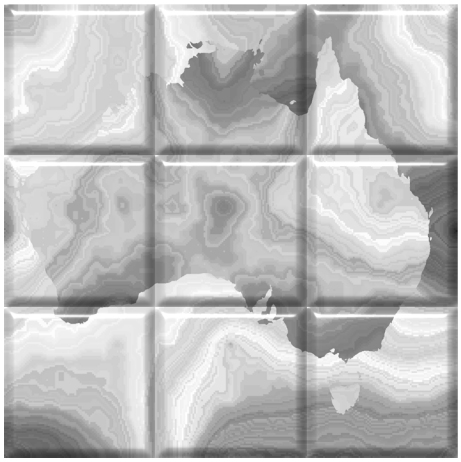
Principles for the Integrity, Quality and Long-term Credibility of Certificates of Achievement



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This project was supported by a grant under the Quality Outcomes Program funded by DETYA.

The views expressed here are those of the author and do not necessarily represent the views of DETYA.

National Library of Australia Cataloguing-in-Publication data

Principles for the integrity, quality and long-term credibility of certificates of achievement

ISBN 1 74038 009 6

1. Education, Secondary - Aims and objectives - Queensland. 2. Competency based education - Queensland. 3. Educational tests and measurements - Queensland. I. Queensland. Queensland Board of Senior Secondary School Studies.

371.26209943

Information about this publication may be obtained from the Research Section of the Queensland Board of Senior Secondary School Studies, (07) 3864 0273.

This document is provided by the Queensland Board of Senior Secondary School Studies on behalf of Australasian Curriculum, Assessment and Certification Authorities (ACACA)

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RE1151(c)

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Foreword

This report documents the work undertaken to achieve Australia's first set of explicit agreed upon guidelines for certification of students' achievements in post-compulsory schooling. The project was called 'Principles for the integrity, quality and long-term credibility of certificates of achievement', and was funded by the Department of Education, Training and Youth Affairs (DETYA). The project was undertaken by the Queensland Board of Senior Secondary School Studies (QBSSSS), working with the Australasian Curriculum, Assessment and Certification Authorities (ACACA).

I wish to acknowledge the important contribution of Advisory Group members who offered detailed annotations and guidance at every stage of the project. Their expert assistance in developing a nationally agreed set of guidelines for the quality of certificates have been central to this project. The contribution of Maureen Cashman (Assistant Director, Quality Outcomes Section, DETYA), the project liaison officer, should also be acknowledged. Thanks are also owed to the ACACA chief executive officers, who provided important feedback in February 1999.

The project was managed by Dr Reg Allen (Deputy Director, Analysis & Resources), who initiated and designed the project, co-wrote the guidelines, and offered expert guidance to the Advisory Group. As its Chair, he was supported by Dr Erica Bell (Manager, Policy & Evaluation) who co-wrote the guidelines, and the final report, as well as other supporting papers. David Kelly (Project Officer, Policy & Evaluation) wrote appendix 2 and also edited the report. Expert administrative assistance was provided by Della Nanka. I congratulate Dr Allen and the team on the design and outcomes of the project.

The guidelines for quality certification, which form the central part of this document, have the potential to help shape policy developments at both federal and state level, by providing a set of parameters within which such developments should occur. The project also represents an investment in developing understanding, over the long term, of the importance for the community of ACACA certification procedures and practices. The guidelines for quality certification represent the first explicit national statement of the principles that should inform the practices of ACACA members. These guidelines have been developed from research into similarities and differences between existing ACACA practices, as well as the practices of other certification authorities. As such, they provide some important objectives for ACACA members in the continuing development of practices, and are sufficiently grounded in what now occurs to be feasible.

I commend this report to the education community. I believe the research will make a significant contribution to the understanding and development of certification practices and I trust the report will enjoy a wide circulation and readership.

John A Pitman

Director
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Executive summary

This document presents the findings of the project 'Principles for the integrity, quality and long-term credibility of certificates of achievement', which was funded by the Department of Education, Training and Youth Affairs (DETYA) and developed by the Queensland Board of Senior Secondary School Studies (QBSSSS), working with the Australasian Curriculum, Assessment and Certification Authorities (ACACA).

Central to this document is a set of guidelines for certification of senior secondary education. They are preceded by a discussion of the rationale for developing such guidelines, and a brief description of the key quality assurance procedures practised by ACACA members. The guidelines were formulated as part of the project and now represent the agreed ACACA position. They are based on a detailed analysis of current structures, procedures and practices of ACACA members (see appendix 1) and those of other authorities (see appendix 2), and may be considered both a statement of 'best practice' and an attainable set of ideals. They consist of principles, followed by an illustrative list of strategies for improving practice. Certification occurs in complex and changing contexts; the guidelines are intended to represent a starting point for further developments, not a final position. This document also includes a discussion paper, *Issues and implications*, which focuses on the implications of these guidelines for ACACA members (particularly with reference to key competencies, the integration of VET programs into senior secondary certificates, and issues relating to tertiary entrance), as well as for authorities at other levels within the Australian Qualifications Framework. A discussion of the process used to produce the guidelines may be found in appendix 3.

In structure, this document necessarily differs in some ways from the report presented to ACACA and DETYA, but no substantive changes to content have been made. The guidelines themselves are as endorsed by ACACA. The broad principles for quality certificates and certification are as follows.

1. A high-quality certificate of senior secondary education

1.1 is issued by a legally constituted authority sufficiently separate from government, school authorities and community groups to arbitrate the many competing and conflicting interests in senior certification

1.2 is backed by levels of quality control/assurance matched to the importance to students and users of the results recorded on the certificates and made clear to the user of the certificate

1.3 indicates clearly what a result certifies

1.4 is issued as a formal documentary record with copies available indefinitely

1.5 is widely recognised interstate and overseas.

2. High-quality certification involves

2.1 high quality in curriculum documents, assessment procedures and performance standards

2.2 open and transparent processes

2.3 monitoring the currency, relevance and value of results recorded on certificates and the procedures and practices used in their production

2.4 the issuing authority taking responsibility for the substantive truth of the statement implied by the appearance of a result on its certificate

2.5 developing procedures for students to transfer from interstate or overseas before completion of senior studies without unfair penalty

2.6 fostering opportunities for students to move easily across pathways during and after senior studies.

The research conducted for this project suggests that while no ACACA member is achieving all the principles perfectly all the time, ACACA members are continually improving their procedures with the aim of achieving certificates of the highest possible quality. The principles become useful only as part of this process, that is, when they are used actively as benchmarks of national and international best practice. Certification authorities can use these guidelines as part of critical review and examination of practices by asking the questions 'How well are we really achieving this principle?' and 'What strategies can we implement to better achieve this principle?'

The guidelines reflect the expectation that VET programs will be integrated into senior secondary certificates in ways that are consistent with principles for quality certificates. ACACA members retain responsibility for key areas that relate to the quality of the certificates they produce, particularly where their intervention may prevent certificates from losing credibility in the eyes of community users of the certificates.

In terms of tertiary entrance, the fact that results on senior certificates may be used to decide selection for tertiary courses is one reason these are 'high stakes' results, which should have the highest level of quality control. While the guidelines do not prescribe an appropriate method of tertiary selection, they do represent a shared commitment to certain national benchmarks of quality for the different methods used.

The guidelines also suggest that ACACA members have a key role to play in ensuring that assessment of students' achievements in terms of the Key Competencies is consistent with the *ACACA Guidelines for Assessment Quality and Equity*. If results in terms of Key Competencies are to be certified, as opposed to recorded, the issuing authority will need to set up quality control procedures that allow it to take responsibility for the substantive truth of the statement implied by the appearance of a result on the certificate.

Finally, the single greatest implication of the guidelines is that certification authorities may need to do more than they presently do to account for the quality of their certificates: they will need to be engaged in a cyclical process of formal and informal evaluation of their key quality assurance procedures.

The views expressed in this report are those of the authors, synthesising the input of ACACA members and other certification authorities, and do not necessarily reflect those held by DETYA.

Introduction

The Queensland Board of Senior Secondary School Studies (QBSSSS) was funded by the Department of Education, Training and Youth Affairs (DETYA) to undertake a collaborative project with the Australasian Curriculum, Assessment and Certification Authorities (ACACA). The purpose of this project was to develop a set of principles for certification of senior secondary school education derived from current practices. These principles would form part of a set of guidelines which could represent an agreed national statement on the principles required for the integrity, quality and long-term acceptability and credibility of certificates of achievement in senior secondary studies.

An additional objective of the project related to elaboration of these principles; that is, to indicate interactions between these principles and post-compulsory education, in terms of policy, and actions that might be taken by ACACA members. The implications of the principles have been explored in three key areas: vocational education and training (VET), tertiary entrance and the Key Competencies.

The certification principles that underpin the integrity of certificates of senior secondary education have, previous to this project, been implicit in ACACA members' practices, but have not been systematically articulated and endorsed. The guidelines in the Australian Qualifications Framework (AQF) do not articulate these certification principles. In 1995, ACACA developed and endorsed a set of *Guidelines for Assessment Quality and Equity*, which include principles and strategies for achieving nationwide 'a step forward in improving the quality, and hence the fairness, of assessment'. While clearly contributing towards the quality of certificates, these guidelines do not address all aspects of certification.

The project's focus on the principles of quality assurance of certificates is directly related to the concern expressed in the New Apprenticeships guidelines about appropriate quality assurance for the integrating VET courses into senior secondary certificates. The Ministerial Council for Employment, Education, Training and Youth Affairs (MCEETYA) has endorsed the *Principles and Framework for the Consistent Application of the National Training Framework within Secondary Schools*.[1] These principles relate to a broad range of issues to do with the implementation of VET and the commitments of ACACA members in this area: recognising training, meeting industry and enterprise standards, establishing pathways through senior secondary certificates, ensuring dual outcomes, determining priorities for the delivery of VET in schools, and using training packages. They do not, however, relate directly to certification. The ACACA certification guidelines are consistent with these broader VET guidelines.

The guidelines for certification are also designed to be consistent with the ACACA 'minimum position' on ways in which Key Competency assessment and reporting might be introduced nationally.[2] This minimum position has not, of course, prevented states and territories from further developing Key Competency assessment and reporting. The points of agreement reached included the explicit embedding of the Key Competencies in

[1] They were developed by the National Training Framework Committee (NTFC) of ANTA in conjunction with ACACA as a revision of principles developed for New Apprenticeships by the MCEETYA Taskforce on VET in Schools.

[2] As developed at the 11–12 March 1996 ACACA Key Competencies meeting.

the curriculum, the development of guidelines for assessing and reporting on the Key Competencies, the appropriate emphasis of the knowledge and skills required by the Key Competencies in assessment practices in subjects, and further development of the Key Competencies to clarify their meaning.

In Australia, there is a need for explicit information about best practice in certification—in addition to the other kinds of principles and positions outlined above—to inform policy development at federal and state level by providing a set of parameters for quality requirements. The absence of readily available and nationally endorsed guidelines has meant that developments in certification practices in some areas of post-compulsory education and training have occurred without reference to the principles that are known to be required for the integrity, quality and long-term credibility of certificates. The establishment of this set of principles is, in part, a response to the need for reference points for future development. In a context of increasing diversification of the senior curriculum and growth of the range and amount of information on certificates of senior secondary education, there has not been an Australian position on how certificates can have long-term and widespread currency: more than mere pieces of paper testifying to intentions rather than substance, to hopes rather than outcomes. In the long term, certificates are only worth more than the paper on which they are printed when they are accepted as being accurate and meaningful records of worthwhile achievements. The project was also developed in response to a need to improve understanding, over the long term, of the importance of ACACA certification procedures and practices for the community.

The need for such guidelines also arises, in part, from the globalisation of the world economy, which brings increasing needs for formal accreditation and certification of standards in a way that assures the long-term and widely accepted value of the certificates involved.

The issues covered by the guidelines for certification arise, in different ways, in each state or territory on many occasions: for example, during reviews of the roles, responsibilities, structures and independence of the responsible statutory bodies. The development of these guidelines was intended to help expedite the recurrent explorations of these issues. The different states and territories have different systems of certification, and the guidelines were not designed to endorse any one method of achieving quality certificates. Some states, for example, use public examinations while other states have school-based assessment. The guidelines were developed with the participation of all ACACA CEOs and their senior officers, and it became clear that, while the detail of the procedures used to achieve particular goals may differ from state to state, there is considerable agreement about what those goals are.

Finally, while the principles have been developed in a specific set of contexts, they are designed to apply to the likely future contexts for senior secondary certification—a future of increased flexibility and diversity. The principles are intended to provide the basis for the development of credible certification for students completing senior studies through a wide range of pathways, including combining part-time study and work.

The project background

ACACA

ACACA is the national body for the chief executive officers of the statutory authorities in the states and territories responsible for certificates of senior secondary education. Adoption of these guidelines by ACACA, then, provides a basis for their consideration, approval and implementation by Boards[3] themselves. In the development of the project, it was envisaged that this implementation could occur in (at least) the following ways:

- through strategic plans, that is, the incorporation of aspects of the guidelines as organisational goals and the development of relevant performance indicators
- through the incorporation of some or all parts of the guidelines into procedures manuals.

