Programme modelling: a Nadeosa investigation into the cost and human resource implications for different models of ODL provision – draft version 5

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This report explores the complexities of costing and resourcing ODL programmes appropriately to ensure high quality provision. The report provides guidelines and models to help programme managers make informed decisions.

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Abstract

The South African Higher Education Act of 1997 established academic programmes as the cost unit for Higher Education. In response to the advent of a National Qualifications Framework in South Africa, Higher Education Institutions opted to focus on whole qualifications rather than on unit standards as the basis of their academic programmes in order to ensure coherence (Luckett 2003). However, subsequent investigations by the CHE (CHE 2004, 2007, 2010) have indicated that not only are many programmes ***not*** *coherently designed but also that in many cases they are under-resourced in terms of staffing, which militates against the quality not only of design, but also of development and 'delivery'.*

Building on the base of costing studies in ODL by Rumble, Perraton and Sparks, as well as costing studies undertaken by Saide in south and southern Africa in 2003 and 2004 (CHE 2004, ADEA 2004, Mays 2005), and with Namcol in 2010 (Saide 2010), as well as the thinking that underpins the University of South Africa's Academic Human Resource Allocation Model, the author developed three indicative models which seek to explore the links between income, costs and human resources in order to provide a tool for informed decision-making at the programme level. The assumptions underpinning these models were interrogated and refined in consultation with programme managers of the College of Human Sciences at Unisa. It is planned that the resulting models will be refined again after consultation with colleagues at the Nadeosa conference in 2011 and then in in follow-up visits with interested HEIs. The research process underpinning this investigation comprises a mixed-method approach involving the collection and analysis of both quantitative and qualitative data in a hermeneutic enquiry spiral.

Key words: ODL, costing, human resources, programme modelling

1. Introduction

The South African Higher Education Act of 1997 established academic programmes as the cost unit for Higher Education. In response to the advent of a National Qualifications Framework in South Africa, Higher Education Institutions opted to focus on whole qualifications rather than on unit standards as the basis of their academic programmes in order to ensure coherence (Luckett 2003). However, subsequent investigations by the CHE (CHE 2004, 2007, 2010) have indicated that not only are many programmes **not** coherently designed but also that in many cases they are under-resourced in terms of staffing, which militates against the quality not only of design, but also of development and 'delivery'. These concerns apply to higher education provision in South Africa generally but are of particular concern within the open and distance learning (ODL) community in which it is not possible to address curriculum shortfalls at short notice with *ad hoc* interventions. ODL practitioners often need to make informed curriculum decisions two to three years in advance of recruiting students. This report proceeds from the premise that adequate investment in appropriate curriculum design in which content and outcomes, assessment and student support are planned for in an integrated way and in which the carrying capacity of programmes and courses is taken due cognisance of from the outset are essential to ODL delivering on its potential.

Although ODL provision is premised on a high degree of independent learning, staffing is usually still the single biggest cost item in institutional budgets. A distinction can usefully be made between permanent centralised staff (academic and professional and usually relatively small) and decentralised, often part-time/ contract staff (usually relatively large). At the University of South Africa (Unisa), for example, personnel costs amounted to 59,10% and 61,72% as a percentage of total expenditure in 2008 and 2007 respectively (Unisa 2008a: 55) with academic staff costs amounting to 37% and other personnel amounting to 63% of a total personnel bill of R1 531 295 000 (Unisa 2008a: 63). Unisa's total staff complement (permanent and temporary) amounted to 10 223 in 2006. Just under 60% of these (6 114) were temporary and just over 40% (4 109) were permanent (Unisa 2008b: 17); this resulted in a full time equivalent staff to student ratio of 1: 73,83 (Unisa 2008b: 18) with a variation of between 1: 147 to 1: 48 between different colleges. Clearly, therefore, a consideration of the kinds of staff needed and the ways in which they use their time is fundamental to the bottom-line finances of the institution and its long-term sustainability.

Staffing needs and costs vary considerably between models of provision: in a print-based, contact supported mode of delivery we can rely upon local tutors to mediate the curriculum in response to contextual realities. In an on-line model of delivery, the learning pathways need to allow for a wider diversity of responses and contexts – consequently decentralised tutor and venue-related costs may be smaller but initial development and ongoing on-line review and support costs will usually be higher. The degree of interaction designed into the model for delivery will have a profound impact on staff needs and costs and for sustainability a balance needs to be found between teaching costs, income generated and student pass rates and throughput.

Insung (in McIntosh 2005) reports on a Quality Assurance Survey of Mega Universities. The survey, conducted between May and early June 2004, was sent out to the presidents (or vice-chancellors) and/or the heads of QA units in 11 mega universities in different regions:

- Allama Tqbal Open University (ATOU, Pakistan)
- Anadolu University (Anadolu, Turkey)
- China Central Radio and TV University (CCRTVU, China)
- Indira Gandhi National Open University (IGNOU, India)
- Universitas Terbuka (UT, Indonesia)
- Korea National Open University (KNOU, Korea)
- Payame Noor University (Tran)
- Sukhothai Thammathirat Open University (STOU, Thailand)
- Open University (OU, UK)
- University of South Africa (South Africa)
- Shanghi TV University (SHTVU, China).

Table 1 indicates the diverse range of student: staff ratios.

Table 1: Profiles of the Nine Mega Universities Participating in the Survey (p.81)

INSTITUTION	YEAR OF ESTABLISHMENT	NUMBER OF DE STUDENTS	NUMBER OF ACADEMIC STAFF		NUMBER OF ADMINISTRATIVE STAFF
			FULL-TIME	PART-TIME	
AIOU (Pakistan)	1974	456,126	145	23, 000	1,426
Anadolu (Turkey)	1958 *(1982 named Anadolu)*	884,081	1,729	*653 (tutors)* *300 (Iecturers)*	1,763
CCRTVU (China)	1979	2,300,000	52,600	3 I ,500	16,500
IGNOU (India)	1985	1,013,63]	339	35	1,337
KNOU (Korea)	1972	196,402	271	*108*	546
OU(UK)	1969	203,744	1,169	7,995	1,434 *(Academic-related staff)* 2,139 *(Secretarial. clerical, And technical staff)*
SHTVU (China)	1960	101,218	*Not Given*	*Not Given*	*Not Given*
STOU (Thailand)	1978	181,372	375	*Not Given*	904
UT (Indonesia)	1984	222,068	762	*3,600*	730

We note in Table 1 the extremely different statistics for CCRTVU and IGNOU, for example. Clearly the two institutions operate on completely different models.

In June 2004 the Commonwealth of Learning (COL) developed a CDRom which they explained provided "an introduction to costing in open and distance learning (ODL). It is designed for people setting up new ODL programmes and for people wishing to improve the quality of the management of existing programme. "Costing ODL" includes fully functioning spreadsheets but it is not a costing tool." This resource was not available from the COL website at the time of writing (www.col.org accessed 01/11/11). However, a publication developed by Thomas Hülsmann for COL entitled "Costing Open and Distance Learning" is available at http://www.pdfio.com/k-67639.html. Although the writer could not get the hyperlinks to the related excel spreadsheets to work, the discussion of

costing provided is very useful in gaining a broad understanding of the costing dynamics of distance education provision. Towards the end of this document, a comparison is made in broad terms between correspondence and face-to-face teaching, then multimedia courses, distributed e-learning and virtual seminars in terms of fixed and variable costs and the implications for responsiveness, and economies of scale. The report points to the value of working with interactive spreadsheets with benchmark figures on costs to inform decision-making and also the increasing incidence of inter-institutional and public-private partnerships in the provision of ODL.

Hülsmann (c.2004:56) concludes for COL:

> The profile of ODL has undergone a substantial diversification which affects core features of ODL such as cost-structure. Which model fits your context depends on the local infrastructure and market size. The new models of ODL do not necessarily challenge established working models (e.g. the mega-universities) but provide alternative strategies. Where student numbers are smaller or quick customisation is required, e-learning formats may offer a post-Fordist alternative, which given the right conditions and infrastructure, may be cost efficient.
>
> The division of labour within a Fordist institution is substituted by a division of labour between smaller post-Fordist institutions, which bring together partners of technological competence, academic credibility (certification) and funding. Partners may come from different regions in the world and may represent a mix of private and public partners (PPP).

In a 2007 report for the World Bank, Banks et al., provided insight into the diverse scenarios for costing teacher education provision through ODL in Sub-Saharan Africa noting the following key policy lessons:

In considering the different programs, it has been found necessary to return time and again to the balance between effectiveness and efficiency and the competing demands of quality, access and cost. The following key policy issues emerged:

- A program can be more cost-effective and easier to administer by integrating the content of traditionally short courses into larger courses.
- The length of training also impacts significantly on costs. An assumption that one year of
- full-time education must equate to two years part-time should be contested, and accreditation of prior learning – especially for unqualified or under-qualified working teachers – should be the norm.
- The smaller the courses, the greater the overall assessment costs are likely to be and how assessment is staffed can become constraints to program expansion and effectiveness.
- The costs associated with upskilling in the use of new technologies manifest themselves in a number of ways. There is the straightforward cost associated with the introduction of new technology, but a more hidden cost is the expensive use of academic staff to re-key and amend ODL learning resources. The potential of ICTs to increase access to and quality of ODL will only be effectively harnessed where appropriate costing models are considered and used at the start of planning their introduction and implementation.
- To give an accurate cost-benefit analysis of ODL methods for training teachers, it is necessary to be clear who is enrolled on a program, who is taking a study break, who has

withdrawn and who has graduated. Keeping track of students' progress, tutor-marked assignments and associated school placements requires a sophisticated database.

