

# CHAPTER NINE

## Implementing the Educational Technology Network

### INTRODUCTION

In chapter eight, we have presented a consolidated vision of what we are now describing as an ‘educational technology network’. This raises several questions about the most appropriate strategies for implementing such a network. In this chapter, we focus on answering those questions. We will consider implementation first in terms of the four core functions mapped out in chapter eight. It is important to stress, however, that implementation is a dynamic process, the nature of which shifts as contexts change and particular strategies turn out to be more or less successful than others. For this reason, it is critical to note that this chapter contains a range of ideas about implementation strategies. These ideas will need to be shaped and adapted (or, in some cases, possibly replaced with more appropriate ones) as implementation commences. There is a crucial distinction to be made between the overall vision (mapped out in previous chapters) and ways to achieve that vision. We sincerely hope that the broad vision will not be lost or abandoned because it is weighed down by debates about details of implementation. Thus, the strategies below should not be regarded as a final blueprint for implementation, but as an opening platform for an exciting and challenging process that will unfold over the next five to ten years and beyond.

### CONTENT ACQUISITION AND DISSEMINATION

This report has focused strongly on the importance of using educational technologies to acquire and distribute resources, and has pointed out a converging relationship between traditional broadcast resources and multimedia resources. We have, however, also stressed the importance of continuing educational broadcasting services, as an integrated component of the scheduling of the public broadcaster. This raises questions about the most appropriate relationships between mechanisms responsible for television and radio education (particularly those located at the SABC) and those engaged in the development and dissemination of multimedia and web-based resources (many of which have been mentioned throughout this report<sup>1</sup>).

There are four key questions to consider in this regard. They are:

1. What form should the relationship between SABC Educational Television and Radio take?
2. Who should take responsibility – if anyone – for managing and coordinating more systemic dissemination of multimedia and web-based resources throughout the education and training system?
3. What form should the relationship between educational broadcasting and dissemination of multimedia and web-based resources take?

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<sup>1</sup> More examples of such initiatives can also be found in appendix five.

#### 4. Where should Educational Broadcasting locate itself in relation to the Public Broadcaster?

Although there is some interdependence in the answers to each question, below we examine each in turn.

### EDUCATIONAL TELEVISION AND RADIO

In our option outlining a dedicated nested educational broadcasting service in chapter six, we posed the question of whether or not the separate radio and television units should be merged. We noted that there are various areas where cooperation might take place between the two units, which we believe justify such a merger. In consultation with both units, we have generated the following list of cooperation possibilities:

- Strategic planning.
- Coordination of marketing campaigns.
- Using action plans to generate complementary activities (where appropriate) in terms of:
  - Times of broadcast;
  - Themes and content of programmes and series;
  - Learning outcomes of programmes and series;
  - Target audiences;
  - Broad focus areas within blocks of airtime (strands), such as focusing on youth programming between 18:30 and 19:00;
  - Broad educational areas and sectors of intervention, such as Early Childhood Development of Human Resource Development;
  - Broad learning areas, such as science, life skills, or communication; and
  - Broadcasting campaigns.
- Cross-advertising within programmes.
- Research, including language research, generic audience research, and field research.
- Establishing common budgets.
- Fund-raising.
- Consultation processes (see below), liaison with the educational community, and development of ongoing working relationships with members of this community.
- Professional development of teachers in the use of media in the classroom.
- Interventions in the provision and maintenance of hardware at schools.
- Distribution and sale of resources (print, audio, video, and other resources).
- Participation in the development of print and other non-broadcast resources.
- Development of an educational web site and other online services.

We went on, however, to point out that this merger carries various risks with it, most notably the potential dominance of television within such a merger. This risk is increased if a single director manages the functions of the unit, as television tends to dominate discussion when the two are considered together. We also noted that both educational radio and educational television derive benefits currently from their physical location, within the buildings of SABC radio and SABC television respectively. Consequently, we suggested the possibility of a somewhat loose merger between educational radio and television.

Nevertheless, this idea has to be seen within the context of broader changes taking place within the SABC, as well as considered in relation to the implications of technological convergence. There has been a consolidation of the public and commercial functions of the public broadcaster, which is likely to see each of these being set up as different business units

– cutting across radio and television – under a broader holding company of the SABC. As a consequence, there has been significant movement recently towards establishing ‘bi-media’ units to serve both the commercial and public arms of the broadcaster. If the SABC is re-organized along these lines, service departments – such as News, Sport, and Education – would no longer report to heads of Television and Radio, as these functions would no longer exist. Instead, it is conceivable that they might report directly to the Group Chief Executive Officer (CEO) of the SABC. This would remove one of the key problems that faced the unit when it was merged previously, and that was the problem of dual reporting lines to Television and Radio.

Given these changing circumstances, we believe that it is important the merger between SABC Educational Radio and Television should lead to the creation of a fully integrated, single unit with one director, reporting directly to the Group CEO. To protect radio services, it will be important to ensure that budgets for educational radio production are reflected as separate line items – at least in the short- to medium-term. It will also be important to ensure that posts within the unit are specifically allocated to coordination of educational radio broadcasting, to allow the functions of a central radio coordinating unit, such as the one currently operating at the SABC, to continue. These posts are, therefore, separately reflected in the costing scenarios presented in chapter ten.

This has other benefits in terms of the decision-making approaches we outlined in chapter five. In that chapter, we noted that an historical weakness of educational broadcasting strategic planning processes has been that they have been driven by the constraints of single-technology choices (radio and television). Merging the two units would help to bring these two decision-making approaches into broader alignment, thus allowing greater flexibility for educational need and context to influence decisions about what technologies and media to use to support education and training. Thus, while such a merger has obvious financial benefits, it also, more importantly, has specific educational advantages in terms of better coordination of initiatives. In addition, we believe it lays a crucial platform for the development of new coordinating functions for educational broadcasting, particularly in an environment of converging technological functionality. This leads us to the second key question.

## MULTIMEDIA AND WEB RESOURCE DISSEMINATION

As we have noted on several occasions, there are many people and organizations, both in South Africa and internationally, involved in the development of computer-based multimedia resources and web resources (for purposes of shorthand, these will be referred to as digital resources). This trend is likely to escalate as the tools of resource development continue to become cheaper and easier to use. Unfortunately, however, although this has massively stimulated flow of information around the world, the net effect of these developments has been to accentuate social disparities, both within South Africa and between South Africa and the developed world. For this reason, we believe it is critical to set up a mechanism that takes responsibility for coordinating the dissemination of these resources with a specific mandate to reduce this social gap.

The models we presented in chapter eight foresee a growing availability of telecommunications bandwidth for digital data transfer over the next five to ten years. They also foresee extensive rollout of the physical infrastructure required to access digital educational resources (although, as we pointed out in the previous chapter, this rollout

process constitutes a different function, discussed separately below). We believe it is important that an agency takes responsibility for coordinating and managing processes of making digital educational resources more accessible to people at teaching and learning sites. This role should not be confused with censoring or restricting access to information. The problem, however, with massive increases in the capacity to produce and disseminate information is that the range of choices increases exponentially. This can be tremendously alienating, particularly for people who have not had an opportunity to develop sophisticated information literacy skills.<sup>2</sup>

Consequently, the mechanism we envisage would play a twofold role. First, it would perform a filtering service for different elements of the education and training system as required, identifying the best available digital resources to support different educational interventions. These services would probably be used in the first instance to support large-scale general and further education and training, as the higher education sector is probably better equipped than any other to perform these functions itself. Second, the coordinating mechanism would play a key role in implementing strategies to extend access to these resources to as many people as possible. This could start with negotiation for copyright on identified resources, to facilitate flow of free information through the education and training system. In the first instance, this need not entail purchasing copyright, as there are large quantities of information already freely available, but not necessarily stored in a format appropriate for widespread dissemination through the types of technology networks described in chapter seven.

More importantly, however, it would entail establishing online services that perform first-level filtering and quality assurance for people. We see this coordinating mechanism functioning as an ‘intelligent agent’, helping people to sort their way through the masses of – often poor quality – information available online. Whatis.com defines an intelligent agent as follows:

On the Internet, an intelligent agent (or simply an *agent*) is a program that gathers information or performs some other service without your immediate presence and on some regular schedule. Typically, an agent program, using parameters you have provided, searches all or some part of the Internet, gathers information you’re interested in, and presents it to you on a daily or other periodic basis.<sup>3</sup>

The coordinating mechanism could manage services that perform this function in more sophisticated ways than computer programmes allow.

This latter function could have both a ‘push’ and a ‘pull’ component. ‘Push’ and ‘pull’ technologies are generally used to distinguish between the locus of control for distributing information. With ‘push’ technologies, the responsibility for selecting content for dissemination and the time of its distribution resides centrally, with individuals having little or no control over what they receive (other than, of course, the power not to engage with the resource. Terrestrial radio and television broadcasting are still the most pervasive ‘push’ technologies in South Africa. ‘Pull’ technologies, however, shift this control to the individual user, who decides what information or resource to retrieve and when. The Worldwide Web has evolved primarily as a ‘pull’ technology, as Byte magazine notes: ‘You decide what you want, your browser finds it—you pull it in’.<sup>4</sup> Various satellite technologies are also evolving

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<sup>2</sup>In chapter seven, we provide more detailed descriptions of the nature of such information literacy skills.