This process of adoption and implementation of national guidelines has been used before for the *ACACA Guidelines for Assessment Quality and Equity,* which have been incorporated into strategic plans and procedures manuals in Board offices.

Key quality assurance procedures

Certificates produced by ACACA members are supported by a set of quality controls in the form of structures, procedures and practices. The worth of certificates—that which makes them more valuable than the paper they are printed on—can be regarded as the sum of these quality controls.

The project method, as detailed below, involved identification of the most important procedures for producing quality certificates, as well as the key similarities and differences in quality assurance procedures between ACACA members. It should be noted that the project objectives in the DETYA Services Contract stated explicitly that the agreed set of principles of certification were to be 'derived from current practices'.

A number of key ACACA quality assurance procedures for certification can be noted here (the complete analysis is given in appendix 1). There appear to be three levels of quality control:

- the guidelines (curriculum procedures)
- the plans (accreditation or registration procedures)
- the results (moderation procedures, tests or examinations, technical procedures for calculating student results, special consideration and appeals procedures).

We may take each of these procedures in turn.

Looking at the guidelines (curriculum procedures)

Curriculum procedures relate to the development of learning programs (whatever their form—typically syllabuses). These procedures are often cyclical, involving extensive

[3] For the sake of convenience this term is used in this report in a generic sense to refer to the legally constituted authority that issues certificates in each state and territory; in reality, some states call their 'Board' something else, such as 'Curriculum Council' in WA.

processes of trialling, evaluation, review and revision. These procedures aim to develop clear, coherent and workable curriculum documents that provide teachers with explicit standards for assessment that can be declared in advance and used to achieve fair, valid and reliable assessment of students' achievements. Curriculum development also aims to achieve cross-curriculum goals in a coordinated way and provide schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills.

Looking at the plans (accreditation or registration procedures)

The terms 'registration' and 'accreditation' mean different things in different states. However, these procedures all involve looking at the plans for learning programs. At the simplest level, accreditation procedures involve a school (or group of schools) submitting learning programs to the Board via an accreditation panel, which makes a recommendation in line with requirements for quality, standardisation and currency of the learning programs. Currency is particularly important; learning programs are typically accredited for a fixed period of time. Procedures for registration or accreditation aim to achieve accountability in the sense that learning programs are based on a document of record that describes what has been taught, and the nature of the outcomes provided for certification purposes.

Looking at the results

Moderation procedures

While the nature and extent of moderation of school-based assessments vary greatly across the different state systems, moderation procedures typically aim to achieve comparability of school assessments, and involve some kind of scrutiny or verification of student work. Comparability occurs when the same result in the same learning program means the same thing across the state. Moderation also involves providing advice to schools about a broad range of assessment quality and equity issues.

Tests or examinations

Tests and examinations are used to assess and, like moderation, verify student achievements by a process of scrutiny of student work. ACACA members have extensive procedures for the development, scrutiny and evaluation (and post-evaluation) of assessment instruments used for their tests and examinations. There are also procedures for administration and security which aim to provide student results that have been administered under conditions that are substantively the same for all students. Validity and reliability of results are the aim of assessment procedures involving expert trained assessors who know and understand the standards being applied, and whose judgments are monitored for reliability.

Technical procedures for calculating student results

Technical procedures for the calculation of student results aim to provide information about student results that is based on rigorous scaling techniques with extensive 'built in' checks and balances for achieving accuracy.

Special consideration and appeals procedures
Special consideration procedures aim to provide accurate results in the sense that all students have been given every opportunity to show what they know and can do. Special consideration procedures typically involve varying the way in which information is communicated from and to the student, in ways that maintain the validity of the assessment result obtained. Special consideration procedures can relate to assessment (for tests or examinations) carried out by ACACA members or to advice that ACACA members give schools about school-based assessments.

While there are some important similarities and differences between the procedures of different ACACA members, identification of these did, in the course of the project, suggest a set of principles that could be developed as a reference point for the future. The project aimed to make these principles explicit.

The project

An Advisory Group comprising representatives from each State and Territory ACACA member, one person from the vocational education and training sector (ANTA), and one person from DETYA was established and met on two occasions.

The project first developed an understanding of the key similarities and differences in the relevant procedures and practices of ACACA members. Advisory Group members provided information about the system of certification in their state and the purpose or aims of procedures and practices. Through this process, key aspects of quality assurance for the production of certificates of achievement with integrity, quality and long-term credibility were identified. The principles were derived from these.

The research team worked initially with the Advisory Group, and then visited CEOs in each state to obtain feedback on the draft guidelines. Information was also gathered about best practice in other certification systems.

This process of developing the guidelines, and the actions completed, are described more fully in appendix 3.

The project offers evidence that there is sufficient commonality between the different states and territories in their systems of certification to develop a statement of common principles that allows scope for future development. While there are differences in how the different states and territories achieve certain ends, they seem to have more in common in terms of what the shared principles should be, and what best practice represents, than might be expected. The key principles for achieving high-quality certificates and certification can be given briefly and in sharp outline. The project has identified the essential elements of quality certificates and certification: these exist now in an explicit, rather than implicit form. Key strategies or 'best practice' for achieving this quality of certificates and certification have also been identified.

The guidelines: key challenges for certification

The guidelines for certification reflect the expectation that VET programs will be integrated into senior secondary certificates in ways that are consistent with principles for quality certificates. For example, in terms of curriculum development, the guidelines suggest that ACACA members may need to help make VET criteria for assessment sufficiently explicit by providing a range of supports (such as support materials) for teachers implementing VET in schools. The guidelines indicate that ACACA members have a role in developing teachers' capacities to assess effectively against competency standards, particularly for VET included in curriculum developed by ACACA members. In short, ACACA members retain the responsibility for key areas that relate to the quality of the certificates they produce, particularly where their intervention may prevent certificates from losing credibility in the eyes of community users of those certificates. It may be that the issuing authority will impose higher levels of quality assurance on certified VET than on VET that is merely recorded.

In terms of tertiary entrance, the fact that results on senior certificates may be used to decide selection for tertiary courses is one reason these are 'high stakes' results, which should have the highest level of quality control; that is, high-quality certificates of education are backed by levels of quality control or assurance matched to the importance to students and users of the results recorded on the certificates. While the guidelines do not provide a prescription for an appropriate method of tertiary selection, they do represent a shared commitment to certain national benchmarks of quality for the different methods used. For example, the highest level of quality control, which is appropriate for results that will be used nationally and internationally in selection decisions, involves checks on comparability, as well as high-quality curriculum documents, assessment, standards, and technical procedures used to derive student results. The checks on accuracy of assessments involve expert and accountable scrutiny of the validity and reliability of assessment, as well as verification of students' results.

The guidelines also suggest that ACACA members have a key role to play in ensuring that assessment of students' achievements in terms of the Key Competencies is consistent with the *ACACA Guidelines for Assessment Quality and Equity*. The standards used in assessing the Key Competencies should meet at least some of the requirements for high-quality standards if used in any decision-making; clearer descriptions of their meaning may be necessary. If Key Competencies are to be certified, as opposed to recorded, the issuing authority will need to set up quality control procedures that allow it to take responsibility for the substantive truth of the statement implied by the appearance of a result on the certificate.

The list of illustrative strategies in the guidelines provides a basis for active self-scrutiny, by ACACA authorities, of the extent to which quality assurance procedures do what they are designed to do. The strategies target the major aspects of quality assurance upon which the claim to quality certificates rests. For example, the illustrative strategies provide for examination of how well procedures for evaluating new curriculum documents do what they are designed to do—identify key strengths and weaknesses in these documents.

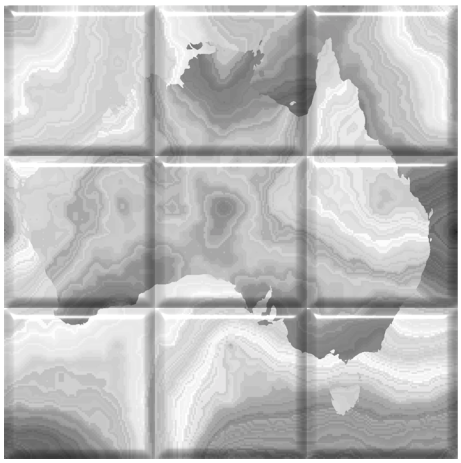
The guidelines suggest that, in the future, certification authorities (and probably not just ACACA members) will need to do more than they presently do to account for the quality

of the certificates they produce: they will need to be engaged in a cyclical process of formal and informal evaluation of their key quality assurance procedures.

The adoption and implementation of these national guidelines represent an important step forward in securing the best possible future development of certificates issued by ACACA members.

The guidelines that follow on pp. 13–19 are reproduced as a facsimile of the publication *Guidelines for the Integrity, Quality, and Long-term Credibility of Certificates of Achievement*.

A Set of Guidelines for the Integrity, Quality, and Long-term Credibility of Certificates of Achievement



Queensland
Board of Senior Secondary School Studies

These principles were formally endorsed by ACACA at its August 1999 meeting in Perth.

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This project was supported by a grant under the Quality Outcomes Programme funded by DETYA.

The views expressed here are those of the author and do not necessarily represent the views of the DETYA.

Information regarding this publication may be obtained from the Policy & Evaluation Section of the Queensland Board of Senior Secondary School Studies, (07) 3864 0273.

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Nature and scope of these guidelines

The Australasian Curriculum, Assessment and Certification Authorities are responsible for hundreds of thousands of certificates issued to students on completion of senior secondary school studies. These certificates are important documents for these students as well as for the state, national, and international communities of users of the certificates. Our students deserve high-quality certificates.

As the economy becomes more globalised, the need will increase for formal certification of standards of achievement in a way that ensures the long-term credibility, integrity and authenticity of these certificates.

These guidelines provide a national statement of the principles underpinning best practice in certification for the Senior Secondary Certificate of Education. The complex and changing contexts in which certification occurs mean, however, that the guidelines represent a starting point for further developments, not a final position.

Certificates with credibility and acceptability are backed up by quality control processes. Quality control processes in use in Australia include external examinations and tests, external moderation, marker monitoring, and a wide range of checks and cross-checks on the reliability and validity of students' results.

Users of high-quality certificates may not expect to know all the details of quality controls but expect them to exist and to work. Users expect that standards indicated by certificates have been maintained across different contexts and across time and that each standard is what it appears to be: that the information on the certificate is not misleading. A certificate would be misleading, for example, if it appeared to say 'has high level communication skills' when the student does not read or write. Users expect certificates to be informative and accurate, to have authenticity and integrity.

Schools, principals, and teachers help to create and maintain the belief users have in the quality of certificates. Instances of incorrect, inappropriate or misleading results reduce users' belief in certificates. The credibility of certificates is reinforced and maintained by their use as documents that provide access to valued places.

Recognition of the integrity and authenticity of a certificate is related to confidence that users have in the integrity, impartiality and openness of the authority issuing the certificate. A key element in achieving this involves exposing the standards reported on the certificate and the quality control procedures that support those standards to scrutiny, review, and evaluation.

The guidelines seek to promote equity and recognise the importance of providing students with equal opportunity to show what they know and can do. However, at the same time, integrity and fairness to all students require that certificates show what a student did do, not what a student might have done in other circumstances.

Context

These guidelines cover **certification** principles, procedures and practices directed towards ensuring the integrity, accuracy, long-term acceptability and credibility of **certificates**.

The terms used in these national guidelines may be altered by ACACA members to suit their particular contexts.

In the guidelines, the term:

Certificate means any formal record of student results that is issued under the authority of one of the Australasian Curriculum, Assessment and Certification Authorities (ACACA). This formal record may be called a certificate, a statement of attainment, a record of achievement, a testamur or some other name. A student may receive more than one certificate and in more than one form. Certificates are the documents issued under the authority of a Board with words that signal in one form or another 'This is to certify that …'.

Senior secondary certificates of education has the meaning given in the Australian Qualifications Framework.

Curriculum documents refers to the materials that set parameters within which schools develop learning programs and assessment is conducted.

Results means the formal, codified, indication of a student's demonstrated achievement in a learning program. As well as results in specific learning programs, a certificate may record that a student has, through satisfying the requirements for the issue of the certificate, reached a certain standard of education.

Demonstrated achievement means achievement shown by matching demonstrations of what students know and can do with criteria.

Verification of students' results means procedures for ensuring that students are correctly credited for their own achievement.

These guidelines refer to the nationally agreed **ACACA Guidelines for Quality and Equity in Assessment**, which identify the nature and importance of considerations of validity, reliability, quality and equity in assessment procedures and practices.

Broad principles for quality certificates and certification

1. A high-quality certificate of senior secondary education

1.1 is issued by a legally constituted authority sufficiently separate from government, school authorities and community groups to arbitrate the many competing and conflicting interests in senior certification

1.2 is backed by levels of quality control/assurance matched to the importance to students and users of the results recorded on the certificate and which are made clear to the user of the certificate

1.3 indicates clearly what a result certifies

1.4 is issued as a formal documentary record with copies available indefinitely

1.5 is widely recognised interstate and overseas.

