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Afrikaans language teachers still use pick and shovel to mine the Information Super Reef

ABSTRACT

This article originated as a paper prepared for the 2002 conference of the South African Association for Language Teaching (SAALT) on the theme “The changing contexts of language teaching: renewal or resistance”. Both report on research conducted to determine the extent to which South African teachers and, in particular, Afrikaans language teachers, utilise the Internet as an information resource. Information communication technologies such as the Internet can impact positively on many sectors in society, including the educational sector. Empirical research done to establish how Afrikaans language teachers use the Internet in their professional capacity indicates that there is still resistance and a lack of awareness among many Afrikaans language teachers with regard to exploring and utilising the possibilities that the Internet provides for information delivery and teacher support. In comparing the findings of this research with practices in some developed Western countries it became evident that teachers in South Africa are lagging behind.

Keywords:

Afrikaans language teachers; internet; information resource; information needs

The Internet as an information resource for teachers in South Africa: golden reef or deserted mine?

The web of tunnels and shafts of the ever-expanding Internet provides a multitude of possibilities to teachers world-wide and, if only theoretically, also to South African teachers. At a time when technological innovations and curriculum changes result in a heavy workload for South African teachers, the Internet¹ as Information Super Reef can be of great assistance.

Millions are being spent in South Africa to equip schools with Information Communication

1. For the purposes of this article the term Internet is used as an all-encompassing term for all the applications of the Internet, such as web pages, e-mail, etc.

Technologies (ICT)². Computer centres are established and schools are increasingly connected to the Internet. The question is whether teachers in South Africa are embracing the Internet for the wealth of information it can offer, or whether it is a rich, unexploited mining site where usable equipment is not utilised.

The theme of the 2002 South African Association for Language Teaching (SAALT) conference was “The changing contexts of language teaching: renewal or resistance”. It provided the stimulus to investigate the extent to which Afrikaans language teachers – in dealing with challenges such as a changing curriculum, a new pedagogy, larger classes, space age innovations and demands to deliver learners equipped for the Information Age – regard the Internet as a resource that can lighten their multi-faceted task.

The purpose of this article is therefore:

- to indicate the extent to which the Internet is used by teachers in selected Western countries,
- to reflect on the status quo of Internet use by South African teachers, in particular Afrikaans language teachers,
- to establish the extent to which Afrikaans language teachers utilise web-based information resources for professional purposes,
- to determine which factors contribute to, or constrain Afrikaans language teachers’ use of the Internet,
- to investigate the purposes for which Afrikaans language teachers use the Internet and to determine their attitudes towards the Internet as an information resource.

Excavating for an answer

A literature review to establish the current status of Internet use for teaching support in selected Western countries and in South Africa was followed by empirical research in order to find answers to the questions posed. The research consisted of a combination of quantitative and qualitative methods. Three data collection methods were used to triangulate the findings.

The empirical research component included the following activities:

- A group of seventy-eight Afrikaans language teachers attending the annual Spring Seminar of the Afrikaans Department at the University of Pretoria in September 2000 were requested to complete a questionnaire to indicate how they utilise information resources, more specifically the Internet.
- Data on the total number of visitors per month to educational Internet sites was collected from hit counters on these resources.
- Interviews via e-mail were conducted with webmasters of online resources for teachers. The objectives of these interviews were to gather data on visitor statistics and to determine the level of feedback received from teachers.
- The empirical research component of this study has obvious limitations. The questionnaire was completed only by a small sample of seventy-eight participants who were not representative of the total population of Afrikaans language teachers. The teachers who took part in this study teach at both primary and secondary schools in Gauteng. Due to the fact that the seminar was

2. See projects such as GautengOnline; Khanya; SCOPE; Telkom Foundation; SchoolNet South Africa; NetDay; SAIDE and others (SchoolNet SA, 2002: 14–16; Gauteng Provincial Government, 2002: 7,62).

held at the University of Pretoria, most teachers came from schools in Pretoria and surrounding areas. Only Afrikaans L1³ teachers were represented in the sample. As Afrikaans L2⁴ or L3⁵ teachers were not included, it is not possible to generalise the findings. They can only be used to indicate a trend.

- The statistics obtained from the hit counters of the online educational Internet resources can also not be generalised, as they do not indicate the professional status of the users. The e-mail interviews with some of the webmasters did, however, shed light on some of the statistics obtained from the hit counters.
- The statistics, nevertheless, supported the findings of the questionnaire and validated the data to such an extent that the major trends identified by this research can be regarded as reliable.

