



**EXTERNAL QUALITY ASSURANCE
FOR THE VIRTUAL INSTITUTION**

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Contents

	Preface	1
	Abbreviations	2
1.	Introduction	3
2.	Planning and Administration	11
3.	Organisational Structure	13
4.	Staff Development and Effectiveness	15
5.	Research	17
6.	Instructional Design and Development	19
7.	Teaching and Learning	21
8.	Student Support	23
9.	Collaborative and International Arrangements	25
10.	Assessment and Moderation	27
11.	Feedback and Evaluation	29
12.	Technological Infrastructure	31
13.	Issues for External Quality Agencies	33
14.	References	35

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Preface

The accreditation model of external quality review for higher education developed in the USA many decades ago. As external quality agencies have been implemented in many other countries over the last 15 years or so, the methods bear much similarity to the accreditation model. One activity that is central to most methods is a visit to the campus of the educational institution by a small team of reviewers. The growth of distance education forced some re-thinking of this, and the great increase of the Internet for on-line course development, provision, support and assessment has made this model even more problematic - without a campus, what can the quality reviewers visit? Furthermore, on-line provision is not just a form of distance education, as it is often embedded into campus learning experiences, to increase their flexibility.

Late in 1998, the AAU convened a small group of people experienced in various aspects of open, distance and on-line education, to draw up some guidelines for quality assurance in this new situation. The group incorporated a range of approaches, from theoretical and futuristic to immediate and pragmatic. In addition to the group members listed on the title page, a significant contribution was made by Amanda McMurdo of The Open Polytechnic of New Zealand. This publication is the result of our work and discussions. We hope it will be of value both to institutions as they develop and implement quality assurance systems, and to external quality review agencies, as they investigate the institutions' provisions.

We found that our attempts to set down quality assurance considerations quickly led us to contemplate much broader issues, such as the purpose of higher education, the purpose of degrees, the meaning of quality, and so on. Adequate treatment of these issues would take us too far afield in this publication, and interested readers can find many useful discussions of them elsewhere. It should however be remembered that any institution and any quality agency should have reflected on its own views on these matters.

For the purpose of this publication, we chose 'fitness for purpose' as the definition of quality (cf Woodhouse, 1995). We stress that this is not a limiting definition. The word 'purpose' includes not merely narrow specifications, but missions, objectives, goals, etc. In other words, when an organisation's objectives have been clearly set out, quality assurance relates to the way it goes about achieving them.

The New Zealand reader may be surprised at the lack of reference to the Treaty of Waitangi. The reason for the omission is that the publication is intended for an international audience. Therefore, wherever it is used, attention should be given, **under all the factors considered**, to matters of local concern. These may relate to specific laws, treaties or requirements, to indigenous people or different cultures, to access, equal opportunity or affirmative action, etc. These issues are particularly problematic in the context of distance and/or on-line and/or collaborative and/or transnational education (see for example GATE, 1999), and must be explicitly considered in the context of each factor.

Distance education through the old correspondence method was hailed as being of great value to those who could afford neither the time nor the money to uproot themselves from home and travel to the educational institution. This continues to be a great benefit of distance education, whatever the mode. However, the increasing use of new technologies, while enhancing instructional experiences and educational opportunity for many, may leave the less wealthy people and countries even further behind and actually widen the gap between the educationally advantaged and disadvantaged. In May 1999, The College Board (based in Washington DC) initiated a two-year project entitled 'Technology and globalization of higher education: issues of equity and access', with the following purpose: "To improve understanding of the potential effects of web-based instructional delivery programs on access to quality higher education and the resulting global implications for the distribution of educational and social opportunity."

Finally, this field is moving so fast that what we have written here may age very quickly. To extend its useful life as much as possible, we would welcome comments and suggestions for additions, deletions and changes.

Wellington
July 1999

David Woodhouse
Director
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Abbreviations

The following abbreviations are used in this publication. Their meanings are explained in context.

AAU	Academic Audit Unit
EQA	external quality agency
HE	higher education (no precise distinction is made between higher, tertiary and postsecondary education)
HEI	higher education institution
ODL	open and distance learning
QA	quality assurance

1. Introduction

1.1 Virtual Institution, Flexible Learning

In the past, the word 'university' and the more general term 'higher education institution' (HEI) have conjured up images of a physical campus, with local interaction between students and staff. The growth of open and distance learning (ODL) has weakened this automatic association, but even though some ODL institutions enrol hundreds of thousands of students, they can still be seen as the exception to the general HE norm. Besides, most such institutions do have a campus where most of the staff gather and interact.

The desire to make HE available to many more people, and the increasing speed, reach and convenience of electronic communication by which it can be done, are beginning to change assumptions of what is the norm. Marchese (1998) sketches some of the many initiatives being taken by both proprietary and not-for-profit enterprises, noting that while 'alternative and distance providers claim just 2% of the postsecondary market today [in the USA]', this could rise very quickly to 20%, 'at which point larger transformations could kick in'. These innovations take many forms, including the University of Phoenix, DeVry Institute of Technology, Sylvan Learning Systems, Michigan Virtual Automotive College, and Jones International University, in addition to diversification by existing institutions and government projects such as Western Governors University.

Just as the word 'open' was prefixed to the word 'university' to denote something that is like a 'traditional' university in some ways but not in others, so the word 'virtual' is being used with 'university' or 'college' or 'polytechnic' to denote a further difference. Although the term 'virtual institution' is not yet well-defined, it is trying to capture the sense of a further dispersion. Now, not only are the students likely to be in distant locations, but the staff may be too, so the programmes are provided and serviced primarily on-line through some form of computer-mediated communications. Furthermore, the staff who develop programmes may not be those who support them, and those who assess them may be different again. Without a campus, the institution has been dubbed 'virtual'.

The word 'virtual' in this context does not have a pejorative meaning, nor is it the antonym of 'real'. 'Virtual education' is an educational experience of real people. In the not-too-distant future, what we are now terming 'virtual' may be the norm, and specific explanations or adjectives may be needed to describe the solely campus-based institution. In emphasising the reality of the 'virtual university', Oilo (1998) takes a different slant and describes it as a " 'meta-university' which is intended to provide support for existing universities".

Furthermore, virtual education is not a sub-category of what is usually referred to as 'distance education'. There are many fundamental changes, including changes in the role of students, academic staff and support staff. The virtual class can be described as the

process that occurs when teacher, learner, problem and knowledge are joined solely through communication and information technologies for the purpose of learning and teaching. In the virtual class the teaching and learning may be performed without the movement of physical objects (such as getting students and lecturers into a physical venue).