2. High-quality certification involves

2.1 high quality in curriculum documents, assessment procedures and performance standards

2.2 open and transparent processes

2.3 monitoring the currency, relevance and value of results recorded on certificates and the procedures and practices used in their production

2.4 the issuing authority taking responsibility for the substantive truth of the statement implied by the appearance of a result on its certificate

2.5 developing procedures for students to transfer from interstate or overseas before completion of senior studies without unfair penalty

2.6 fostering opportunities for students to move easily across pathways during and after senior studies.

Supplementary principles for quality certificates and certification

Supplementary principles for high-quality certificates and certification cover:

- curriculum
- assessment
- standards
- levels of quality control/assurance
- accuracy
- clarity
- appeals.

1 High-quality curriculum documents:

- are developed in a participative and responsive manner, taking into account a broad range of student and community interests
- are developed proactively, taking into account present and likely future national and international trends including developments in VET
- provide explicit criteria and standards for the assessment of achievement
- involve a coordinated approach to curriculum development to achieve cross-curriculum goals and provide schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills.

2 High-quality assessment meets the *ACACA Guidelines for Quality and Equity in Assessment*.

3 High-quality standards are:

- well defined
- broadly aligned with community expectations for standards at senior secondary level
- set in terms of demonstrated achievement
- substantively consistent within a subject across the certificates issued by an authority
- recognisable by users of the certificate.

4 The highest level of quality control/assurance:

- is required for results that will be used nationally and internationally in selection decisions of major importance to the student and the user
- requires checks on comparability by the issuing authority: that the same result in the same subject on different certificates records similar *demonstrated achievement*
- involves the issuing authority in responsibility for ensuring high quality of curriculum documents, assessment, standards against which achievement is reported and any statistical modelling or other technical procedures used to derive student results
- provides checks on the accuracy of assessments
- sets and monitors a balance, consistent with the need for accurac*y* of results, between central standardisation and factors such as local flexibility and responsiveness in curriculum documents, assessment and standards.

5 High-quality checks on accuracy involve:

- expert and accountable scrutiny of the validity and reliability of assessment
- verification of students' results.

6 High levels of clarity on certificates and supporting documentation require information to be present, simply stated and not misleading.

7 High-quality appeal procedures provide students, when grounds for an appeal may exist, with clear and accessible procedures consistent with the requirements of natural justice.

An illustrative list of strategies for developing improved practices in the certification of the achievements of students

Boards can:

- ensure that key committees are appropriately representative of community interests and that their procedures are sufficiently well documented to be available for scrutiny
- seek development of the curriculum, including VET, in ways that take into account likely future national and international developments
- provide relevant committees with examples of national and international best practice in certification and certification processes
- review the success of guidelines for the inclusion on the certificate of results from other agencies in ensuring quality, consistency and fairness
- review the extent to which any appeals procedures and committees provide students with opportunities to raise important questions and concerns about their results, in ways that involve auditing decisions made against the principles of natural justice
- regularly examine the extent to which procedures for the review of curriculum documents identify the clarity, coherence and workability of these documents for teachers needing to make sound curriculum and assessment decisions
- evaluate their curriculum documents periodically to determine the extent to which the curriculum provides schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills
- evaluate the match of assessment procedures, practices and results and the *ACACA Guidelines for Quality and Equity in Assessment*
- evaluate the adequacy of arrangements for students transferring from interstate or overseas before completion of senior studies
- conduct evaluations of the flexibility of pathways for students during and immediately after senior studies, particularly the extent to which students can move across pathways without disproportionate penalty
- monitor developments in the theory and practice of technical procedures for the calculation of student results, auditing their own procedures against these new developments
- evaluate the effectiveness of special consideration arrangements and the extent to which they do what they are designed to do—provide students with opportunities to show what they know and can do in ways that maintain the validity of the assessment result obtained
- actively support research into certification practices at the international and national level, including research into the certification of VET
- involve community members in regular reviews of community understandings of the meaning of certificates, including the meaning of standards reported on certificates, and the requirements for receiving the credential.

Discussion paper: Issues and implications

Aim

This part of the paper discusses the Australasian Curriculum, Assessment and Certification Authorities (ACACA) *Guidelines for the Integrity, Quality and Long-term Credibility of Certificates of Achievement*. It will:

- indicate interactions between these guidelines and developments in post-compulsory education, including vocational education and relationships with university selection processes in general, such as the existing Tertiary Entrance Rankings (TER)
- outline implications, for policy and action by certifying authorities, of the principles for assessing students' achievements in terms of the key competencies and integrating Vocational Education and Training (VET) programs into senior secondary certificates
- discuss issues relating to policy development and action for consideration by authorities responsible for certificates at the senior secondary level and at other levels in the Australian Qualifications Framework (AQF).

The discussion in this report is aimed primarily at users of the ACACA certification guidelines; that is, those in organisations whose chief executive officers are members of ACACA and who would find this 'unpacking' of the necessarily brief principles contained in the guidelines useful. However, this paper should also be useful to other certification authorities wanting more information about the 'best practice' represented by the ACACA certification guidelines.

Interactions between the ACACA certification principles and developments in post-compulsory education

The development of senior schooling as a discrete area of study, rather than as a means to an end (tertiary entrance), has shaped the establishment and nature of legally constituted curriculum and assessment authorities. The increased role in senior schooling of many stakeholder groups, from parents to employers, and the range of teaching interests (including teachers of VET and teachers from new subject and discipline areas) has also established a need for curriculum and assessment authorities to be sufficiently separate from these stakeholders.

There has also been, in post-compulsory schooling, an increased community expectation that 'high stakes' assessment and results used to make decisions that affect students' lives will have commensurately high levels of quality control. This expectation exists, for example, for results used to make decisions about selection for tertiary courses.

As curricula, student populations, and post-school pathways have diversified, so too have the readers of certificates issued by post-compulsory school certification authorities. This sets up a corresponding need to ensure that readers have clear information about the meaning of the results reported on certificates, and the level of quality control that is attached to them.

Senior certificates and other certificates issued by ACACA members have a useful life that extends beyond tertiary entrance. These certificates are formal documents that may

be used throughout a student's life, and arrangements for their production, presentation and availability must reflect this.

The currency, relevance and value of results are changing quickly, as are the procedures and practices used to produce these results. The complexity of senior certificates has increased partly because the different kinds of results have increased; that is, the range and number of subjects included in the tertiary entrance calculations, as well as the number of other results that are reported on certificates. Each different kind of result may require different procedures and practices. Today, more than ever, quality certificates require curriculum and certification authorities to continually review the relevance of results and their procedures.

A key development in post-compulsory education is the growing recognition that any one education system ought to be able to accommodate students transferring interstate or internationally before completion of senior studies: arrangements need to be made for recognition of the achievements of such students. At the same time, such arrangements must not compromise the principle that certificates ought to be accurate in the sense that they report only demonstrated achievement.

Post-compulsory education is also moving towards fitting the education system to the needs of students, not vice versa. Flexibility of pathways during and after school is a key part of the 'fitness' of an education system for its students. The opportunities for students to move across pathways during and after senior studies cannot be infinite, but post-compulsory school education needs to include arrangements that allow students reasonable opportunity to change direction.

Increased community expectation that the basis for 'high stakes' decisions will be sound places increased pressure on the quality assurance procedures that secure the validity and accuracy of results used in those decisions.

A key expectation is that similar results on certificates issued to different students will record similar demonstrated achievement. If this high level of validity and accuracy of results is to be achieved, there must be a commensurately high quality of curriculum documents, assessment methods and practices, and monitoring of standards. The Australian public expects also that any statistical modelling, or other technical procedures used to derive student results, not only is of high quality, but also can be seen to be of high quality through expert scrutiny.

Increasingly, in contemporary post-compulsory school education, curriculum, assessment and standards need to find a balance between standardisation, local flexibility and responsiveness. There is increasing recognition that a successful system of post-compulsory schooling relies on teachers having the flexibility to design learning programs that meet local and specific needs. At the same time, teachers need to have scope to make professional assessment judgments and to apply standards in ways that allow students to demonstrate the same achievement in different ways.

The community also expects the assessment of students' knowledge and skills to be accountable, with checks on the accuracy of assessments, as well as clear and accessible appeal procedures (whether these are procedural or substantive, and whether these are made to the school or another authority).

Curriculum development has changed greatly in recent years. To be considered high quality, curriculum documents are now expected not only to encompass key shifts in national and international policy and practice, but also to be developed in a participative manner. These shifts may be in the content of the subject, the methods for teaching and assessment, or other areas.

Post-compulsory school education is also now expected to involve rigorous and transparent assessments of students' achievements. There is a greater expectation today than ever before in Australia that professional assessment judgments involve applying explicit criteria and standards to student work.

Diversification of the post-compulsory school curriculum has created the need for a coordinated approach to curriculum development to fulfil cross-curriculum goals. While the number and range of curriculum offerings at any one school may not reflect the whole curriculum, it is now expected that each student will have an opportunity to acquire diverse knowledge and skills, whether this opportunity is taken up or not. This range of knowledge and skills includes practical, 'hands on' knowledge and skills as well as skills of analysing, reflecting and theorising.

As the various systems of post-compulsory school education face increasing pressure to maintain standards in the face of diversification, they must continually rethink what it means to provide high-quality standards.

Today more than ever, the Australian public expects standards to be well defined, based on demonstrated achievement (and not an idea of what a student might have done in other circumstances), consistent, and recognisable by the community as standards that, broadly speaking, fit expectations for senior secondary school studies. These aspects of high-quality standards must be maintained for all students for a system to be fair and equitable.

The development of research into post-compulsory school education and the increasing sophistication of assessment methods have raised expectations about the accuracy of results. The benchmark for validity and reliability of results is higher than it has ever been, as are community expectations that there will be checks on the authenticity of work, for example, that an English essay done under examination conditions is the work of the student who is awarded a result for that examination.

There has been a movement also to benchmark education practices against national and international best practice. Some countries are already doing this. This has involved making 'best practice' explicit, and developing strategic plans and performance indicators that incorporate these benchmarks. The guidelines offer a statement of what, based on information about Australian and overseas practices, are known to be 'best practice' for quality certificates and certification.

Scrutiny of the certificates provided by curriculum and assessment authorities today shows that they are designed to convey important messages about the knowledge and skills a student has demonstrated. Certificates now provide more detailed information about what a student has achieved in senior studies than ever before. The expectation is

that such information will not be misleading. It is also expected that the certificates will be accessible and meaningful to many readers in the community in many different contexts. Furthermore, where a result is certified (as opposed to simply being recorded on behalf of another authority), the community expects the issuing authority to take responsibility for the substantive truth of that result.

Interactions between the ACACA certification principles and developments in vocational education; implications, for policy and action by certifying authorities, of these principles for the integration of VET programs into senior secondary certificates

There have been, in recent years, strong moves to integrate VET into the curriculum, assessment and reporting of senior secondary school studies. Continued growth in VET participation (in the VET in Schools programs and part-time New Apprenticeship arrangements) is expected in 1999–2000, and will place pressure on existing systems of certification. ACACA's guidelines for certification reflect the expectation that VET will be integrated in ways that are consistent with principles for quality certificates.

There has also been considerable discussion about the importance of an education that does not train students solely for one occupation. While VET provides students with opportunities to acquire knowledge and skills relevant to particular workplaces, and should contribute to qualifications defined by the AQF, the guidelines indicate that this and any other education students receive should be sufficiently broad to allow them to change pathways both during and after senior studies.

The integration of VET into senior secondary schooling has also involved developing curriculum documents, whether these are almost wholly based on VET or have VET 'embedded' into other subject content. Curriculum documents are also being developed to incorporate national Training Packages. The guidelines suggest this curriculum development should occur participatively and proactively, in ways that make both criteria and standards of assessment explicit, and as part of a coordinated approach to curriculum. Making VET assessment criteria sufficiently explicit may involve providing explanatory notes, support materials, workshops and/or networks for teachers implementing VET in schools.

In the area of assessment, increased participation in VET has brought with it pressures to train

- teachers to deliver aspects of Training Packages as part of VET programs for full-time students (and to be familiar with changes in industry)
- workplace assessors

to produce high-quality assessments consistent with the ACACA guidelines for assessment quality and equity. In this way, the guidelines provide ACACA members with a role in developing teachers' capacities to effectively assess against competency standards, particularly for VET included in curriculum developed by ACACA members.

The guidelines for quality certificates place an onus upon certification authorities to retain responsibility for implementing VET quality assurance procedures for high quality standards that:

- are well defined (in terms of both written and unwritten understandings of industry-endorsed competencies). These standards should be sufficiently well-defined that they are accessible not only to teachers, but also to students and other members of the community;
- are broadly aligned with community expectations, that is, not only industry expectations but also broader community expectations for (at least) entry level employment;
- are set in terms of demonstrated achievement, whether this be in the workplace or the classroom. Student achievement in terms of competency standards should also be assessed in a substantively consistent manner across certificates received by different students;
- are recognisable, that is, certificates should record only VET that delivers national industry and/or competency standards and meets Australian Recognition Framework (ARF) registration requirements.

In the area of accuracy of results, the guidelines suggest that checking the inputs (for example, asking the question 'does a school have sufficient resources to deliver this VET?') may not be sufficient: schools may also need to have procedures in place that provide checks on the validity and reliability of results.

