# Motivating Adults to Study : How Effective is Web-Based Training?

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## ABSTRACT

This research was carried out with a small group of adults living within a low socio-economic suburb in West Auckland. The project investigated their motivation to study further, having completed free computing courses made available at their local community centre by the School of Computing and Information Technology, Unitec New Zealand. These courses, offered free, by way of web based training (WBT), were the seven modules that make up the International Computer Driving Licence (ICDL). The research took place in Ranui a suburb in Waitakere on the urban fringe of Henderson. Three free computers were installed in the local community centre adjoined to the Ranui Library. The outcomes were that a total of 38 people enrolled in the ICDL courses. Of those who enrolled 17 participated (actually accessed) the courses. It was found that prominence should have been placed on promoting the courses more widely to the community and that certain motivation conditions were lacking in the learning centre where the web-based training took place.

**Key Words**

Motivation, Life-long learning, free courses, e-learning

## 1. INTRODUCTION

Since the inception of e-4Free in August 2001 at Unitec New Zealand it was assumed that the community would benefit in several ways – for example, the computing literacy rate would increase, that it would lead to enrolments in other courses and that it would encourage the public to seek employment with more confidence in their IT literacy. It was also assumed that the types of courses offered would benefit a particular sector of the community eg senior citizens, those from lower decile areas and English as a Second Language, (EAL) students. Unitec would therefore be fulfilling its social responsibility role to the community. In taking this concept one stage further it was decided to investigate a group within a low socio-economic suburb of West Auckland.

This research project identified whether adults within the Ranui community who enrol and participate in free computing courses provided by Unitec had enough motivation to continue to study. Information was also gathered from those who enrolled but never participated in the courses.

In studying literature it was discovered that free computing courses have contributed in a small way to stair-casing to other programmes, but that motivation in adult learning requires certain environmental conditions as sources of motivation to the learner.

Data was collected by examining enrolment databases, conducting telephone interviews and mail surveys of those who enrolled in the courses. Enrolments began in April 2004 and examination of data began in December 2004. Limitations for this project were that the scope of the study was limited to a small sample size of the population of the area studied.

## 2. BACKGROUND

Over the past four years free computing courses offered by Polytechnics and Private Training Establishments (PTE's) have drawn a great deal of public interest and support. In 2001 a new internationally recognised qualification, the International Computer Driving Licence® (ICDL) administered and endorsed by the New Zealand Computing Society (NZCS) became the focus of the free computing courses being offered by most polytechnics and private training establishments in NZ.

**Table 1 – 2001 Census Figures**

| | |
|---|---|
| Population | 8,000 |
| Under 15 years of age | 30% |
| Over 65 years of age | 5% |
| Maori | 20% |
| Pacific Island | 32% |
| Asian | 8% |
| European | 54% |
| Population growth between 1996 – 2001 censuses | 11% |
| Median household income (census 2001) | $40,027 |
| Unemployed | 12% |
| Student leaving school with no qualifications | 36% |

When free computing courses started at Unitec New Zealand (August 2001) it was anticipated that the local community would benefit in that there would be an increase in computer literacy and that there would be some stair-casing to other courses. It was assumed that the types of courses offered would benefit a particular sector of the community – for example, those from low decile areas, English as a Second Language (EAL) students and senior citizens. It also seemed reasonable to speculate that there would have been sufficient motivation to entice the learner into further study. Feedback received from those who participated in the Unitec free courses was that there was an enjoyment of self-paced learning with no external pressures. (Hart and Sathu, 2002).

In accordance with a Memorandum of Understanding (MoU) between the Waitakere City Council and Unitec, the School of Computing and Information Technology was approached by Waitakere Library and Information Services for assistance in implementing Unitec's free computing courses (ICDL) at the Ranui Community Centre. This presented an opportunity for conducting this research project.

Inspired by the 2002 Flaxroots Conference held at Unitec, a Community Learning Information Centre for Information Technology (CLICIT) was formed at Ranui. This was a joint initiative between Waitakere City Libraries and the community-based Ranui Action Project (RAP) and has been running with three ex-Waitakere City Council computers since June 2002.