<sup>3</sup>Whatis.com, *Intelligent Agent Definition*, <http://www.whatis.com/>. Page created on 28/10/1999.

<sup>4</sup>Byte Magazine, August 1997 / Cover Story / Cheaper Computing, Part I, Byte Magazine, April 1997 / Cover Story / Cheaper Computing, Part I, <http://www.byte.com/art/9704/img/047csh2.htm>.

to build ‘pull’ capabilities into broadcast technologies, most notably ‘pay-per-view’ technologies.

A coordinating mechanism could develop web sites that continue to harness the ‘pull’ power of the web, providing an online clearing house to educational resources (as was proposed in the TELI Discussion Document). In this model, the mechanism links browsers to a range of available online resources (having selected links based on identified quality criteria and organized them using relevant categories and search criteria), and browsers access this set of links as and when they require support. These links should contain some kind of editorial element, as part of which the input of educational advisors is solicited to ensure the ongoing quality of the clearing-house’s ‘virtual’ resources. Additional functionality could be added to this using active server pages, allowing users to post their own reviews of resources they have used and to use a range of search functions. Further ideas about functions that could be performed in this regard are contained in the original TELI Discussion Document.<sup>5</sup>

In addition, however, the convergence of broadcasting and telecommunications technologies could be harnessed to start ‘pushing’ information to people. Many people have already discovered the power of this, using simple e-mail technologies to push information to people that they have filtered from various sources. This could, however, gain a massive boost through the spread of large-scale datacasting via satellite. In terms of this model, resources selected by the coordinating mechanism (working with specialist educational advisers) could be cached on local or wide area network servers on an ongoing basis, thus significantly reducing the costs of distributing these resources. The potential benefits of this have been described in chapter seven. If taken to scale, this approach to resource distribution could be significantly cheaper than attempting to disseminate resources using CD-ROM or other such storage devices.

We believe that both ‘push’ and ‘pull’ elements of resource distribution will remain important, as this caters for a wider variety of preferences, while not closing off opportunities opened by Internet technologies. The ‘push’ model of resource distribution will remain important even as inherently ‘pull’ technologies such as the Internet become more widespread, as many people appreciate – and will continue to appreciate – the benefits of filtering performed by central agencies such as broadcasters and publishers. Internet technologies are powerful precisely because they allow both models to operate in tandem. This reality makes a coordinating mechanism of some form particularly important.

## A MULTIMEDIA EDUCATIONAL RESOURCE UNIT

The discussion thus far has identified the importance and relevance of merging the educational radio and television units into a single entity, and has then noted the need for a mechanism to coordinate acquisition and dissemination of digital educational resources. Given the nature of this latter coordinating function, we believe that this suggests value in locating digital educational service distribution coordination function within a merged educational broadcasting unit. As we mentioned above, this coordinating function has much in common with many of the functions of educational broadcasting units within a public broadcaster, which helps to explain the moves by many educational broadcasters around the

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<sup>5</sup> See: Ministerial Committee for Development Work on the Role of Technology that will Support and Enhance Learning, 1996, *Technology-Enhanced Learning Investigation in South Africa*, Pretoria, Department of Education, chapter five.

world to evolve into multimedia units. We believe that – within the context of technological convergence – the functions described above are essentially broadcasting functions, and hence they are most appropriately located with the agencies that have been responsible for public educational broadcasting.

This widening of the functionality of a merged educational broadcasting unit would further extend the benefits of merging radio and television education, namely that it provides the unit with a wider set of choices about how best to support education and training in the country. In terms of the decision-making approaches presented in chapter five, we believe that this would move decisions decisively into the educational arena, with the decision-making approaches revolving around integrated broadcasting and telecommunications technologies working directly in support of broader educational technology decisions. We believe it is a crucial evolutionary step if public broadcasting in South Africa is to move in step with technological convergence, rather than finding itself excluded by this process through its efforts to maintain a traditional – and increasingly anachronistic – focus on terrestrial radio and television. This extended focus could incorporate use of print to support educational broadcasting interventions (SABC's television's use of printed resources to support School TV provides a good example of this).

Another benefit of this integration would be the capacity to merge branding and marketing of the services provided by a re-invigorated dedicated educational broadcasting service. In a converging technological environment, single-medium, single-channel branding of services is becoming harder to sustain. However, branding of services becomes increasingly important as access to information expands and competition for users of information intensifies. Establishing a merged educational resource unit would open new opportunities for cross-medium, cross-platform branding (not dissimilar from the highly successful branding of organizations like National Geographic, which spans video, print, satellite broadcasting, and other technology platforms, but remains highly recognizable – justified or not – as a brand of quality). More ideas about marketing and branding are presented at the end of this chapter.

There is an additional financial benefit in establishing a merged educational resource unit, in that it would minimize the financial implications of setting up such a coordinating mechanism. Many organizational elements would be shared across media platforms. Although we propose that specific budgets still be developed in the short- to medium-term for radio and television specifically (as is demonstrated in chapter ten), the shared functions outlined earlier for radio and television should also be extended to the entire unit to maximize these efficiencies.

We have, however, deliberately left responsibility for developing computer-based resources outside of the ambit of this coordinating mechanism, which suggests a more limited role for an educational broadcasting unit than with radio and television (where it also commissions and/or produces resources). This is not to suggest there is no role for a merged unit in this regard, and we would certainly endorse ongoing development of web resources to supplement and broaden specific broadcasting interventions. Nevertheless, the much wider location of computer-based educational resource production suggests that this role is not a priority, as there is already significant content on which to draw in building a multimedia educational resource service. There may, however, be specific roles which such a unit could play in this regard, even in the short- to medium-term, most notably in terms of mobilizing the vast archives that it would have at its disposal. We believe that models for this have already been emerging in the changing role of the central coordinating unit of educational

radio, which increasingly supports the work of educational producers located at individual radio stations.

## RELATIONSHIP OF THE UNIT TO THE PUBLIC BROADCASTER

Above we have noted the importance of establishing a coordinating mechanism to facilitate dissemination of digital educational resources, and have proposed that this mechanism be located within a new unit emerging from a merger between educational radio and television at the public broadcaster. This then leaves the question of the relationship of this unit to the public broadcaster. Should it remain within the broadcaster or should it seek to establish some organizational autonomy from the SABC? This is by no means a simple question to answer.

On the one hand, an autonomous unit may be considered to be important, as the range of platforms for disseminating resources would extend well beyond the public broadcaster. If the unit remains located within the SABC, it might easily lose the capacity to assess objectively the real potential of alternative delivery platforms to radio and television. On the other, if it moves outside the public broadcaster, this would significantly weaken its relationship with one of its most important delivery platforms. This could make the ideals of nested educational broadcasting services significantly harder to achieve in practice (even if legislation is set up to protect educational access to the public broadcasting platform).

More importantly, though, the above problems raise more fundamental questions for the public broadcaster in terms of how it positions itself in relation to the challenges of technological convergence. For this reason, we propose that, in the short- to medium term at least, this unit should remain located within the SABC. Not only will this provide some measure of protection for traditional radio and television educational broadcasting in the short-term, it will also establish this multimedia unit as an engine for change within the broader SABC. Through this extension of educational broadcasting roles, we believe that the unit can contribute to pushing broader SABC strategy in response to challenges posed by technological convergence. This will be critical to ensuring the existence of a vibrant and sustainable public broadcaster, rather than an entity that is simply superseded by technological developments.

Such a decision could then be reviewed in relation to progress made by the public broadcaster concerning technological convergence. If its long-term pathway remains narrowly focused on traditional radio and television broadcasting, it may be necessary for the Educational Broadcasting Unit to establish some organizational distance from the SABC. Trends in broadcasting around the world suggest, however, that this scenario is unlikely to materialize. Thus, we would anticipate that a location within the sphere of a changing public broadcaster might remain an appropriate long-term home for an Educational Multimedia Unit.

## ORGANIZATIONAL STRUCTURE OF AN EDUCATIONAL MULTIMEDIA UNIT

In appendix thirteen, we present various models, based on international experience, for the organizational structure of an Educational Multimedia Unit and its relationship with the public broadcaster. In brief, these are:

- Model A: An autonomous educational broadcasting organization within the framework of public broadcasting;

- Model B: An educational broadcasting organization as a department of a general broadcasting organization with a structural link with education;
- Model C: An educational broadcasting organization as a department of a general broadcasting organization without a structural link with education; and
- Model D: A partnership of private and/or public organizations.

For the reasons outlined above (and others provided in the appendix itself), we believe that Model B, with some variations from the model presented in the appendix, is most suited to this multimedia unit.