With such profound changes beginning and accelerating, attention to quality assurance (QA) is more necessary, but more difficult. More necessary, because radical change gives the opportunity for flaws to slip in; more difficult, because our well-known and proven methods of QA may no longer work. It is therefore necessary to pay particular attention to QA in the context of a new infrastructure. This attention must come from the institutions themselves and from the external quality agencies (EQAs). EQA is a generic term, including agencies that carry out accreditation, assessment, audit or validation of HEIs.

In order to investigate the establishment, use and auditing of QA systems for virtual institutions, one may begin by asking, What are the essential differences between a conventional and a virtual institution, especially in relation to QA? Some people play down the differences, arguing that a simple change of mode does not affect the core considerations relating to quality. In this context, one may note that in 1999, Jones International University, which offers its courses and services entirely over the Internet, has gone through the standard US accreditation process (becoming the first such institution to gain accreditation from a US regional accrediting body). Others would argue that the two types of institution are entirely different, and that this difference must be reflected in the QA procedures.

We argue that the difference is significant, and that the difference must be reflected in the QA processes. However, we also argue that few institutions will fit neatly into one category, as providing either face-to-face or on-line or distance education. A single institution, and even a single course, may evince characteristics of all these modes. The area of interest of this publication may therefore be described in a more general formulation as 'flexible learning and teaching'. This definition includes

- the provision of teaching programmes on the Internet;
- the use of media such as broadcasting, teleconferencing and CD-ROM;
- all the systems currently used to provide educational programmes to distance education students;
- systems for collaboration between campuses or institutions for teaching; and
- the transformation of campus-based study by the increasing use of information technology.

Thus, 'flexible learning and teaching' means not only that new modes are involved, but also that staff and students have a greater choice.

There are basic processes for QA and questions for academic audit that are sufficiently generic to be applied to all institutions and modes, while others are more specific to the mode. Variation in mode focuses the minds of both institutions and auditors. Considering

such variations often reveals questions that should be asked of the traditional modes also, but that have been taken for granted in that context. Also, the contrast of modes often enables the EQA to recognise for the first time issues that need explicit investigation but which it was overlooking. Just as learning that number systems can have bases other than ten assists the child to understand our usual base ten system, so considering different types of HEI can assist the EQA to understand all types.

Another aspect of flexibility is that institutions are inventing their own definitions and labels for various modes of operation. Sometimes the reasons for the definitions spring from non-academic considerations, such as funding or institutional image. Concentrating on flexibility, rather than attempting to categorise everything, allows the EQA to ask the basic questions, and avoid having issues fall through the sieve through a misunderstanding of their true nature.

1.2 Focus

The central question

Achievement of and accountability for quality in HE may be addressed in two parts:

- how does a higher education institution ensure quality?
- how does an external quality agency verify this?

In addressing these,

1. the HEI's decisions include

- its objectives
- its mechanisms for achieving these
- its measures of success

while

2. the EQA's decisions include

- what data it needs
- how to get the data
- which actors/stakeholders to consider (interview, consult, etc.)
- how to interact with stakeholders

In this statement of the issue, no reference has been made to the nature or mode of the HEI (eg 'virtual', 'conventional', 'open', 'campus-based', etc.). However, most of the decisions are affected by this, and the central question addressed in this publication is how an EQA (whether an auditor, accreditor, assessor, or whatever) achieves a reliable evaluation of the operations of a 'virtual institution'; or, more generally, of electronically-based education in any institution. Some mechanisms will be used by both the HEI and the EQA, while some will be different.

An EQA should avoid too narrow a focus on a specific medium of teaching and learning, as what it is aiming to find out (eg the influence of research on teaching, learning outcomes, effect of community input) is independent of the medium.

However, the data it needs to reach its conclusions, and the way it obtains this data, are not independent of the medium.

The EQA's available mechanisms must therefore include ways of dealing with the whole range of institutional types, from the purely virtual to the purely campus-based. In focusing on the former, therefore, this paper does not imply that the approaches identified herein would form a stand-alone package of measures, but that they would be part of the EQA's 'armoury', to be used as and when appropriate.

How to get the data

If each institution fell neatly into one category (such as 'traditional', 'campus-based', 'virtual'), we might have discrete sets of questions, one set developed to relate to each category. However, since many institutions have a variety of modes, we need more generic questions. For example, we can ask a campus-based institution about the library holdings, and a virtual one about database access; or we can phrase the question more generally for all institutions, and ask about the mechanisms for information provision and student support and research work. As another example, we can ask an institution with largely tenured or long-term staff about its on-going staff development provision, and we can ask an institution with largely contract staff about its appointment procedures; or we can phrase the question more generally for all institutions, and ask how the institution ensures that its staff at any time are fully competent for all the tasks required of them.

The advantage of the general phraseology is that it does not prejudge the nature of the institution, but is applicable to any combination of modes of operation. There are, of course, some questions that are applicable to only one mode, and others that have variant forms for the different modes.

How to interact with stakeholders

Change in institutional form is likely to affect the EQA's mode of operation. For example, if there is no department to visit, the external audit cannot be based on a department visit. If the department is identifiable but its members are geographically dispread, we can have a 'virtual visit' by teleconference, videoconference or other electronic means. If, however, the structure of the virtual HEI is such that one cannot easily identify its academic departments, even the virtual visit may be impossible. However, is it helpful to try to continue to model our audit procedures on what we know now, or are we failing to think creatively? As frequently happens, reviewing our procedures for their applicability to virtual institutions leads us to reflect on their validity elsewhere. Is the insistence on identifying academic departments even unhelpful for a campus-based institution if it is heavily multi- and inter-disciplinary in its approach?

Similarly, classroom observation by an auditor can be replaced by the auditor's logging in to an on-line student discussion (just like another student). Hiltz (1986) coined the term 'virtual classroom' to refer to the use of computer-mediated communications "to create an electronic analogue of the communication forms that usually occur in a classroom,

including discussion as well as lectures and tests” (p. 95). However, this is a restricting metaphor, conjuring up a mental image of a synchronous model. Tiffin & Rajasingham (1995) comment that this “suggests that the place a virtual class is held is an electronic simulation of a conventional classroom” (p. 10). They use the term 'virtual class' more generally to refer to the learning process that is enabled solely by telecommunications.

Chambers (1999) also challenges the soundness of the idea of the 'virtual classroom' as a metaphor. The emerging modes of digitally-mediated learning present opportunities for students to interact with mentors and cohort outside of any context that remotely resembles a classroom, creating (or re-creating) a one-to-one interaction. The traditional classroom concept has all-too-often entailed passive reception of information orally presented in a lecture hall to be memorised by rote and replicated on final exams. Appropriate uses of digital learning media present new opportunities for students to develop strategies for accessing information and exercising critical thinking skills as they master their chosen discipline.