The draft 2002 strategic plan for learning centres by the Waitakere Library & Information Services (Scott, 2002 unpub.) established learning centres in key areas of Waitakere City. The learning centres were designed to target areas of specific socio-economic need with the aim of addressing the information and learning needs of lifelong learners in the local community. These target areas were from pre-school to seniors, particularly people with limited basic skills, no/low qualifications, low income, no access to IT, or wishing to upskill/learn new skills.

The following demographic information is sourced from the 2001 census figures from Community Net Aotearoa – Case Study of the Ranui Action Project (2001).

## 3. PROJECT IMPLEMENTATION, RESOURCES AND FACILITATION

Three computers were installed at the Ranui Community Centre to make up the total number of computers to six. Microsoft XP operating system and applications software were installed in accordance with Unitec authorised licensing. The free courses were delivered by way of an e-learning platform called SkillPort – a product of SkillSoft NZ.

## 4. COURSES AND WEB BASED TRAINING

The free courses offered by way of web based training (WBT) comprised seven modules:

- Basic Concepts of Information Technology (theory based)
- Using the Computer and Managing Files (Windows XP File Management)
- Word Processing (MS Word 2002)
- Spreadsheets (MS Excel 2002)
- Database (MS Access 2002)
- Presentation (MS PowerPoint 2002)
- Information and Communication (MS
- Outlook Express and Internet Explorer)
- Courseware Design (Web Based Training)

The courses were implemented using a web-based virtual e-learning portal called SkillPort™ developed by SkillSoft™ New Zealand. Features were:

- Step-by-step web based training (WBT) with instructional support.
- Voice-over features and virtual screen displays
- Learner Records and Progress Reports
- A comprehensive User Guide
- A useful *Making Time For Training* time management feature
- Technical support
- Two online mentors were available for 24 hours a day, 7 days a week from Canada.

A Learning Centre Coordinator (Tutorial Assistant) was employed by Waitakere Libraries and Information Services and was available to all enrolled students. Students were shown how to log on and begin a course. Whole or parts of the course were able to be repeated at any stage.

# 5. LIMITATION

- The initial setting up of the project in 2003 took too long and many residents lost interest.
- Other community group activities (yoga) run at the centre during the week. During these activities the computers were locked away in large cupboards and brought out on the remaining days of the week for use by the community.
- Limited availability of the Learning Centre Co-ordinator.
- The limited availability of bandwidth restricted internet access to two weeks per month.

# 6. LITERATURE REVIEW

Research carried out in 2002 on gender, ethnicity and age issues showed expected trends in that the number of unemployed, people from diverse ethnic backgrounds and women who participated in free courses at Unitec was significant (Hart and Sathu 2002). Further feedback received from the Hart and Sathu research has shown that some of the initial barriers to learning for people living in low decile areas in West Auckland have been the travelling distance to the courses, lack of transport, no time to travel and not being able to find child-minders.

Further research of free computing courses has been carried out by PricewaterhouseCoopers (2003) for the Tertiary Accord of New Zealand (TANZ) to review the outcomes of the free computing courses offered at various sites throughout the country. Their report outlines the defining characteristics of free computing courses being made available to the public as unique, flexible and giving an accessible approach to learning. The courses "engage those who may experience barriers to formal education such as time constraints, financial difficulties or a distrust of structured, classroom learning." (p5). The study, however, concluded that stair-casing into other courses as a direct result of free computing courses was minimal and that 96.5% of Auckland Key4Free (MIT) students did not enrol in further study.