The guidelines also suggest that the reporting of VET results (for example, the reporting of industry-endorsed competencies) should not be misleading. That is, it may not be enough that competencies are known to be industry-endorsed; if this information is to be reported on quality certificates, it should also not be misleading to users of those certificates (for example, the names of competencies should be informative and simply given).

There is a distinction to be made between a result (whether VET or not) that is recorded, and one that is certified: where the VET results of senior students are certified, the issuing authority takes responsibility for the substantive truth of the result. This may mean that the issuing authority will need higher levels of quality control on certified VET than on VET that is merely recorded. In some States, this is already occurring.

Relationships with university selection processes in general, including the existing TER

Broadly speaking, the guidelines provide some principles that articulate expectations for quality controls on all results. The guidelines indicate that results that are used for 'high stakes' purposes, including deciding selection for tertiary courses, ought to have the highest level of quality control.

The guidelines do not provide a prescription for an appropriate method of tertiary selection; rather the principles for certification represent a shared commitment to certain national benchmarks of quality for the different methods used.

The highest level of quality control involves the issuing authority taking responsibility for ensuring the high quality of curriculum documents, assessment and standards, as well as the high quality of technical procedures used to derive student results. These responsibilities are central, rather than incidental, to the production of results that can be used to make fair and accountable decisions about tertiary selection.

Implications, for policy and action by certifying authorities, of the ACACA certification principles for the assessment of students' achievements in terms of the key competencies

Any assessments of students' achievements in terms of the key competencies would need to be consistent with ACACA's guidelines. The higher the stakes of any decision-making about students based on their achievement in the key competencies, the higher the level of quality control that would need to be exercised by certifying authorities.

Placing the key competencies on certificates does not of itself offer a guarantee of their value and use in the community. The currency, relevance and value of assessments of students' achievements in terms of the key competencies would need to be actively reviewed if these were to be reported on certificates issued by ACACA members.

As curriculum development authorities, ACACA members need to ensure that the knowledge and skills required by the key competencies are appropriately emphasised in the curriculum options available to students, as part of a coordinated approach to curriculum.

Assessment of the key competencies should be consistent with the ACACA guidelines for assessment quality and equity. The standards used in assessing the key competencies must also meet at least some of the requirements for high-quality standards if used in any decision-making; clearer descriptions of their meaning may be necessary. Such assessment would also need to involve checks on the accuracy of any information about students' achievements reported on certificates; that is, the validity and reliability of this form of results.

If key competencies are to be certified, as opposed to recorded, the issuing authority will need to set up quality control procedures that allow it to take responsibility for the substantive truth of the statement implied by the appearance of the result on the certificate.

Other issues relating to policy development and action for consideration by authorities responsible for certificates at the senior secondary level and at other levels in the Australian Qualifications Framework

The illustrative list of strategies in the ACACA guidelines provides a basis for action by certifying authorities. In general these strategies provide for active self-scrutiny of the extent to which quality control procedures do what they are designed to do. This monitoring, evaluation and review of quality control procedures is essential to the production of quality certificates.

For self-evaluation to be effective it must occur regularly and it must involve the key aspects of quality assurance procedures; that is, those major aspects of quality assurance upon which the claim to quality certificates rests. For example, the illustrative strategies provide for examination of how well procedures for evaluating new curriculum documents do what they are supposed to do—identify key strengths and weaknesses in those documents.

In emphasising an active climate of self-scrutiny the guidelines provide a proactive rather than reactive model of quality control for certifying authorities. This model is also a participative one. For example, in developing the presentation of certificates, certifying authorities can actively involve community members in regular reviews of their understanding of the meaning of standards reported on certificates.

In short, in accounting for the quality of certificates, the guidelines indicate that, in the future, certifying authorities will need to do more than they presently do—they will need to be engaged in a cyclical process of formal and informal evaluation of their key quality assurance procedures.

Appendix 1: The importance of ACACA structures, procedures and practices for the integrity, quality and long-term credibility of certificates of achievements

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Aim

This appendix was originally produced as a discussion paper as part of the process of developing the Australasian Curriculum, Assessment and Certification Authorities (ACACA) *Guidelines for the Integrity, Quality and Long-term Credibility of Certificates of Achievements*.

As an account of the importance, for certification, of specific ACACA structures, procedures and practices, this paper should be of interest to all those with a concern for quality certificates and certification. It is designed as a companion paper to the certification guidelines, and was correct at the time of writing.

A description of the importance, for certification, of specific ACACA structures, procedures, and practices

ACACA members are responsible for issuing certificates to students exiting Year 12 in Australia. Certificates produced by ACACA members are supported by a set of structures, procedures, and practices. Implicit in these are ideas about best practice. This paper aims to explore some of those ideas by describing the similarities and differences between key structures, procedures and practices for quality certificates and certification. In particular, the paper aims to highlight some of the deep similarities between the things ACACA agencies do.

The approach used here aims to avoid drawing simplistic conclusions about what one agency does and what another does not do when examining a particular area of operation (such as, for example, moderation). Each system operates with a wide range of checks and balances such that an apparent lack of detailed procedures in one area is balanced by very detailed procedures in another.

The term 'certificate' is used throughout this paper in a generic sense: it means any formal document or record of student results that is issued by a member of ACACA, or produced by it on behalf of another authority; this formal record may be called a certificate, or a statement of attainment, or a record of achievement, or a testamur. The term 'certificate' refers to a document that is worth more than the paper it is printed on because it is backed up by a broad range of quality controls: its significance for the community of users is the sum of the significance of all these procedures and practices for quality control.

Structures

ACACA members each have, as part of the certification process, a set of specific 'standing' structures—for example, the Board itself, the Office of the Board, assessment panels, subject advisory panels, committees comprised of technical experts—which work in complementary ways to ensure that certificates have credibility and integrity. Structures can be the means by which key procedures and practices are implemented; all the following structures have a defined function in relation to the Board's procedures and practices.

ACACA Boards

The structure of ACACA Boards and their offices suggests the importance of the representativeness and separateness of the issuing authority, and its capacity to arbitrate the many competing and conflicting interests in senior certification.

ACACA members have a Board[4] that is legally constituted as a body comprised of people who are in one sense or another representative of a range of stakeholders. (A Board may number from around eleven to, for example, twenty-three in New South Wales). The Board has the role of providing advice and policy direction to the chief executive officer, and ensuring that the interests of different stakeholder groups are represented in the functioning of the Office of the Board. The Office of the Board is the group of employees (headed by the chief executive officer) that implements the decisions of the Board. The Office of the Board has responsibilities that are distinct from those of the Board itself.

Most offices of members of ACACA exist as entities separate from the department of education in their state. The Northern Territory is one exception; the Board of Studies Services Division is one of three divisions in the Northern Territory Department of Education. Victoria is a partial exception in that the Board itself, like other Boards, is directly responsible to the Minister for Education but the Office of the Board, through the chief executive officer, is responsible both to the Board (for policy and operational matters) and to the Department of Education (for budgetary, personnel and other administrative matters).

Typically, offices are divided and defined by the procedures described below (for example, examinations units, moderation units, or units with a combination of these functions). There are big differences in the size of ACACA offices (Tasmania has around eleven staff members; other States, such as New South Wales, may have up to 200 staff in the Office of the Board).

Committee structures

ACACA members have committees that implement key procedures and practices, and make various contributions to the work of the Office of the Board. Sometimes Boards decide the composition of their committees (that is, they decide what stakeholders and experts will be included in a particular committee structure, and the stakeholders nominate a person), although in some cases the composition of committees is a matter of government direction. Generally speaking, Board committee structures work to well developed procedures and practices defined in detail by the Board. Some, not all, committees referred to below are legislative requirements under the relevant Act.

This section offers a fairly straightforward and necessarily brief description of structures rather than an elaboration of what these structures do (this is given in the section analysing procedures). The meaning of particular terms, for example 'registration' and 'accreditation', can be found in the discussion of procedures that follows.

The particular categories of committees defined below are for the purposes of analysis; it is often the case that in one State registration committees also perform the work of curriculum committees while in another State moderation committees perform the work of

[4] As before, for the sake of convenience, this term is used in this appendix in a generic sense to refer to the legally constituted authority that issues certificates in each State and Territory.

registration. However, the categories of committees below do at least allow us to see the outline of what ACACA members do in ways that provide some basis for consideration of similarities and differences in the work that is done to produce quality certificates.

Curriculum committees

Curriculum structures suggest the importance of participative and responsive development of curriculum documents, in ways that take into account a broad range of student and community interests.

Curriculum committees may be described as committees that include, but are not always restricted to, subject experts who work to specific curriculum development timelines. Curriculum committees may review existing syllabuses and develop new syllabuses. At times they may implement the curriculum directives of government; in New South Wales curriculum subject committees are, at the time of writing, undertaking a full review of all Higher School Certificate syllabuses using criteria established by the McGaw report.

In some States the same committees that serve accreditation functions also undertake syllabus development and review according to detailed guidelines—in Western Australia, for example, they are called 'Syllabus Committees'. In Tasmania, the term 'accreditation' and 'Accreditation Committee' refers to curriculum development, review and approval functions.

Curriculum committees can also be 'umbrella' or monitoring committees that coordinate other committees with a more direct role in producing curriculum documents (as in Queensland, where the Curriculum Committee coordinates Subject Advisory Committees). Such 'umbrella' curriculum committees also have a watching brief on national curriculum developments (as in the ACT where the Curriculum Advisory Committee provides the Board with advice on issues such as national curriculum statements and profiles that may be used in the ACT as part of an articulated P–12 pathway). Tasmania has a State Moderation Committee for each subject area which oversees the moderation process in that State and also has a curriculum development role (that is, performs all the curriculum development and implementation roles that are separated out in some other States). The Northern Territory has Subject Area Committees that report to the Standing Committees, including the Common Curriculum Committee (preschool to Year 10) and the Senior Secondary Courses Committee (the Northern Territory is responsible for curriculum functions—certification and assessment—from preschool to Year 12. In Victoria, the Accreditation Committee of the Board has a monitoring and coordinating role in curriculum, development, review and accreditation/approval. The Accreditation Committee oversees the work of curriculum committees in each of the eight key learning areas that have a more direct role in producing curriculum documents P–12.

New South Wales has Board Curriculum Committees that report directly to the Board, and have the function of monitoring the progress of each curriculum project to ensure the validity of the process and the quality of the syllabuses and support materials that are its products.

In South Australia a procedure to establish Curriculum Project Groups has replaced former Curriculum Area Committees. The current SACE Improvement Strategy uses the project model.

Curriculum committees, including VET committees, also suggest the importance of proactive development of the curriculum, including VET, in ways that take into account likely future national and international trends, pressures, and events. VET committees often form a discrete area of ACACA structures. They have a specific watching brief on all VET issues relevant to the development of the senior curriculum. For example, in the ACT the Vocational Education and Training Committee advises the Board on the VET reform agenda, its implementation and its impact on colleges, makes consultative arrangements with ACT industry, and so on. In Victoria, a Vocational Education Reference Group advises the Board about VET issues.

VET committees form an important and growing area of the work that ACACA members perform and the results reported on their certificates. Principles that shape such structures might be about proactive development of the senior curriculum, achieving diversity of curriculum options and 'multiple pathways' and so on.

Registration and accreditation committees

Registration and accreditation structures suggest the importance of expert monitoring of the balance between standardisation of results and flexibility to meet local needs, as well as the importance of quality control involving expert scrutiny of the nature and content of learning programs.

Registration and accreditation committees typically advise the ACACA member on applications from schools for accreditation of learning programs[5] leading to the award of a certificate. In Western Australia these functions are performed within the office of the Board; in Queensland accreditation is performed by moderation panels (State review panels working with a Board review officer). In Western Australia, syllabus committees (for VET 'Accreditation Panels') with a broad range of members provide advice to the Curriculum Council about accreditation matters through the Post-compulsory Education Committee.

However, in New South Wales, the terms 'registration' and 'accreditation' have a different meaning and normally apply to a 'registration and accreditation' program of non-government schools. In New South Wales, courses of study not developed by the Board are 'endorsed' by expert panels or 'Board Endorsement Panels'. It is this latter process that is relevant to this section.

Moderation committees

Moderation committees suggest the importance, for quality certificates, of achieving a partnership with schools responsible for providing school-based assessments that is characterised by active self-scrutiny as well as expert peer review of the quality, equity and comparability of these assessments.

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[5] The problem of what term to use—'courses', 'subjects', 'units' and so on—when speaking generically has been settled in this paper by use of the word 'learning program' whenever all these words are meant simultaneously; that is, a 'learning program' is understood as a discrete program of study with results that can be reported on ACACA certificates (for example, in Queensland modules can be reported as stand-alone Recorded subjects with their own result—this is also true of two-year 'subjects'; the term 'learning program' would include both). However, when writing specifically about the context of a particular ACACA member, the words used by that agency have been reproduced, to avoid any confusion.

In this category can be included all committees that are not examinations assessment committees and have a specialist role in the area of assessment. It is worth emphasising that not all Boards have a moderation committee (the New South Wales Board, for example, does not).