Outcomes orientation

Much of our judgement of quality is in terms of proxies. In mapping a factor of interest into a proxy, we make assumptions about relationships, and these assumptions usually depend on the context. In a campus institution with face-to-face teaching, for example, we assume that certain characteristics of staff (eg tenure, qualifications), curriculum (eg contact hours) or resources (eg library size, computer numbers) are correlated with quality. In many cases, the assumed correlations have not been validated.

When the environment changes, eg more part-time staff, distance education, on-line information, we must ask whether the same proxies are still valid. In many cases, we know or suspect they are not, but we do not know what other proxies to use. Developing a range of valid proxies for factors of interest in relation to academic quality is matter needing urgent and comprehensive attention. The concepts in this publication provide some assistance in that direction.

An increasingly common approach to avoiding the difficulty of correlating factors with proxies is to focus on outcomes. Provided it is recognised that different learning modes are more appropriate to different educational objectives, this solution seems fair, as it does not disadvantage any mode of learning. However, the outcomes specification and checking must be full and complete; and, just as with proxies, we must ensure that invalid assumptions are not made. For example, general intellectual and social development have been assumed outcomes of university study. If pressed on the reasons for these outcomes, proponents are likely to point to various features of the social environment. These proponents may therefore believe that the outcomes are unlikely to happen if the study is by correspondence, with no in-person support. In fact, this general development may not always be achieved in campus-based institutions where the in-person support is available.

Therefore all institutions should specify their intended outcomes and how they intend to achieve them. If distance education institutions specify outcomes traditionally achieved

incidentally in campus-based institutions, they must also plan and take specific actions to achieve them. If campus-based institutions find that these 'incidentals' are not in fact being achieved, that must be rectified.

Equivalence

Although the new emphasis on outcomes is a welcome counterbalance to an excessive reliance on inputs, it is often seized as an easy option that avoids the need to think more deeply about quality. A complete solution must also recognise the importance of processes, and that for adequate checking of quality we must take a balanced account of inputs and processes and outputs (or outcomes, if the distinction is made). Whether it is the institution itself or an EQA that specifies what processes are desired or required, the specification should embrace the various processes that are possible with different teaching and learning modes. Also, we must decide when we need separate and different proxies for the various educational modes, and when we can devise and use universal proxies. We also need protocols and parameters for interpreting the proxy indicators that relate them to the type and objectives of the institution.

Part of the value of an EQA is that it requires explicit specification of objectives, and investigates whether mechanisms are in place for achieving them (processes) and whether they are being achieved (outcomes).

Interaction with an EQA is often what provokes explicit attention to the matter of equivalence - eg across campuses and modes. This needs to be defined, which may be done in terms of objectives, resources, admissions, assessment or outcomes. Historically it has been 'achieved' (or rather defined) in terms of setting the same examinations. (See Chapter 10.) What is important is that the institution is able to tell the EQA both how it defines it and how it gives effect to the definition.

1.3 QA Strategies for Distance Learning

(Quotations in this section are from Phipps et al., 1998)

"Quality assurance strategies for distance learning tend to be oriented toward institutional assessment activities, and to affirming that the core capacities to assure quality such as faculty credentials and student support services are in place. Thus, [a quality] review is of resources and inputs more than educational value-added, making it similar [in purpose] to quality assurance in traditional higher education." The process for quality review, however, is strikingly different in distance learning programs: there is "a greater tendency for the assessment process to be led by the administration instead of the faculty, with greater use of outside consultants and assessment experts in lieu of internally-generated peer reviews".

"Other pertinent differences include:

- The major stated commitment in distance learning is to the teaching/learning process, and there is a sharper focus on that as an exclusive goal.

- The student is regarded first as a client of the organisation, and the educational activities that the client desires predominate in the design and implementation of programs.
- The tendency to develop or use pre-packaged courses and the preponderance of part-time faculty are characteristics of many distance learning programs.
- Distance education programs tend to abandon the traditional quality assurance activities [of process, consultation and consensus] and are more assessment-driven.
- Many distance learning programmes contract with other entities to provide those administrative and student services not directly related to the teaching/learning process."

"The accreditation model remain a viable and effective means for public quality assurance in distance learning. The research conducted for this paper shows that the core processes of setting and measuring standards can work effectively in distance learning settings. Yet accreditation is challenged by distance learning to adopt standards that are rigorous, to be prepared to re-evaluate traditional processes, to be open to alternatives, and to provide public evidence of measures of performance against the standards. It also must engage in public discussion about fundamental questions regarding the purpose and values of higher education, particularly in degree-granting collegiate programs."

"We believe there are central threshold questions which relate to basic collegiate values and purposes that accreditors must confront because of the prevalence of distance learning. These questions concern the role of faculty and the degree of professional autonomy and academic freedom they have within an institution. They also concern minimum expectations for student involvement in an intellectual community, and the prominence of acculturation, personal skills, and values development as central qualities of higher education. To answer these questions requires a fresh look at both the design and control of the curriculum, and the core purposes of collegiate higher education in society."

In addition to posing these threshold questions, Phipps et al. (1998) offer some specific recommendations for steps that need to be undertaken by the accreditation community. These include:

- establish reliable and valid performance measurements for distance learning;
- examine alternatives to the traditional accreditation process.

Other steps are mentioned in later chapters.

1.4 Challenges and Opportunities

(Quotations in this section are from Woodhouse, 1999)

"Moving to more specific ODL aspects, Bernadette Robinson and Tom Prebble identified some characteristics of ODL that pose new challenges, and some that offer new opportunities.

- more stakeholders or sites involved in the creation & delivery of a course or programme;

- longer chains of communication;
- often larger scale;
- more separate activities and roles to be coordinated;
- greater administrative needs (such as record keeping);
- more delegation of assessment in competency testing;
- achieving consistency of practice over a distributed organisation or a collaboratively-delivered programme or course;
- a different interpretation of what constitutes 'teaching' (for example, in the separation of roles in providing learning content and support);
- greater issues of credibility;
- a more careful and deliberate process of planning and development of courses and systems than is common for conventional delivery;
- most ODL programmes have more centralised systems of management, servicing and communications;
- in ODL programmes the central teaching task is available for leisurely and detailed inspection;
- the mechanics of ODL tend to develop an organisational culture that is more receptive to the establishment and promulgation of standards and the assessment of quality than is common in conventional institutions;
- complications are raised by a transition from a largely correspondence-based ODL programme to an increasingly on-line system;
- QA processes that are accepted as integral to the ODL programme can provide models for the assessment of quality in campus-based programmes.