In his study on Adult Literacy Learning and Computer Assisted Learning Systems, Fahy (1991, p6) states that "evidence has been available for some time indicating that computer-assisted learning (CAL) can be applicable with and helpful to adult literacy and adult basic education (ABE) learners (Turner, 1988)" He also accessed research by a Canadian Council on Social Development that concluded that computer-assisted learning:

- " Can be four times as effective as traditional remedial instruction
- Prepares participants to use computers
- Can help people deal with serious problems in private
- Gives people an incentive to learn"

Similar findings in Fahy's (1991) report to the Hart and Sathu (2002) study were that 12 barriers frequently reported experienced by adults returning to formal institutional programmes were cited by the Canadian Association for Adult Education (CAEE) in 1981. These were:

- Financial problems.
- Lack of coordination.
- Lack of support systems.
- Geographic barriers.
- Institutional barriers
- Fatigue.
- Lack of time
- Attitudinal barriers.
- Fees and other costs
- Scheduling
- Curriculum/learning needs.

Examining the literature in adult learning and motivation, a United States survey of instructional motivation of adult learners, identified four phases of motivational conditions in learning situations:

- Attention
- Relevance
- Confidence
- Satisfaction

(Keller and Suzuki, 1988 and Keller and Kropp, 1987 as cited in Viechnicki, K., Bohlin, R., and Milheim, W., 1990)

The Scottish Education Review (Bown, 1989, p10) cited findings from "A major German study (Siebert, 1983) that showed that low participation (in education and training) was from: manual workers; the elderly; foreign immigrants and members of ethnic minorities; adults without higher education; parents with several children; residents in rural areas". Bown discussed society, culture and motivation (p11) and the greatest gap in research being that very limited attention was paid to motivation which goes beyond the individual and concluded that "if adult learning programmes are to consort with, harness and reinforce students' motivation, they have to be interesting, enjoyable, relevant, visibly useful and with an agreed direction." (p12). Bown also discussed broader psychological research

into intrinsic human motivation where curiosity and an urge for knowledge were included in the study. In his report, Bown also refers findings in Allen Tough's 1979 research in Canada that three quarters of the average adult's ventures in learning do not lead him or her into an adult education programme.

This correlates to an article on Principles of Adult Learning, Lieb (1991) who identified the best motivators for adult learners as being interest and selfish benefit. Lieb identified at least six factors serving as sources of motivation to the adult learner being social relationships, external expectations, social welfare, personal development, escape/stimulation and cognitive interest. He also states the four elements of learning, motivation, reinforcement, retention and transference, must be addressed to ensure that participants learn.

# 7. METHODOLOGY

In researching how effective free web based training is in motivating adults to study, data was collected as follows:

Based on literature examined, a questionnaire was prepared for structured telephone interviews. These were conducted by telephone with four course participants who had either partially completed or completed the modules. There were six sections to the questionnaire:

- **Preliminary.** There were six questions that addressed the reasons why participants chose to enrol in the courses, whether they had attended computing classes before, whether they had computers at home and if they expected to complete all 7 modules of the ICDL. They were then asked what the most appealing aspect of the courses was and if they would consider enrolling in further courses after completing these courses.

- **Access**. Participants were questioned on how they travelled to the courses, how long they spent at each session, any time restraints or other commitments that prevented access to the courses.

- **Completion of Modules.** There were eight questions designed to determine which modules they had completed, whether they had used the software programme before, did they complete the course and what they liked and disliked most

about the courses. They were asked if they liked the aspect of learning on their own, whether they understood enough about the module they had taken, would they have preferred to attend an instructor led class. They were then asked if they thought they had gained enough knowledge to use the programme comfortably.

- **Self-assessment.** Three questions addressed whether the participants had completed any of the course tests, if they felt happy about their test score, and if not, they were asked if they would repeat the course in order to gain better understanding and better test scores.

- **The ICDL test.** Participants were asked if they felt ready to sit the ICDL test in the module they had completed and if they failed would they lose the desire to repeat the test and/or continue with further ICDL modules.

- **Future Intentions.** A further seven questions designed to investigate whether the participants were motivated to continue to study as a result of the opportunity to do the ICDL modules and whether or not they intended to complete the qualification. They were asked if they would enrol in further study at a tertiary institution, private provider or night class at a local high school. Participants were asked to rank how strong the desire was to become more qualified in the future. They were asked where they see themselves in five years time. Participants were asked if they believed that better qualifications led to better jobs, better working conditions and therefore better pay.