- Great diversity of trainee support models can be seen. The link between trainee achievement and the cost-effective use of resources, and the balance of fixed to variable costs within the proposed trainee support model, need careful exploration at the planning stage.
- Excessive staff workloads in the development and presentation phases raise serious sustainability and growth issues in the longer term. Addressing these issues at the start of planning the program may well result in significant changes in program design that can benefit both students and institutions. (Banks et al. 2007, x, xi)

In many cases the motivation for offering a new ODL programme is made by staff who may have a limited financial management and/or ODL background. Often this results in institutions rushing into ODL provision without a well-thought through rationale, model or business plan. It is for these reasons, and in light of the recent establishment of a national task team to explore the funding of the higher education system in South Africa in general, that Nadeosa thought it prudent to undertake an investigation of current costing and human resourcing implications for different models of ODL provision based on current practice in South Africa and to present its findings in ways that would be as openly accessible and modifiable as possible.

2. Definitions

For the purpose of the current discussion, the following definitions of key terms are assumed.

Distance education is a set of teaching and learning strategies (or educational methods) that can be used to overcome spatial and/or temporal separation between educators and students. However, it is not a single mode of delivery. It is a collection of methods for the provision of structured learning. It avoids the need for students to discover the curriculum by attending classes frequently and for long periods. Rather, it aims to create a quality learning environment using an appropriate combination of different media, tutorial support, peer group discussion, and practical sessions.

Blended learning refers to structured learning opportunities provided using a combination of contact, distance, and/or e-learning opportunities to suit different purposes, audiences, and contexts.

E-learning refers to structured learning opportunities mediated through the use of digital resources (usually combinations of text, audio and visual/video files) and software applications. E-learning may be offered on-line and synchronously (e.g. real-time conference), on-line and asynchronously (e.g. text-based discussion forum) or off-line (e.g. interactive CD/DVD/flash drive). E-learning can be employed in both contact and distance programmes.

M-learning or mobile-learning refers to e-learning opportunities formatted for access via mobile devices such as netbooks, tablets, smartphones, MP3/4 players etc.

Open Educational Resources (OER) are educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have been designed for use in teaching and learning) that are freely available for use by educators and learners, without an accompanying need to pay royalties or licence fees. OER is not synonymous with online learning or e-learning. Openly licensed content can be produced in any medium: text, video, audio, or computer-based multimedia.

Open learning is an approach which combines the principles of learner centredness, lifelong learning, flexibility of learning provision, the removal of barriers to access learning, the recognition for credit of prior learning experience, the provision of learner support, the construction of learning programmes in the expectation that learners can succeed, and the maintenance of rigorous quality assurance over the design of learning materials and support systems.

3. Methodology

As noted in the introduction, this report builds on empirical work undertaken during 2003-4 in South and Southern Africa and revisited and updated in 2010 as part of a consultation with Namcol. The limited available literature on ODL costing was consulted and experience of working with institutions reflected upon in order to develop a costing model that was used to develop a set of comparative costing case studies.

In addition, at the time of writing, the author was contracted on a part-time basis from Saide to the Unisa College of Human Sciences where one of his tasks was to establish a forum to support programme managers. This ongoing engagement with programme managers provided insight into the ways in which the assumptions underpinning Unisa's Academic Human Resource Allocation Model (ACHRAM) manifested in practice and in turn provided indicators as to the assumptions underpinning the resourcing models developed by Saide for use at the programme level. This led to the development of a draft report that was presented at the Nadeosa conference at St John's College in Johannesburg on 29 August 2011.

The intention was then to update the models in light of the feedback received at the conference and then to follow up on conference attendees to set up meetings to interrogate the models with programme managers and finance departments at four of the larger ODL providers in South Africa outside of Unisa, namely North West University, Nelson Mandela Metropolitan University, University of Pretoria and University of KwaZulu-Natal.

The models would then be reworked accordingly and a report published – preferably in an international open access ODL journal.

Nadeosa special project funding was to cover the direct costs of the follow-up visits to NWU, NMMU and UKZN where these could be arranged.

Personnel time was provided by Saide in terms of its professional development allowance and was planned to comprise the following:

- Reworking of 2010 models into a draft paper: 1 day
- Engagement with CHS programme managers part of contracted Unisa responsibility
- Reworking of models and paper for conference presentation: 1 day
- Attendance and presentation at Nadeosa conference: 2 days
- Follow-up visits to UP, UKZN, NWU and NMMU: 4 days
- Reworking of paper and models into a publishable report/article: 2 days.

The research process underpinning this investigation therefore comprised a mixed-method approach involving the collection and analysis of both quantitative and qualitative data in a hermeneutic enquiry spiral.

This revised version of the report has been modified after engagement with representatives of the Universities of the North West and Pretoria (see acknowledgements).

4. What is a programme?

In its 2005 guidelines for the development of learning programmes, the South African Qualifications Authority (SAQA) provided the following useful definitions (SAQA 2005:iv – emphases added):

Qualification: A planned combination of learning outcomes with a defined purpose(s) that is intended to provide qualifying learners with applied competence and a basis for further learning.

Learning programme: The *sequential learning activities* associated with curriculum implementation, leading to the achievement of a particular qualification or *part qualification*.

In similar vein, the Council on Higher Education, in its Criteria for Programme Accreditation (CHE 2004: 36) understands a programme as a 'purposeful and structured set of learning experiences'. Given the ODL focus of this discussion, this report focuses on five inter-related questions with respect to the ways in which learning experiences are designed and offered: what is taught and how; and how is learning assessed and supported? and then, how are teaching and learning activities supported administratively?

SAQA provides a further breakdown of programme learning activities into three broad components - fundamental, core and elective - as follows:

- ***Fundamental learning*** refers to that learning which forms the grounding or basis needed to undertake education, training or further learning required in the obtaining of a qualification and 'fundamental' has a corresponding meaning; such learning might refer to increasingly sophisticated literacy, numeracy, ICT and research skills that might well be applicable across several programmes at a particular TQF level;
- ***Core learning*** refers to that compulsory learning required in situations contextually relevant to the particular qualifications
- ***Elective learning*** refers to a selection of credits from which a choice must be made to ensure that the purpose of the qualification is met. (SAQA 2011)

From these descriptions we can identify two likely broad programme design models: a programme design model that seems most appropriate for professional and single discipline programmes as illustrated in Table 2 and a programme design model that seems more likely for a cross-cutting transdisciplinary programme model as illustrated in Table 3.

Table 2: Programme design for professional/single discipline programmes

Elective 1	Elective 2	Elective 3
core		
Fundamental e.g. Academic literacy/introduction to qualitative research Academic numeracy/ introduction to quantitative research ICT, e-literacy and web-based research		
Notes: Three learning programmes are indicated here: • LP1 e.g. BEd Foundation Phase = F + C + E1 • LP2 e.g. BEd Intermediate Phase = F + C + E2 • LP3 e.g. BEd Senior Phase = F + C + E3		

In this kind of programme structure it would not be unreasonable to expect a programme manager to work across all three levels of the programme addressing all curriculum and student enquiries for a particular exit level specialisation.

Table 3: Programme design for transdisciplinary programmes like a BA

Elective 1 – 9 modules	Elective 2 – 9 modules	Elective 3 – 9 modules
Fundamental e.g. Academic literacy/introduction to qualitative research Academic numeracy/ introduction to quantitative research ICT, e-literacy and web-based research		
Notes: In this model, students might register for fundamental modules which might well be shared generally across the university and then they might register for three disciplines e.g. languages + sociology + anthropology. The number of possible permutations is immense – for example in a college offering 50 sub-disciplines, there might be 50 x 49 x 48 = 117 600 different study combinations. In this kind of programme structure it would not be reasonable to expect a single programme manager to work across all three levels of the programme addressing all curriculum and student enquiries. Instead, it would be necessary to distribute management across the different disciplines. However, there is then need to create space for a programme management team forum to address issues such as elective options and possible combinations, equivalence of demand across disciplines, equivalence of student support and assessment across disciplines, sequencing, progression, retention, success rates and overall programme throughput.		

In reality, and as noted by programme managers engaged with at Unisa, programme design models are likely to reflect a combination of these two extremes. Programme models and the management thereof become even more complex when they stretch across not only sub-disciplines within a department, but potentially across sub-disciplines and departments within a College or Faculty (as is the case with a general BA) or even across Colleges (for example in an FET-level teacher development programme a student-teacher might specialise in teaching languages and mathematics and might then receive tuition from within a College of Education, a languages department within a College of Human Sciences as well as a mathematics department within a College of Science, Engineering and Technology). If space is not created for some discussion **across** these different role-players, there is a real danger that the student will experience disjointed even competing demands and approaches: instead of a coherent programme of learning, the student might then have only a fragmented experience. It is suggested then that in developing resourcing and costing models, the issue of provision for adequate programme management is critical. Such a model needs to be flexible: the more complex the programme and the larger the student numbers involved, the more time will need to be devoted to the programme management function. In large, complex programmes, programmes involving work integrated learning and programmes employing large numbers of tutors, there is probably need to consider the creation of a hybrid academic-administrator position at the programme staffing level: this would be the kind of person with an academic background who is able to address fairly routine curriculum enquiries but who also has a disposition towards managing administrative tasks such as tutor recruitment, training, monitoring and payment processing; assignment, portfolio and summative assessment administration; routine student enquiries as well as agreements, placements, and management of mentors and supervisors

for work-integrated learning components. Such a position was successfully created and maintained for the former Unisa National Professional Diploma in Education (NPDE) programme. Clearly successful management at a programme level is potentially complex. **Appendix A** contains an analysis of the kinds of activities that programme managers or programme management teams will likely need to engage with based on a study of HEQC programme accreditation requirements undertaken by Professor Oupa Mashile at Unisa. The analysis should probably be seen as indicative rather than definitive and suggests the need not only for provision of programme management time but the creation of fora at the Departmental level for regular interaction between programme managers and Chairs of Department.