As several contributors observed, much lies in the hands of the academics themselves, as they grasp opportunities presented by the new modes, and the changing environment."

The development of quality assurance programmes will be strongly influenced by the nature and scale of the ODL operation itself. In relatively small ODL operations, each course has one person who is responsible for both developing and teaching it, and the servicing of the course is often the sole responsibility of the same person. In such organisations, the prevailing metaphor for the ODL activity is that of a cottage industry. Quality assurance systems in such organisations are likely to stress the craftsmanship and autonomy of the individual teacher. With larger ODL programmes, many of the servicing and administrative functions are handled by specialist units. Here, an 'industrial' metaphor is more appropriate, with more explicit standards for each service.

Another aspect is "the fragmentation permitted by the Internet. Rather than looking for an institution offering the course s/he wants, a prospective student could search for individual academics offering the components s/he wants. In theory, this could require the EQA to accredit the individual academics. **In practice, institutions will take responsibility for orchestrating the offerings of individual academics, and, importantly, providing the credentialling function.**"

2. Planning and Administration

Lewis (1998) states that "the success of a distance-learning university that contains both real and virtual elements ... depends on ethos (sense of community, personal face), adequate resources (size, collaboration), design for purpose (do not replicate face to face), course team, high level of personal support to students, and appropriate use of new technologies". He further states that the UK Open University provides 'supported open learning', namely "the provisions of specially designed, high-quality, multiple-media teaching materials, together with personalized tuition, learning feedback, and support". These may be appropriate planning goals for the flexible institution.

In this area, the issues can be phrased generically, provided the institution itself and the EQA ensure that all intended modes are explicitly covered.

Questions

- What is the institution's intended market for its educational provision?
- What are the institution's objectives, and are they appropriate for this market?
- How is/was the right mix of modes for the intended market ascertained?
- What are the institution's plans for the development and provision of education via all these modes ('flexible education')?
- What is the scope of the various systems and programmes, and what progress is the institution making towards achieving its objectives?
- Does the institution evaluate the overall system of virtual or flexible learning separately from the review of individual programmes of study?
- Do all relevant parties know how difficulties requiring urgent attention in the learning system are to be reported?

Data

The institution has an overarching policy statement and vision for its various learning modes, and the implications of each for the institution

- Mission and Value Statements, Charter, Statement of Intent
- Specification of the institution's selected market, in terms of demographics, learning characteristics, resources, programmes
- Evidence that the views and needs of stakeholders have been taken into account
- Strategic plans and long term budgets
- Evidence that the identified characteristics are being addressed in the planned learning environments
- Business plans and budgets
- Mechanisms for evaluating resourcing and effectiveness of processes.
- Reports and evaluations against the various plans

- Evidence that action has been taken on reports and evaluations and fed into future planning

Interpretation

- The institution has explicit statements of the rationale for and expected consequences of its use of flexible teaching and learning
- The institution is able to articulate what open and flexible learning means for it and can explain what this means for the way the institution supports learners
- The views and needs of stakeholders have been taken into account in appropriate ways.
- The vision and policy statement are reflected in the plan the institution has for the development and provision of its programmes
- Plans and budgets reflect how the institution provides its products and services
- From the institutional plans it should be clear what resources the institution is putting in place to ensure the institutional goals are fully implemented
- Resourcing plans demonstrate clearly that the chosen mode(s) of learning are fully supported and enabled in respect of eg personnel, technological support, administrative support, student support (pastoral care)
- Plans clearly show how the implementation of the vision will occur and be monitored, including explicit performance measures and targets
- The institution has made a realistic assessment of the costs of and returns from the various modes it operates or intends to operate

3. Organisational Structure

Questions

- What are the principal policies, organisational structures, management systems, support services and resources that are committed to the various systems and modes of teaching and learning?
- Is there a clearly defined organisational structure, and is it effective in supporting learners in all the chosen learning environments?
- Are the links, between this structure and the institution's vision for learning, logical and clearly articulated?

Data

- Organisation Chart
- Documented policies and management systems
- Explicit review mechanisms for monitoring effectiveness
- Role and function definitions; terms of reference for committees
- Definitions of roles and responsibilities, and associated job descriptions. In a virtual or flexible learning environment, an EQA would look for
 - Instructional designer
 - Education technology adviser
 - Graphic designer
 - Web manager/developer
 - Multimedia designer
 - Editor
 - Programme manager
- Academic Regulations
- Academic board minutes
- Published schedule of delegations signed off at appropriate levels

Interpretation

- The policies, structures, management systems, academic provision, support services and resources are appropriate to the different modes of teaching and learning.
- Academic board and other governance structures are in place and effective in the operation of all aspects of the institution
- Accountability for academic quality is clearly defined and managed
- Job descriptions contain accountabilities and performance standards appropriate to all the modes of learning in use
- The specified positions are filled and the responsibilities are being exercised effectively
- Delegations are clear
- Staff understand the institution's requirements

4. Staff Development and Effectiveness

Many people are not convinced that the average academic is adequately equipped, by training or experience, to teach in the traditional face-to-face teaching environment. While this is doubtless true of some academics, at least they have some first hand experience and understanding of that environment, namely from when they were students themselves, and may indeed have experienced good teaching practices. The new environments of distance, open, virtual and flexible learning are more likely to be unfamiliar territory for all staff, and hence it becomes essential to make explicit definitions of the necessary staff characteristics and abilities, and then to put in place procedures for ensuring that staff have these. Key competencies not customarily related to the face-to-face environment include:

- drawing on different people with different skills (eg instructional designers) in developing courses
- adequate level of computer literacy, including practical knowledge of instructional technologies
- knowledge of external electronic resources and tools to access these resources efficiently
- managing email and other electronic discussions
- teaching without visual cues,
- marshalling asynchronous interactions,
- awareness of relevant cultural factors
- telephone skills

"Quality assurance in many [distance learning] programmes and institutions focuses heavily on review of faculty credentials, selection procedures for new faculty, and faculty training. Often, candidates for a faculty position are required to engage in an intensive training programme that includes conducting mini-lesson, interviewing with current faculty, and being assigned a mentor. In addition to possessing a graduate degree relevant to the field of instruction, faculty are expected to understand the role of technology in a learning environment, be trained in online teaching concepts, and use assessment techniques appropriately." (Phipps et al., 1998)

Questions

- What systems are in place for ensuring that staff have the knowledge, experience and ability to match the objectives of the HEI?
- What standards have been set for the technical delivery and support of teaching?
- How is performance monitored against these standards?
- How is equity of workload ensured?