Reports were gathered from the SkillPort administration database to obtain data relating to courses that had been accessed, the duration of time spent on each course, how many modules had been completed by participants and whether they had attempted assessments.

A mail survey of 21 non-participating users was carried out in October 2004.

A follow up telephone survey to the mail survey of a sample of those who had never accessed the courses was made. Two people of the twenty-one non-participating users were contacted in this survey as others were unable to be contacted.

# 8. ANALYSIS

- **Telephone Interview**

Of the 22 people who had indicated a willingness to take part in research interviews when they enrolled in the courses, only two were able to be located. Two more respondents were selected from those who had been actively participating in the courses.

Three people stated that they had enrolled in the ICDL courses to learn how to use a computer. One was up-skilling for employment purposes. Two had never attended computing classes before and all four had computers at home. The other two had attended Senior Net and The Warehouse Stationery (Key4Free). Three expected to complete all 7 modules of the ICDL. Responses to the most appealing aspect of the courses were the close proximity, that they were free, the ability to learn email and the enjoyment of gaining new knowledge.

When asked if they would consider enrolling in further courses after completing the ICDL the response was mixed. One said he would but that depended on the time available. Another response was yes, but that depended upon confidence gained. The remaining two were unable to decide.

- **Access to Courses**

Two walked to the courses and the other two drove. Time spent at each session varied between half an hour to two hours. Two respondents said there were no issues that prevented them from attending. One was restricted by work commitments and the other had other personal commitments. Internet access was not available at the library at times.

The Community Centre was monopolised by children so a participant went to the Te Atatu centre where it was quieter. Ranui had fewer hours and there was down time for the computers occasionally. The room was very cold in the winter. Bad eyesight was preventing a 77 year old participant from succeeding.

- **Learning**

Of the seven modules, one respondent had spent just over six hours on module 1 and had accessed this 17 times. The second respondent had accessed the first module 5 times for 1 hour

and module 2 once for 2 minutes. Respondent three completed the first 4 modules and had begun module 5. He had accessed the courses 94 times and had spent a total of 42 hours. Respondent number 4 had started modules 1 and 2 and accessed module one 16 times and module 2 twice with a total duration time spent on both modules of approximately 21 hours.

Two of the Respondents had prior knowledge of the software applications they were studying. (They had previously attended computing classes).

One respondent had completed four of the modules. The other three had not completed any of their courses. The most frequent responses to the question of the most enjoyable aspects of the courses were the step-by-step process and knowledge gained, self-paced learning, no pressure to move on or keep up and the hotmail set up.

When asked if participants enjoyed the aspect of learning on their own the responses were a definite yes. They felt more comfortable and enjoyed having a tutorial assistant – to prevent having to ask embarrassing questions over and over again in a class.

Three respondents were happy to carry on learning using WBT and one respondent had never experienced an instructor-led class. Two considered they had gained enough knowledge to use the software programme comfortably (eg Word Processing), one needed more knowledge and another went to small cheap books to learn further.

- **Self-Assessment**

Three respondents said they had completed the course tests and felt happy about the test scores. One said they would repeat the course in order to gain a better understanding and better test scores.

- **International Computer Driving Licence**

Two Respondents felt ready to sit the ICDL tests in the modules they had completed. One of the respondents said they would lose the desire to repeat the test and/or continue with further ICDL modules.

- **Future Intentions**

One out of the four respondents indicated a desire to continue to study and indicated that the opportunity to do the ICDL was like a foot in the door. Three intended to complete the ICDL qualification. In retrospect two then indicated that they would like to enrol in further study at a tertiary institution and one in a night class at a local high school. One had no desire to enrol in further study anywhere.

In response to being asked how strong the desire was to become more qualified in the future all four respondents indicated a medium desire.

Two respondents <u>strongly agreed</u> and two <u>agreed</u> that qualifications will mean better jobs, better working conditions and therefore better pay.