What were the findings?

First of all the frequency with which the Internet as an information resource is utilised by South African teachers, and specifically Afrikaans language teachers, will be investigated, discussed and compared with the Internet usage of teachers in a number of developed Western countries. In an attempt to provide reasons for the low Internet usage by South African teachers, the factors that contribute to or constrain the utilisation of the Internet by teachers, as well as the reasons why teachers use the Internet, will be explored. Finally the attitude of teachers towards the Internet will be discussed.

Frequency of use

In most developed countries teachers are increasingly using the Internet for professional purposes (Gray 1998; Kumari 1997; Quinlan 1997; Woodall 2001 & Joyce 2001). "(T)he Internet has begun to be established as an information and communications resource in the working and home environments of most teachers" (Becker 1999). The utilisation levels of large online educational resources support this statement:

- In 1998 the *SchoolNet Canada* site⁶ recorded more than 2.5 million hits per month (Haughey & Anderson 1998: 75).
- The *Educational Resources Information Centre* (ERIC) receives approximately six million hits per week. This amounts to about 20 million per month (Ask Eric 2001).
- The *EdNA Online* (*Educator Network Australia*) receives approximately two million hits per month (Smith 2002).
- An online information resource for Dutch teachers in the Netherlands, *Onderwijspagina*, received 240 6188 visitors between 21 March 1999 and 13 March 2002. On the single busiest day this site received 6031 visits, which amounted to 180 000 hits per month.
- A comprehensive resource for language teachers in the UK, The Subject Centre for Languages, Linguistics and Area Studies, receives an estimated 4000 hits a week (Riley 2002).
- A Belgian site specially designed for Biology teachers, De V.O.B. (*Vereniging voor het onderwijs in de biologie de milieuleer en de gezondheidseducati*), indicated a total number of 10289 visitors on 1 July 2002. It was, unfortunately, not possible to establish the monthly visitor statistics.

3. First language (Home Language)

4. Additional language

5. Second additional language

6. The URLs of the mentioned resources are given in the reference section.

Hit counters on Internet sites do not indicate who the users are. This means that it is difficult to determine how many of the visitors to these sites are in actual fact teachers. The fact that teachers design their own lesson plans and that ideas and learning support material are available on these web sites, does indicate to some extent that they use these resources extensively and delve deep into the wealth of the Information Super Reef.

It was very difficult to establish the extent of the use of Internet resources by teachers in South Africa. No documented statistics or literature could be found on the subject. E-mail interviews to establish the frequency of utilization by teachers were sent to identifiable South African online educational resources. Out of the nine interviews despatched, only three were returned (i.e. Easymaths, Storiwerf and M-Web Learning). This is, in itself, an indication of the low level of activity on these web sites.

An analysis of the responses in the e-mail interviews, as well as the available visitor statistics of some of the web sites give a general indication of the degree to which South African teachers use the Internet.

Easymaths is a large South African on-line resource with curriculum-based information, lesson ideas, games and other services for mathematics teachers, learners and parents. According to the webmaster, Maggie Verster, the site receives about 8000 visitors per month, of which only 25% are based in South Africa. This amounts to a total of about 2000 South African visitors to the site per month (Verster 2002).

The English Teachers' Online Network of South Africa is a web-based initiative that provides information for English language teachers. According to the guest book only twenty-five contributions have been made since 1999. No feedback was received from this site's information desk.

At this stage the Internet lacks local subject-specific resources. Western Cape Education Department initiatives such as Edumedia and e-Curriculum can contribute much in this regard in future. The Learning Channel, M-Web Learning's extensive online service, SABC-Education and the Sunday Times all provide valuable assistance for learners.

Internet resources for Afrikaans language teachers are limited. Apart from general Afrikaans sites like Die Knoop, eSoek and M-Web's large Afrikaans literature site, LitNet, resources also aimed at Afrikaans language teachers include the following:

- OnderwysNet on M-Web offers some lesson ideas, but this page is accessible only to M-Web subscribers.
- The Afrikaans section of M-Web Learning, M-Web Leerhulp-Aanlyn registers between 30% and 40% of the total visitors to the M-Web site. This correlates with the membership profile of M-Web as Internet service provider. About 100 000 of their subscribers are Afrikaans-speaking (Hefer, 2002). Requests about Afrikaans on the Language Expert section of M-Web Learning constitute less than half of the total number of requests for languages (M-Web 2002).
- Storiwerf is a popular Afrikaans resource on children's literature. Although this site is not aimed primarily at teachers, they can find valuable information about Afrikaans children's literature here. The site receives between 20 000 and 40 000 hits per month (Storiwerf 2002), but it is not known how many of these visitors are teachers. The webmaster Franci Greyling, reports however, that she does receive positive feedback from Afrikaans teachers (Greyling 2002).
- The Goudmyn, or Gold Mine, for Afrikaans Language Teachers is an online resource supported by the Faculty of Education of the University of Pretoria. The site provides lesson

plans and ideas, curriculum information, information on Afrikaans authors, literature, etc. In the first 18 months of its existence, 2500 visits were registered. Since it has been upgraded and provided with a new URL in May 2002 a new hit counter has been installed. Currently this site receives an average of 300 visits per month. Only 22 teachers have given feedback since October 1999 and only three teachers have submitted contributions for publication on the site.

The web activities on the above-mentioned resources indicate very low levels of Internet use by South African teachers when compared to the user patterns on the international sites. This information is supported by the findings of the survey conducted at the University of Pretoria by means of a questionnaire. Only 22.9% of the teachers participating in the survey indicated that they use the Internet. Of the 78 teachers, only 12.7% use e-mail regularly to find teaching information.

Apparently Afrikaans language teachers still use picks and shovels to excavate the Information Super Reef. In her response to the e-mail interview, Stefanie Hefer, the director of M-Web Learning, substantiates this view:

It is a fact that teachers in our country are still very wary of and uninterested in the Internet. Its value as a medium for exchanging knowledge, help, ideas etc. has not yet been discovered and the Internet is still under-utilised⁷ (Hefer 2002).

A subsequent investigation revealed why South African teachers do not make use of the Information Super Reef.

Factors that contribute to or constrain the utilisation of the Internet by teachers

According to the literature review connectivity, training, support and appropriate content are the most important prerequisites for Internet use by teachers. Teachers are more likely to resort to the Internet as an information resource if a proper infrastructure and support structures are in place.

Connectivity

Becker (1999) identifies Internet connectivity, and specifically connectivity in the classroom, as the most important factor for the utilisation of web-based information resources by teachers. In 1999 over 90% of U.S.A. schools had Internet access and more than 33% of teachers in the U.S.A had Internet access in their own classrooms (Becker 1999). The majority of American teachers, 68%, use the Internet to find information for professional purposes (Becker 1999).

Other developed countries also have the benefit of Internet connectivity in schools. The Second International Technology in Education Study (SITES) survey reports that in 1999 more than nine out of ten Canadian students attended schools with Internet access (Drouin 2000). In 2001 nine out of ten schools in the European Union were already connected to the Internet (Joyce 2001).

The South African situation does not compare favourably with conditions in first world countries. In 1996 only 250 out of more than 28000 schools in South Africa were connected to the

7. Translated from the original Afrikaans: *Basies is dit eenvoudig 'n feit dat onderwysers in ons land nog ontsettend skrikkerig en onbelangstellend oor die Internet is. Die waarde van die medium as tyd-besparende uitruilplek vir kennis, hulp, wenke, noem op, is nog absoluut onontdek en word heeltemal onderbenut.*

Internet. Although the situation improved dramatically in 2000, still only 14% of all South African schools have some form of Internet connection (Brandjes 2000; Lundall & Howell 2000).

Researchers such as Lundall and Howell (2000:138) and Brandjes (2000) link the low ICT use by teachers in South Africa directly to the absence of Internet access in schools. Of the seventy-eight Afrikaans language teachers participating in the questionnaire, 74% indicated that they do have access to the Internet at their schools.

The reason why Internet use is not higher with these levels of connectivity at schools became clear after informal discussions with some of the teachers. It seems that Internet connectivity consisted of mainly one on-line computer at the disposal of all the teachers at a school. Factors like the lack of time to use the Internet due to a heavy workload and responsibilities with regard to extra-mural activities leave no time to use the Internet within normal school hours.

This situation is aggravated by the fact that only 28,6% of the respondents indicated Internet access at home. Although some of the privileged schools, as in the case of this sample, do have Internet access, opportunities to use the Internet are restricted. This corroborates Summerley's (1996) finding that a lack of suitable equipment is an important factor in the non-utilisation of the Internet by South African teachers.

Training

The second prerequisite identified in the literature for effective Internet utilisation by teachers, is adequate training of teachers on how to use ICTs in their professional capacity. Most international studies indicate that educator development is one of the most critical factors in building and sustaining ICT capability in schools and that low levels of ICT skills impact negatively on ICT use in schools (Gray 1998; McKenzie 1999a and Paterson & Lundall 2001).