Related to the issue of programme management is that of programme administration. The student experience is made up of the totality of the engagement with the learning process. Wrong or delayed advice and/or delays in processes such as fees payments, dispatch of study materials, turnaround times on assignments etc. can all impact negatively on the total student experience. There appear to be no clear guidelines on the ratio of academic to non-academic staff in seeking to guarantee a holistic quality learning experience. As noted above, in 2008, the ratio of academic to non-academic staff at Unisa was 37% to 63%; at the Universities of the North West and Pretoria in 2011 the ratio seems closer to 1:1, but it is hard to make a direct comparison as these two institutions work on very different models. The University of Pretoria follows an integrated model in which, for example, teaching staff service both contact and distance education students and administrative staff are located within, budgeted for and responsible to existing university structures, such as registration, assessment etc. On the other hand, the North West University follows a dual mode system in which separate teaching and administrative staff service contact-based and distance-based learners separately. Nonetheless, it seems clear from current practice in South Africa that programme costing needs to make provision for adequate administrative support. Based on current practices in South Africa (and supported by the CHE 2004 and World Bank 2007 costings), the models presented here assume that a minimum provision must be made for 1 FTE administrative staff member for each 1 FTE academic but that otherwise there is likely to be need for 1 FTE additional administrative staff member for each additional 300 students. The ratio needs to be revisited for each context at the start of any scenario planning exercise. The roles also need to be revisited so, for example, in a print-based programme there will be need to make provision for the handling of physical assignments but in an online programme the administrative support will be of a more technical nature.

The overall ODL module adopted will also have a profound impact on the costing model: in a dedicated distance education institution, the processing of student scripts, whether physical or digital, for example will likely be managed centrally and constitute an overhead at the programme level; but in a dual mode institution this might well be a direct operational cost of the programme. A further complication is that some or all of the provision may be outsourced or managed through a public-private partnership. Most ODL institutions recruit part-time staff for tutorial and marking support for example; the development and publication of study materials is often partly or wholly outsourced; the management and administration of examination centres might also be outsourced; and a programme or parts thereof may be designed and implemented through partnerships and collaborations. Whatever the arrangements, however, there are costs attached to the work that must be done – whether these appear explicitly in operational and/or capital budgets or whether these need to be extrapolated more obliquely from an assessment of opportunity costs (e.g. a staff

member developing ODL materials or marking ODL assignments might otherwise have been engaged in other duties such as research or teaching contact students).

Harreveld (2010: 49-50) argues:

For ODL programme design and delivery, effective cooperation among partners requires negotiated decision-making in relation to:

- purpose of programme, its consequent participation and delivery modes;
- organisation and infrastructure needed to make it work (e.g., location of learning sites, communications, transport, consumables and library resources);
- funding arrangements (e.g. sources of funding, numbers of students, effort and time to be expended, human and physical resourcing costs);
- technology choices (i.e., availability, sustainability, acceptability and cost);
- curriculum and pedagogical choices related to content, learning and teaching methods, assessment activities and criteria;
- in-built evaluation framework for ongoing individual and collective decision-making; and
- management of strategic partnerships among all stakeholders.

(*Adapted from Craig and Perraton 2003; OECD 2005*)

Postle and Tyler (2010: 63) point to the useful work of Taylor in providing a conceptual framework for making the kinds of decisions suggested above with respect to technology choice and associated degrees of interactivity (Table 4 on the next page).

They (ibid. 65) then refer to an important observation by Laurillard (2006: 2):

> E-learning could be a highly disruptive technology for education – if we allow it to be. We should do, because it serves the very paradigm shift that educators have been arguing for throughout the last century. Whatever their original discipline, the most eminent writers on learning have emphasises the importance of active learning. The choice of language may vary:
>
> Dewey's inquiry-based education,
>
> Piaget's constructivism,
>
> Vygostky's social constructivism,
>
> Bruner's discovery learning,
>
> Pask's conversation theory,
>
> Schank's problem-based learning,
>
> Marton's deep learning,
>
> Lave's socio-cultural learning.

Table 4: Models of distance education: a conceptual framework (Taylor 2001, p. 3)

Models of distance education and associated delivery technologies	Characteristics of delivery technologies					
	Flexibility			Highly refined materials	Advanced interactive delivery	Institutional variable costs approaching zero
	Time	Place	Pace			
First generation: the correspondence model Print	Yes	Yes	Yes	Yes	No	No
Second generation: the multimedia model						
Print	Yes	Yes	Yes	Yes	No	No
Audiotape	Yes	Yes	Yes	Yes	No	No
Videotape	Yes	Yes	Yes	Yes	No	No
Computer-based learning (e.g. CML/CAL/IMM)	Yes	Yes	Yes	Yes	Yes	No
Interactive video (disk and tape)	Yes	Yes	Yes	Yes	Yes	No
Third generation: The teleconference model						
Audioteleconferencing	No	No	No	No	Yes	No
Videoconferencing	No	No	No	No	Yes	No
Audiographic communication	No	No	No	Yes	Yes	No
Broadcast TV/Radio and audioteleconferencing	No	No	No	Yes	Yes	No
Fourth generation: the flexible learning model						
Interactive multimedia online	Yes	Yes	Yes	Yes	Yes	Yes
Internet-based access to World Wide Web resources	Yes	Yes	Yes	Yes	Yes	Yes
Computer-mediated communication	Yes	Yes	Yes	Yes	Yes	No

It should be noted that the 'Yes' values indicated in the above table refer to the **potential** of the medium: but the various technologies need to be chosen and employed specifically for such uses in programme design and the associated costs in different contexts carefully analysed. On the one hand there is the potential simply for educational technology to be used to replicate transmission style teaching; on the other the potential exists for the medium to obscure the message and/or for usage that is predicated on small scale and time-bound engagement that does not meet the ODL ideal for affordable open access.

With respect to programme design to integrate appropriate use of appropriate technology, Mays (2011 – in press) argues the need to think in terms both of the whole learning experience from marketing and enquiry to engagement with alumni, what Unisa refers to as 'the student walk', as

well as in the design of specific learning experiences to encourage interaction and meaningful engagement using an appropriate blend of text, audio, video and feedback appropriate to purpose and contexts, providing the following table as an example of the kind of macro level thinking that might be useful:

Table 5: Technology and the student walk

Step in the student walk	Appropriate technology for purpose and audience
1. Marketing and orientation	Provision of information in user-friendly styles and multiple modes (e.g. online, mobile – CDR, DVD, podcast, audio/video, print) and access to OER examples of learning resources enables potential students to make more informed choices. Supported by online advisors, call centre, or staff at decentralised regional centres.
2. Application: Responsible Open Access Programme	Provision of diagnostic self-test quizzes available on-line, on DVD, on flash drives or in-person at regional centres can help potential students to make appropriate choices about what, how much and in what mode to study. The emphasis should be on the most appropriate route to access learning rather than on testing for exclusion. Supported by online advisors, call centre, or staff at decentralised regional centres.
3. Registration	Students can register online remotely, at a self-service terminal at a regional centre, or seek personal assistance at a regional centre. Currently about 70% of Unisa students register on-line. A technology-enhanced registration process allows for automatic pop-up alerts regarding pre- and co-requisites, possible exam clashes, workload challenges and WIL components such as teaching practice. It also allows for the possibility of immediate access to digital versions of resources immediately on successful registration through the use of a 'toaster'.
4. Teaching and learning	
Orientation	Traditionally Unisa has relied on printed tutorial letters at programme (300 series) and module (100 series) levels for orientation purposes and these are also available in PDF format online and so can be downloaded should students lose their copy. Other orientation possibilities include youTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast, an etutor led small group online or tele-conference, and where the need exists and numbers justify it, even a face-to-face contact session in a regional centre, other institution, school, church hall, teacher centre etc. All contact with student-teachers should consciously model appropriate teacher-student behaviour.
Maintenance/Formative assessment	In many institutions, formative assessment in the form of assignments, is a pre-requisite for entry to summative assessment (most often in the form of a formal examination). 10% of students either do not complete or do not "pass" their formative assessment. So: Provide SMS and email reminders of deadlines Set up online discussion fora related to assignment preparation Provide for an etutor or student led (PCL) small group online or tele-conference, and where the need exists and numbers justify it, even a face-to-face contact session Provide for online, postal and in-person submissions Provide for online marking and marks submission Automate routing of non-submissions or weak submissions for pro-active follow-up by an etutor – by phone, email, or skype Provide feedback on problem areas in a TL, email, sms, in the online forum, via etutor or face-to-face tutor For the joint exploration of practice consider having students engage with digital copies of lesson planning documents and videos of classroom practice and encourage critical engagement online, by mobile, in an etutorial or in a face-to-face tutorial; maintain a programme and TP website throughout the programme including updates on policy, news articles, research publications etc. as well as informal chat room facilities
Consolidation/Summative	10% of students successfully complete the formative assessment but although

Step in the student walk	Appropriate technology for purpose and audience
assessment registration	registered to attempt summative assessment do not present themselves. So: Provide SMS and email reminders of timetables Provide SMS or online booking of exam candidacy and automated reminders for deferrals Automate routing of non-registrations for pro-active follow-up by an etutor – by phone, email, or skype Provide feedback on key areas/ assessment foci in a TL email, sms, in the online forum, via etutor or face-to-face tutor, or use youTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast
Summative assessment	Of the 80% of students who present themselves, 70% of Humanities students pass first time (pass rates tend to be lower in other fields), yielding an initial cohort throughput of 80% x 70% = 56%. Track trends automatically to prioritise interventions. Where possible provide both online and more traditional opportunities to complete summative assessment Automate routing of no-shows or poor performance for pro-active follow-up by an etutor – by phone, email, or skype
2nd examination opportunity	At Unisa, students who "fail" a module with a stipulated subminimum can register for a 2nd examination opportunity in the following semester. Provide SMS and email reminders of timetables Provide SMS or online booking of exam candidacy and automated reminders for deferrals Automate routing of non-registrations for pro-active follow-up by an etutor – by phone, email, or skype Provide feedback on key areas/ assessment foci in a TL email, sms, in the online forum, via etutor or face-to-face tutor, or use youTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast
5. Graduation and alumni	Build and maintain a database of graduates; keep regular contact with alumni through a quarterly enewsletter; conduct eimpact studies; recruit graduates as etutors ...