There are very considerable differences between the authorities in terms of the nature and functioning of moderation committees. In Queensland, a complex network of over 300 district and state assessment panels monitors and moderates standards of school-based assessment. The overarching committee for moderation is the Moderation Committee. In the ACT, an 'Assessment and Certification Committee', and in the Northern Territory, a 'Common Assessment Committee', have the function of providing advice to the Board about all matters to do with assessment (and perhaps other issues—the ACT Assessment and Certification Committee provides advice about certification as well).

In Tasmania the work of moderation and assessment in relation to school-based assessments is coordinated by State Moderation Committees who form an interface with a structure of Board-appointed 'moderators' and moderation meetings.

Examinations and test[6] committees

Working in the area of assessments for which ACACA members are directly responsible, examinations and test committees suggest the importance of expert and participative examinations and test development leading to rigorous, valid and reliable assessments of student performance.

These committees (or panels) set examinations or tests and in some cases (as in Victoria) prepare reports for the Board on student performance. In New South Wales the report for each subject is now prepared by the Supervisor of Marking, not the Examinations Committee. The committees are comprised of subject experts, who may be representatives of tertiary institutions. The extent to which the work of test or examinations development is also performed 'in house' by a test/examinations development section varies across the different States.

In Tasmania a structure of 'Assessment Panels' does the work of setting and implementing external examinations; membership of these panels includes Board-appointed 'moderators' who know syllabus standards and work with teachers in moderation meetings to implement these standards in schools.

Examinations/test committees can include 'rules subcommittees' or 'discipline subcommittees' that meet to consider alleged breaches of rules and policies. Typically, as in New South Wales, responsibility under the Act lies with the Board, which can delegate the responsibility to a subcommittee of the Board.

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[6] While it makes sense to use some words (such as 'assessment item' or 'Board') generically the words 'test' and 'examination' do refer to two quite distinct things. In the literature provided by ACACA an 'examination' typically refers to a test paper undertaken in a subject area; a 'test' is an examination of student performance in a broader area. For example, the ACT has the Australian Scaling Test, Queensland has the QCS Test, but New South Wales has the HSC Examinations, and Western Australia has the Tertiary Entrance Examinations (from 1998 a numerical scaling method called the Average Marks Scaling or AMS has replaced the Australian Scaling Test or AST in Western Australia). NSW also has external 'tests' in English literacy and mathematics at the Year 10 level, but these are not examinations in the sense used here. Accordingly the two terms and this difference between them are preserved in this paper.

Technical committees

Technical committees indicate the importance of open, rigorous, defensible, and accountable expert scrutiny of the technical procedures for student results, scrutiny that is also participative and responsive to community needs and concerns.

Technical committees monitor sometimes quite different technical aspects of the production of student results. They are comprised of, but not restricted to, technical experts, including technical experts from the community of users of the certificates issued by the ACACA authority.

In Western Australia the Scaling Policy Committee develops and implements policy for the scaling of tertiary entrance subjects for admission into university. In New South Wales the Higher School Certificate Consultative Committee (in consultation with the Examinations Committee and the Supervisor of Marking for each project) has the responsibility for establishing the distribution of scaled HSC examinations marks in all Board-developed courses on behalf of the Board, considering the initial distribution of marks in courses and taking into account standards of student performance. In the Northern Territory and South Australia there are Grade Determination Panels. These panels determine the distribution of students across the grades A to E for each of the subjects based on performance in the Common Instruments of Assessment (CIAs or system tests in English and Mathematics) and the moderated components of school assessment. In Queensland, the Technical Advisory Subcommittee has an expert monitoring role in relation to the technical work of the Board for the end-of-year procedures. Whatever the differences between these committees (some are and some are not connected with tertiary entrance calculations) they aim to secure the open and rigorous scrutiny of the technical calculations for student results.

Equity committees

These structures suggest the importance of representing, and including in the procedures of the certification authority, the interests and views of all groups in the community with a stake in certification, so that all these groups have equal access to opportunities to provide advice about the education issues that affect them.

Equity committees typically perform the function of providing specialist advice and guidance to the Board about special education issues for these groups. For example, South Australia has an Equity Committee as a standing committee of the Board. The Northern Territory Board of Studies has an Indigenous Education Standing Committee, as well as a broad range of Special Area Advisory Committees (such as Early Childhood Education, Gifted Students' Education, Special Education, Gender Equity, and Middle Years of Schooling committees). Queensland has a standing committee for students with disabilities (this committee has a broad range of functions), as well as an equity panel for the Queensland Core Skills (QCS) Test which assists in the development of test items by providing scrutiny of those items from the perspective of different groups. In New South Wales some of these functions are undertaken by the Office of the Board as part of its normal procedures.

The breadth of the functions of these special area committees does seem to vary much across the different ACACA members. In the Northern Territory, the Indigenous

Education Standing Committee has an overall strategic and monitoring function for the Board in the area of indigenous education, as well as providing assistance for initiatives such as the Indigenous Education Strategic Initiative Program.

Certification committees

Certification committees suggest the importance of inclusive and proactive development of certification practices in ways that take into account national and international best practice, as well as local needs and contexts.

Not all ACACA members have certification committees as such, and this is an area where the Board itself takes a major role (for example, in New South Wales, certification is a function undertaken quite deliberately by the Board itself). This function can also be one of a number performed by key committees in, for example, the ACT, and in Western Australia where the Post-compulsory Education Committee has a broad composition and advises the Curriculum Council on directions in assessment as well as certification.

However, in the Northern Territory, the Certification Committee is a standing committee with the function of advising the Board on all matters relating to certification (for example, format and maintenance of records of student achievement, and conditions for the issue of certificates).

Appeals committees

Appeals committees suggest the importance of providing students with opportunities to raise questions and concerns about their results in front of experts who scrutinise the evidence for the appeal.

Appeal committees represent a specialised area of the work of ACACA members and they are governed by legislation and rules. This set of committees generally handles formal appeals against results. Their composition varies considerably but they generally include a range of experts who can bring particularly relevant knowledge and skills to bear on the determination of the outcome of the appeal. In Western Australia no separate 'appeals committee' as such has been formed by the Curriculum Council: the procedures for handling queries and concerns are discussed below.

Special purpose committees

This category of committee might be simply described as one that does not fit neatly into the above categories. Typically these committees provide expert advice to Boards about matters that require specialised examination and policy development or advice.

For example, in Victoria there are Expert Advisory Committees which provide specialised advice to the Board about a student's eligibility to enrol in English (ESL), Chinese (Second Language), and Indonesian (Second Language). A further example can be taken from Victoria which has an Extension Studies Committee that advises the Board on the recognition of university subjects to be taken concurrently with VCE subjects.

Procedures

Specific procedures in place—unwritten or written sequences of actions or activities that have acquired durability over time—suggest what else is important to quality certificates issued by ACACA members. The discussion that follows describes three levels of quality control important to quality certificates—looking at the guidelines (curriculum development), looking at the plans (accreditation or registration), and looking at the results (moderation, examinations, technical procedures for calculating student results, special consideration and appeals procedures). These are illustrated in Figure 1.

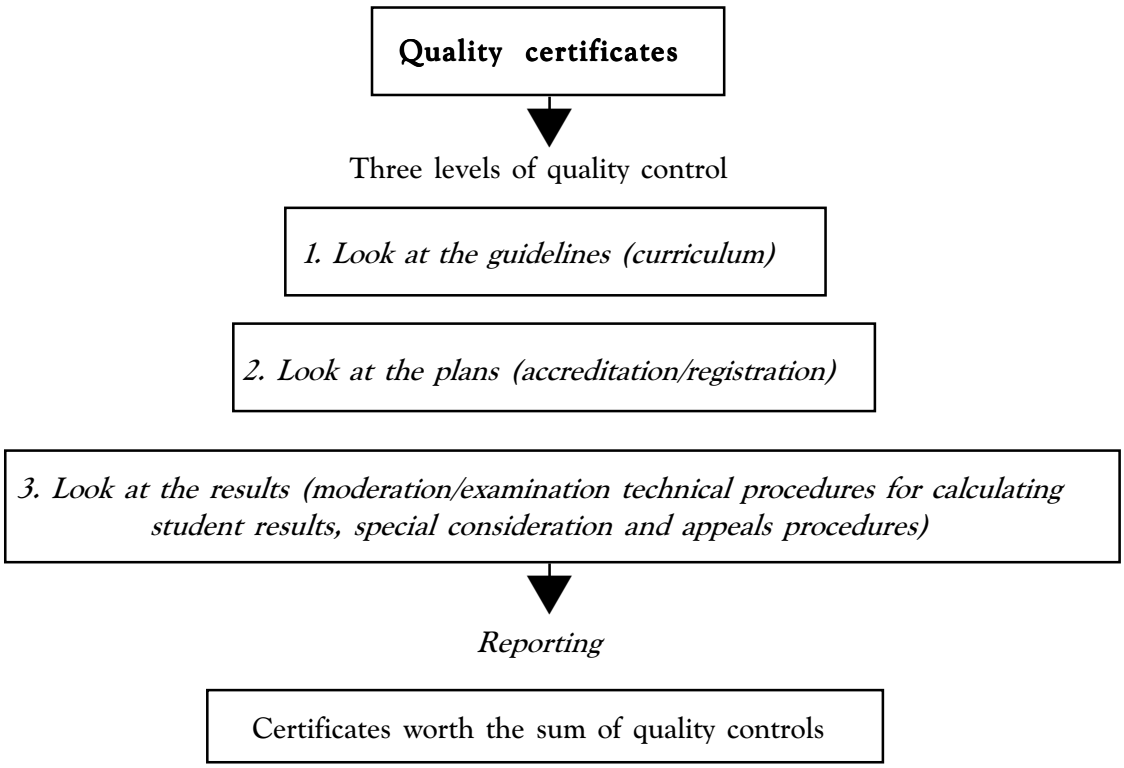

Figure 1: A flowchart of ACACA procedures for quality certificates

Figure 1 also shows one other important group or kind of procedures—reporting procedures—that can be described as procedures for producing the 'end product': the actual piece of paper. Accordingly, these procedures have been represented as being outside the three levels of quality control.

Curriculum development

Curriculum development procedures suggest the importance of:

- clear, coherent and workable curriculum documents that provide teachers with explicit standards for assessment that can be declared in advance and used to achieve fair, valid, and reliable assessments of students' achievements
- a coordinated approach to curriculum development to achieve cross-curriculum goals and provide schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills.

ACACA members have a broad range of procedures relevant to the development of learning programs. These procedures for quality certification exist as quality controls for looking at the guidelines for curriculum (whatever their form—typically syllabuses). What this means can be understood by the detail of the procedures that follows. The procedures are explicit and often cyclical to ensure that specific actions occur at specific stages of course development. ACACA curriculum development procedures involve a broad range of experts, including equity experts, in extensive processes of trialling, evaluation, review, and revision of curriculum documents. In some States (for example, Victoria and Queensland) independent evaluators are appointed to conduct very substantial studies of the viability, for teachers and students, of syllabus documents.

While the details of the procedures differ (as does the language of description), ACACA members share a common aim—the development of clear, coherent, and workable curriculum documents that provide explicit standards for schools to implement. This last point is important: ACACA curriculum development procedures have an important relationship to moderation procedures because it is at the curriculum development stage that ACACA members develop documents that provide well-developed standards for teachers making assessments about student work in schools. For example, in Western Australia the Curriculum Council offers 'Common Assessment Framework and Vocational Subjects' and 'Assessment Structure Subjects'; both have agency-determined standards that schools must comply with when developing assessment programs.

The development of standards in all States appears to be informed by the principle that the basis for assessment should be explicit and declared in advance in order to achieve fair, valid and reliable assessments of students' achievements; this basis is usually given as 'criteria and standards' in a syllabus document (although Tasmania uses 'Standards Documents' which accompany syllabuses).[7]

Typically, ACACA curriculum development also involves the Board providing clear advice about assessment methods to be implemented in work programs and in school-based assessments generally. As part of curriculum development (here curriculum development procedures overlap with moderation procedures) ACACA members typically provide schools with support in implementing the curriculum document. Although the precise form and extent of this will vary from one State to another, the purpose is a common one—to ensure high-quality assessment practices in schools.

Each ACACA member has a coordinated approach to curriculum development, partly because this helps achieve certain cross-curriculum goals and provides schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills. Curriculum development by ACACA members also involves issues of principle that relate to providing teachers in schools with flexible

[7] The present enterprise would not profit much from a long and complex discussion of to what extent each of the states has implemented 'full-blown' criteria and standards based assessment, and precisely how different each state is in this area. Suffice it to say that there is no such thing as a 'pure' system of criteria and standards based assessment in operation in Australia (or probably anywhere else) and most states do rely on numerical systems woven into systems for deciding standards based on explicit criteria. Tasmania provides an example of this: a student who achieves a Satisfactory Achievement will only receive a score in the range 1–8. The 1–20 range also includes the other two awards (High Achievement is 9–16 and Outstanding Achievement is 17–20)—the point being that numbers may not be superfluous to systems based on criteria and standards.

documents that can be used to 'tailor make' teaching, learning and assessment for different groups of students, and to maximise the participation of students from different groups.