In this model, education is a constituent part of public broadcasting as a whole. A general public broadcasting organization has a legal status (as is currently the case in South Africa) and is generally required to perform the tasks of education, information, and entertainment. In many variations of this model, the education department has no legal right to its own broadcasting time and therefore is not in direct receipt of financial resources. The programme budget is a component of the total budget of the public broadcasting organization and is determined annually on a basis of priorities. This significantly weakens the position of educational broadcasting, particularly in the context of an entity providing multimedia resource dissemination services. For this reason, we believe that the budget of the Educational Multimedia Unit should be a specified line item within the public broadcaster, guaranteeing this money for educational expenditure. In addition, the educational responsibilities of the public broadcaster should also be entrenched through its licence requirements, thus guaranteeing space to negotiate appropriate airtime slots for educational broadcasting. In the media legislation operating in virtually every country (including South Africa), the task of the public broadcaster is defined as that of the presentation of programmes in the field of amusement, information, and education for the entire population. This requirement should be entrenched, particularly as commercialization within the public broadcaster proceeds.

The Educational Multimedia Unit should satisfy the following requirements:

- It should be a legal person with full legal capacity;
- Its sole object should be to provide educational resources in the field of education and training;
- Its Articles of Association should indicate that it has a Board or body composed of members including experts from the community of representative, national organizations in the field of education and training.

On the basis of these requirements, specific broadcasting time and financial resources could then be allocated to the educational broadcaster.

If such legal provision is not in operation, the allocation of broadcasting time and resources will be assigned directly to the general public broadcaster, which will then autonomously divide broadcasting time and resources over the various sectors of public broadcasting. The education department therefore will have no legal right to its own broadcasting time and is not in direct receipt of financial resources. The programme budget is a component of the total budget of the public broadcaster and is determined annually on a basis of priorities. The risk of this is that the sport and amusement sectors will receive the largest budgets in order to compete with the commercial channels. A structural solution to this problem is to establish a *charter*, specifying what percentage of the total broadcasting budget is to go to the educational department on a structural basis and further specifying the amount of broadcasting time with accompanying broadcast slots.

Internationally, in the strong educational broadcasters, an average of 10% of the total broadcasting budget is made available to educational broadcasting on an annual basis and the amount of broadcasting time is also specified. This enables long-term planning and programming to be prepared on a sound and proper basis. In South Africa, however, this will not generate sufficient income to support an effective Educational Multimedia Unit. Consequently, in chapter nine, we have made various proposals about income-generating strategies for the Educational Multimedia Unit.

Finally, it is vital that media legislation should make legal provision to enable the educational broadcasting organization to make use of all the distribution channels. In addition to the transmission of television and radio programmes, this should include the possibility of publication of printed materials, as well as using new technologies such as CD-ROMs and on-line services via the Internet.

### An Advisory Council

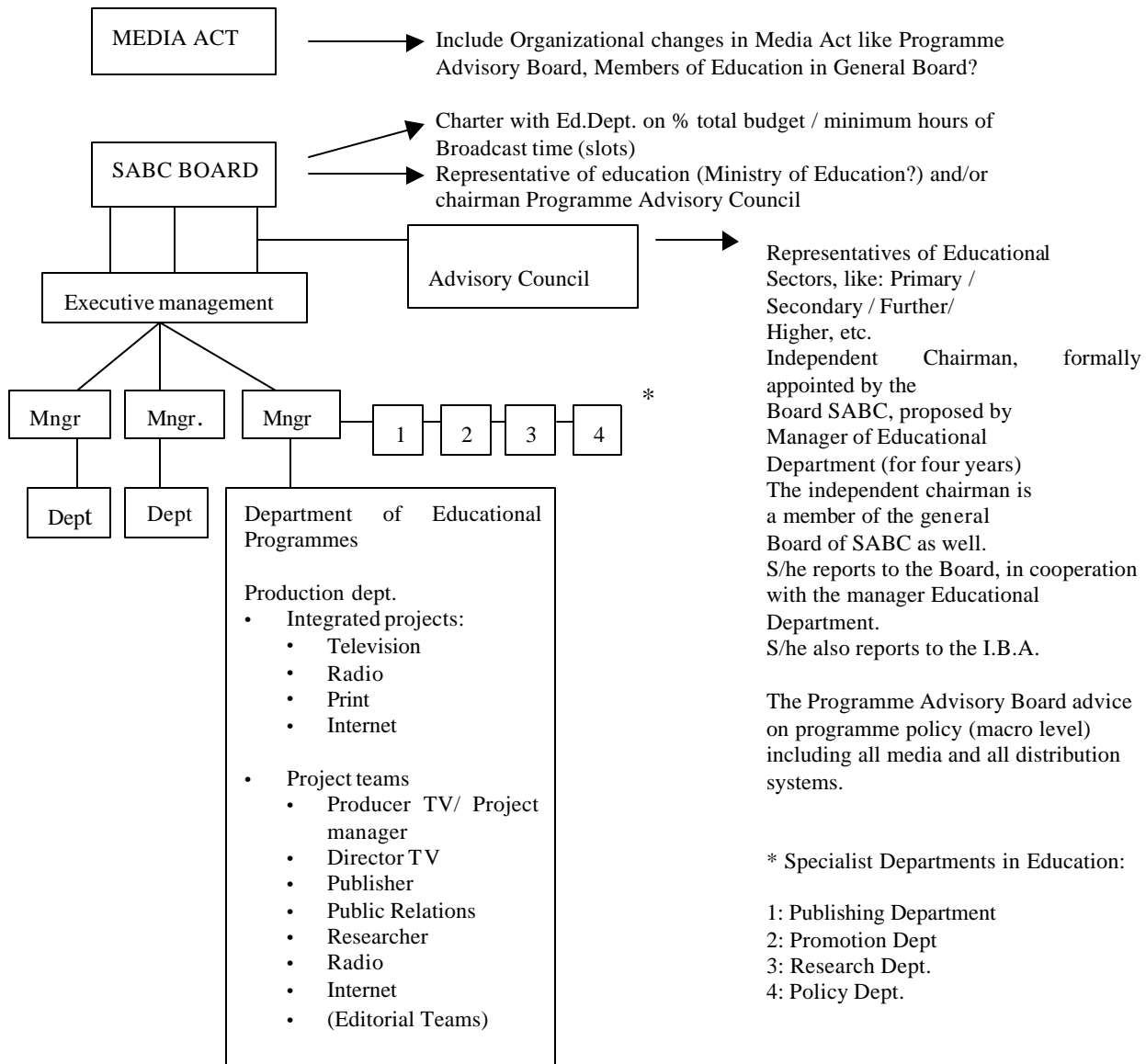
The general Board of the SABC determines general policy of the public broadcaster. The general Board does not have the power to determine the specific policy in the field of educational programming. For this purpose, it is desirable that an Advisory Council, composed of representatives from the community of representative, national educational organizations, be established. Within the strategic and financial framework determined by the Board, the Advisory Council will determine the Unit's policy in consultation with the manager of the Unit, and submit this to the Board for approval. This policy should be restricted to macro planning and encompass all media and distribution channels. The Advisory Council will advise the Executive Board and the Board on policy and its implementation (both on request and at its own initiative), evaluate the policy pursued, and report on this to the Board. For this reason it is advisable that the Chairperson of the Advisory Council should also have a seat on the Board.

The establishment of an Advisory Council will strengthen public support for the educational department, which will also have a positive influence on permanent entrenchment within the broadcasting system.

The members of the Advisory Council, together with the national organizations which they represent, will form important 'stakeholders' for the Educational Multimedia Unit in the event of crisis situations and for the representation of interests. An organization will thus be formed whose policy can take account of all the educational needs and in which educational criteria play a major role at all levels.

### Organizational Structure

The structure of the Unit at operational level will also need to adjust to the various interests, educational or otherwise, mentioned throughout this report. The management of the Unit will be integrally responsible for policy implementation and accountable for the results obtained by the educational sector. Management will also be responsible to the Board and the Programme Council. It will develop business plans, including long-term programming, and indicate the financial and personnel frameworks. Further ideas about operations of this Unit are contained in appendix thirteen. Here, we present a diagram that illustrates several of the key features of an Educational Multimedia Unit located within the SABC. This is intended to be illustrative of some of the key points raised above, rather than a blueprint for a new organizational model. The details of the model will need to be worked out by the SABC and the Departments of Education and Communication.



- Production office / facilities }
- Human Resources } all general SABC
- Transmitting office }

Requirements for project manager (producer): Educational background / management skills  
 All project managers (producers) are integral responsible for the multimedia projects.  
 Project managers report to the manager of Ed. Dept, who has the final responsibility.

Editorial shadow-teams from education: feed back on programme proposals / feed back on programmes and use in class room.

Independent Human Resource Policy from SABC in general, because of specific requirements.

## COMMUNICATION

In chapter seven, we described ways in which an educational technology network can support communication in education systems. We argued that communication is a vital element of any educational system, whether this communication is between educators and learners or supporting the smooth running of the system itself. One of the core functions of an education technology network is to use technology infrastructure to support a range of communication strategies, especially easy asynchronous communication between people across small or large distances. We view the support of communication in the education system as one of the key strengths of the envisaged network. Cheap, easy, immediate communication opens significant new opportunities for circulating information through education systems (whether the system is a single university or a national schooling system), not least at administrative and management levels. Most importantly, cheap communication systems ensure that communication can travel in any direction through a system, rather than simply consisting of communiqués from higher levels to lower levels within a system. For this reason, we believe that an educational technology network has a crucial role to play in supporting these many forms of communication.