With respect to comparative costing, Latchem (2010: 84) notes Rumble's (2008) caution

> … against using analyses in one jurisdiction to draw inferences about costs in another. Distance and technology-based training are generally said to have higher fixed costs (e.g., central administration, production facility, course development and delivery costs) and lower variable costs (student-related costs incurred as the training is delivered). But, for example, staffing costs may be much lower and technology provision and access costs much higher in developing countries than in developed countries. So, as Rosenberg (2001) observes, costing online training needs to take careful account of all the development, maintenance and delivery costs, the lifespan of the training programmes, the number of learners served, the cists to the learners and the opportunity costs (the value of the next best alternative foregone as a consequence of the training providers and the participants undertaking one activity rather than another).

Thompson (2010: 144) also observes:

> Various methods of budgeting leading to a cost-benefit analysis for ODL programmes have been researched (see, for example: Rumble 1997; Moran and Rumble 2004; and Jung 2005). Most researchers end up concluding that making comparisons between programme offerings using different modes of delivery, or between similar programmes offered in different countries, is complicated if not impossible. Simple differences such as wages, currency

valuations and technology costs can skew these comparisons. It is also difficult to be all-encompassing in ensuring every costs is measured. As identified by Moran and Rumble (2004), many costs are hidden or not considered directly related to the ODL programme. So, in the end, one is left feeling that demonstrating cost-effectiveness using a cost-benefit analysis on its own in an ODL programme … is not an easy proposition.

More recently, cost-effectiveness has taken into consideration both the inputs and the outputs as a measure of cost-effectiveness. Cost-effective has been defined in terms of both a cost-benefit analysis and a cost-effective analysis (Peterson 1986).

Given the complexity involved, the resourcing and costing models that follow in this paper will work from a set of **baseline assumptions**. It will be important at the start of any resourcing and costing exercise for programme managers/ programme management teams to interrogate these assumptions and adjust appropriately for their own contexts of practice. It should be noted that the models presented **facilitate scenario planning at the start of a process** of considering the introduction of a (new) ODL programme. More detailed budgets will need to be drawn up thereafter informed by the overall model of delivery adopted and in such cases it would then probably be worthwhile to have a more intensive engagement with an institution that follows the overall model that appears most suitable e.g. a dedicated ODL approach (Unisa); a dual mode approach with separate contact/ODL systems and possibly involving a public/private partnership (NWU SCTE); a dual mode approach with integrated contact/ODL systems (UP DEU). In addition, consideration needs to be given to **how** income will be generated. In South Africa, for example, programme income will usually comprise three elements: student fees (paid in full up front; in instalments; or on a per module enrolment basis); input subsidy (paid about two years after evidence of active student participation has been supplied to the Department of Higher Education and Training); output subsidy (paid about two years after evidence of successful graduation has been supplied to the Department of Higher Education and Training). Thus a more sophisticated costing model will need to track over a period of several years expected enrolment patterns, expected active participation patterns and the associated costs for any particular period (e.g. how many of the registered students are likely to write assignments and examinations in any particular semester for example) and a staggered income stream in order to manage the institutional cashflow responsibly. In addition, provision needs to be made for cycles of curriculum renewal and teach out periods which may entail a) making provision for servicing two versions of a programme simultaneously and b) teaching out a programme for which no additional income can be expected.

5. What are the most common models of programme provision?

This paper explores three different common models:

- Model A – print-based and contact supported
- Model B – resource-based and web-supported
- Model C – web-dependent mix of on- and off-line teaching and support.

For the purposes of this discussion, a fairly simple curriculum model is assumed like that in Table 2 with a limited number of elective options.

The design assumptions of these models are articulated in the tables that follow.

Model A – Print-based and contact-supported	
Description and target audience	• Print-based course materials are provided and paper-based assessment is standard. • Some additional audio-video as well as text-based materials are supplied on a CDRom (digital library). • Mixes on-site and completely distant students as face-to-face contact sessions are offered in centres with large enough numbers for a tutor: on a faculty: learner ratio of 1:30; smaller centres are linked by, for example, video-conference. • Interactive telecommunications technologies extend a classroom-based course from one location to a group of students at one or more other locations. • The faculty staff and institution control the pace and place of instruction. • This model of delivery is probably most appropriate for school-level and immediate post-school students as well as adults returning to study after a long break as these kinds of students will often need to develop/ regain their independent learning and academic literacy competences. This model of delivery is also suited for programmes aimed at professional development in fields premised on direct human interaction such as teaching, social work and guidance and counselling.
Characteristics	• Class sessions involve synchronous communication; students and faculty are required to be in a particular place at a particular time (probably at least three times in a teaching cycle) in person or by video-conference. • Number of sites varies from two (point-to-point) to five or more (point-to-multipoint); the greater the number of sites, the greater the complexity -- technically, logistically, and perceptually and the harder to ensure comparability of the learning experience. • Students may enroll at sites more convenient to their homes or work locations than the main campus. • Institutions are able to serve small numbers of students in each location. • The nature of the contact experience mimics that of the classroom for both the teacher and the student.
Faculty staff	• Faculty typically do not change their role significantly from the one they assume

role/experience	in the traditional classroom; however, the use of technology does require adaptability in the manner of presentation. • Faculty generally find it necessary to reduce the amount of material presented to allow additional time for relational tasks and management of the technology; increased familiarity with the technology and the environment mitigates this to some extent. • Faculty usually find it necessary to increase the amount of planning time for each class; advance planning and preparation increases presenter self-confidence, reduces unnecessary stress, and enables faculty to conduct classes with ease.
Student's experience on-site	• Because the faculty member is physically present in the space, on-site students generally have an experience similar to that of the traditional classroom. • May be less tolerant of technological problems and challenges than distant students, because they are unlikely to perceive a personal benefit resulting from the use of technology. • May resent having to "share" their class with other sites.
Students' experience off-site	• Tend to feel somewhat isolated and cut off from the "real" class unless the faculty member makes a concerted effort to include them. • Often form a close working group with students at the same location. • Usually find the mediated experience (even two-way video) to be different from face-to-face communication because the mediation affects perception and communication in some obvious and many subtle ways. • Will make allowances for problems with the technology if they perceive a personal benefit (access to instruction otherwise unavailable; site close to home or work).
Technologies Supporting Class Sessions	In centres too small for face-to-face tutoring: • two-way interactive video (compressed or full-motion) -or- • one-way video with two-way audio -or- • audioconferencing -or- • audiographic conferencing
Technologies Supporting Out-of-Class Communication	• telephone/ mobile phone • mail • fax • computer (for e-mail and conferencing; access to library and other on-line resources; submission of assignments)
Opportunities for Interaction	• All students have opportunity for verbal interaction during class with teacher and each other; on-site students have visual interaction with teacher and other students in class; off-site students may have opportunity for visual interaction with teacher and other students; depending upon technology used. • On-site students can interact with teacher before and after class.

	• Out-of-class interaction by telephone; by computer conferencing or email, voice-mail, or other means if available.
Support Services Needed	• Access to technical support at each location; fully trained technician/trouble-shooter at origination site. • Site assistant at each location to handle logistics and materials distribution/collection. • Access to networked computer and/or direct internet link-up, fax machine, telephone, and photocopier.

Model B – resource-based and web supported	
Description	• This model frees students from having to be in a particular place at a particular time. • Students are provided a variety of text- and ,multi-media-based materials on a DVD/CDRom - including a course guide and detailed syllabus, and access to a faculty member who provides guidance, answers questions, and evaluates their work; a typical tutor: student ratio is 1: 150. • Contact between the individual student, other students and the tutor is achieved by one or a combination of the following technologies: electronic mail, an asynchronous online forum, telephone, voice-mail, computer conferencing and regular mail. • Since there are no direct face-to-face contact sessions, this model of delivery is probably best suited for students who have successfully studied through distance learning in the past and/or whose work or other life commitments/challenges prevent them from attending contact sessions. The model is appropriate for programmes of an academic nature that do not require immediate practical application in context or which support work integrated learning experiences that are managed separately from the more academic side of the programme.
Characteristics	• There are no class sessions; students study independently, following the detailed guidelines in the materials supplied. • Students may interact with the teacher and, in some cases, with other students. • Presentation of course content is through text- or multi-media on a DVD/CDRom, all of which students can review at a place and time of their own choosing. • Course materials are used over a period of several years, and generally are the result of a structured development process that involves instructional designers, content experts, and media specialists; not specific to a particular teacher.
Faculty staff role/experience	• Faculty members structure and facilitate the learning experience, but share control of the process with the student to a great extent. • Must become familiar with the content in the materials prior to the beginning of the teaching cycle to develop the detailed syllabus and, if appropriate, plan for effective use of the interactive technologies such as computer conferencing and voice-mail. • Module coordinators or tutors support students one-on-one on demand as and if