Data

- Evidence of appropriate appointment procedures
- Evidence of professional development opportunities for staff in the design and provision of flexible teaching
- Evidence of the use of appropriate teaching methods, and their effectiveness
- There is an effective performance appraisal process
- Appropriate workload formulae exist

Interpretation

- Staff are adequately prepared (both initially and continually) for the tasks expected of them, for example
 - Academic subjects
 - Use of the systems and facilities
 - Modes of working required of students
 - Time-management implications for students
 - The system of flexible learning
 - Moderation and supervision of electronically-mediated discussion groups
- Staff show an understanding of and adaptation to the different learning needs of the different student body that results from a great variation in mode, including differences in groups of students, and individual students
- Unsatisfactory teaching, and other professional activities, is diagnosed and addressed
- Workload formulae address the delivery mode

Interviews

EQA should talk to staff:

- selected,
- email,
- questionnaire,
- asynchronous discussion etc.

and might also check the use made by staff and students of staff members individual websites.

5. Research

Questions relating to the quality of research itself will be much the same for the various types of institution, although the institution will need to tailor the research support for its staff to the specific conditions under which they work. If academic course developers work in a group, group research and the provision of research equipment should be feasible. If staff work in isolation, considerations relating to their support will be analogous to those relating to supporting distance learning students.

A current feature of much of western academic culture is that teaching at degree level is intimately connected with research, and in New Zealand there is a related legal requirement. (See Woodhouse, 1998.)

One way of supporting this link that is often commended is for academics to carry out research into the teaching of their discipline. This is a neglected area. Because the virtual or flexible learning environment is so new and is changing so rapidly, such research would be very valuable.

Questions

- How active are staff as researchers?
- What is the scope of the institution's research effort?
- Does the research relate to the mission, objectives and characteristics of the institution?

- How is the research/teaching link achieved for virtual degree courses
 - in course development
 - in teaching
 - in assessment
 - and across these different phases
- What is the effect of the link?

Data

- Institution's policies and processes in relation to research
- Extent of use of research tools and resources
- Research publications
- References in the course materials
- Student evaluations

Interpretation

- The institution's policies and processes encourage research in a virtual environment
- Course materials embody up-to-date knowledge
- Student work gives evidence of the research done
- Research and teaching are linked through interaction between student and staff member as mentor

6. Instructional Design and Development

Many aspects in these areas of activity are quite different for the distance, flexible or virtual institution compared to a campus-based, face-to-face operation, and the QA processes are correspondingly specific. The essential difference is that in a flexible or distance learning environment, all course materials are normally prepared before teaching begins. Conversely, on-line delivery can permit on-going, ad hoc modification of materials to a greater extent than with traditional modes.

Questions

- What are the systems for designing courses?
- What systems and processes are in place for the planning, preparation and production of study material?
- What QA systems are used to monitor these processes?
- What guidance/assistance is available to staff in the development of study material?
- What guidance/assistance is available to teaching staff in the presentation and assessment of study material?
- What systems are in place for monitoring the quality of study material, including its periodic review and/or redevelopment?
- How does the institution monitor the on-going modification to materials and assessment that is possible with on-line teaching?
- What record is kept of this and how is it used?

Data

- Processes for ensuring that course developers are adequately qualified
 - educational qualification (to ensure material and assessment are appropriate to the mode)
 - discipline qualification (to ensure appropriate content)
- Procedures for communication between course developers, presenters, assessors and support services
- Programme approval process
 - clear objectives and outcome for every programme and course
 - clear delegation of who is responsible for this
- Processes for measuring course quality
 - course moderation and technical editing (before introduction)
 - student evaluation of courses (after introduction)
 - course evaluation (cyclical) (after introduction)
- Processes for approval of revision and modification of courses and programmes

Interpretation

- In a virtual/flexible environment, particular attention would be paid to the appropriateness and adequacy of course development in respect of
 - development policies and procedures
 - copyright clearance policy for the electronic storage and delivery of third party materials
 - approval and accreditation
- There are effective arrangements for the internal validation of the academic content of any Web-based resources, which are integral to the syllabus but where ownership resides beyond the institution
- There are procedures in place to verify that Web-sites, to which access is required by students, have not been withdrawn and that they continue to comprise current and relevant material
- Arrangements are in place to ensure that no change will be made in access charges to externally-authored Web-sites during the period of their required use
- Design and development has taken into account the characteristics of the learner group, eg technical literacy, demographics, numeracy level, literacy level, learning styles
- Account is taken of the results of field testing and external peer review of the strategy for teaching, the quality of the learning materials and the modes and criteria of assessment
- The curriculum is related to the expressed objectives
- The instructional techniques used are effective
- Full advantage is taken of the opportunities offered by the different modes
- For flexible, virtual and distance modes, there are explicit procedures to ensure the effective integration of the stages of course development, presentation, assessment and support (eg library)
- For flexible, virtual and distance modes, there are explicit statements of the respective entitlements, responsibilities and accountability of the several parties in respect of the programme of study, including developers, tutors, assessors, support staff, management and students
- For flexible, virtual and distance modes, there are explicit statements of the expected communication between the several parties in the system
- Feedback from stakeholders/students is considered and appropriate action taken
- There is a system for updating the materials

7. Teaching and Learning

Many aspects of teaching and learning are quite different for the distance, flexible or virtual institution compared to a campus-based, face-to-face operation, and the QA processes are correspondingly different.

"Focus on time-on-task measures, including minimum weeks for courses and monitoring of course log-ins, is common in distance learning programmes. In addition to textbooks, many courses are accompanied by a comprehensive study guide which provides course objectives and key concepts. Students are expected to spend a minimum amount of time per week for study and homework assignments. Interaction with faculty is mandated and, in many cases, students share access to a class group mailbox along with the instructor, which provides a platform for instructor communication at virtually any time." (Phipps et al., 1998)

Questions

- Do the selected teaching media offer students sufficient variety to suit different learning styles?
- What are the performance standards for the provision of teaching materials in the various modes?
- What QA systems are in place to monitor performance?
- What systems are in place to measure student progress through a course? (eg monitoring the electronic record of a student's progress through a set of on-line teaching materials)
- What commitment is made to providing on-line or face-to-face advice and information by tutorial staff?
- How is this monitored?
- What systems and standards exist to enable students to communicate (on-line or off-line) with each other, synchronously or asynchronously?
- How is performance measured?