Different agencies – Education Departments, educational providers, learners, Internet Service Providers, telecommunications companies, and many others – are responsible for stimulating different types of communication throughout the education and training system, some of which have already been mentioned in this report. Given that communication is an educational function which takes place at multiple levels, from the perspective of this report the key element to set in place is the mechanisms that facilitate communication, in this case the Educational Technology Network itself. Consequently, much of the responsibility for ensuring that this communications function is implemented will rest with the agency or agencies responsible for rolling out the Educational Technology Network described in chapter seven. These agencies are discussed below.

It is, however, worth adding that, with regard to communication, the key player from a government perspective is the Department of Communication itself. The broad vision of the Department is

to improve the quality of life of all our people, make South Africa a knowledge-based society and help create an information economy. This will be achieved by establishing a networked information community to empower people in the way they work, live and play and by making South Africa globally competitive.<sup>6</sup>

In its project on Public Information Terminals and elsewhere, the Department has described the ideal of providing e-mail addresses for all South Africans: ‘As we are heading into the 21st century and the Age of Information, would it not be fitting to place E-mail facilities within the reach of everyone?’<sup>7</sup> Transported into the education and training system, this ideal will be critical to the success of the Educational Technology Network. Its implementation implications are, however, discussed under ‘Network Rollout and Maintenance’ below.

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<sup>6</sup> Department of Communication, *Vision & Mission*, <http://www.doc.org.za/vision.html>

<sup>7</sup> Department of Communication, *Public Information Terminal Project*, <http://www.doc.org.za/projects/multimedia/pit.html>.

## ADMINISTRATION AND MANAGEMENT

In chapter seven, we have used the example of the school system to describe how the rollout of an Educational Technology Network could contribute to significantly improving the administration and management of large-scale educational systems. We have also mentioned the benefits that SAQA could derive from building technological infrastructure that allows for decentralized submission of data needed for national management information systems. These are only two examples of administrative gains that could be made from widening access to ICTs within the education and training system.

What emerges clearly from these, and other, examples is that there are already many organizations and structures in place that take responsibility for the management and administration of different aspects of the education and training system. In the example of schools, there are, in addition to administrators at local and district level, many people responsible for the administration of the system at provincial and national levels, possibly the most relevant being those agencies that are responsible for provincial and national Education Management Information Systems (EMIS). The intention behind the proposals we have sketched out is to facilitate the work of these people and organizations, all the way through from local teaching and learning site level to national structures, and not to replace them.

We have, however, also argued that building the administrative capacity is crucial, both because of its importance to well-functioning education and because it creates obvious opportunities for recovering investments made in an Educational Technology Network. For this reason, we do not believe that it is sufficient to leave the development of computerized administrative to an evolutionary process simply driven by the agencies currently responsible for the administration and management of the system. As a result, we believe that a specific organizational mechanism will be essential to ensure that the Educational Technology Network is used successfully for these purposes.

### A MECHANISM TO COORDINATE COMPUTERIZED ADMINISTRATIVE SYSTEMS

We believe that it is crucial that a single agency take responsibility for targeting and exploiting opportunities to use an Educational Technology Network to support administration and management of the education and training system. This agency would explicitly not take responsibility for the management and administrative functions currently performed by different organizations and agencies. Instead, it would work with them to ensure that the Educational Technology Network is systematically enhancing their capacity to manage and administer the system effectively. For this reason, we see this coordinating agency as a lean organization, set up specifically to broker appropriate partnerships and to remain accountable for ensuring that opportunities to use the Network for administrative and management purposes are seized. This responsibility should extend to ensuring that e-mail communication systems are set up for different educational sectors.

In the first instance, we envisage this agency working with the EMIS units responsible for the schooling sector at national and provincial levels. Its first priority would be to see through the implementation of the type of administrative systems sketched out in chapter seven, working in tandem with the mechanism responsible for network rollout and maintenance. Its focus would be on ensuring that the system simultaneously makes the work of EMIS Units easier

and more productive and that it improves school administration and management at local levels.

In this regard, we see a very specific function for the agency, and that will be to broker the process of developing computerized administrative systems for use in schools. There are many ways in which this might happen, but a particularly attractive one might involve negotiating partnerships with a private sector software development company, on behalf of the Department of Education. This company could take responsibility for building the administrative applications described in chapter seven. It might be expected to provide these free of charge to the entire schooling system, and also to commit itself to providing a range of maintenance services to ensure that the software stays functional, that data is regularly backed up, and that the data warehouse functionality of the system operates successfully. In return, various commercial rights might be granted to this agency, the most obvious of which would be the right – for a specified number of years – to exploit the Educational Technology Network for the purposes of electronic commerce. The establishment of business models for this would be the responsibility of the company, but might conceivably involve creating online shopping facilities that bring together the services of a range of preferred suppliers. The company coordinating this could then top-slice a percentage of all transactions to generate income for itself.

Obviously, this would need to be carefully regulated, and decisions would have to be taken to set constraints on the ways in which advertising and marketing could be distributed through the network. It is also, in our opinion, a use for the system that might generate sufficient turnover to justify the Department of Education adding a proviso that, when revenue returns achieve a certain level, a percentage of revenue should be ploughed back into the Network to ensure its sustainability. These types of arrangements create significant opportunities for public-private partnerships, while also minimizing the venture capital risks taken by government. They also carry the spin-off benefit that this can reduce the cost of purchases for schools, as the experiences of e-commerce companies such as Amazon.com have demonstrated.

In addition, we envisage that this agency will work closely with SAQA to ensure that the establishment of the National Learner Record Database (NLRD) is supported by decentralized, electronic data gathering strategies as necessary. In this instance, it might focus first on primary schooling and ABET, as these are the two areas where strategies to gather reliable information for the NLRD are least clear.

Finally, we anticipate this agency working closely with the Department of Communication, helping it to achieve its goal of universal access to electronic communication systems. This intervention could work closely with projects such as the Department's project on Public Access Terminals, working in tandem to spread access to these forms of communication. In many ways, education is an ideal point of entry for the achievement of these goals, because such large numbers of people in South African society have some form of ongoing contact with the education and training system.

These focuses are probably sufficient, at least for the first year of the agency's operation. From this platform, however, it could then go on to provide similar types of support in many areas. It should be set clear targets to ensure that the focus of the agency does not become limited to these few areas of support. Medium-term objectives could, for example, include:

- Supporting the Department of Education's Adult Education Directorate with the rollout of strategies and systems to provide literacy training and ABET to adult learners by helping to build administrative systems similar to those described for schools; and
- Working with higher education institutions using distance education methods and other more flexible forms of learning, to extend the reach of their administrative systems and capacity to support remote learners.

### Organizational Structure

As we have noted above, this agency should be kept lean from the perspective of organizational structure. More importantly, however, there are obvious links between the kinds of work described above and that of network rollout and maintenance, although they remain distinct functions. From this perspective, we believe that it is necessary to integrate these two functions into a single agency. The organizational structure of this integrated agency is, therefore, outlined in detail in the following section.

## NETWORK ROLLOUT AND MAINTENANCE

The fourth key function outlined in chapter eight is that of network rollout and maintenance. As we have stressed throughout this report, this function will – by definition – have to involve a range of key organizations in South Africa, each of which currently assumes some level of responsibility for and ownership of different aspects of the country's telecommunications system. This understanding should also be augmented by awareness that many educational sectors and individual teaching and learning sites have already made investments in information technologies of different kinds and, in many cases, in the capacity to network these. These investments range from a single computer at a school or MPCC through to extensive LANs and WANs at most universities.

We subscribe to the view that organizations should be given the space to continue these investments, as it is clear that this has contributed to reasonably rapid growth in the use of technologies in education and training. However, as we have pointed out throughout this report, this type of investment requires a parallel investment, as it is unintentionally perpetuating – or, in some cases, worsening – the social inequities that exist in South Africa. Unless structured and targeted investments are made in building such technological infrastructure in disadvantaged areas, social gaps are likely to be exacerbated by the selective and localized use of information, communications, and broadcasting technologies.

For this reason, we believe that it is critical that an agency be established to manage the rollout and maintenance of network infrastructure in South Africa, which, for want of a better name, we will refer to hereafter as the Educational Network Agency (or EdNet for short). This agency should be responsible for building all four components of the network described in chapter seven – the distribution network, cluster hubs and network servers, access networks, and equipment and teaching and learning sites. It needs to have the financial muscle to take this responsibility seriously (we have presented different scenarios for this in appendix twenty).