Both locally and internationally the need for the training of teachers in the use of ICTs is expressed in no uncertain terms. In his critique on educational technology, Kearsley (1998: 47) states that teachers are ill-prepared to use educational technology and pleads that training should include the area of content: "...what teachers want to know most, is how to teach their chosen subject domain more effectively" (Kearsley 1998: 50).

Since most tertiary institutions included compulsory computer literacy courses for teacher students in their curricula only a few years ago, ICT skills training was not an integral part of teacher training in South Africa for many years. This is confirmed by the finding that only 6% of the seventy-eight respondents were exposed to some kind of formal training on how to use the Internet (Table 1) and only 6.4% were formally trained to use e-mail.

Table 1: Sources of training in ICT skills for Afrikaans teachers

Source of training in ICT skills	Respondents (n=78)
Self	16
Friends/ family	14
Colleague(s)	3
Group work at school	2
Pupil(s)	2
Post-graduate studies	1
Diploma/certificate courses	1
Workshop(s) at school	1

Workshop(s) at the Department of Education.	1
Private course	1
Undergraduate studies	None

From Table 1 it is evident that the majority of the respondents either learned to use the Internet on their own, or with help from friends or family members. It is therefore understandable that various sources (Lundall & Howell 2000 and Paterson & Lundall 2001) indicate concern about the lack of capacity building of teachers in this regard or identify the lack of training (Czerniewicz, Murray & Probyn 2000) as a reason for South African teachers not using the Internet.

The lack of training opportunities for Afrikaans language teachers in the use of ICT is an important contributing factor to the situation that Afrikaans Language teachers do not use web-based information resources for information needs concerning their profession.

Suitable content

Trilling and Hood (1999:15) state that billions of dollars are being spent world wide on connecting schools, libraries, and homes to the ever-expanding information infrastructure, “while comparatively little is being invested in the learning content and support that will actually appear on our computer screens once they’re connected”. This is also the case in South African schools. Summerley stated in 1996 that a lack of relevant South African material on the Internet is an important reason why teachers do not use the Internet as an information resource. This was later supported by researchers such as Lundall & Howell (2000: 104,105) and Czerniewicz, Murray & Probyn (2000: v & 41).

The lack of local content as one of the major reasons why Afrikaans teachers do not use the Internet was also confirmed by the findings of the questionnaire. In answer to the question whether they thought there was enough relevant information for Afrikaans teachers on the Internet, only 5.1% were of opinion that there was, while 30.8% thought that there was not. The majority, 64.1% of the respondents, indicated that they did not know.

Although these responses actually demonstrate the respondents’ lack of knowledge about the Internet as an information resource, the few respondents who use the Internet are either not aware of appropriate information on the Internet or know that there really is a lack of usable content.

The latter is confirmed by the investigation into available web sites for Afrikaans language teachers. Information available on the Internet for Afrikaans language teachers is, without doubt, totally inadequate. The limited information available to teachers is generally not used, probably because most of the teachers are not aware that it exists.

Support

Other factors identified that prevent teachers from optimally using the Internet, include a lack of time, proper equipment and technical support at schools (Summerley 1996 and Woodall 2001). Some of these factors have already been discussed. They can be categorised as a general lack of support for teachers.

McKenzie’s (2000) comment that “... there never seems to be enough time ... to invent great lessons to convert the often disorganised Net into a benefit,” echoes Summerley’s words. Summerley postulates that as early as 1996, South African teachers indicated that they do not utilise the Internet because of a lack of time, a lack of suitable equipment, know-how and interest. The research for this article has revealed that not much has changed since.

Hefer (2002), in her response to the e-mail interview, voices the frustration of Afrikaans teachers and confirms the above-mentioned findings:

Affordability plays a role, but the biggest reason is overwork, anxiety because of constant changes and the meddling with teaching methods which have always been OK, the misconception that they do not have enough time and that the Internet will interfere with the little time they have⁸.

In summary, it seems that the main reasons why Afrikaans language teachers do not utilise the Internet are inadequate connectivity, a lack of skills for integrating ICT into the current curriculum, inappropriate content, as well as a lack of time and support.