Data

- Evidence that the range of needs of learners have been identified and met, having regard to the target and actual student populations
- Evidence that the teaching media selected suit the needs of the target students
- Evidence of the use of problem-based learning
- Evidence of the use of problem-based learning
- Details of provision for practicums, work experience etc.
- Accessibility of tutors, eg via email, 0800 numbers, adequate office hours on campus
- Details of the range of counselling (including special counselling unit, use of tutors)
- Provision made for remedial work

- Existence and nature of a complaints system, eg voicemail
- HEI's record of on-line interaction: the time is spent by students on specific tasks, plus a record of what the HEI follows up
- Progression and completion rates
- Student evaluations
- Evidence of moderation of results across modes
- The necessary regulatory environments (eg. police checks of mentors prior to assignment to students) are in place and are evaluated
- Evidence that contracts have clear performance standards and that these are monitored

Interpretation

- There is an adequate focus on the individual student (as contrasted with an instructor focus) in the provision of education, support for learning, and monitoring of progress
- Students have adequate access to tutoring and mentoring
- The teaching and learning methods used are effective
- There is adequate attention to the teaching and learning of practical skills and student experience outside the 'virtual class'
- The Health and Safety standards in work experience environments, and elsewhere, meet requirements
- Arrangements for monitoring the work experience student are adequate
- Different learning styles are catered for
- Different cultural needs are met
- All modes are adequately provided for and supported, and the outcomes are comparable
- There is adequate
 - moderation of assessment outcomes
 - student evaluation

8. Student Support

Student support is another area where the different modes have quite different requirements. A campus-based HEI with a single campus should be providing campus-based support services. For an institution with multiple campuses, the question of support is more complex (unless each campus is large enough to contain the full range of support services). When an institution provides distance education, it must decide whether any of its support mechanisms will include face-to-face activities. These may be through tutorial groups, travelling teachers, local agents, use of public facilities, etc.

When we take a further step to the virtual institution and on-line provision, the picture changes again. In the extreme, all the students in a single class could be geographically dispersed, and maybe no two in the same country. The HEI must be able to show that its quality systems can handle this situation.

Many distance learning providers conduct "rigorous reviews of student support services as one element of quality control. In fact, focus on adequate student support as an essential element of teaching and learning may be one of the most distinctive features of quality control in distance learning environments." (Phipps et al., 1998)

Questions

- How do prospective students obtain information and advice about the programmes available by flexible delivery?
- What QA systems are in place?
- How do students gain admission/enrol/obtain credits/ for previous work etc?
- What are the standards of service and how are they monitored?
- Are there student enrolment, tracking and verification systems
- What commitment is made to providing core and ancillary information, references and materials to students studying flexibly?
- How is this provided, to what standard, and how is its quality assured?
- What systems and standards are in place to help students develop study skills and become competent in the use of equipment and technology integral to their study?
- In institutional publicity, is there a clear statement of the required skills in dealing with communication technology?
- Are prospective students fully aware of any requirements to use Web-based resources?
- Are students given an indication of estimated costs?
- Is there a clear statement to students of the technical requirements for the proper operation of courseware and the action to be taken by the student in the event of equipment failure?
- Are there adequate learner support procedures to assist with electronic communication and how are students informed of this?

- Is there an identified contact person for each student?
- For on-line education, are there alternative non-electronic communication methods available?
- Is there adequate guidance to students on the different ways in which they may use the learning materials?
- How is provision made for all students to access such support services as career guidance, etc?
- Does the institution build up a picture of admission, enrolment and progression patterns?

Data

- Mechanisms for encouraging students to form face-to-face self-help groups or student remote networks
- Name/office of person responsible for moderating any programme-based computer conferencing
- Name/office of person responsible for monitoring computer conferencing against a code of conduct for participants
- Records of telephone, e-mail and other communications with agents, tutors and students
- Other evidence of regular and systematic contact between staff and students

Interpretation

- The student services are comprehensive and appropriate to the mode
- In a virtual/flexible environment, particular attention would be paid to the appropriateness and adequacy of support for students in
 - precourse counselling
 - enrolment and admission
 - provision of course information and materials
 - the way in which students access tutorial support
 - library regulations to support virtual delivery
- There is adequate integration of structures to support student coming in through email
- Methods are in place to identify (as far as possible) students who are having difficulties and/or may drop out, and provide targeted support

Interviews

The EQA should talk to students:

- randomly selected,
- email,
- questionnaire,
- asynchronous discussion etc.

9. Collaborative and International Arrangements

"ODL lends itself to transmission of education across national boundaries [which] raises questions of the maintenance of quality, and the guarantee that it is being maintained, internationally. At present, some offerings have to answer to two EQAs (at home and abroad) while others slip between the cracks and answer to no-one. Furthermore, since education is very clearly not culturally neutral, the determination of what constitutes 'equivalent quality' is far from easy." (Woodhouse, 1999; see also GATE, 1999)

Questions

- What standards and QA systems are in place to monitor programmes and other links involving collaborative arrangements with other institutions and organisations?
- What QA systems are in place for programmes sourced from another institution?
- Where the operation of a programme extends internationally, is there provision to test the system on which it depends in the international context before it is programme being offered?
- What consideration is given to equipment characteristics and availability abroad?
- Is adequate account taken of possible different educational cultures in the places where programmes are to be offered and/or assessed?
- What requirements or restrictions are imposed by home professional bodies or overseas governments in respect of the recognition of awards?

Data

- Contracts with partner institutions and organisations
- Fee structures
- Details of local administrative agents and the contractual arrangements therewith
- Arrangements for managing relations with agent(s) including the responsible office
- Promotional material for students and prospective students

Interpretation

- Where programmes are to operate internationally using computer-based learning, steps are taken to ensure that equipment specifications and standards are comparable and/or compatible
- Students are adequately and appropriately supported wherever they are
- Students are treated equitably, from admission onwards, but with tailored support wherever possible
- International students have adequate local support
- Students' learning experiences and programme outcomes are not adversely affected (and preferably are enhanced) by the collaborative and/or international activities
- Mutual recognition arrangements are in place where appropriate

10. Assessment and Moderation

"Quality assurance in distance learning is distinguished by a strong emphasis on programme goals, and assessment of results or outcomes in the context of these goals. The focus on the assessment of goals and outcomes does not necessarily mean that distance learning programmes have been path-breakers in devising new ways to measure instructional outcomes; in fact, with few exceptions we found that distance learning providers measure learning results in much the same way as do conventional programmes." (Phipps et al., 1998)

"The measurement of educational outcomes and experiences in distance learning is elusive. With few exceptions, we found little evidence to indicate that student learning outcomes are emphasised more heavily in the vast majority of distance learning settings than in the more traditional institution environments." (Phipps et al., 1998)

"The use of a course co-ordinator with responsibility for ensuring that all assessments of a course are 'equivalent' may be preferable to a requirement for identical examinations." (Woodhouse, 1999)

Questions

- What systems of assessment are employed?
- What guidance and standards are applied in the design of student assessment?
- What systems are employed to monitor the systems of assessment in use?
- What systems are in place for the formal examination of students?
- What is the system for workplace assessment?
- What standards are used, and how is quality monitored?
- What measures are in place to ensure the security and integrity of assessment and examination systems (both on and off line)?
- How does the institution ensure that student learning outcomes are equivalent for versions of a course delivered by different modes or from separate sites?
- What systems are in place to address authenticity?