As with previous functions, its responsibility should be to work with existing agencies and organizations to complement their work. However, it is critical that this agency be given the space and responsibility to negotiate appropriate deals for the education sector. Indeed, given the nature of the telecommunications, broadcasting, and IT industries, it is clear that such

negotiation processes will constitute the core of this agency's work. The agency needs to be given the mandate to undertake such negotiations on behalf of the education and training system, often undertaking such negotiations (for example, in the area of telecommunications tariffs or technical service agreements) on a large-scale in order to secure the best possible prices for these. An important first step will, therefore, be to decide where to locate different decisions pertaining to the Educational Technology Network. Some will continue to take place at a local level, while others will be taken centrally to ensure maximum efficiency. This, in itself, is a negotiation, and should therefore be integrated into the work of the agency, rather than being used as a strategy to delay its establishment.

Another critical function for EdNet will be to ensure that the technological systems established remain operational and that people are equipped with the necessary technical skills to use them. It will be noted that, in terms of how we have costed rollout of the system, we have established links between maintenance/professional development and rollout, thus ensuring that there is corresponding growth in these different line items regardless of what speed of rollout is finally chosen. EdNet should not aim to build the capacity to maintain the system itself, nor should it aim to provide professional development opportunities to people at individual teaching and learning sites. Rather, its responsibility should be to ensure that appropriate service agreements are established with different organizations to provide such services, and to monitor the implementation of these agreements.

Technical capacity would include using the hardware (whichever options of hardware or learning site technologies are in place) and engaging with the resources and services via the network. This would be on the level of supporting teaching and learning sites to prepare for select and a introduce appropriate technologies as well as how to engage with the various network product interfaces. Educational capacity would focus on how resources and technologies enhance teaching or learning. At present, some educators consider the use of technology in technical terms only, but technical and educational capacity cannot be considered in isolation.

Potential dangers exist in the current context, because technological initiatives undertaken without consultation or consideration of diversity of interests and capacities may lead to unnecessary 'educator-versus-technology' struggles. Using schooling to illustrate, it has been suggested that, in the current context, the wholesale introduction of technologies into the classroom

will be resisted by teachers if they feel it is replacing them, or if they feel disempowered by it. If we believe in the empowerment of teachers we must be very careful about how we use technology. It must be unpacked (not wrapped), and it needs to be interactive, and it needs to be accepted by teachers on educational, not economic terms.<sup>8</sup>

The second consideration is whether or not educational technology network's interventions will have an impact. Clearly, developing resources for educators requires extensive consultation with educators. Some issues that could form the basis of these resources are offered below, but this should not substitute consultation with people involved in the education processes.

- Educators can participate in a range of production, research, consultation and promotion processes.

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<sup>8</sup>Gultig, J. *Op cit.* p 5.

- Seconding educators can be seconded to contribute to aspects of the network
- Technology network champions can be identified and supported. The network agencies can support these champions in their efforts to promote technology enhanced education and learning, or specific resources, without duplicating the networks which exist.
- The network can be used to encourage educator collegiality.
- The network can be used as means of collecting, collating and distribute information about the importance of professional development networks to educators. This dissemination of information can be achieved by:
  - Collecting and distributing information on educator associations, unions, and professional bodies, among others; and indicate what types of support these organizations provide to professional development networks;
  - Collating and compiling information that is distributed via e-mail and facsimile distribution lists; and
  - Developing channels of communication with editors and journalists working in a range of print publications targeting educators

Clearly, then, in terms of these functions, close relationships between EdNet and the Multimedia Education Unit will be critical to successful implementation and use of the Network, as it is in this area particularly that the two agencies will derive particular benefit from working together.

Another key component of maintaining the system actually lies in the design of the overall network topology. Thus, EdNet should integrate these two functions, ensuring that it plays a proactive role in ongoing design of the network topology with a view to ensuring that the network is as robust as possible, and that its design minimizes the Network's maintenance requirements. More ideas on this are contained in appendix twenty-one.

Finally, a key role for EdNet will be to broker partnerships that facilitate expanding use of the system by different agencies. South Africa is currently littered with proposals to use technologies to support different aspects of social development, many of which are referred to throughout this report. Their consequence is to fragment expenditure on technological infrastructure where this expenditure takes place, or, more often, to ensure that most initiatives are stillborn. The latter problem arises because such initiatives cannot mobilize the necessary resources to roll out technological infrastructure on the scale required and then support the range of much more expensive recurrent and project-based investments necessary to justify such investments.

The ability of an educational technology network to support an education system rests on whether its different elements provide the system with the technological capacity required to use the network for different purposes (such as those outlined in chapter seven). For this reason, it is critical that the network is rolled out and managed as a coordinated exercise, taking into account the particular needs of different aspects of the system. This raises a number of questions and 'the education system' and its component parts:

- How are the education system and its various components interpreted and represented?
- What are desired purposes of the network to support this system?
- What are the particular needs of specific aspects of the system?

Answering any one of these questions obviously requires engagement and communication with people working to support different elements of the education system, and ongoing consultation processes with users of the network will be crucial.

We are not proposing that all expenditure be centralized to a central unit. We do, however, believe that it is important that effort goes into trying to establish links between different projects where this makes sense. This is becoming an increasingly important function for government to perform, as it becomes clear that its role is shifting from being the sole provider of welfare services to a coordinator and regulator of activities in the public and private sectors. Thus, EdNet should work to ensure that maximum use is made of resources, particularly by establishing networks that could minimize duplication of efforts at a local level. In the schooling sector, the nascent elements of this networking function already exist via provincial school networking initiatives. EdNet, however, should play an active role in a range of initiatives, such as the Department of Health's Telemedicine Project.

### Organizational Structure

Again, given the nature of the work of this agency, we believe that it should be kept lean from the perspective of organizational structure. We believe, in addition, that it is critical to merge the functions of network rollout and maintenance with those of an agency coordinating the use of an Educational Technology Network for communications and administrative purposes. The organizational structure of this integrated agency is, therefore, outlined in detail in the following section.

## AN INTEGRATED IMPLEMENTATION AGENCY

In summary, we see EdNet performing the following key roles:

- Managing the large-scale rollout of an Educational Technology Network for the education system, and playing an ongoing role in monitoring and adapting its network topology to ensure maximum effectiveness and reach, together with minimum maintenance requirements;
- Negotiating appropriate service agreements to ensure that Ensuring the rollout of effective and administrative systems to support education and training, working in coordination with the relevant educational agencies already responsible for these functions;
- Arranging and monitoring service agreements to ensure cost-effective maintenance of the Network and the administrative and communications systems it supports;
- Arranging and monitoring service agreements to ensure cost-effective professional development at teaching and learning sites wishing to use the Network and the functions it supports; and
- Playing a proactive role in building appropriate partnerships between different key agencies to ensure maximum benefit is derived from initial and ongoing capital and recurrent investments in the Network.

Given all of the above, it remains to outline the nature of the new proposed agency, EdNet. Below we provide a detailed map of the nature and location of the agency.

### ORGANIZATIONAL STRUCTURE

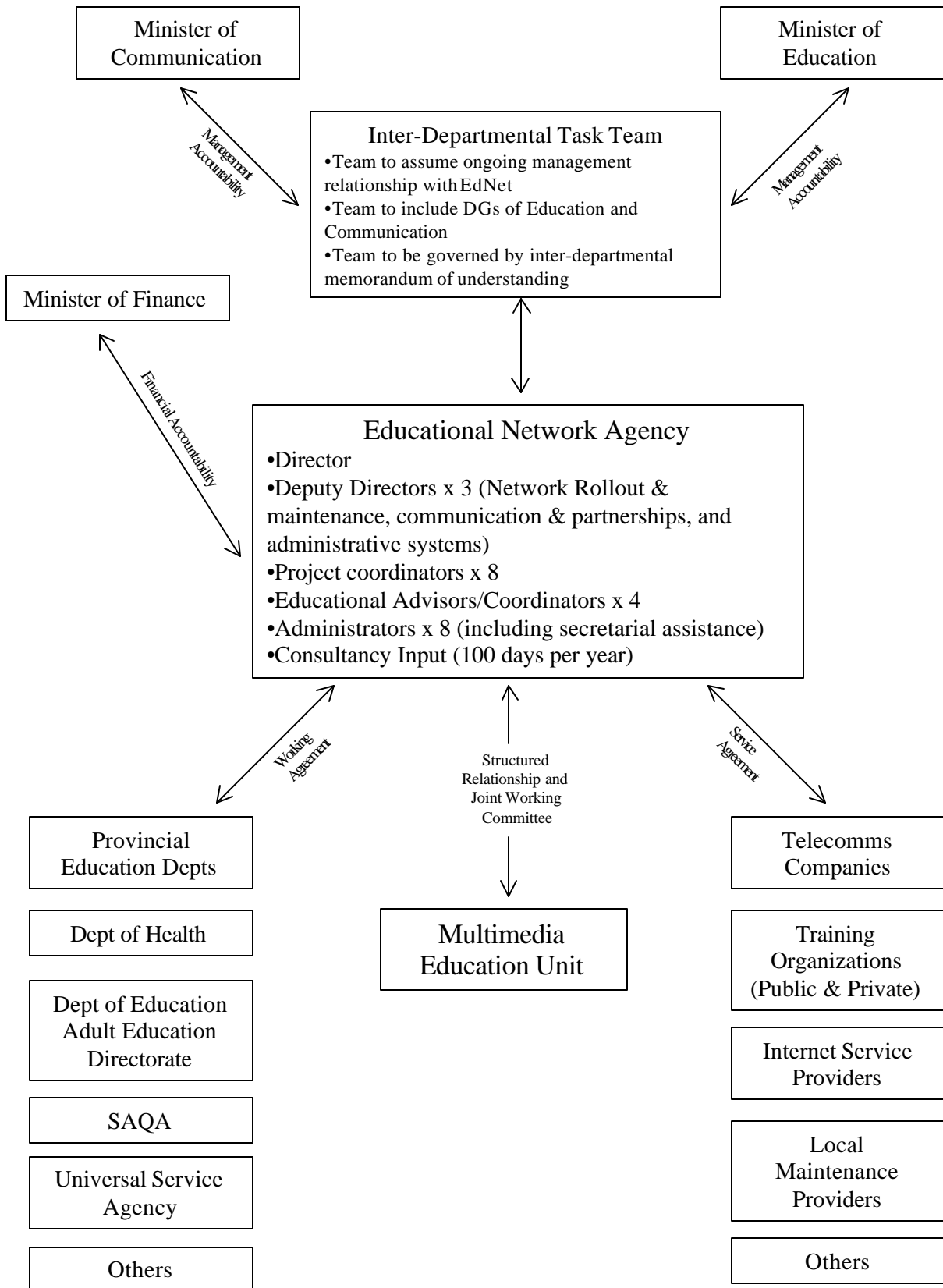
The many functions outlined above suggest a need to create a new organization, which takes responsibility for all of these activities. We would expect that the EdNet would have dual lines of accountability to the Ministers of Education and Communication. A platform for these lines of accountability has already been created by the inter-Departmental agreements that have been reached between the Departments of Education and Communication. The