Reasons why teachers use the Internet

Internationally there is consensus about the reasons why teachers use the Internet. Quinlan (1997) identifies three primary reasons, namely communication, information access and resource sharing. The findings of Gray (1998) and Woodall (2001) endorse this. According to their research, teachers use the Internet to do research or collect information for lessons, communicate with other teachers, participate in discussions or help students with projects. Additionally teachers try to incorporate the Internet into the curriculum and many teachers develop their own resources if there is not sufficient material available on the Internet. There are also teachers who use the Internet as a tool for student-centred research, especially where there is Internet access in the classroom.

In their responses to the questionnaire the Afrikaans language teachers indicated that they use the Internet mainly for personal reasons, like e-mailing friends and family and net-surfing in general (Table 2). Although the level of Internet use is low amongst the sample (22.9%), it is, nevertheless, encouraging to find that almost 50% of the respondents who indicated that they do use the Internet, also indicated high levels of professional activities on the Internet. These include activities such as searching for information about matters related to Afrikaans, classroom activities, lessons and educational policies. Activities such as professional collaboration via e-mail are, however, not yet part of the respondents' virtual experiences.

Table 2: Purposes for which the Internet is used

Purposes of Internet use:	% RESPONDENTS (n=22)
General information	96
E-mail to family/ friends	92
Surfing	81
Information on Afrikaans authors and literature	75
Own interests and hobbies	75
Information related to classroom activities	67
Information for own children's school projects	67
Information on Afrikaans language issues	61
Preparation of Afrikaans lessons	50
Information on Outcomes Based Language Education	46

8. Translated from the Afrikaans: *Die bekostigbaarheid speel wel 'n rol, maar die grootste oorsaak is oorwerktheid, angns vir verandering en die gepeuter aan onderrigmetodes wat dan nog altyd OK was, die wanindruk dat hulle dan juis te min tyd het, en dat die Internet op die min tyd gaan inbreuk maak.*

Lesson ideas	45
Information about Afrikaans in general	38
Internet banking	32
Personal studies	30
Information about South Africa's education policy	24
To buy products	24
E-mail to colleagues on administrative matters	16
Chatting	15
E-mail to colleagues on subject-related matters	14

It was interesting to note the differences between primary school teachers and high school teachers with regard to the use of the Internet. These differences are presented in Table 3.

Table 3: Comparison of Internet use by primary school teachers and high school teachers.

Purposes of Internet use:	High school	Primary school
E-mail friends & family	100.00	80.00
Finding general information	100.00	91.67
Surfing	85.71	75.00
Finding info on own interests & hobbies	81.82	66.67
Information on Afrikaans literature & authors	78.57	70.00
To prepare lessons	61.54	72.73
Look for information on Afrikaans	57.14	66.67
Finding information for own children's projects	53.85	81.82
To stay informed about Afrikaans	46.15	25.00
Own studies	41.67	12.50
Banking & payments of accounts	36.36	25.00
Finding information on OBE	38.46	55.56
Finding lesson ideas	36.36	55.56
Finding information on SA educational policy	30.77	12.50
To prepare Afrikaans lessons	18.18	81.82
To buy products	16.67	33.33
E-mail colleagues on administrative matters	9.09	25.00
Chatting	9.09	22.22
E-mail colleagues on subject-related matters	7.69	22.22

The most significant difference between the two groups in their use of the Internet relates to the use of the Internet for lesson preparation. Only 18% of the high school teachers use the Internet for this purpose. In direct contrast with this, 82% of the primary school teachers use the Internet to prepare lessons. This is a statistically significant difference (where $n = 22$ and $p = 0.003$). This finding can perhaps be attributed to the fact that high school teachers are more exam-driven and therefore do not consider additional information or innovative teaching practices as important as primary school teachers who are more concerned about capturing the attention of the learners.

The attitudes of teachers towards the Internet

The literature review shows that teachers are generally positive towards the Internet as an information resource (Becker 1999 and Woodall 2001). However, some problems do exist.

Woodall (2001) reports that 84% of the 600 American teachers interviewed by NetDay, indicate that they think that the Internet can improve the quality of education, and 75% are of the opinion that the Internet is an important tool for finding new resources and meeting educational standards. Willis, Thompson & Sadera (1999: 36) similarly state that their review indicates that teachers have positive attitudes toward the use of technology in schools, "but that teachers are not confident of their ability to use technology in the classroom". McKenzie (1999b:44) states that teachers use the Internet, but that many express disillusionment: "They seek guidance and mediation. They cannot afford to wade through thousands of 'hits' and hundreds of Web pages, most of which are irrelevant, highly commercial or untrustworthy".