**SkillPort User Listing By Group Report**. This report showed that there were 38 users registered within the SkillPort registration database

**SkillPort Custom Usage Report.** This report shows the first and last access dates, the number of times accessed the duration of time spent on each course and whether or not assessments have been completed. The report showed a total of 17 users in the Ranui User Group had accessed the courses. That is, logged in and began a course. The courses were accessed 205 times with five completed modules and six completed ICDL module assessments within the courses.

**SkillPort Non-Participating Users Report.** This report showed there were 21 users who had never accessed the courses. (This means they had enrolled but had never attempted the courses).

# 9. DISCUSSION

Results obtained from this study in response to the question of how effective was web-based training in motivating adults to study, indicate that there was not a great deal of interest in further study shown by the community as a whole. However, of the four who did participate in this study, two did show some motivation while doing the courses.

It was found that the limitations of this study had a negative impact on the project. Initially, in 2003, the implementation process took too long. Technical problems and accidental deleting of software caused many Ranui residents to lose interest in participating. It was not until April 2004

when the mode of delivery was changed to the new e-learning portal, supported by SkillSoft NZ, that some headway with the project was made. Of the38 adults in the Ranui community who enrolled in the ICDL participated in the study only 17 participated in the actual courses.

Additionally, the Ranui Learning Centre Co-ordinator was unavailable until Thursdays and Fridays. Some participants could not attend on those days. The situation supports findings (Viechnicki et al, 1990) that four phases of motivational conditions in learning situations are necessary: attention, relevance, confidence and satisfaction. Participants had been sufficiently motivated to come in to the community centre and enrol. They were then de-motivated by a lack of confidence, no actual instructional support from an instructor and dissatisfaction at not being able to access or use a computer to log into the courses.

As noted in the results of this study there were obvious impacts on the motivation of people to continue the courses as they mention cold room temperature and noisy children affecting people's concentration. At times there was a lack of internet connectivity and the non-availability of the Learning Centre Co-ordinator for three days of the week. (Viechnicki et al) states that "adults must feel competent, exhibit confidence during learning, and feel at ease in the learning environment".

As web-based courses that can also be accessed from home, the need for fast speed internet broadband connection enabling successful download of the courses is necessary. In a low socio-economic area such as Ranui, this would have been unaffordable for most of the participants. For those new to the computing environment – as most of the participants in this study were, the internet is a learning experience on its own.

It could be emphasised here that initial face-to-face instruction of a one-to-one nature with a tutorial assistant should have been emphasised to the participants at the time of enrolling. The respondent who said it was "over her head" was a 68 year old who was totally new to the computing environment. "Attendance is not the same as attention; for a person physically present may be psychologically and intellectually quite absent". (Bown 1989, p 6).

# 10. CONCLUSION

The aim of this research was to investigate the motivation to study, in adults who live in a low socio-economic area and who participate in free computing courses within the community.

The motivation of the remaining 21 was unable to be measured as only two were able to be contacted at the time of the study. The reasons given by them were time restraints due to child minding difficulties and hospitalisation. There were four participants interviewed who actively engaged in the courses for their own personal interests and only one of those indicated a willingness to continue with further study.

There were limitations in the study in the technological and administrational difficulties at the initial stage of setting up the courses. This became a de-motivator for members of the community. The number of participants, access to the computers; the courses and some novice learners being unable to download courses at home also became de-motivators.

The courses being made available closer to home and delivered by way of web-based training made little difference to the motivation of participants to enrol in further study. This is possibly due to the fact that many residents did not know about the facility and courses that were available to them for free.

For those participants who did attend regularly, the four phases of motivation conditions in learning situations – attention, relevance, confidence, and satisfaction were not present in the learning environment and therefore it could be concluded that for the motivation to be present in the adults of the Ranui community these simple conditions need to be met first.

To close the digital divide in a community such as Ranui then more accessible computing and IT facilities need to be made available to the public. These centres need to focus on the four phases of motivational conditions outlined in the Keller and Suzuki, 1988 and Keller and Kropp, 1987 study. A community learning centre such as CLICIT requires a more supportive role from local government in order to address the differing levels of literacy and technical skills and the gap between those who have access to quality

information and communications technology and those who do not.

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