Data

- A description of the relationship between the strategy for teaching and the stated aims and intended learning outcomes
- Processes for checking that students' work is their own
- Placement rates - into employment, postgraduate work, other education
- Pass rates and success in professional association exams
- Starting and continuing salaries and salary differences

Interpretation

- There is a satisfactory strategy for formative and summative assessments
- The relation between summative assessments and the learning outcomes specified for the programme is pedagogically sound
- Arrangements for any locally-administered and assessed summative course-work assignments are secure
- Authenticity of student work is appropriately verified
- Learning goals and outcomes are set and measured
- Graduates evince sufficient:
 - knowledge value-added
 - generic skills

11. Feedback and Evaluation

The institution should have mechanisms for reviewing and evaluating its activities in all the areas covered in this publication. Its evaluation will come from its own monitoring, both continuous and cyclic. Feedback should come from a variety of sources, both within and without the institution.

Questions

- What mechanisms are in place to handle students' representation, including means to contribute to discussion of quality assurance policies and their operation?
- How does the institution secure feedback from its various constituencies and act on the findings?
- Is advantage taken of the mode to obtain feedback in different ways?
- Is feedback obtained on all aspects of the institution's activities?
- Are there advisory committees?

Data

- Instruments for obtaining staff, student, alumni and employer feedback
- Examples of feedback received
- Evidence of action taken as a result of feedback
- Minutes of advisory committee meetings

Interpretation

- The evaluation regime and feedback procedures give comprehensive coverage of the institution's activities
- Students are asked to evaluate courses on aspects including study materials, methods, instruction received, and results experienced
- Feedback allows the identification of factors relating to progression and non-completion
- Feedback is analysed and disseminated to those who can best use it
- Feedback on the effectiveness of current provision results in enhancements to the programmes
- Advisory committees are used effectively
- Courses are monitored in terms of enrolment numbers, interest level, currency, size, etc., and adjustments made

12. Technological Infrastructure

Much of the way we run our daily lives is complex, but we are unaware of that complexity because, firstly a host of systems are in place (transport, communication, education, services, etc.) to deal with it, and secondly we are very familiar with using those systems. As we move into a 'virtual world', both of these factors are weakened. We cannot assume all systems are in place and we cannot assume people know how to use them. A campus-based institution does not (normally) have to provide a bus service for students to come to campus to enrol, nor instruct students on how to use it, but the analogous assumptions may not hold for the 'virtual institution'.

The 'virtual institution' must therefore explicitly identify what is needed, and of this, what can be taken for granted. It may also wish to plan ahead and consider what, in the future, should be taken for granted.

Questions

- What access is required by students to on-line communications technology, to hardware and to software?
- How does the institution monitor the appropriateness of these requirements for different groups of students?
- How does the institution ensure that students are able to meet these requirements?
- How does the institution monitor the compliance with these requirements for different groups of students?
- What support is available to students to familiarise themselves with required technology at the start of the programme?
- What services and standards are available for students with special needs?
- What technical support is available for students and how is this monitored and assessed?
- What are the responsibilities of different parties in the system to take measures to protect students and any distant staff in the event of communication failures or other emergencies?
- What are the relative costs of the various modes?
- Are students informed about any tracking used?

Data

- Detailed specification of the learning resources and the support that
 - will be made available directly to students by the institution
 - is assumed or required to be in place at the location of the student
 - is to be obtained by the student.
- Procedures to be followed in reporting technical failures
- Mechanisms to ensure that urgent matters are addressed speedily?

- Emergency methods of communication for use in the event of a failure of the primary channel of communication

Interpretation

- Has the institution assessed the relative cost of technologies and what equipment it will be realistic for students to be required to buy?
- Has the institution assessed the estimated lifetime of the technology to determine whether its cost and life span presents good value?
- Are students told the probable cost of obtaining materials for which they are responsible?
- Where the use of Web-based resources is either recommended or required, what provision is made for students who are unable to access the Internet?
- Are all involved aware of the procedure to follow in reporting technical failures?
- There are emergency methods of communication for use in the event of a failure of the primary channel of communication, and these are fail-safe
- Is there an adequate level of resourcing?
- Is full advantage taken of new modes?

13. Issues for External Quality Agencies (EQAs)

Chapters 2 to 12 have covered aspects of flexible teaching and learning that are relevant to the quality of the institution and its activities and outcomes. They are relevant both to the HEI as it attempts to ensure quality, and to the EQA as it attempts to audit or assess that quality.

EQAs generally operate by placing the actual external review in the hands of a small group or team. At present, most team members inevitably come from traditional backgrounds and do not understand how ODL systems work, especially the relationship between local support and central provisions, and the nature of the teaching process overall. The greater the use of newer and more flexible systems, the greater the possibility that the reviewers are somewhat out of touch. This can lead to some aspects that are critical for good flexible systems being ignored, under-rated, or judged against inappropriate criteria.

Being aware of this situation, HEIs would be well-advised to pay particular attention to the preparation of sound documentation, which may even include a modicum of 'tuition' for reviewers.

However, good quality external review is the responsibility of the EQA, which should therefore address the indicated problems by careful selection, adequate training, and thorough briefing of its reviewers. Of course, the EQA may not be the possessor of sufficient knowledge and experience to do these things unaided. It is relevant that knowledge and understanding are socially constructed. In drawing on the judgements of people who have already demonstrated knowledge, competence or experience in the required areas, in putting them in a teaching and learning situation, and in facilitating discussion between them and the reviewers, not only will the reviewers become better able to 'do their job', but the job will become more clearly defined and explained. This process therefore has value beyond the specific HEI or EQA involved in any particular review.