There are different procedures for the development of VET learning programs that relate to the different nature of these learning programs. For example, in Tasmania there is a special category of syllabuses developed by the Board as 'Vocational Entry' syllabuses. However, across all agencies, the emphasis of curriculum development in VET is upon producing learning programs that meet national standards; for example, accredited modules, certificates within the Australian Qualifications Framework (AQF), the articulation requirements of post-school vocational education providers, and Training Packages. Generally speaking, the quality control mechanisms established by ACACA members in VET curriculum development are modelled on VET sector accreditation and registration requirements. In VET curriculum development there has been considerable integration of VET into senior subjects developed by the different Boards; this work is typically shaped by principles about the importance of providing students with the best possible opportunities to acquire a balance of skills of reflection and analysis and practical or 'hands-on' skills.[8]

Registration/accreditation procedures for learning programs

Registration/accreditation procedures suggest the importance of:

- expert monitoring and periodic re-examination of the currency, relevance, and value of learning programs undertaken by senior students
- accountability in the sense that these programs are based on a document of record that describes what has been taught, and the nature of the outcomes provided for certification purposes.

The terms 'registration' and 'accreditation' mean different things in different States. However, the procedures can all be described as procedures for quality certification that involve looking at the plans for learning programs.

In New South Wales, Board developed courses are developed by Board Curriculum Committees and 'endorsed' by the full Board. School-developed courses are submitted to Board Endorsement Panels for approval for periods of up to four years. In the ACT all courses are 'registered' but 'accreditation' is the process of guaranteeing that 'a course of study is educationally sound and appropriate for Years 11 and 12 students'[9]. In Queensland the term 'accreditation' commonly refers to accreditation of work programs for Board subjects based on 'approved' syllabuses; the Board also 'registers' VET providers and 'accredits' VET courses. In Victoria study designs are developed and are 'accredited' in accordance with the Board's explicit principles and guidelines, and are subjected to independent external review before approval by the Board. In Tasmania the term 'accredited' really refers to the process of syllabus development and the 'accreditation' of these Board syllabuses for a period of four years.

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[8] Saying this balance is important to the curriculum developed by ACACA members is not the same thing as saying that VET is here being, or can be, simply equated with 'practical' or 'hands on' learning; typically, Australian Qualifications Standards levels I and II undertaken by senior students in Australia provide 'entry level skills'.
[9] Australian Capital Territory Board of Senior Secondary Studies. *Policy and Procedures Manual 1998*, p. 20.

What registration and accreditation procedures have in common is a process of scrutiny and quality control of learning programs offered to students by schools. Sometimes this will involve the ACACA member in a process of approval of learning programs offered and/or delivered by private providers. Whatever the differences in the language used and the detail of the procedures, there appears to be considerable similarity in this procedural area across the different members of ACACA. At the simplest level, accreditation procedures involve a school (or group of schools) submitting learning programs to the Board using an accreditation panel, which makes a recommendation. The procedure of accreditation is often predicated on principles that relate to quality control, standardisation and currency. This last issue of principle is particularly important; ACACA members typically accredit learning programs for a fixed period of time, the precise length of which varies (in the ACT, normally for five years; in Queensland, for the term of a syllabus—syllabuses are revised every six years).

An important aspect of registration/accreditation procedures is that they make educational institutions accountable for the learning programs they teach and the results they provide; they allow agencies to have a document of record of some kind that describes what has been (or is proposed to be) taught.

This document of record is then used in other procedures (such as procedures for 'gathering and reporting student results' discussed below) to hold the educational institution accountable for the truth of the results supplied to the Board. For example, in the ACT the Board accepts that by signing the Year 12 certificate, college principals testify that the courses named on the certificate were taught as accredited.

Moderation procedures

Moderation procedures suggest the importance of:

- achieving comparability of school-based assessments such that the same result in the same learning program means the same thing across the state
- verifying student results by a process of scrutiny of student work.

A third level of quality control for certificates—the first was looking at the guidelines (curriculum development); the second was looking at the plans (accreditation/registration)—can be described as looking at the results. Moderation is one way in which ACACA members look at results, or outputs. The nature and extent of moderation of school-based assessments varies greatly across the different state systems but, typically, these procedures aim to achieve comparability of school assessments, and involve some kind of scrutiny or verification of student work. Achieving comparability is also partly about achieving quality; ACACA members also provide detailed advice to schools about a broad range of issues to do with achieving assessment quality and equity (for example, how to deal with special cases such as students transferring from another state). Of all ACACA procedures, moderation procedures are the most diverse partly because ACACA members provide such a broad range of support to schools that aims to achieve comparability of standards, and sound assessment practices.

In the ACT, 'Moderation Day' provides a forum for discussion and development of comparable policies and approaches, that aims to achieve comparability of student

results. In Victoria, moderation of school-based assessments involves use of the General Achievement Test to statistically monitor schools' assessments for each Common Assessment Task (CAT); schools whose assessments are inconsistent with their students' GAT results have their assessments reviewed by the Board. Another contrast is provided by New South Wales, which is the largest agency, and has an extensive School Certificate and Higher School Certificate (HSC) examinations program (that is, there is external testing at both Year 10 and Year 12). In this State HSC school-based assessments are moderated by school HSC examinations performance. In Western Australia the emphasis in moderation is upon visits to schools by officers from the Curriculum Council and compulsory 'consensus meetings' of teachers confirming interpretations of standards as part of a process of 'validation'; moderation also refers to the practice of 'moderating numerical school assessments' (in Western Australia the combined mark for a 'TEE course' is obtained in this way; each school/subject-group's school marks are adjusted to the same mean and standard deviation as their marks in the external examination). In South Australia and the Northern Territory moderation of school-assessed components of courses is conducted through visits to the school, 'consensus meetings', and the use of common assessment tasks.

In Tasmania the Board organises moderation meetings every second year for teachers of the same year and subject; however, the State Moderation Committee teleconferences of moderation advisers and district moderators held in March set the parameters for the moderation process for the year, such as what support materials need to be developed and the nature of the moderation meetings. Appointed 'moderators' have a key role in arbitrating standards as presented in material provided by teachers making decisions about standards in school-based assessment (teachers attend moderation meetings as representatives of their school or 'school-based subject moderators). Moderators in this State also report to the Board about how well its standards have been met.

In Queensland though, the term is used to refer to another set of procedures; district review panels and state review panels scrutinise samples of student work from every school subject-group and provide advice to schools about how they have applied standards. The panels also give advice about the quality of assessment practices evident in samples of student work. The form on which this advice is provided—'Form R6'—then becomes a document of record for which the school is accountable (for example, it is Board policy that subject achievement indicators (SAIs) used in the calculations for statewide rankings should have 'face value consistency' with the Form R6).

Test and examinations procedures

Test and examinations procedures, like moderation, suggest the importance of verifying student results by a process of scrutiny of student work.

Like moderation, test and examinations procedures are a third level of quality control for quality certificates because they also involve looking at the results, or outputs. In considering the role of examinations and tests in the different systems we should be aware that whether the emphasis in any one system is upon moderation or examinations, ACACA members are fundamentally similar in that they all have extensive procedures for verifying student results by a process of scrutiny of student work.

It is also true to say that examinations or test development procedures are important to all agencies, including those agencies that do not have examinations-based systems of tertiary entry.

Test and examinations development

Test and examinations development suggests the importance of providing results in tests and/or examinations that have been obtained using sound practices of assessment item development, scrutiny and evaluation, as well as post-test evaluation of these assessment instruments.

ACACA members typically have extensive manuals and rules for structuring the work of test and examinations development. There are differences in the nature and extent of testing/examinations by the different agencies and consequently there is variation in the details of the relevant procedures. For example, the Northern Territory has a multi-level assessment program that tests literacy and numeracy at Years 3 and 5 as well as mathematics and English at Year 10.

Another example can be taken from Queensland—the Queensland Board is responsible for the design, delivery, marking and reporting of the QCS Test, which is a cross-curriculum achievement test, incorporating Core Curriculum Elements (CCEs), administered towards the end of Year 12.[10]

In the area of tests and examinations there are many different kinds of procedures, including recruitment procedures for developers and markers, as well as security procedures for the committees involved in test and examinations development (securing confidentiality and ensuring no conflict of interest). There are extensive procedures for the development of items; in Queensland, for example, items are developed using the procedure of 'panelling' (exhaustive scrutiny of items developed by an item writer using panels of subject and non-subject experts). There are also, as in the example of New South Wales, extensive procedures for scrutiny of final draft examination papers involving a sequence of expert reviews (in New South Wales each final draft paper is scrutinised by an independent assessor(s), an assessor nominated by the Board Curriculum Committee, measurement experts, as well as senior assessment officers at the Office of the Board). Similarly, in Victoria draft examination papers are scrutinised independently by four experts, including one who reads and sits the paper as if he/she were a student. These extensive procedures for scrutiny of examination and test papers are typical of the work of ACACA members.

Another procedure in the area of test or examinations development is trialling and evaluation of papers. This can be, but is not in every case, conducted on a student population similar to, but far removed (geographically) from the actual student clientele for the test or examination.

Test and examinations administration and security procedures

Test and examinations administration and security procedures suggest the importance of providing results in tests and/or examinations that have been administered under conditions that are substantively the same for all students.

[10] The QCS Test is used as a benchmark to compare the strength of the competition in different groups across the State; teacher assessments or SAIs together with group, not individual, QCS Test results are used to calculate Overall Position (OP) results.

ACACA members have procedures for the safe and proper administration of tests and examinations. These procedures are necessarily many and varied and include practices for the security and dispatch of papers, the supervision and conduct of tests/examinations, and the safe return of papers. The very detailed rules for the conduct of examinations/ tests inform these procedures and relate to important principles of standardisation of conditions leading to validity of results in the interests of achieving fairness to all students. For example, there are rules about late arrival and early leaving, what can be brought into the room, communication in the room, candidate identification, and candidate behaviour.

Included in this area of procedures are procedures for breaches of test and examination rules; ACACA members have detailed rules for dealing with breaches such as impersonation of a candidate, collusion, prior knowledge of a test or examination, and so on.

Test and examinations assessment

Test and examinations assessment suggests the importance of providing valid and reliable results in tests and/or examinations by expert, trained assessors who know and understand the standards being applied, and whose judgments are monitored for reliability.

ACACA members have rigorous and extensive procedures for the assessment of examinations and tests for which they are responsible. These procedures include procedures for training assessors; for example, in New South Wales about 20 per cent of the total marking period is given to briefing examiners and to pilot marking. Victoria has full-day training meetings for assessors, and trial marking that is used to select markers. Included in this area of procedures are post-test/examinations evaluation procedures; ACACA members conduct extensive evaluations of student performance on tests or examinations administered by them.

ACACA procedures for test or examinations assessment are characterised by a concern for reliability of assessments; generally speaking, student responses are double or triple marked. In Victoria, for example, independent double marking occurs under the direction of chief assessors and, if necessary, a third or fourth marking occurs. This State is certainly not alone in having at least double marking of tests and examinations.

Many States provide feedback to their markers during the process of marking and/or as part of the training process. In Queensland this occurs on the days of the QCS Test so that 'aberrant' markers can receive information about their reliability. In Victoria, training meetings for markers include explanation of the assessment guide (marking scheme), trial script marking, and assessor performance reports (APR) based on the trial script marking. Pre-marked control scripts are distributed with 'live' scripts to monitor each marker's performance. Statistical feedback is also given to all markers throughout the marking process, with summary reports on completion.

An example of the steps in developing quality examination assessments may be taken from New South Wales; in most subject areas a supervisor of marking and senior markers work in consultation with the Examinations Committee to develop and apply the marking

scheme to the test responses. A pilot marking scheme is trialled with randomly selected papers. Various sections of the examination paper are then marked by different panels so that the final mark for a whole student paper is typically comprised of marks awarded by 8–10 different markers. 'Holistic' marking is double marked; 'highly structured' marking is not. Multiple-choice answers are computer marked.

Technical procedures for the calculation of student results

Technical procedures for the calculation of student results suggest the importance of providing information about student results that is based on rigorous scaling techniques with extensive 'built-in' checks and balances for achieving accuracy.

Technical procedures for the calculation of student results are one aspect of looking at the results because these procedures typically act as a kind of check and balance of student results in each state.

ACACA members have extensive procedures for ensuring the accuracy and integrity of calculations of student results. These procedures are both qualitative and quantitative with built-in checks and balances, including anomaly-detection procedures.

A key procedure in the broad area of 'technical procedures for the calculation of results' can be described as procedures for the determination of results. These are statistical procedures that involve the practice of scaling in all systems, whether they are examinations-based systems of tertiary entrance or not. For example, in the ACT, students who wish to gain a Tertiary Entrance Rank (TER) sit for the Australian Scaling Test; the results of the test are used in scaling to 'moderate' different courses within colleges and across colleges. In Tasmania approximately half the criteria in the syllabus are examined externally (all the criteria in each syllabus are assessed internally); the final 'award' in the subject is determined from results in both school-based assessments and in externally-based assessments. In Victoria, the calculation of the Study Score (Relative Position) provides a statewide ranking of each student's overall performance for each study, based on the three Common Assessment Tasks. In Queensland the calculation of the Overall Position (OP) provides a statewide ranking based on teacher judgments in the form of Subject Achievement Indicators (SAIs) and group information about the strength of the competition provided by the QCS Test.