agency would, however, have to be created as a legal person, with a full legal entity. In this respect, it is critical that EdNet is not brought directly into the organizational structures of either the Departments of Education and Communication. It needs to have the space to operate unhindered by the bureaucracies of either of these Departments, while remaining accountable to both. It also needs to have the flexibility to be able to source its own funding, over and above whatever is provided from the national fiscus.

At the same time, however, it should be required to remain financially accountable to government, in this case probably directly to the Minister of Finance. It should also be expected to follow standard procedure regarding securing services, using tendering as a strategy to give different organizations an opportunity to tender for large-scale contracts. This should apply to a wide range of services, from administrative systems management to e-mail facilities and telecommunications services.

We have noted throughout this report that we believe that one of the key strengths of its proposals is that they build on existing work, rather than constituting a new intervention that is unrelated to existing initiatives. In terms of the Educational Network Agency, the work of Schoolnet provides a crucial platform for the work of this agency, and hence we recommend that Schoolnet should be integrated into EdNet. Schoolnet has done significant work in the field of school networking, but remains plagued by its inability to roll out technological infrastructure on a large scale, a problem exacerbated by its status as a non-governmental organization (notwithstanding the good relationships it has built up with the Department of Education). This reduces its capacity to mobilize large-scale investments of the kind envisaged in this report. It is also limited, in terms of this set of proposals, by its narrow focus on the schooling system. Consequently, we see the integration of Schoolnet into EdNet as a strategy for re-orienting that organization, equipping it with the human and financial capacity to handle large-scale implementation, and bringing it closer to government.

Below we provide a map outlining a proposed structure for EdNet and describing its relationships to other key agencies.



## WHAT ROLE FOR THE CENTRE FOR EDUCATIONAL TECHNOLOGY AND DISTANCE EDUCATION?

The above section has mapped out a clear structure for the proposed Educational Network Agency, and also illustrated some of the key partnerships pertaining to this organization. This does, however, raise one final question concerning organizational structures, and this pertains to the specific role of the Centre for Educational Technology and Distance Education. This Centre has played a crucial role in the field of educational technology, having been responsible for almost all educational policy pertaining to the use of technology over the past few years. It has also established a number of relationships with various players in the field. There are two basic options in terms of the relationship between the two organizations. These are:

1. The Centre convenes the inter-Departmental task team on behalf of both Departments, and provides the management support for this entity; or
2. The Centre is restructured to perform the functions of the Educational Network Agency, absorbing Schoolnet.

The first option requires little additional explanation, as it constitutes a fairly straightforward function. In terms of the second option, however, various points are worth noting. First, it is not an inopportune moment to reconsider the role of the Centre, as one of its core entities – the National Film Library – is due to be broken up and distributed to provincial level, where it more appropriately belongs. Second, the Centre has several posts available that could be used to cover some of the costs of establishing EdNet. If this budget were combined with the current budget of Schoolnet, it may be possible to establish EdNet with no additional financial burden. Third, if the Centre were re-oriented in this way, this would require legal advice and other structural changes, to ensure that EdNet is given the operational flexibility it would need to function effectively. Fourth, restructuring the Centre in this way raises the question of what would happen to its policy and coordination work. We would argue that these functions actually sit quite comfortably within our conception of EdNet, although they would imply a larger staff contingent than the one presented in the map above. Nevertheless, the Department of education could continue to refer educational technology organizations to the Centre within this new organizational structure. In addition, this referral role could be extended to the Department of Communication.

Clearly, these options require further consideration, but they may provide some strategies for setting EdNet up reasonably quickly and cost-effectively.

## PARTNERSHIPS AND CONSULTATION

Successful partnerships will be critical to the successful implementation of every idea contained in this report. For this reason, we now turn our attention to the issue of partnerships. We begin by examining principles for effective partnership, which can cut across all of the different types of partnerships. We then provide a consolidated picture of some of the key types of partnerships for both the Multimedia Education Unit and the Educational Network Agency, although this should be read in conjunction with the many ideas about different partnerships that are scattered throughout this report. Most importantly, this list should not be regarded as comprehensive. No doubt, many new types of partnerships will emerge as implementation begins.

## GENERAL PRINCIPLES FOR EFFECTIVE PARTNERSHIPS

Much has been made recently of the importance of partnership and cooperation in South African education, particularly in a context of limited resources and massive need. Very often, however, the principle of encouraging and fostering partnership and cooperation has been presented unproblematically as something intrinsically 'good'. Much recent educational experience in South Africa has demonstrated unequivocally, however, that establishing partnerships is no guarantee of better educational provision. On the contrary, a partnership established on weak foundations - and between partners with widely differing initial agendas - is much more likely to create impediments to effective educational provision and lead to resource wastage than organizations working in isolation.

Thus in establishing partnerships, it will be critical to identify crucial ingredients for successful partnership. We have already discussed these problems in detail in chapter four, but repeat briefly the key principles below:

- Build partnerships between organizations and individuals with broadly *similar objectives*.
- Identify clearly the *contributions of each partner* - and their capacity to deliver accordingly - before beginning work.
- Develop clear, commonly agreed *principles for the operation of the partnership* and strategies for dealing effectively - without creating hostility - with partners who fail to adhere to these principles.
- Develop clear, commonly agreed *strategies to ask partners to leave or to enable them to withdraw from the partnership*.

## CONSULTATION

Consultation is essential to the ongoing success of the network and serves three primary functions:

1. Consultation is necessary to ensure that the necessary political and social support for the network. This is essential to ensure that the network and its related products and services are actually used.
2. Consultation plays a crucial role in getting ideas about the most appropriate nature of the network, as well as feedback on the success – or otherwise – of the implementation of these ideas.
3. Consultation can be an important precursor to establishing more structured partnerships, between identified agencies. It provides a safe and structured environment to gauge the capabilities of potential partners and to identify new partners.

Thus, the proposals for specific types of partnerships listed below should be read in conjunction with an understanding of the need for both the Multimedia Education Unit and EdNet to participate in, and often drive, these broader processes of consultation.

## THE MULTIMEDIA EDUCATION UNIT

To function successfully, the Educational Multimedia Unit will need to establish and maintain relationships with several different agencies. Below we mention a few of the key types of partnerships that we consider to be important (many of which have already been developed by SABC Educational Television and Radio). These are presented in no particular order of importance:

- *Funding.* Although we outline various possible sources of income for the Unit in chapter ten, funding will remain an ongoing requirement. The Unit should work to diversify its funding base, building relationships with a range of potential funders, including government, the private sector, and local and international funding agencies.
- *Securing good internal relationships.* It will be important to maintain relationships with SABC television channels and radio stations to negotiate air time for programmes and ensure on-air promotion for these programmes and other services provided by the Unit. The Unit should also maintain relationships with other SABC departments, particularly sound and film archives, to evaluate existing programmes for educational usefulness.
- *Acquiring/producing resources.* Possibly the most important set of partnerships will revolve around acquiring/producing resources. In the fields of radio and television, many partnerships already exist – with independent producers, radio station managers, international broadcasters, and other players – to facilitate the development and acquisition of resources. This will, however, have to be supplemented by new relationships with organizations and educational providers involved in the development of multimedia and web resources, to facilitate the growing role of the Unit in disseminating digital resources through the Educational Technology Network.
- *Extending access to physical infrastructure.* Depending on the network selected for an identified intervention, The Unit should monitor, with content provider partners, progress by corporate and state providers responsible for extending access to televisions and radios in learning environments (like schools, universities, technikons and colleges, homes, community centres, and prisons, for example). This links closely to the Network Rollout and Maintenance function outlined below.
- *Building professional development networks.* Depending on the target group for an project, it may be necessary to support and enhance existing initiatives for training mediators, be they parents, facilitators, adult educators, teachers, or community workers.
- *Brokering new partnerships and strategies for dispatch and sales.* One important aspect of this would be liaising with existing sales or dispatch services at the SABC, about the ordering procedure and available resources. It will also be important to investigate partnerships with other educational cassette producers and/ or distributors.
- *Promotion.* Each educational intervention would have its own promotion needs. When considering promotion options, possible partnerships should be explored. This might include building relationships with contact persons at various publications for press release statements and to ensure that articles about the Unit's activities appear in a variety of publications. It will also be important to establish relationships with existing electronic information services (such as Eudifax and the Telematics for African Development Consortium) to circulate information on a regular basis.
- *Research.* Contractual arrangements with research organizations or consultants can be developed as a means of conducting ongoing research into the Unit's activities and interests. Partnerships with higher education institutions to support research activities and internship programmes are also a possibility.

