
2
3
4
5
Prioritise what you feel are the strengths of the site
1
2
3
4
5



NALA Literacy Tools Pilot

Tutors Feedback Sheet 2

Questions		Agree strongly	Agree	Not sure	Disagree	Disagree strongly
THE SITE						
1	clear opening page					
2	overall easy to understand					
3	explained things well					
4	easy to follow					
5	good design					
6	adult orientated					
EXERCISES						
7	overall topics were relevant to learner					
8	layout of the topics was clear					
9	it was clear what you had to do					
10	like the way it corrected answers					
11	students required more help than they did when using another e-learning tool for the first time					
12	good variety of activities to suit different learning styles					
13	had to encourage learners to continue					
14	learners enjoyed it					
15	exercises were challenging					
16	learners found it frustrating					
17	I found it frustrating					
18	helped learners use their computer skills					
19	it encouraged when learner got stuck					
20	it rewarded achievement					
21	Would use it again					

Appendix 2

Writing Guidelines for Literacy Tools

Writing content for an interactive educational website is different to writing worksheets for text books, for the following reasons;

- ▶▶ Interactive sites are designed to suit certain interactions, such as form filling, booking forms, question/answers. The system is designed to accept inputs in a particular format.
- ▶▶ In Literacy Tools the range of question formats is pre-determined. The writer can choose between the formats and use as many as they choose within each worksheet.
- ▶▶ The writer has to design questions which have unambiguous answers as the answers are built into the programme and no variation is accepted.
- ▶▶ Free writing cannot be corrected and therefore is rarely used in Literacy Tools
- ▶▶ Ideally the information has to fit on the screen page without having to scroll
- ▶▶ Information or text essential to answering questions, has to be carried to each new page
- ▶▶ The learner does not have a hard copy record of completed work. In this stage of Literacy Tools an abridged version of completed exercises can be printed out.

The guidelines assume that writers are working with a knowledge of, and commitment to the principles of adult learning. Therefore the content must be:

- ▶▶ Appropriate – for an adult at the agreed level.
- ▶▶ Relevant – the context should be located in what is familiar for the learner.
- ▶▶ Accurate – each writer is responsible for ensuring that the information is accurate and up to date. The source of information should be given and/or the relevant contact details if appropriate.
- ▶▶ Free of bias/opinion – the content should be impartial. The writer can put forward different points of views and the learner can give their opinion in the exercises. The content should avoid stereotyping and where possible challenge perceptions. This can be done by simply reversing taken for granted roles- the boss can be a she and fathers help with the homework.
- ▶▶ Challenging – exercises and activities should have an element of discovery where the learner has to work things out. This can be done by posing questions in a tutorial style where the learner stops and thinks about something before progressing.
- ▶▶ Writers need to balance the need for examples with self-discovery



- ▶▶ New learning – worksheets should be building on existing learning by combining new learning with elements of revision of old learning. Writers should look at other worksheets with related learning and build on them.
- ▶▶ Encouraging – the writing style should be tutorial and not directive. Directions like “try this” “have a go” “your turn” “look in your dictionary” are good examples of this.
- ▶▶ Information text should be as brief as possible and ideally fit into less than 2/3 of the screen page. This is to ensure that the first exercise to fit on the first page.

Use of Plain English

*NALA has produced a booklet **Writing and Design Tips** which would prove useful to anyone designing a website.*

As with any information aimed at the public the writing style must be clear and in plain English. The sentences must be concise and long sentences avoided. When writing for the on-line worksheets, writers must remember that only one page is visible at one time and therefore the necessary information must be on the relevant page. The text will be copied on to each relevant exercise page to avoid the user having to click back and forth.

Active verbs

Use active rather than passive verbs

Be personal

Refer to the reader as you.

Try and keep sentences short.

20 words per sentence can be used as a guide.

Use everyday words

This really important when you are giving instructions on a website. Be consistent with terms: for example on a learning website worksheets should always be called worksheets and not exercises.

Spellings

Check that the spelling conforms to the English and not American standards. If writing an Irish word, spell accurately.

Abbreviations

Abbreviations should be avoided except when they are the learning point.

Accurate Names

When writing organisational names ensure that the name is correct, e.g. Dublin City Council and not Dublin Corporation. This is particularly important when writing exercises which require the learner to find information in the phone directory or similar.

Appendix 3

Devising An ICT Strategy Within An Adult Literacy Centre

In order that Literacy Tools is used effectively in literacy schemes, it is important that centres take time to devise a workable strategy suitable to their needs. Although the needs and resources of each scheme are different, the following outline is designed to help progress the development of an ICT strategy.

Defining an ICT strategy

An ICT strategy describes:

1. the rationale and purpose of offering ICT learning to learners
2. what will be offered and how
3. what the expected benefits are
4. what the implications are for learners, tutors and organisers
5. what the future developments may be.

Sample

NALA Adult Learning Centre

Our ICT Strategy

As part of our mission to enable adults with literacy difficulties to fulfil their potential we intend to offer information and communication technology to learners. Our aim is to ensure that learners can use ICT to achieve their goals and ambitions.

We will involve experts and seek appropriate advice in purchasing new technologies and in implementing our strategy. We will monitor our strategy and make changes as needed. We will share our experiences with others.



What We Offer

ICT provision will be developed in line with the capacity of the centre and tutors to effectively use ICT with literacy learners. We hope to offer the following introductory options in the centre

- ATM – how to use an ATM
- Mobile Phone – how to set up a personal message, listen to messages, send and receive text messages
- Computer skills – turn a computer on, use a keyboard, use a mouse, and know basic functions such as delete, cut and paste, font, underline.
Inserting a CD ROM
- Internet use – can search for a site

This will be offered in 1-1 and group learning. It may be offered on a need to know basis or integrated with other approaches.

On an outreach basis the centre will offer basic ICT help and advice, one morning a month in the local library, (Information Centre, library, post office, church, shopping centre)

Expected Benefits

That learners overcome their inhibitions about using ICT and can use ICT effectively as the need arises.

The option to use a computer to improve literacy skills introduces a new method which can be exciting and challenging. For some learners this could lead to independent learning and taking greater responsibility for their own learning.

Implications for Learners, Tutors and Organisers.

The readiness of both learners and tutors to handle new technology is our primary focus. We recognise that the inclusion of ICT offers challenges as well as benefits. We will form a representative working work to look at the implications for each group involved. The purpose of the working group is to ensure that the centre plans ICT programme which enhances our service and acknowledges the changes taking place.

The resource implications will include computer costs, staff training costs, disruption of other services, effect on existing service provision

Future Developments

Our service will provide effective ICT learning to adult literacy learners. Computer skills training will be offered to a level sufficient for learners to access on-line learning websites. Learners will be encouraged and supported to join mainstream computer training as appropriate.

Appendix 4: Literacy Tools Jargon

Literacy Tools	= NALA's on-line website for adult literacy learners
On-line	= connected to the internet
User	= person using the computer/website
ICT	= information and communication technologies such as the internet, email, text messaging, interactive TV.
e-learning	= electronic learning
interactive exercises	= exercises designed to interact with the learner by responding to what the learner has keyed in
navigation	= ease of moving around the site
independent learner	= a learner who is learning independently of a tutor
pc	= personal computer

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