	requested; engage with the whole class periodically through an online discussion forum; faculty member is more available to facilitate individual student's learning because of freedom from preparing and delivering content for regular class sessions. • The 24 hours of pro-active contact support spread over 3 days during the course of the programme is likely to be split into smaller more open-ended engagements through structured discussion themes on a forum.
Student's experience on-site	There is no on-site experience.
Students' Experience off-site	As for Model A. • Students do not attend class, which gives them ultimate flexibility in structuring their time; they are responsible for organizing their work and time to meet course requirements and deadlines. • Students must be highly motivated; they need good organizational and time management skills, the ability to communicate in writing, initiative, and a commitment to high standards of achievement.
Technologies Supporting Class Sessions	• None, since there are no class sessions.
Technologies Supporting Out-of-Class Communication	• mail • telephone / mobile phone • voice-mail • computer (for access to library and other on-line resources, e-mail, conferencing, discussion forum and the submission of assignments)
Opportunities for Interaction	• Teachers provide information in the materials about how and when students can contact them; there is typically wide variation in the amount of student-initiated communication with the teacher. • Teachers provide detailed comments on students' written assignments. • When voice-mail and/or computer conferencing is available, teachers provide a structure for interactive discussions by posing topics or providing some other stimulus for discussion.
Support Services Needed	• Significant administrative structure is crucial to support both the students and the teachers. • A system for proctoring exams that retains some measure of flexibility for students but meets institutional needs for exam security. • A robust and responsive support system to manage whole class and smaller (150 students) discussion fora.

Model C – web-dependent	
Description	• This model requires that students have sustained access to the internet and the ability to be "on-line" for extended periods and to download resources for extended engagement off-line; the presentation of resources is activity-based with multiple hyperlinks to resources and websites available on the internet; students are required to engage in on-line activities - sometimes synchronously with the teacher and other students. • The etutor: student ratio is 1:15 as it is difficult to manage meaningful synchronous online interaction with larger numbers. (Although MOOCs work with very large numbers these tend to focus on informal CPD rather than formal learning programmes that are assessed.) • This model assumes a high degree of ICT competence on the part of both students and staff. Training and orientation is critical and the ICT needs of the programme need to be clearly communicated in marketing materials and confirmed prior to registration. This model suits itself to programmes premised on high degrees of individualized learning provision; students are likely to challenge faculty assumptions and provide counter-examples and arguments they have found on the internet. The teachers therefore need to be committed to socio-constructivist and possibly socio-critical pedagogy. Lower student-teacher ratios and the highly individualized learning pathways make this model more suitable for advanced courses for which higher fees can be charged.
Characteristics	• Presentation of course content is entirely on-line, although some core resources may be downloaded for students to review at a place and time of their own choosing, either individually or in groups. • Course materials (for content presentation) are used for more than one semester; often specific to the particular teacher (e.g., a podcast of a teacher's public lecture). • Synchronous online sessions are for students to discuss and clarify concepts and engage in problem-solving activities, group work, simulations, and other applied learning exercises.
Academic staff role/experience	• Faculty member structures and facilitates the learning experience, but shares control of the process with the student and supporting tutors to a great extent. • Role change encourages faculty to focus on the learning process rather than on the provision of content and to take advantage of the available media including OERs. • Must become familiar with the content in the core materials and plan for effective use of the interactive sessions, which draw upon these resources but must be able to engage with alternative, even competing ideas and resources that emanate from the students themselves. • Collaboratively identifies additional resources to support student learning. • Tutors students on-line one-on-one as needed and in small groups occasionally; faculty member is more available to facilitate individual student's learning because of freedom from preparing and delivering content for regular class sessions.
Student's experience on-site	• There are no on-site experiences.

Students' Experience off-site	• With fewer scheduled synchronous sessions, students gain flexibility. • The periodic synchronous interaction in small groups and a number of on-line discussion fora help students to structure their work, but the format requires greater discipline and maturity on the part of students than one with more frequent and more structured sessions. • Interactive focus of group sessions can serve to diminish perceived disadvantages of students who are not in the same location as the teacher; relative anonymity may allow for more open engagement.
Technologies Supporting Class Sessions	• Multiply interactive video, audio and text e.g. elluminate, with blogs, wikis, fora integrated into e.g. a ning site located in a moodle or sakai-based learning management platform.
Technologies Supporting Out-of-Class Communication	• Internet enabled computer (for access to library and other on-line resources, e-mail, conferencing, and for submission of assignments). • Mobile phone. • Robust technical support for web-based learning and teaching management system. • Call centre for technical, administrative and academic referrals.
Opportunities for Interaction	• All asynchronous and synchronous activities are designed for interaction with teacher and other students; they are frequently problem-solving sessions, because the time does not have to be devoted to lecture or other means of presenting content. • Individual interaction between students and faculty member on an as-needed basis by sms, e-mail, or voice-mail.
Support Services Needed	• Fully trained web-manager/technician/trouble-shooter at origination site.

5.1 Planning issues common to all models

A number of issues with staffing implications need to be addressed regardless of the model of distance education provision that is adopted. In the description of the following planning issues reference is made to organisational aspects and terminology specifically related to universities, but these planning issues have to be considered by any provider of ODL programmes.

5.1.1 Logistical Support

When setting up a system for distributing materials, it is critical that all students are treated equally. Students must have the materials they need to complete assignments, to participate in group or class sessions (Model A) or in online activities (in Models B and C), and to benefit from teacher feedback. Students who are not at the origination location should not be disadvantaged.

This support may be achieved with one or a combination of the following: online resources that can be accessed online or downloaded, courier, overnight delivery (DHL, Express Mail), priority mail,

electronic file transfer, bulk sms and fax. With a long lead time, regular mail service may be an alternative – even in Models B and C it may be useful to provide core resources on a CD/DVD in order to reduce the time needed online. Students should always keep a copy of any significant assignments they complete, such as papers or projects, so they should be encouraged increasingly to submit digital versions.

If faculty choose to give venue-bound written examinations, students will need access to an invigilated secure examination site. Invigilators may be provided by the originating institution, or by the receiving site. Invigilators will need to check student photo IDs to verify the identity of the test-taker and monitor the process to ensure that the same conditions apply in all locations. For some courses, a purely online assessment might be envisaged. Unique pass words, digital affirmations of honesty and automated time limits could make it possible to provide assessment opportunities to suit individual student needs and preferences.

In some cases, the student may be given the opportunity to propose an invigilator for institutional approval. This requires especially careful institutional guidelines and checks.

Security of examinations is an issue from the time each examination paper leaves the teacher's hands/computer until the scripts are delivered back to the teacher for grading. Before and after the examinations are administered, they should be handled only by authorized personnel and stored in a locked desk or cabinet or in password protected secure server. It may be prudent to make copies of completed examination scripts before they are sent back to the teacher for grading. This need is obviated where the summative assessment is managed on-line.

Faculty (especially part-time tutors) may incur expenses directly related to their distance education activities. These might include long-distance charges (landline telephone, mobile and computer/modem), postage, and mileage for travel to off-campus locations. The institutional policy on reimbursement for such expenses should be clearly stated and procedures should be set up to facilitate the reimbursement. Provision of online assessments would obviate many of these requirements but security of the assessment process online will nonetheless need to be planned for.

Staffing requirements suggested by these needs include: academics, administrators, production, dispatch, stock controllers, assignment and examination (or examination equivalent staff), ICT staff – for systems, programmes and hardware development, maintenance and review.

5.1.2 Student support

Students who do not come to the campus need access to off-campus, decentralised support services. Student contact with trained academic advisors is crucial because both the students and the credit-granting institution need to be confident that information given to students is appropriate and accurate. Advising can be accomplished by telephone, e-mail, in online discussion fora and/or by providing periodic on-site advising at off-campus locations.

There must be easily accessible, authoritative sources of information about non-academic matters. Students should be informed as to whom to contact about specific types of questions or concerns. This may be accomplished through printed materials that are written specifically for distance education students or provided online and/or mediated via a call centre or website. In reality an institution will probably need to make allowance for all these modes of provision.

Faculty members typically have office hours during which time they deal with questions and concerns of individual students. A mechanism must be identified so that off-campus students can easily contact a faculty member. Teachers might provide students with their telephone number and hours during which they can be reached or with their Internet or e-mail address for individual, private discussions. In cases where there are class sessions, faculty might designate a period of time before or after class, or during the break, to use the telecommunications technology to discuss more general issues and concerns with off-site students. For online courses, an appropriate balance of synchronous and asynchronous activities needs to be planned.

Much of the planning for traditional course delivery assumes easy access to campus-based resources such as library holdings, science laboratories, and computer software and hardware. In distance education, it is essential that faculty and administrators work together to think creatively about how to accomplish the educational objectives when students may not have ready access to all the campus-based resources. Solutions to particular problems may involve altered assignments, inter-institutional resource-sharing, special services at off-campus sites, and greater use of computer technologies and networks.

Staffing requirements suggested by these requirements include technologically aware academics, contact- and online tutors, and technical support staff at the centre and at any decentralised sites of delivery.

5.1.3 Faculty support

The institution must determine what training the faculty will be provided on 1) the particular model of distance education they will be involved in and 2) the technologies they will be using. Faculty are likely to be more confident and effective if they understand what they are being asked to do, and why. They need to know the capabilities of the technologies available to them so that they can use these tools effectively to meet their instructional objectives.

Orientation and training should be scheduled well in advance of the beginning of the teaching cycle to give faculty sufficient time to redesign, modify, or adapt their course and assignments specifically for new delivery modes.