Technical procedures for calculating student results also typically have specific 'built-in' practices for dealing with atypical cases (for example, small groups where there are insufficient data).

Qualitative checks form an important area of technical procedures for the calculation of results; in Queensland large computer searches identify input assessment data from schools that are checked manually by Board officers against other records of student achievement obtained from moderation panels scrutinising samples of student work.

Quantitative checking procedures often include 'test runs' on the data to identify any possibly anomalous results, checks for missing data, reports of data issued to schools for checking of results, mathematical modelling of the data to identify any anomalous results for individuals, school-groups and/or subject-groups. In South Australia, for example, up to 100 integrity checks are undertaken.

Special consideration

Special consideration procedures suggest the importance of providing every opportunity to students to show what they know and can do, i.e. varying the way in which information is communicated from and to the student, in ways that maintain the validity of the assessment result obtained.

Special consideration exists at the third level of quality control—looking at the results. The area of special consideration constitutes a broad and crucial area of procedures for ACACA members, reflecting important principles about the quality and equity of results on certificates issued by authorities. Special consideration procedures can relate to assessment (for tests or examinations) carried out by ACACA members, or it could relate to advice that ACACA members give schools about school-based assessments.

Whatever the detail of these procedures, they share some important principles about fairness to all students, ensuring validity of results while removing barriers to the equal opportunity of particular students to show what they know and can do. Generally speaking, ACACA procedures in this area emphasise that special consideration does mean varying the way in which information is communicated from the teacher to the student and from the student to the teacher, and does not mean varying the assessment standards.

A key aspect of procedures for special consideration is the identification of students for whom special consideration might be made; agencies differ slightly in the breadth of the range of students for whom such arrangements will be made. Typically, agencies include students with special needs who have a physical impairment and an emotional difficulty (such as bereavement) but there is some variation across the agencies in the extent to which they will make special arrangements for students with intellectual impairments, students with a learning difficulty and/or students variously described as having a linguistic limitation in English language proficiency. For example, in New South Wales, which has extensive special consideration procedures, special consideration does not apply to students with a linguistic limitation in English language proficiency. In Tasmania, alternative opportunities are provided for students 'unable to complete tasks due to cultural beliefs'[11]. This variation may well be a function of the difference in what the different assessment instruments actually measure (for example, in Queensland lack of familiarity with the English language is not a basis for granting special consideration on the QCS Test since proficiency in English is part of what the test measures).

Whatever the variation in who receives special consideration on what assessment instrument, ACACA procedures in this area seem informed by a principle about the importance of determining appropriate special arrangements on a case-by-case basis.

Another important aspect of special consideration procedures can be described as the determination of what special consideration will apply and the administration of special arrangements. For example, there are detailed procedures for the administration of the special consideration of extra time, use of computers or amanuensis, and use of special texts such as Braille texts. These procedures include resourcing arrangements for the particular form of special consideration being administered.

[11] Tasmanian Secondary Assessment Board, *Tasmanian Certificate of Education Manual 1998*, p. 26.

The principle of applying standards in the same way to all students so that a given result means the same thing for all students (that is, that the student has met the standards and requirements for the award of that result) is sometimes explicitly stated in information that ACACA members give about assessment they administer, as well as advice these agencies give to schools about assessment administered in schools. For example, in Western Australia schools are advised that 'the criteria for awarding grades, as defined by performance criteria or grade-related descriptors, remain fixed for all students. Students with disabilities should be assessed on what they **can do** and not on what they **might do** if they did not have these disabilities.'[12]

Yet the practices of ACACA members seem to be different in one important way in one area of special consideration at least—technical procedures for the calculation of results. Some agencies do provide and report 'estimated results'. Other agencies do not, and report only the results achieved. For example, in Western Australia a student may make an application if an event has affected performance in the Tertiary Entrance Examinations (TEE). In such cases the Curriculum Council calculates an examination mark using the applicant's school assessment as a basis. The higher of the actual examination mark and the calculated examination mark becomes the examination mark that is given to the applicant for that examination. The Northern Territory provides 'estimated scores' for students with an approved reason for not taking the examination, derived from test scores supplied by the school and calculated using regression statistics. In Tasmania a student may be granted 'special borderline consideration' in a subject; if the student is one rating removed from gaining a higher award, that student will be automatically raised to that higher award. The granting of borderline consideration may seem generous, but it is invoked in only about 5 per cent of cases (160 allowed in 1997 and only seven actually used).

In Queensland only the results achieved by a student are shown on the certificate, and this is the policy in both school-based assessments and in assessments (for the QCS Test) for which the Board is directly responsible. However, it should be noted that in Queensland, group, not individual, results in the QCS Test are used in the calculation of tertiary entrance rankings (although individual QCS Test results are reported on the Senior Certificate). Although students who wish to be OP-eligible are required to sit for the QCS Test, a student may receive special consideration to be exempt from the test and still receive an OP.

Victoria provides another example of how disadvantage is dealt with. There are three main procedures. Special arrangements may be made either at the school or during exams to assist a student to demonstrate what they know and can do. The Board may acknowledge and report that a student is disadvantaged. Finally, in circumstances where students are unable to continue, they may be granted interrupted studies status. They may pick up their studies in the following year and their results from two years may be accumulated without penalty. Consideration of disadvantage may be granted by the school to a student suffering illness or other disadvantage. The grade is not changed, but an asterisk against the student's grade indicates that the student could not perform at his or her optimal level. The student's Study Score (Relative Position) is calculated using the

[12] Curriculum Council of Western Australia 1998, *Curriculum Council Syllabus Manual Year 11 and Year 12 Accredited Subjects 1998*, vol. 1, p. 27.

student's achieved scores. The school provides an 'estimated grade' to the Board of Studies indicating what the school expected the student to achieve if not for illness or other disadvantage. This is used to calculate a consideration of disadvantage Study Score (Relative Position) to show how the student would have ranked if not for adverse circumstances. The student's results, including the estimated grade and consideration of disadvantage Study Score, are made available to tertiary selectors.

New South Wales provides special consideration for the School Certificate and the Higher School Certificate in the form of 'special provisions' on the basis of 'special need' (the term being defined on the basis of the World Health Organisation's definitions of 'impairment', 'disability' or 'handicap').

The basis for special provisions in examinations is that a student has a special need that would, in a normal examination situation, prevent that student from reading and interpreting the questions, and/or communicating knowledge or understanding to an examiner as effectively as a student without that need.

One conclusion about the differences in the extent to which ACACA members are prepared to 'adjust' results as part of special consideration procedures might be that, while accuracy is clearly important to all States, this is not the same as saying everyone shares exactly the same notion of accuracy. The different ideas about accuracy seem to be related to different ideas about what the results reported on the certificate mean. If the examination result is seen as an indicator of 'achievement' that lies outside the test and transcends the test it cannot at the same time be seen quite simply as a result obtained on a particular day or days which must be shown after all the appropriate accommodations are made. This difference in perceptions of what results mean can be deciphered in the accounts of why some ACACA members adjust results. In Tasmania the underlying principle is that assessment is of what a student knows and can do; the Board accepts that there are factors such as disability and trauma that affect the accuracy of the assessment instrument; accordingly a student who has experienced disadvantage can be given a greater 'error of measurement' range than is applied to other students. In Western Australia the underlying principle for special consideration procedures is that what candidates do in an examination is only an 'indirect indicator' of achievement; procedures for special consideration are seen as aiming to get an accurate measure of achievement when what students do in the examination is suspected of being an inaccurate measure. A notion of 'actual achievement' is seen as more relevant than the examination result. Other States will, like these two just mentioned, provide many *accommodations* that aim to ensure that on the days of the test students can show what they know and can do, but find the idea of adjusting marks more problematic. At least one State (Victoria) provides information for tertiary selection about what the student actually demonstrated (one notion of accuracy) as well as what the student might have achieved (another kind of result).

However, as noted in the introduction to this section, when comparing ACACA structures, procedures and practices, we should not simply list what one state ostensibly does and what another does not do. In the area of special consideration, at least, particular procedures have quite different implications in different States. The example of estimated examination marks is a pointed one; procedures for illness or misadventure on

the Tertiary Entrance Exam in Western Australia have quite different implications for students than illness or misadventure affecting performance on the QCS Test in Queensland. When we consider a procedure in the context of a whole system we can see that there are also some deep similarities (for example, we can see that illness and misadventure are provided for in some way in all systems and that all the systems are 'evidence based' in the sense that applications for special consideration are accompanied by supporting information).

Reporting

The different sets of reporting procedures are not really part of the three levels of quality control we have been considering, but rather form a distinct set of 'end product' procedures, as represented in figure 1.

Procedures for gathering and reporting student results

Procedures for gathering and reporting student results suggest the importance of reporting accurately a broad range of achievements while also attesting to a student's having reached a certain standard of education defined by the requirements for receiving the credential.

ACACA members have a broad range of procedures for gathering and reporting student results on certificates. These are procedures for the collection, holding and provision of very specific kinds of information in very specific forms (including certificates). They often involve very substantial high-level information management procedures required for the management and reporting of student data, primarily enrolment and achievement data (whether achievement in tests set by the agency and/or achievement data in school-based assessments).

Procedures for gathering and reporting results on certificates are structured by legislative requirements, by-laws, and rules. These include eligibility rules for the reporting of results on particular certificates, rules that suggest important principles about standards, the appropriate bases for inclusion and exclusion of particular kinds of achievements, as well as the importance of allowing a broad range of achievements to be reported on Senior Certificates.

For example, in Victoria the Certificate of Education is based on satisfactory completion of units. A student is required to complete sixteen units including three units of English. Six of the units must be Year 12 studies or sequences. In Western Australia students who meet all the requirements for secondary graduation are issued with a Western Australian Certificate of Education. To qualify for secondary graduation a student must have completed at least 10 full-year or equivalent courses, have obtained an average grade of C or better in at least eight of the full-year (or equivalent) courses with at least four of the full-year (or equivalent) courses at Year 12 level, and meet certain requirements for English language competence.[13]

There are some important differences in the substantive requirements for eligibility for certificates issued by the different ACACA members. One key difference relates to the

[13] Students who have completed the equivalent of Year 11 overseas, interstate or through TAFE have somewhat modified eligibility requirements.

extent to which a notion of a 'core curriculum' underpins eligibility requirements. For example, in South Australia students must meet requirements for study with minimum achievement in all subjects in a curriculum pattern that includes a broad range of subjects—English (or English as a Second Language), Mathematics, Australian Studies, arts/humanities/social and cultural studies, as well as other subject areas—if they wish to receive a South Australian Certificate of Education (SACE). There are also requirements that a student reach a certain level (SACE eligibility requirements include at least six units at stage 2 which is associated with Year 12). A student receiving a SACE must also satisfy the writing-based literacy assessment—writing is a keystone to completion of senior studies leading to the SACE. In Victoria, students must complete two units from a range of studies called Group A which includes the arts, Languages other than English and the humanities, and two units from Group B which includes Mathematics, sciences and Technology.

In Queensland there are no such core curriculum requirements (for either the Senior Certificate or the Tertiary Entrance Statement), although many schools do treat English and, to a lesser extent, mathematics subjects as core subjects in their timetabling of these subjects. All Board subjects have syllabuses that extend for two years and include substantial cognitive demands as well as an emphasis upon language education. Further, all OP-eligible students must sit for the QCS Test which provides information about how well they have achieved in core curriculum elements that include knowledge and skills in English and Mathematics. Both apparently different eligibility requirements in the examples given of Western Australia, South Australia and Queensland are informed by principles about the importance of senior studies as a program of study that involves substantial demands.

The point is worth emphasising; scrutiny of eligibility requirements for certificates issued by ACACA members suggests considerable 'surface' variability, but ACACA certificates are credentials in the sense that they attest to a student having reached a minimum standard of education. The range of achievements reported on ACACA certificates is broad, but it is not infinite in the sense that anything and everything can be reported. Generally speaking, states carefully regulate what appears on the certificate, and who can receive the certificate, in ways that suggest the importance of maintaining the credibility and meaning of certificates as credentials.

An apparent difference between States occurs in at least one area of reporting; in some States the agency does not provide certification for subjects that are not 'accredited' by that agency. For example, South Australia does not provide the 'primary documentation' for non–SSABSA-accredited subjects; students who successfully complete the requirements of modules in training packages or units of competence will receive recognition of this achievement in the form of a statement of attainment issued by the relevant organisation. In Queensland, TAFE modules (if they are not completed as part of Board-developed subjects with 'embedded VET') can be reported on the Senior Certificate as part of a category of subjects known as 'Recorded subjects' that the Board will approve for inclusion on this certificate. However, there is the sense that, as one agency advised 'the door is open' and that agencies are developing their practices for reporting VET and moving towards reporting ever more VET on the certificates they issue.