In South Africa Lundall and Howell (2000: 98) found that teachers are in general positive about the use of the Internet in education. A somewhat disturbing finding of this research is, however, that 77% of the teachers at schools without Internet connections rated the value of the Internet as an information resource much higher than the 66% of teachers from schools which are on-line (Lundall & Howell 2000: 116). Could it be that the Internet has not proven itself to be the gold mine these teachers thought it would be?

It seems that although Afrikaans language teachers have, in general, limited experience of the potential of the Internet as an information resource, they are positive about the idea of using the Internet for professional purposes. The majority of the respondents, 94.9%, indicated that there is a need for ICT integration into the Afrikaans curriculum and 94.8% expressed support for future training opportunities to learn more about the Internet and its possibilities. A large segment (80.5%) would like to have a subject-specific web site for Afrikaans L1 teachers.

Table 4: Teachers' perceptions of the kind of information the Internet can provide

Teachers' perceptions of the kind of information the Internet can provide	% Respondents (n=78)
Curriculum matters (OBE)	80
Information on new textbooks	77
Lesson ideas	76
Reviews of new books	73
Lesson plans	72
Examinations and tests	70
Prescribed texts	70
Public speaking/ debate	64
Contemporary language issues	63
Afrikaans authors	59
Information about competitions	57

The respondents clearly have high expectations of the possibilities of the Internet as an information resource. Table 5 indicates, on the other hand, that although most find the Internet stimulating and very interesting, they also experience it as time-consuming and often frustrating. Negative attitudes are clearly not the reason for the low level of Internet use among Afrikaans language teachers.

Table 5: Respondents' descriptions of the Internet

Descriptions of the Internet Respondents	%
Stimulating	97
Very interesting	96
Time-consuming	71
Frustrating	50
Confusing	36

Little activity at the golden reef

It is evident that the conditions in South Africa with regard to the Internet as an information resource differ to a large degree from the situation in some of the first world countries. The major problems seem to be low connectivity and a lack of appropriate content. This probably contributes largely to the fact that using the Internet for professional purposes is not part of the culture of Afrikaans language teachers in South Africa. Since the teachers who participated in the research are mainly representative of the more economically advantaged schools in the Pretoria area, it may well be possible that respondents from less advantaged areas will produce a still greater deficiency with regard to Internet utilisation and integration.

Other problems that were identified, included a lack of time to explore and use the Internet; insufficient training with regard to ICT in education – with regard to both pre-service and in-service training; and no integration of ICT in the South African curriculum and a lack of awareness among teachers about the potential of the Internet as an information resource.

Afrikaans language teachers in general seem unaware of the few online resources available to them. Informal discussions with Afrikaans language teachers and personal experience point to an unwillingness to experiment with new technologies.

How can mining at the golden reef be encouraged?

It can well be argued that the ongoing curriculum changes in South Africa⁹ act as a constraint for overworked and change-fatigued teachers. It is therefore important that the golden reef of the Internet should be advocated and promoted as an important support mechanism for teachers: easy to use, ready to implement material and tailor-made for their information and professional needs. Without doubt, teachers should be informed about the resources on and possibilities of the Internet.

Advocating the Internet should, however, be subjected to the following issues:

- the improvement of access to the Internet for schools, learners and teachers;
- the improvement of Internet resources for Afrikaans teachers;
- comprehensive ICT training for teachers and
- support and guidance for teachers with regard to ICT and curriculum integration.

Headway has already been made in addressing some of these issues. In November 2001, the joint policy document of the Departments of Education and Communications was published. The document reports on the intention of these two departments to promote ICT capacity-building in

9. *Outcomes Based Education* was introduced in 1998 and *Curriculum 2005* will be phased in from 2004.

the South African educational context. The document envisages Internet connectivity for all schools, basic ICT competencies and skills for learners and educators alike, as well as an educational portal, called Thutong, to facilitate access to a host of educational support materials (Departments of Education and Communications 2001: 15–16).

This daunting task is, however, subject to certain preconditions that would ensure the success of such an initiative. Haughey and Anderson (1998: 76), Kumari (1997) and McKenzie (1999b: 3) all endorse the opinion that a sense of ownership is the route by which teachers will best be convinced of the potential of the Internet as an information resource. Stakeholders therefore need to seek partnerships and refrain from reinventing the wheel. Products, services and resources should not duplicate one another but complement each other. Teamwork is of utmost importance and teachers should be involved in the process. Girod and Cavanaugh (2001: 46) rightly state: "Technology is not the key to radical change – teachers are the key".

If these intentions are realised, the golden reef might in the near future be buzzing with activity.

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