- *Major networks* There are various networks in South African society that create significant opportunities for ensuring the success of any educational broadcasting intervention. These networks are important because they can mobilize people on a large scale, and because many have infrastructural resources that can be harnessed by the Unit and its partners. Some suggestions of such social networks and infrastructure include: welfare offices, religious groups and movements, prisons, sports clubs, *stokvels*, community libraries, schools, and community radio stations.
- *International broadcasters*. Ongoing contact with international broadcasters will remain important. This could take the form of sharing research information, participating in broadcasting conferences, and maintaining e-mail and facsimile correspondence. This can create opportunities for acquiring and selling broadcast materials. It also opens opportunities for co-productions.
- *Building relationships with government*. Finally, it will be critical that this Unit establishes good relationships with Government, as well as with the various other mechanisms responsible for coordinating the Educational Technology Network. This is raised again below.

## THE EDUCATIONAL NETWORK AGENCY

In describing the work of this agency, we have already noted several key partnerships. In summary, these would include partnerships with:

- The Departments of Education and Communication;
- The Multimedia Education Unit;
- Administrative units at provincial and national Departments of Education;
- The South African Qualifications Authority;
- Private software companies and other service providers;
- Telecommunications and broadcasting companies, including (potentially) Telkom, Vodacom, MTN, Orbicom, and Sentech;
- Educational providers – including government departments, higher education institutions, and even private providers – wishing to use the system; and
- Donor agencies working in the field of educational technology.

## MARKETING

Modern marketing is characterized by customer orientation and activities that are intended to make an organization responsive to an ever-changing environment. South African educational organizations and institutions have however paid relatively little attention – and dedicated fewer human and financial resources – to marketing their services and products. This is in part due to the fact that marketing considerations have traditionally not been included in a meaningful way in many educational institutions' strategic planning processes. If the Educational Technology Network is to thrive, however, a more 'aggressive' approach to marketing will be required.

Organizations, which have, as their core business, production of educational services and resources, need to recognize that good marketing – rather than *ad hoc*, fragmented marketing activities – is essential. Good marketing requires establishment and maintenance of a

customer orientation, as well as development of systems and human capacity to respond to a dynamic environment. In the case of the Educational Technology Network, this will, in turn, contribute to ensuring sustainability and continued development of an effective set of services.

## MARKETING THE NETWORK'S EDUCATIONAL SERVICES

Marketing can be described as anticipation and measurement of the importance of needs and wants of a given group of consumers, and development of a response or flow of need-satisfying goods and services.<sup>9</sup> In generic terms, marketing includes several activities that assist an organization to identify and respond to customers' needs and wants, namely:

- Targeting those markets most compatible with an organization's resources;
- Developing products that meet the needs of the target market better than competitive products;
- Making products readily available;
- Developing customer awareness of capabilities of an organization's line of products; and
- Obtaining feedback from the market about the success of the organization's products and programmes.<sup>10</sup>

All of these will be critical to the Educational Technology Network, and its focus will be on both products and services.

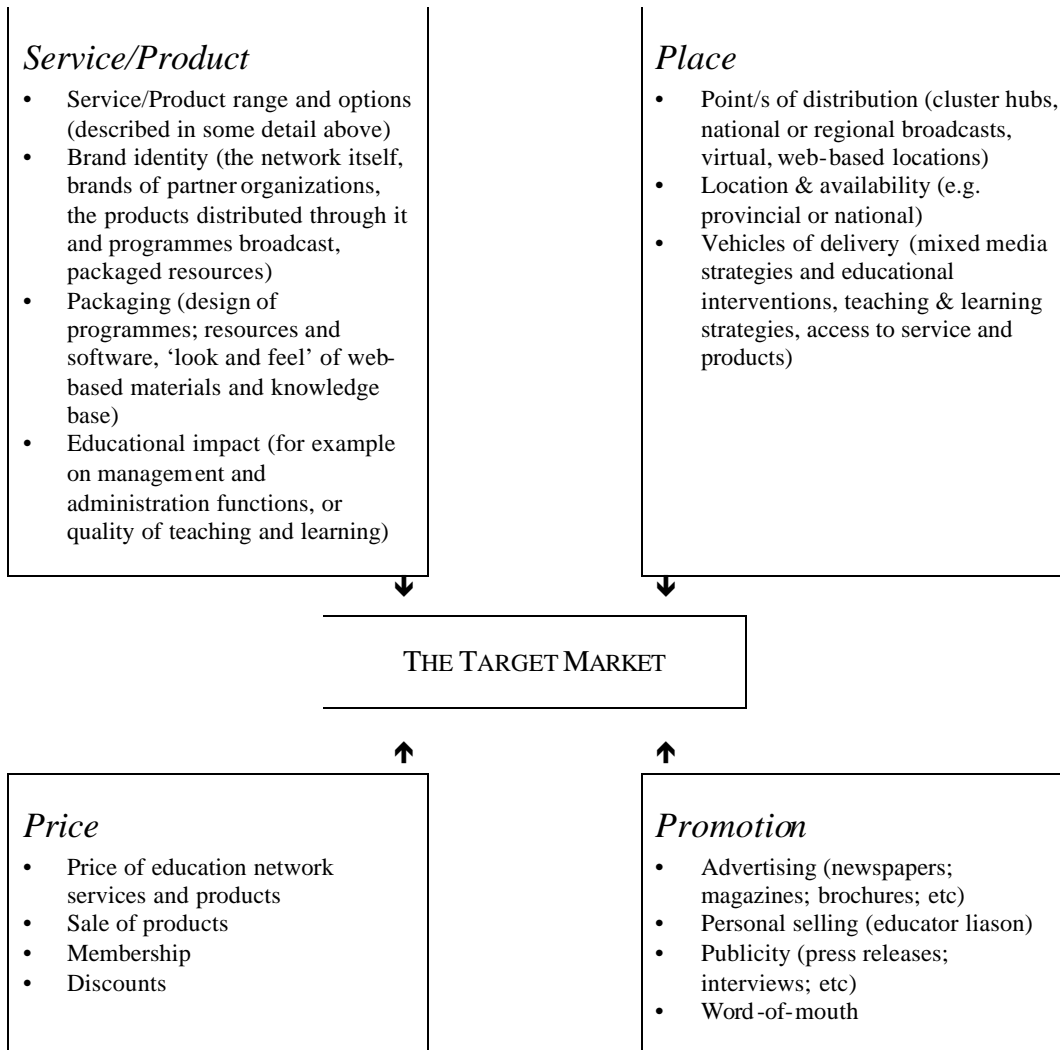
Designing a marketing strategy for educational services and resources involves making many tactical decisions. These decisions, like those for any other product or service, can be classified into service or product; price; promotion; and place. The diagram below - adapted from Boyd and Walker's *Decisions within the four elements of the marketing mix*<sup>11</sup> - better illustrates some of these decisions:

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<sup>9</sup> Boyd, H.W. and Walker, O.C. (1990). *Marketing Management*. Edinburgh: Heriot-Watt University. p 4.

<sup>10</sup> *ibid.* p 4.

<sup>11</sup> Boyd and Walker. *op cit.* p 31.



Both the Multimedia Education Unit and EdNet will need to develop – and possibly integrate – comprehensive marketing strategies based on these four elements (as well as others that may emerge). In designing and implementing this strategy, they will need to direct human and financial resources to four major areas, namely:

- Developing educational resources and services;
- Ensuring that the resources and services are widely available;
- Determining competitive pricing for resources and services; and
- Ensuring that people have knowledge and awareness of what are the resources and what services the Network provides.