Traditional higher education institutions have few built-in incentives to encourage faculty to focus on quality teaching activities. The traditional reward structure, with its emphasis on research and publication, may actually discourage faculty who might otherwise be interested. Institutions should establish some faculty incentives that recognize the additional time faculty may spend in planning and teaching an effective distance education course.

To adapt their courses to new modes of delivery, faculty may benefit from having access to a variety of resources. Types of support might include instructional design, video production, graphics production, access to authoring tools, and other computer-based resources. The recruitment and selection of good distance education faculty is critical to the success of the programmes offered. Faculty who volunteer to participate in new modes of delivery are usually more successful and experience greater satisfaction than those who are assigned to participate. However, there are not always volunteers willing to teach the needed subjects. Using experienced and successful distance education faculty to recruit others is generally more effective.

Over time it may be possible to identify several personal characteristics that are most conducive to faculty success in each model of distance education.

This implies the need for instructional design and production staff to support subject expert academic staff; and a sub-section of HR (with a corresponding budget) devoted to the induction and ongoing professional development of staff – possibly through some form of developmental and performance appraisal system.

5.1.4 Evaluation

Mechanisms must be put in place to ensure the quality of provision e.g. use of critical readers of materials, moderators for assessment, tracking of at-risk students, feedback from students, tutors and employers . Information about personal characteristics of successful teachers should be factored into future planning and hiring decisions. Information about effective instructional strategies should be included in faculty training and support materials.

The technical systems and administrative support systems should be evaluated by the students, the faculty, and, if appropriate, the technical support staff. In designing the evaluation instruments, every effort should be made to separate issues related to the technical and administrative systems from those related to individual faculty performance; faculty evaluation typically rests with academic units, whereas systems evaluation is the purview of non-academic units.

Evaluation of the faculty orientation and training process should be done each time the sessions are offered and the results should be factored into the ongoing refinement of the sessions and materials.

This implies the need for staff with expertise in assessment, evaluation, Recognition of Prior Learning (RPL) and Work Integrated Learning (WIL) as well as with systems thinking.

5.1.5 Laboratory/Practical/Work-Integrated Experiences

One of the most challenging aspects of distance education is to provide geographically dispersed students with experiences that are equivalent to those of other students in fully equipped laboratories/ clinics or workplaces. A critical initial step is for faculty to determine how crucial a hands-on experience in a laboratory setting, for example, is in ensuring that students achieve the desired learning. For example, it is possible to design activities that teach students the skills of close observation without conducting lab-based experiments. When alternative activities to lab experiences are not suitable, one or more of the following solutions might be appropriate.

Some institutions develop lab kits that contain the special equipment and supplies students need to complete one or more lab experiences and written directions that outline the assignments and list the other materials students will need to complete the assignments. For example, the University of Maine sends out a kit containing a foetal pig for dissection.

Another option is to conduct lab experiments at one location on an interactive video network or online. Students at all sites actively participate by conferring on the steps to be followed, and by observing, interpreting data, and suggesting follow-up activities. We can then digitally video the experiments and edit them, using graphics to pose questions of the viewer as the experiment progresses: What do you think will happen next? Why did such-and-such happen? Which of the following explanations are consistent with the data?

Off-the-shelf computer simulations are increasingly available. Depending on the cost and the hardware requirements, students might either purchase simulations as part of their instructional materials or travel -- either alone or in groups -- to a library or off-campus location to work with computer simulations.

Students are sometimes required to travel to a central location with laboratory facilities to complete an intensive lab module over several days or weeks. Similarly, they might travel to decentralized locations -- study centres or regional campuses -- to do lab assignments over a week or several weekends.

This suggests the need for staff to manage collaborative and logistical arrangements like this.

5.1.6 Planning and costing assumptions

As noted in Mays (2005) and ADEA (2005) in planning a particular course, we need to take cognizance of the following factors:

- educational strategies
- assessment types
- other personnel costs
- other costs (e.g. course design, management and administration, course materials, technology etc.)
- course income; and
- overheads.

Educational strategies

Here cognizance has to be taken of what teaching interventions are needed to foster interaction and dialogue. This might be facilitated in face-to-face contact sessions or practical or work-integrated learning sessions or on-line in asynchronous interactions for example in discussion fora (where a direct engagement on a staff: student ratio of 1: 150 could well involve a real ratio of 1: 750 since experience suggests that more students will visit the forum and observe than will visit the forum and engage) or synchronously (e.g. through a skype or elluminate session which would probably have a maximum staff: student ratio of 1:15).

Assessment types

Formative feedback on assessment is central to teaching through ODL. In all three models that follow, we assume four assessments per module (although some of these might be combined in practice) as follows:

- baseline assessment – a short assignment that explores assumptions about prior learning and experience, expectations and current status of related conceptual knowledge. The first assignment would be due early in the teaching cycle in order to encourage students to get started, will not cover the course content in any detail if at all, and would require minimal time for marking – we estimate 20 minutes per assignment. For courses with high enrolments or which require an online engagement, consideration could be given to the use of multiple choice questions that can be computer marked.
- First major assignment – a longer assignment that covers the core conceptual knowledge of the module. It should reflect the exit level requirements of the programme and hence the

summative assessment requirements. Detailed feedback will be required – we estimate a marking time of 0,75 hours per assignment. For courses with high enrolments, consideration should be given to use of software like Clicker to semi-automate the process.

- Second major assignment – a longer assignment that requires an integrated engagement with the content in an authentic context – typical assessment strategies here would be a community or work-place based project, a portfolio, an integrated case study etc. Again, detailed feedback will be required – we estimate a marking time of 1.5 hours per assignment.
- Summative assessment – an integrated final assessment that could take the form of a time- and venue-bound examination (in which case centre administration and invigilation requirements need to be budgeted for), or an extended non-venue bound assignment like the second major assignment or a work-place-based assessment (which raises staffing considerations regarding mentoring and supervision).
- For all of the above, internal and external moderation needs to be considered. We suggest that the second major assignment should be internally moderated and the summative assessment should be externally moderated. A 10% sample should be sufficiently reliable.
- All three institutions engaged with to date make provision for the fact that different kinds of student scripts will require different amounts of time to assess and, where applicable, provide feedback as noted in the preceding points. The costing models provided explore the implications of this assessment being carried out by full-time faculty staff (usually mostly at lecturer or junior lecturer level). However, as student numbers grow, it is usually necessary to outsource an increasing proportion of the marking to part-time tutor-markers. Usually this can be done at a lower per unit cost than the use of faculty time – for example an institution might offer R24 to assess a first assignment/exam script or R64 to assess a portfolio but both costs are likely to be less than the real cost of using the time of a full-time member of staff. However, provision has then to be made for administration, training, monitoring and moderation costs.

Other personnel costs

For site-based activities there will be costs associated with the management of the centre (which would be covered in overheads) but there might also be costs associated specifically with a particular module or course (e.g. the availability of a lab or IT technician during a contact session).

Other costs (e.g. course design, administration, course materials, technology etc.)

Swift (1996 in Butcher and Roberts 2004; CHE 2004, ADEA 2005) has estimated the design time for courses at first year university level as follows:

Table 6: Design time assumptions

Time taken to design one notional hour of student learning time	
Print	20-100 hours
Audio	20 – 100 hours
Video	50 – 200 hours
Computer-based instruction	200 – 300 hours

Experiments	200 – 300 hours

Unisa (2004: 4) note that the staff time required to produce a course of a given number of learning hours cannot be exactly specified. However, they argue that the following ratios of staff hours to learning hours are used as benchmarks in open distance learning (Sparks, 1984; Rumble, 1997):

- Course design preparation (planning the course design process; budgeting for time, money, and staff; preliminary division of roles of course \team participants; determining project management process; establishing quality promotion procedures, etc.): 0.08
- Curriculum design (situation/needs analysis; evaluation of existing content; determining desired outcomes; determining assessment practice; curriculum research; learning design research, etc.): 2.5
- Compiling the study material (materials design; writing comprehensive guides and first tutorial letter; compiling readers; designing an integrated assessment system; typing; revising drafts; proof reading; critical reading of the study material; project team meetings; academic monitoring of standards and outcomes; etc.): 13.0
- Editing (if done by academic department): 0.5
- Translation (if done by academic department): 2.5

Hence a programme will need to budget the following number of staff hours for the development of a module (course weight 0.1; 100 learning hours):

- Course design preparation: 0.08 X 100 = 8 hours
- Curriculum design: 2.50 X 100 = 250 hours
- Compiling of study material: 13.00 X 100 = 1 300 hours
- Editing (if done by academic department): 0.50 X 100 = 50 hours
- Translation (if done by academic department): 2.50 X 100 = 300 hours

Many modules use a prescribed text book and "wrap around" study guide, that is, a guide that contains little subject content, but provides students with a learning structure that assists them in working through the prescribed book. For such modules the number of staff hours allocated to compiling the study material could be halved (650 hours instead of 1 300 hours).

The number of staff hours for course units with weights other than 0.1 can be calculated by multiplying the same ratios by the number of learning hours that the course unit represents.

Assuming a five-year review cycle, the 1908 hours per 100 NLH module can be amortised over the review period at 381.6 hours per year. At 19 design and development hours per notional learning hour, we are here looking at the lower end of the scales of investment suggested by Swift. However, research undertaken by Saide for the South African Council on Higher Education (CHE 2004) and the Association for the Development of Education in Africa (ADEA 2005) suggests that institutions in south and southern Africa do NOT typically invest even this amount of time in course design and materials development – partly because in most cases they do not enrol sufficient student numbers to be able to recoup the costs of such an intensive investment. For the purposes of the modules that follow, we therefore make the following assumptions:

- For a print-based, schooling level course, we assume a design and development time of 10h per NLH amortised over 5 years.
- For a multi-media web-supported course, we assume a design and development time of 15h per NLH amortised over 5 years.
- For a web-dependent course, we assume a design and development time of 20h per NLH amortised over 5 years.