14. References

14.1 Articles and Monographs

- Chambers, M. (1999), 'The efficacy and ethics of the use of digital multimedia for educational purposes', in Mills, Roger and Tait, Alan (eds.), 'The convergence of distance and traditional modes of higher education', London and New York: Routledge.
- Commonwealth of Learning, The (1997), 'Guidelines for remote delivery of courses', *Connections*, 2, 2, April
- Daniels, J. (1999), 'Distance learning in the era of networks', *ACU Bulletin of Current Documentation*, 138, April, 7-9
- Farrell, G. (1999), 'The development of virtual education: a global perspective', Vancouver: The Commonwealth of Learning
- Freeman, H. et al. (1999), 'The virtual university; the Internet and resource-based learning', London: Kogan Page
- GATE (1999), 'Certification Manual', 3rd edn, Washington DC: Global Alliance for Transnational Education
- Harry, K. ed. (1999), 'Higher education through open and distance learning', Vancouver: Commonwealth of Learning
- Hiltz, S.R (1986), 'The virtual classroom: using computer mediated communications for university teaching', *Journal of Communications* 36(2)
- Lewis, R. (1998), 'How real is my virtual university?', *Proceedings of Conference on Virtual Learning Environments*, Washington DC: AACRAO
- Marchese, T. (1998), 'Not-so-distant competitors: How new providers are remaking the postsecondary marketplace', *Change*, Vol. 50, No. 9, May, pp3-7
- Oilo, D. (1998), 'From traditional to virtual: the new information technologies', discussion paper prepared for UNESCO World Conference on HE, Paris, October
- Peters, M. & Roberts, P. (1999), 'Virtual technologies and tertiary education', Wellington: Dunsmore Press
- Phipps, R.A., Wellman, J.V. & Merisotis, J.P. (1998), 'Assuring quality in distance learning: A preliminary review', Washington DC: Council for Higher Education Accreditation
- Prebble, T.K. (1999), 'Quality Assurance in Dual Mode Institutions', in 'Achieving Quality: examples of good practice in New Zealand universities', AAU Series on Quality Number 3, Academic Audit Unit
- QAA (1999), 'Guidelines on the quality assurance of distance learning', Cheltenham: Quality Assurance Agency for Higher Education
- Smith, J.M. (1998), 'A realistic look at education of the future', *Distance Education & Training Council News*, Fall
- Tiffin, J. & Rajasingham, L. (1995), 'In search of the virtual class', London: Routledge
- Woodhouse, D. (1995), 'Quality = Fitness for Purpose', in 'Fitness for purpose? Quality in Tertiary Education', A lecture series, Whitireia Community Polytechnic, 1995
- Woodhouse, D. (1998), 'Auditing Research and the Research/Teaching Nexus', *New Zealand Journal of Educational Studies*, 33,1, 1998, pp39-53
- Woodhouse, D. (1999), 'Summary of virtual conference on accreditation, quality assurance and credit banking', Vancouver: Commonwealth of Learning

14.2 Internet

Achieving Worldwide Access to Quality Education and Training

<http://www.edugate.org/vision.html>

Advisory group on Evaluation Criteria

<http://omni.ac.uk/agec/iolim96.html>

A Review of the Convergence between Global Media Networks & HE Provision

<http://www.detya.gov.au/divisions/hed/highered/eippubs/eip97-22.htm>

Assessing Online Courses for the Adult Learner

<http://www.caso.com/articles/woolf01.html>

A Study of Training and Support programs, and Computer/Communication Skills of Teachers and Students Who Participated in Computer-Based Distance Education in HEIs (especially "Summary, Conclusions, and Recommendations")

<http://www.bsu.edu/classes/nasseh/test200/start.html>

Council for Higher Education Accreditation perspectives

<http://www.chea.org/Perspective/index.html>

Course evaluation forms

<http://www.washington.edu/oea/iasforms.htm>

Cracking the Evaluation Conundrum: New Approaches to Evaluating Your Technology-Assisted Learning Programs

<http://gutenberg.com/~caninst/s08.html>

Criteria for on line learning Cathy Gunn Auckland University

<http://www.auckland.ac.nz/cpd/criteria.html>

Distance Education and Training Council: Useful resources

<http://www.detc.org/content/resource.html>

Electronic Learning In A Digital World

<http://www.edgorg.com/>

Enhancing Usefulness of Accreditation in a Changing Environment

<http://www.chea.org/Events/Usefulness/index.html>

Evaluating IMM: Issues for researchers (deals with the issue of how to evaluate the material, and secondly, the issue of how to evaluate the learning)

<http://www.csu.edu.au/division/oli/oli-rd/occpap17/eval.htm>

Evaluating quality on the Net: Paper by a Librarian

<http://www.tiac.net/users/hope/findqual.html>

Flexibility, Technology and Academic Staff Practices: Tantalising Tales and Muddy Maps

<http://www.anu.edu.au/uniserve/eip/muddy/muddy-Executiv.html>

From Chalkface to Interface: Developing OnLine Learning

http://www.eduvic.vic.gov.au/c_to_i/1intro1.htm

(specifically: Critical Factors

http://www.eduvic.vic.gov.au/c_to_i/6prin5_2.htm#Critical)

Measurements in Online Study

<http://www.caso.com/articles/reid05.html>

Observing, Measuring, or Evaluating Courseware

<http://www.psy.gla.ac.uk/~steve/Eval.HE.html>

Quality Assurance Agency for Higher Education: Guidelines

<http://www.qaa.ac.uk/dlg/intro.htm>

Quality Assurance Standards for Graduate Courses Offered via Distance Education: EAST CAROLINA UNIVERSITY

<http://www.music.ecu.edu/DistEd/quality.html>

Quality Criteria for Medical info on line (Germany)

<http://www.imbi.uni-freiburg.de/medinf/gmdsqc/e.htm>

Quality ratings paper with lots of links

<http://www.ariadne.ac.uk/issue9/quality-ratings/>

Resources to assist the assessment of use of Technology in Learning

<http://www.washington.edu/oea/iastemp.htm>

<http://depts.washington.edu/catalyst/information/assess.html>

Standards: Open and Distance learning Council UK

<http://www.odlqc.org.uk/odlqc/standard.htm>

Teaching in the Switched On Classroom: An Introduction to Electronic Education and HyperCourseware (especially chapter 10: Tests, Grades, & New Criteria for Education; chapter 16: Rethinking the Educational Process/Environment)

<http://www.lap.umd.edu/SOC/>

See the Internet also for up-to-date information on systems and environments such as Audiograph, blackboard.com, hyperwave, Lotus Learning Space, realeducation.com, TopClass. See <http://www.osc.edu/webED/linkslist.html> for more.