## BRANDING THE NETWORK'S PRODUCTS AND SERVICES

As we noted above, branding of the Network will be critical to ensuring its successful implementation. In a converging technological environment, single-medium, single-channel branding of services is becoming harder to sustain. However, branding of services becomes increasingly important as access to information expands and competition for users of information intensifies. It will, therefore, be critical to brand the dedicated 'service' of distributing resources and services of many different media throughout the education and

training system. While different interventions (say curriculum support for schools, or elements supporting a mass literacy campaign, or an educative intervention focusing on public health) will each have their own project identity, it will be important to ensure that each of these is clearly associated with the service as a whole. Branding is therefore a critical component of the public face of the educational technology network.

Some examples of well-established brands in South Africa and internationally serve to illustrate this point. As we noted previously, National Geographic is well recognized and respected in educational and public environments, although its products span many delivery platforms. In South Africa, Soul City has achieved this type of success in branding, by using a common logo on all of its resources, while the Soul City concept cuts across each content focus. Whether the educational intervention focuses on AIDS/HIV, abuse of women, or teenage sexuality, all components of the delivery are readily identifiable as part of Soul City. To ensure integration across the printed comic books, educator guides and workbooks, television dramas and radio productions, the same characters are used in all media. Another example of strong branding is the Liberty Foundation's Learning Channel Campus, where television presenters, who have become recognizable personalities, become part of the branding of videocassettes, printed materials, mixed media packages, and other services.

## PROMOTION

Promotion decisions involve decisions about advertising and publicizing the Educational Technology Network, as well as personal selling and sales promotion. One factor that determines the success of advertising or selling the service is design of the promotion message. Clearly, the design of the promotion message will be affected by contextual realities facing the different targeted sectors of the South African education environment. It is essential, therefore, that the Multimedia Education Unit and EdNet pay careful attention to what message is being promoted, because interpretation by the target audience could be very different from the intended message. Poorly conceived messages could be perceived to constitute a lack of regard for educators and their roles, or low levels of accountability, or failure to consult with educational 'stakeholders'. If ignored, contextual realities will negatively impact on the effectiveness of the communication process, and may result in unintended negative perceptions of the service. A situational analysis often provides important information, around which an appropriate message can be designed. Such data needs to be effectively integrated into a marketing situational analysis.

Determining promotional objectives and the likelihood of success rests to a large extent on identifying, in statement form:

- Who is included in the target audience;
- How the target audience should change;
- How fast the change should occur; and
- The degree of change required.<sup>12</sup>

Each component of promotion, namely advertising, publicity, sales promotion, and personal selling, requires its own promotional objective. For example, one promotional objective for advertising the Educational Technology Network may be stated as:

Creating awareness of the network service among 50% of ABET level one educators within the next eight months.

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<sup>12</sup> Boyd and Walker. *op cit.* p 559.

This simple statement describes the target audience (ABET level one educators); how the target audience is required to change (become aware of the service); the extent of change required (from 0% to 50% of the target audience); and how fast that change occurs (over a period of eight months).

Promotion can also take the form of publicity. Publicity, typically achieved through articles published in newspapers and other mass media exposure, does have the advantage of providing an extra degree of credibility to an organization and its services, usually at little cost.<sup>13</sup> Publicity also includes personal contact (in the form of liaison), and should not be neglected in the pursuit of newspaper publicity only. It is very important that public relations and publicity promotional strategies are used to enhance the overall promotion of the services of the Educational Technology Network.

Also essential is the ongoing exercise of evaluating promotion activities. This involves finding out whether or not the objectives of various promotional activities have been achieved. It is necessary to gather information continuously, for example, on the extent of distribution to the targeted networks of teaching and learning sites. Market research and evaluation of promotion activities are, however, quite different from evaluation of the educational effectiveness of a service's impact. While both information-generating processes must feed into all of the activities of both units, information from one cannot be substituted for the other.

Various promotion strategies can be developed to make use of a variety of technology platforms with Internet, print, radio and television being the major focuses.

### Internet-Based Promotion

This refers to use of web sites and Internet communication technologies, such as e-mail and facsimile services. Simplistically, web sites can offer an additional means of accessing promotional information distributed in print. This conception is restrictive, as it takes no account of significant developments in the digitization of information, functionality of electronic databases, speed and storage capacity of computer hardware, and rapid developments in cheap electronic communication, more and more aspects of which can increasingly be automated. At a minimum, designers of promotional materials for a web environment should at least consider the following advantages that the Internet offers over print:

- Promotional information about the service can be updated regularly;
- Navigation and search possibilities provide a wider scope of promotion;
- Online ordering facilities can offer an additional means of requesting products;
- Requests for information can be automated without incurring administrative costs;
- E-mail communication facilities allow for queries, feedback, comments to reach the educational technology network, and could provide important information for evaluating the effectiveness of the promotional strategy; and
- Electronic information services, such as facsimile and e-mail distribution lists can be used to distribute promotional material.

Various types of information, such as an overview of the components of the educational technology network and its partner organizations, content dissemination descriptions, scheduling information, and available resources can be used for promotion. If organized

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<sup>13</sup> Boyd and Walker. *op cit.* p 568.

appropriately, a huge volume of promotional information can be accessed via a web site. It is important to realize, however, that a web site itself needs promotion. Web sites do not promote themselves; they simply give users access to promotional information once they have located the site.

In contrast, Internet communication technologies can be used to directly promote and raise awareness about the educational technology network services. This information could be included in existing educational facsimile and e-mail services, like EduFax and Prodder. This would be a cheap and efficient means of promoting the Network. Establishing a regular e-mail information update on new products and services that are available for different targeted sectors of the education community, can be used to push promotional information to users, whereas a web interface allows users to extract or pull information of their choice from the information base. These services can be automated directly from a well-designed database, and hence will reduce the administrative cost of maintaining such a service.

### Printed Materials

Information about the Educational Technology Network and its services could be distributed using printed materials, by facsimile, and in articles or features contained in existing publications. Information should be targeted at identified contact people. For example, when focusing on schools, contact people should include provincial education departments representatives, departmental subject advisors, district managers and district officers, teacher centre coordinators, teacher union media officers, and people from teacher training institutions. Regularly updating lists of such contact people is essential, and should include contact details and information about coordinating structures and partner organizations.

### Television and Radio

In terms of per-unit cost, television and radio-based promotion are effective ways of reaching large numbers of people. Television's advantage is that it can demonstrate how a product can be used and a range of consumers' responses to the product. Disadvantages of using television are that, in comparison to radio, production costs are high and overall costs are increased by factors like frequency (how often a broadcast occurs), exposure and optimal reach. Radio, on the other hand, is less expensive and has the added advantage of being able to focus on promotion to specific audiences such as teenagers or Zulu-speakers. But a drawback of radio promotion is that:

It reaches people mostly when they are doing something else – working, driving, or walking. And it is often used to reinforce TV advertising.<sup>14</sup>

Overall, however, radio and television remain two of the most successful ways to convey information to large numbers of people within the target audience. Television and radio promotion should not only occur via the public broadcaster's channels and radio stations.

Integration and cross-referral between different technology platforms (radio, television, computer-based and print) is also essential.

## TARGET AUDIENCES

The success of a promotional strategy is, to a large extent, dependent on how precisely marketing teams identify a target audience; and the extent to which they confidently and

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<sup>14</sup> Boyd and Walker. *op cit.* p 599.

creatively, promote the service to that target group. As the Multimedia Education Unit and EdNet will have education as their focus, educators will be one of their key target audiences (although at different levels and in different ways for each organization).

At the most basic level, motivation to use the service begins with providing information about the fact that an Educational Technology Network exists and presenting its various components coherently. A second step involves publicity activities, such as using existing publications, in which the motivation for an Educational Technology Network is explicitly outlined. It is essential that the general public and educator be informed about budgets, scope, objectives, and management of the process. Furthermore, the Educational Technology Network should use promotional activities to support professional support networks, for example, including information on the importance of professional contact amongst and between, for example, teachers, adult educators, or health workers. Distributing information will be greatly assisted by compiling and maintaining an e-mail and facsimile distribution service. This can be enhanced through regular publicity statements included in appropriate publications.

An important part of promotion to educators is emphasis on motivational promotion, not just on awareness-raising campaigns. Motivation to use resources should be the responsibility of the content development components of the organizational structure. The first and most obvious strategy for promoting the Network to educators is the development and provision of excellent quality educational resources and services. Providing an excellent service, will motivate educators to use the network's products and services.

It will be important to ensure that a consistent message promoting educators and existing systems, not the technology is explicit. The development of an Educational Technology Network has potential to motivate educators to use the services and resources made available through it. Educators will use such a service if they believe that resources meet their needs as educators. This means that the service should try to include educators in production processes, and establish a liaison network with educators in targeted teaching and learning sites.

As the Network evolves over time, increasingly learners will become a growing target group for its promotions. Given that as a group, South African learners are diverse, a single or homogeneous promotion strategy will not be effective. For this reason, it is important that a combination of promotional activities be designed, and integrated, into various promotion strategies for learners.

## CONCLUSION

This chapter has outlined in some detail various strategies and organizational structures for ensuring the successful rollout and use of an Educational Technology Network. It has also presented information on the kinds of partnerships on which this will depend, and ideas about how to market the Network itself. In the following chapter, we supplement this with a picture of the financial implications of the above proposals.