This report foresees the need to clarify academic staff roles as follows:

- Programme managers – senior academic staff (probably with at least a Masters degree) to provide overall curriculum leadership
- Module coordinators – academic staff (probably with at least an Honours degree) to provide curriculum leadership and teaching at a module level
- Tutors – ideally tutors are able to work in both contact and on-line mode and are also markers; model A assumes that local tutors can be found to obviate the need to send lecturers from the centre to decentralised sites of delivery as this is very costly and limits the number of contact sites that could reasonably be expected to be supported
- Tutor-coordinator/Academic administrator – to manage all arrangements regarding the recruitment and appointment (with HR and Finance) of tutors, their initial induction and training, their ongoing supervision and support, their payment and contract renewals and their role in programme evaluation and renewal. This person needs to understand the needs of the curriculum as well as the logistical requirements of contact sessions, WIL placements, practicals etc. – so this is an academic-administrator position.
- Administrators – the student experience at an ODL institution has cognitive, affective and administrative components – slow assignment turn-around, for example, can have as profound an impact on the total student experience as poorly designed learning resources. The nature of administrative tasks varies from model to model – so in one model administrative assistance might include the handling of physical assignments whereas in another model it might involve support by technicians to ensure the correct routing of digital assignments. For the purposes of this costing exercise we assume 1 administrator devoting 1400h of time specifically to the programme for each multiple of 300 students enrolled (on the assumption that 300 headcount enrolments is equivalent on average to 1800 module enrolments).

We explore the roles of programme manager and module coordinator in a little more detail in Tables 5 (see also Appendix A) and 6 below as this is a staff time commitment that is often neglected.

Table 7: Programme managers

Programme manager – roles and responsibilities	
Overall role	Ensure development, provision and review of appropriate and relevant programmes through appropriate modes of delivery and equitable assessment practices and student support in order to ensure that the needs of the students and community are met.

Programme manager – roles and responsibilities	
Specific responsibilities in conjunction with programme team	• Lead design programmes/courses at all levels ensuring inter-disciplinary and programme coherence • Lead development of curricula for programmes/courses • Co-develop materials for programmes/courses including the writing of study materials and manage and monitor the quality of outsourced processes in this regard • Develop an assessment strategy for the programme that matches assessment criteria with exit level outcomes and provides for an appropriate balance of formative and summative assessment across the programme • Set examination and assessment activities and/or review the quality of those set by others • Assess examinations and assignments or the quality of outsourced marking thereof • Ensure internal and external moderation of materials and assessment • Ensure appropriate staffing of programme including procedures for the selection, orientation, training, monitoring and support of tutors/tutor-markers • Adhere to quality standards and define quality at programme/course level in line with institutional norms • Review and restructure programmes/courses • Conduct lectures, seminars, workshops, etc as needed • Be actively involved in related academic citizenship activities • Track student retention, pass rates and programme throughput • Provide student support and advice • Maintain programme/course relevance and appropriateness • Conduct research related to the programme • Constitute and chair a programme management team.
Time allocation	200 – 600+ hours per annum depending on the complexity of programme. It is suggested that there is need for the programme

Programme manager – roles and responsibilities	
	manager to treat the design, development, delivery and review of a particular programme in a particular cycle as a project and that he/she will require training and support in this regard (Modesto 2009).

Table 8: Module coordinators

Module coordinator – roles and responsibilities	
Overall role	Ensure development, provision and review of appropriate and relevant curriculum materials at module level through appropriate modes of delivery and equitable assessment practices and student support in order to ensure that the needs of the students and community are met.
Specific responsibilities in conjunction with programme team	• Design courses/modules at appropriate levels ensuring inter-disciplinary and programme coherence • Develop curricula for courses/modules • Develop materials for courses/modules including the writing of study materials • Develop an assessment strategy for a course/module that matches assessment criteria with exit level outcomes and provides for an appropriate balance of formative and summative assessment in line with the overall programme strategy • Set examination and assessment activities • Assess examination and assignments • Ensure internal and external moderation of materials and assessment • Select, orientate, train, monitor and support the performance of module tutors/tutor-markers • Adhere to quality standards and define quality at course/module level in line with institutional norms • Review and restructure courses/modules • Conduct lectures, seminars, workshops, etc as needed • Be actively involved in related academic citizenship activities • Track student retention, pass rates and throughput at module level • Provide student support • Maintain course/module relevance and appropriateness • Conduct research related to the programme

Module coordinator – roles and responsibilities	
	• Participate in relevant programme management teams.
Time allocation	• Development of new 10 - credit course and course materials: 400 hours (could be shared with a co-developer) • Development of revised course materials on existing materials: pro rata dependent on degree of modification • Maintenance of module: 100 hours + marking. There is need to close the feedback loop from student and tutor evaluation into programme and materials (re-design) (Unisa 2008b, Sukati 2009).

For the purposes of the models discussed in this section, we assume that staff are required to work 220 days (1760 hours) a year of which 175 days (1400 hours) will be directed to teaching activities for specific modules and programmes and 45 days (360 hours) will be needed for staff related activities of a more general nature e.g. reviews, open days, professional development etc. or in the case of university academics, research and community engagement. This means that ideally the 175 days devoted to income-generating teaching should generate sufficient income to cover the entire 220 days of work time.

Appendix 2 to this report comprises an Excel spreadsheet with four inter-related sheets.

Sheet 1 outlines the assumptions on which the examples in subsequent tables are based.

The assumptions are drawn from the preceding discussion. Note that the emphasis on programme management suggests the need to constitute a core academic team and processes for the development, quality assurance and review of curricula and materials. Tutors at this level are likely to be more directly involved in making curriculum-related decisions and in Models B and C in particular would need to be of the same calibre as the core academic staff.

Standardisation of programme and module design assumptions will assist greatly with planning and management. The examples that follow assume a study year of 1200 notional learning hours split into 12 100 NLH modules (excluding 20 hours of summative assessment time budgeted separately) and the assumption that the average student will register for 6 modules in each year.

Using the spreadsheet, the following four scenarios were explored:

Scenario 1:

- An enrolment of 300 students per module per year
- Students enrolling for on average 6 out of 12 possible modules in a year
- Income of R3000/ module (probably half as fees and half as subsidy).

Scenario 2:

- An enrolment of 1000 students per module per year
- Students enrolling for on average 6 out of 12 modules in a year
- Income of R3000/ module (probably half as fees and half as subsidy) .

Scenario 3:

- An enrolment of 100 students per module per year
- Students enrolling for on average 6 out of 12 modules in a year
- Income of R3000/module (probably half as fees and half as subsidy).

Scenario 4:

- An enrolment of 15000 students per module per year
- Students enrolling for on average 6 out of 12 modules in a year
- Income of R3000/module (probably half as fees and half as subsidy).

It should be noted that all expenditure and income are based on 2011 cost assumptions. Assumptions will need to be adjusted for inflation on an annual basis. For the purposes of long-term sustainability, student numbers and fee income need to cover direct costs and overheads over a five-year life cycle. For the purposes of the comparison, we have assumed a 50% throughput rate for all models i.e. 50% of students who initially register for a module successfully complete it.

The following table provides a comparative summary of the findings:

Table 9: Comparative summary of models

	Model A print-based and contact support	Model B Resource-based and web-support	Model C Web-dependent on-line
At an initial R3000 per module and 300 students per module per year over 5 years …	Sustainable at break-even Tutors needed at various decentralised centres; should be able to cope with contact and remote learners Core staff should include tutor coordinators	Sustainable and generating a small surplus that could be used for cross-subsidisation Needs robust web-support Fewer tutors needed and not tied to geographical locations	Not sustainable.
At an initial R3000 per module and 1000 students per module per year over 5 years …	Sustainable and generating a surplus Tutors needed at various decentralised centres; should be able to cope with contact and remote learners Core staff should include	Sustainable and generating a large surplus that could be used for cross-subsidisation Needs robust web-support Fewer tutors needed and not tied to geographical	Sustainable and generating a small surplus. Needs robust web-support Needs more tutors for the same number of students than Models A and B; tutors not tied to geographical locations but

	tutor coordinators	locations	must be high level
At an initial R3000 per module and 100 students per module per year over 5 years …	Not sustainable	Slightly below break-even point	Not sustainable
At an initial R3000 per module and 15000 students per year over 5 years	All three models are theoretically financially viable and make significant surpluses that could be used a) to make a case for reduced fees; b) to improve programme design and implementation to increase throughput; c) to cross-subside other education initiatives. However, due to the large staff numbers involved, Model B is probably the most practicable.		

5.2 Observations

The discussion in this section served to illustrate the need to develop planning models so that the sustainability of provision over a suggested five-year cycle can be explored (remembering that the initial and recurring design and development costs in Years 1, 5, 10 etc. are amortised over the period).

Model A relies on a traditional print-based and contact supported model of delivery. Considerable economies of scale can be achieved on the materials development costs but not on the support and assessment costs which rise proportionately with student numbers.

Model B replaces the expensive contact support with on-line support to larger student groups and replaces one assignment with a computer-marked MCQ test. This model is viable in each of the scenarios explored. However, high retention, pass rates and throughput with this model are likely only for particular kinds of courses and particular kinds of students.

Model C obviates the need to incur the costs of production, storage and distribution. However, it does require high calibre staff (both permanent and part-time) and a significant and recurring investment in design. This model is probably viable only for highly specialized programmes for which small numbers paying high fees can be envisaged.

Note that the three models presented here could have been structured quite differently and are based on certain assumptions spelt out in Sheet 1 in Appendix 2. Changing the structure or changing the assumptions will change the results – but basing forward planning on models like these, which emphasise the link between plan and process, and the necessity to balance course, student, staff and institutional needs, can be helpful in making viable and sustainable choices and in identifying appropriate staffing and technology strategies (Heydenrych and Louw 2006, Saleh and Pretorius 2006). These decisions increasingly need to be made within a consideration of the capacity-building needs of the institution as a whole within the context of its national, regional, continental and global location (Prinsloo 2008).

6. Conclusion

This report suggests the need for a greater focus on the management of ODL programmes but notes the complexity involved in doing this. It suggests that the implications of different models of programme design and provision need to be explored at the curriculum design stage and begins to work towards models that could help with informed-decision-making based on scenario planning that does not demand an extensive financial planning background on the part of programme management teams. The preliminary findings of the report suggest:

- That ODL provision should continue to focus on large scale provision for which some forms of economy of scale can be achieved by amortising curriculum and learning resources development costs over time.
- That where low enrolment, high input niche programmes can be justified at a national level, they will require dedicated additional funding.
- That provision needs to be made at programme level for the management of tutors and/or work integrated learning of various kinds and an increasing commitment to programme management time related to enrolment and complexity.
- That if there is an intention to move from a print-based correspondence model to an interactive and supported elearning model – whether web-supported or web-dependent – the implications for curriculum design and ongoing support need to be carefully budgeted. At one extreme there is a danger that the move towards an elearning model simply replicates poor transmission mode teaching and perfunctory rote-learning assessment; at the other extreme, the open interactive possibilities of Web 2.0/3.0 technologies and the increasing number of resources available on the web could result in programmes that are unsustainable in terms of costs and human resources.

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Appendix 1: Illustrative programme management functions and activities

Developed by Prof Oupa Mashile, Unisa and incorporated with permission.

1. PROGRAMME MANAGEMENT ACTIVITIES DERIVED FROM THE HEQC CRITERIA

The activities below should be interpreted in accordance to the HEQC criteria of programme accreditation.

i. Coordinate the compilation of a 300 series tutorial letter containing the following:
   a. the purpose of the programme [2(i)]. ;
   b. the curriculum design of the programme, demonstrating coherence, reflecting alignment of explicit outcomes with individual modules, curriculum choice, teaching and learning methods and strategies, assessment, and modes of delivery [2(vii), 5(iii)];
   c. the composition of the learning programme;
   d. the NQF levels of the various modules in the programme that is aligned to the HEQF *[2(i)]*
   e. the learning pathways for students choosing the programme and where applicable, indicate possible professional development activities/programmes within the University *[2 (ii), (iv)]*.
   f. A timetable for students who are not employed and would like to complete the qualification in minimum time and a timetable for students studying part-time *[2(v)];*
   g. The mix of academic and experiential or work-based learning *[2(v)];*
   h. The number of contact hours expected or allowed in the design of the programme *[2(v)]*;
   i. The curriculum of the programme that is explicit with respect to exit level outcomes and related assessment criteria, content, level, credits, rules of combination and relative weight [2(vi)];
   j. How students can make input into the programme [2(ix)];
   k. All learner support mechanisms available to the student [2(x)];
   l. Academic staff responsible for the various parts of the programme and their contact details;
   m. Teaching and learning strategies [5(i)];

ii. Coordinate the compilation of all documents necessary for planning, resourcing and delivery of the programme. The documentation should also be used to compile a

Programme Self Evaluation Report or Portfolio for review purposes. The documentation/Review Report should contain the following:

a. The information in (i) above;
b. All documentation regarding the submission and approval of the programme by senate, DoE, HEQC, and registration by SAQA[1] [1(i)].
c. A statement on how relevant national policies, legislation and imperatives are accommodated in the programme design [2(iii)], marketing, advertisement, student recruitment strategy, and selection criteria [3 (iii)-(v)]. Where applicable, a statement indicating how the code of conduct of the relevant professional body is addressed in the programme [1(vi)];
d. A link between the purpose of the programme and the statement of applied competencies and how these are worked into the curriculum [2(vi)];
e. A statement on the intellectual credibility of the programme, including considerations of intellectual property rights. Where applicable, a statement indicating the relation between theoretical, practical and experiential knowledge [2(viii)];
f. A statement on how curriculum choice, teaching and learning methods, modes of delivery and learning materials cater for the learning needs of the target student intake
g. The conditions for programme delivery and how these are met [2(xi)];
h. Where the same programme is delivered using different modes and / or at different sites, evidence that this has been approved and supported by senate and that there is equivalence of provision [2(xi)];
i. In cases where the programme makes use of a decentralised tutor-based learner support system, a statement about how these are properly managed and quality assured by the Department [2(xi)];
j. The budget of the programme in terms of course design, course materials, and programme delivery [2(xii)]. An indication must be given on how the quality assurance processes of the university are incorporated in the programme [1(vii)].
k. A statement indicating that the Department/School/College/University has an organisational structure that enhances the fulfilment of its stated mission, goals and objectives and provides for the effective participation of College and students in matters of importance [1(viii)];
l. A rationale for the use of ODL in delivering the programme to the intended target students [1(x)];
m. A description of appropriate policies, procedures and regulations that are in place for student admission, selection and assessment and demonstrating how these are communicated to all students, academics and administrative staff [3(i)];
n. A statement on the capacity of the Department/School/College/University to offer the programme [3(vi)];
o. Procedures to deal and ensure that RPL admissions do not exceed 10 percent of the student profile in the programme [3(viii)];
p. The Department has developed detailed learner profiles that identify the characteristics and situation of students and this is used to inform teaching and learning strategy [3(x)], improvement of success rates, throughput, and retention [9];
q. A description of all staffing matters, including recruitment, employment equity and other appropriate legislations, professional development, workloads, research engagement, ODL teaching competency, and management of contract staff [4].

[1] This activity will be carried out by the Prof Mashile or the envisaged coordinator of QA in the College.

r. A teaching and learning statement, including, amongst others, the philosophical underpinnings of the teaching and learning strategies; procedures for monitoring, evaluating and improving teaching and learning; academic support to students at risk; curriculum development and revision of study materials; development of increasingly sophisticated levels of independent study from learning materials provided [5];
s. A statement on the role of the programme manager/coordinator, including academic stature; intellectual leadership; planning; regular communication with students; student input; where applicable, management of experiential learning or work-based learning programmes [6];
t. A statement on assessment, including, amongst others, procedures and policies for formative and summative assessment; embedding assessment in programme design, teaching and learning strategies, curriculum development and improvement of study materials; student and staff development; use of a range of assessment tasks (e.g., integrated assessment, RPL); turnaround time and quality of student feedback; credibility of assessment; recording assessment; security of assessment procedures; role and scope of external examining; processing external examiner reports; appeal procedures; handling assessment breaches; monitoring student progress [7];
u. A statement on the infrastructure and library resources available for staff and students: IT hardware and software, relevant and up-to-date library resources, nature of library use dictated by the design of the programme, accessibility of resources for students in various regions of the country [8];
v. A statement and evidence on the impact of the programme, including meeting the DoE's targets for graduation [9].
w. A statement on systematic programme reviews, including accountability to institutional structures, user surveys (students, staff, professional bodies, peers, etc), responding to review outcomes in such a way that they inform and improve programme design, programme delivery, staff development and student support [10].

2. PROGRAMME MANAGER'S JOB DESCRIPTION

Programme coordination requires a Programme Manager/Coordinator. Programme Managers must have an agreed-upon mandate from the College and Department to manage the programme. In this regard the IPMS contract of Programme Managers will have a separate template and will measure the activities described in section 2 above. The workload of the Programme Manager will also be reviewed to fit in with the mandate below. Programme Managers are responsible for:

(a) Ensuring that their programmes comply with the criteria for programme accreditation as set out by the CHE

(b) Ensuring that their programmes comply with quality standards effective in South Africa and where applicable, outside South Africa. This includes ensuring that their programmes are aligned to the NADEOSA quality criteria and, where applicable, to criteria set by Professional Bodies.

(c) Ensuring that all conditions of programme delivery are in place (effective communication with students, student support, determination of workloads, timely submission of study material, checking of tutorial letters, etc).

(d) Tabling any tuition matters (e.g., calendar changes) related to their programmes at Departmental Tuition Committee meetings

(e) Managing/processing RPL applications in their programmes

(f) Co-ordinating and facilitating Programme Reviews in their programmes (both national and internal reviews)

(g) Convening Programme Committee meetings (including academics, students, and other stakeholders)

(h) Leading and managing a team for the development and delivery of the programme in accordance to the senate approved Curriculum Framework.

(i) Developing and maintaining sound working relationships within the Department, School, College and relevant subject and support departments, so that there is an evolving coherence between the programme and various other programmes and learning pathways in the Discipline (Higher Certificate up to Doctorate, where applicable)

(j) Being responsible for quality assurance of the programme so that the programme not only meets the requirements of the HEQC and/or Professional Bodies, but is delivered in ways that are continually self-improving

(k) Advising the COD/School Director about all matters pertaining to the programme

(l) Ensuring that all documentation submitted to the COD/School Director for processing and authorisation by staff members of the programme have been properly checked for completeness and correctness

(m) Providing intellectual leadership for the programme. This entails tracking both internal and external policy environments and ensuring the programme is responsive to such imperatives

(n) Advise the COD/School Director about professional development needs of members of the programme, both full-time and part-time

(o) Managing and processing applications for exemptions

Appendix 2: Excel spreadsheet