Procedures for gathering and reporting student results commonly have built-in checks and balances to maintain the integrity and accuracy of the data, with highly formalised procedures for such things as dealing with errors in data, and changing or amending data. In Victoria, as in other States, management of examinations data involves information technology functions with very detailed procedures for such things as the capture of marking data (through mark sense scanning), extraction of files, and generation of reports; there is an 'Errors Resolution Policy' controlling the treatment of rejected data. These extensive procedures are underpinned by important principles of accuracy.

ACACA procedures for gathering information about student achievement also have 'built in' accountability measures. For example, in Victoria, the principal (or delegate) signs declarations to the effect that the Board's requirements in relation to authentication of students' work and school assessment procedures, submissions of results and so on have been followed.

In Western Australia the principal signs a declaration on the 'Subject Results Form' which indicates that the requirements have been satisfied for each subject; that is, the assessment program developed conforms with the common assessment framework, procedures were followed to ensure comparability of assessments, the school participated in the Curriculum Council moderation program, and so on. ACACA members do not accept results unless the necessary requirements have been met; these requirements often relate to the quality, accountability, and equity of assessment practices. Further requirements for the acceptance of results in Western Australia include making students aware of the assessment program for each subject, and ensuring that students with physical or sensory disability are provided with 'appropriate opportunities to demonstrate achievement of subject outcomes and objects whilst applying the standards which are defined for all students attempting the subject'[14]).

Included in this area of ACACA procedures are other important accountability practices that relate to holding information about student achievement. For example, in the ACT, colleges are required to retain or dispose of specific kinds of information; school-based student records are retained for at least six years or until the student cohort would reach twenty-four years of age, whichever is the longer period of time.

Certificate production procedures

Certificate production procedures should ensure the importance, for quality certificates, of high standards of presentation and production quality, and that certificates are despatched as 'parchments' to the students who are awarded these certificates.

Certificate production procedures form an important and sometimes not-so-well publicised area of the work of ACACA members. These procedures vary depending on whether certificates are produced 'in-house' or contracted out; however, they all relate to important principles about a quality certificate being also a certificate that meets high standards of presentation and production quality.

Procedures for the design of certificates may also involve consultation. For example, in the Northern Territory the design of certificates is passed through Board standing committees as well as the Board.

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[14] Curriculum Council of Western Australia 1998, *Curriculum Council Syllabus Manual Year 11 and Year 12 Accredited Subjects 1998*, vol. 1, p. 15.

Procedures for printing certificates are also important. Whether certificates are printed in-house or not, computerised procedures for the translation of student data onto certificates forms an important part of the sequence of actions or procedures that can be described as the 'printing of certificates'. For this task, ACACA members often use their own computer programmers who know and understand their requirements for absolute accuracy. Procedures for printing certificates also include formalised checks of paper quality, equipment, management of equipment during production runs (if the certificate is printed in-house as in Queensland), formal checks of printing requirements with the printing agency (if the certificate is being printed off site as in Victoria), and so on.

Dispatching certificates is also a certificate production procedure. ACACA members manage the dispatch of certificates, complex logistical exercises with requirements for 100 per cent accuracy. They have well-developed procedures for managing the packing of certificates, and for liaison with Australia Post.

An example of the rigour and complexity of the procedures for dispatching certificates and other information to Year 12 students in 1997 comes from Western Australia; 18 017 Statements of Results were dispatched to students who could be divided into four large course categories to determine the particular configuration of documents that had to be enclosed (such as the Western Australian Certificate of Education, Application for Results Checks, Information Paper for Secondary Graduation, and so on).

ACACA certificates typically reach a very wide range of destinations (both overseas and interstate) by the appointed date in each state; for example, in Queensland in 1997, Student Education Profiles (SEPs) were posted to five overseas zones and over 500 Australian postcodes with the aim of reaching students by Monday 15 December.

Procedures for the dispatch of certificates also include procedures for providing copies of certificates to students (copies may be requested by persons who left school in the 1950s or before).

Appeals procedures

Appeals procedures suggest the importance of handling student questions and concerns about results in ways that are consistent with principles of natural justice.

Appeals procedures are included last here because the appeals period is typically after the issue of certificates. In figure 1, however, these procedures are represented as part of the third level of quality control—looking at the results. Student appeals[15] form an important and complex area of the work of ACACA members, predicated on principles of right of review, public scrutiny, accountability, natural justice, public interest and administrative impartiality. There are apparent differences in the detail of appeals procedures in different States but they share some important similarities.

For example, ACACA authorities have a range of procedures for dealing with student appeals or complaints about assessment decisions made in school-based assessment, yet, generally speaking, these procedures emphasise procedural issues (and computational

[15] ACACA members also have explicit grievance and dispute procedures 'built into' many procedures, for example as part of accreditation procedures, or for markers who wish to dispute appointments to panels etc. The detail of these is not considered in this document.

errors). In the ACT, for example, a student can seek review of a teacher judgment made in assessment within a school; this procedure allows a student to question at the Board level whether published procedures have been carried out. In contrast, in New South Wales, teacher judgments are not a matter for appeal. In New South Wales, a check on school procedures can be requested and students may ultimately appeal to the Board, but teacher judgments cannot be 'checked'.

In Western Australia schools must follow broad guidelines set by the Curriculum Council for student requests for reviews of school assessment; an assessment review does not involve the school re-marking student work but does involve checks that procedures have been followed. In the final instance an appeal can be made to the Curriculum Council if the student still believes that the Curriculum Assessment Guidelines were not followed. As noted above in the discussion of structures, the Curriculum Council has not formed a separate appeals committee; queries are dealt with by the staff of the Certification and Examinations Branch.

Students may make an 'Application for Results Check' (which involves checking if the script was marked correctly against the marking key and the marks were added up accurately), an 'Application for Statement of Marks' (which gives marks for each section/question), as well as an application under freedom of information legislation.

In Victoria, the Board's Discipline Committee hears student appeals against penalties imposed by schools for breaches of rules related to school assessment. In Victoria, no examination or school-assessed CAT will be re-marked once results have been released. Schools may request a confirmation of grades, which involves a clerical and computational check, and in the event of any irregularity, action is taken. For examinations, students may inspect their scripts and obtain a statement of marks. Before the release of results, the anomalous grades procedure checks the school's expected grades and the student's other results with the examination grade.

In Queensland, students can appeal against their tertiary entrance rankings and seek verification of results on their Senior Certificate. Students can and do raise a broad range of questions about whether Board procedures have been followed, and these are investigated by the Board. The Board has on occasion called work in for examination by subject experts.

ACACA members share an emphasis upon encouraging the student to try, in the first instance, to resolve the matter within the school. In the last instance, students can raise the matter with the Board itself. Generally speaking, ACACA members do not get into the business of 're-marking' student work that teachers have the responsibility for assessing—yet ACACA members do investigate student complaints and grievances where they relate to the accuracy, integrity, validity and equity of the results reported on certificates.

Appeals procedures typically involve highly formalised methods of making the appeal, having the appeal considered, and having the results of the appeal communicated by the Board to the appellant. The grounds for the appeal are clearly defined, as are the possible outcomes. There are differences between agencies in the details of appeals procedures; in some States (for example, the ACT), the appeals committee will see the student in a

formal hearing. A student's result may be lowered if that student appeals in some States (for example, the ACT) while in others (Queensland), appeal procedures do not ordinarily provide for a lower result as the outcome.

Specific practices

For the purposes of this analysis, a 'practice' is a discrete action or activity that can stand alone or be part of a longer sequence of actions or activities that could be called a procedure. A single practice can also be crucial to the production of quality certificates and can suggest principles for the production of quality certificates.

For example, the practice of placing information on certificates in clear and unambiguous ways can tell us something about the importance of a principle that certificates should not be misleading.

We now describe just a few key practices that illuminate important areas of principle relevant to the production of quality certificates.

Curriculum development

The practice of embedding VET

The practice of embedding VET suggests the importance, for quality certificates, of providing results in learning programs where all the components, including VET components, have been audited against overarching considerations of program quality, including coherence, compatibility, quality of learning outcomes for students, and relevance to sound learning program objectives.

Practices for embedding VET offer an important way in which ACACA curriculum development principles may be explored. An example of the practice of embedding VET may be taken from South Australia, although it has been emphasised that embedding is now fairly widespread. In South Australia, VET is embedded within 'SSABSA-accredited subjects' ('SSABSA-accredited subjects' are those 'stage 1' and 'stage 2' subjects that are prepared and approved by the Board.) These are outlined in documents called 'extended subject frameworks' at stage 1 and 'detailed syllabus statements' at stage 2. In South Australia (as in other States) embedded VET must be delivered by a registered training organisation or under the auspices of a registered training organisation. VET can be embedded in SSABSA-accredited subjects, including compulsory subjects within the SACE (South Australia Certificate of Education) at stage 1 (such as English, Australian Studies, and Mathematics) and those subjects that belong to certain categories at stage 1 (arts/humanities/social and cultural studies and/or mathematics/science/technology) or stage 2 (language-rich and/or quantitative/experimental).

A school program that embeds VET within an SSABSA-accredited subject(s) must ensure that the:

- objectives of the SACE unit(s) are able to be achieved by showing the relationship between the objectives of the SSABSA-accredited extended subject framework(s) or the detailed syllabus statement(s) and the competency standards or outcomes of the VET curriculum
- requirements of the SACE unit(s) are not compromised.

In South Australia as in other States, the process of embedding is structured by principles about standards and compatibility; embedded VET must be compatible with the objectives of the course. In South Australia as in other States, procedures for embedding VET suggest that embedding does not occur in any mechanical way or in a manner that presupposes that embedding is an end in itself.

What is important is achieving sound course objectives and learning outcomes for students. Any embedded VET is carefully audited against these considerations of course quality.

Examinations and testing

Marker monitoring practices
Marker monitoring practices vary but all of them offer an explanation of what is meant by the phrase 'judgments are monitored' in the point about what is important to procedures for assessment of examinations and tests made previously. The extensive and intensive nature of marker monitoring can be illustrated with reference to 'critical discrepancy' practices.

A 'critical discrepancy' practice is a specific way of dealing with marker disagreement, so called because the discrepancy is serious enough to warrant some action. ACACA members have a range of practices for resolving such disagreements between markers of the same paper. For example, in New South Wales the critical discrepancy—that is, the basis on which another marking (usually a third marking) will be obtained—is a difference between markers that is one third of the range of marks (all differences below this value are considered acceptable). The final mark is the average of these marks. Where a question comprises a number of part-questions, the critical discrepancy is set at one-quarter the range of marks.

Technical procedures for the calculation of results

Scaling practices
The above discussion about procedures identified scaling as a key practice that is part of the technical procedures for calculating student results. This discussion of scaling elaborates the meaning of the phrase 'rigorous scaling procedures' in the point about what is important in the detail of the procedures for the technical procedures for student results.

There are differences in scaling in the different States and these reflect the different uses of scaling; that is, whether scaling is used to moderate school-based assessments, to compare students who have taken different subjects, or for some combination of these uses.

The aim of scaling is always the same, however—to arrive at accurate results for students who have studied in different groups, whether these are school or subject-groups. Scaling by all ACACA members appears to be about principles of accuracy; the competition is different in different groups, so apparently similar results in different subjects cannot rightly be treated 'the same'. Fairness to all students requires some form of scaling in the different systems, whether these systems use results in public examinations, school-based assessments or a combination.

Some key aspects of scaling practices can be noted here. Scaling practices may involve, among other things:

- mathematical models of the data
- use of all or a subset of a student's results
- reference scales derived from other results
- using the results of all or a subset of students
- identification of anomalous cases.

Reporting VET results

Reporting practices for certificates suggest the importance, for quality certificates, of reporting results in terms of recognised state or national standards, in a form that is recognisable by community users of these results.

The specific practices of including this or that result can be described as part of a longer sequence of actions or a procedure that is concerned with reporting student results. ACACA members have distinctive practices for reporting results. For example, the ACT issues at least three distinct documents of record or certificates—a Year 12 Certificate (a profile of all courses), a Tertiary Entrance Statement (reporting only information useful for tertiary admission), and a Vocational Certificate (reporting VET). Other States such as Queensland, issue only two—a Senior Certificate and a Tertiary Entrance Statement.

A key difference in reporting practices occurs in relation to VET results. It is the practice in some States (e.g. Western Australia, Queensland) to report VET on a certificate (called a 'Statement of Results' in Western Australia) that shows other school achievements. However, VET is reported in different ways by these two States. In Western Australia, structured work-based learning programs and national training modules are reported; in Queensland VET is reported in much greater detail on a fold-out A3 Senior Certificate.

In Victoria the unit value of a VET certificate is reported to students in terms of its contribution to the award of the Certificate of Education. The VET units are reported on a student's VCE Statement of Results. The student also receives from the Board a separate statement of all modules completed within the Australian Qualifications Framework, and the VET in Schools Certificate is issued by the Board on behalf of the Board of Studies and the State Training Board.

The differences between these examples of how VET is reported suggest something about the different contexts, and community needs and perceptions. In some States VET is issued on separate certificates. However, what all ACACA members do have in common is an emphasis on reporting VET in terms of nationally recognised standards, in a form that is recognisable by employers and other readers of these results, and in a way that is consistent with the fundamental issues of quality in the appearance and presentation of the certificate.

Practices of consultation

Practices of consultation suggest the importance, for quality certificates, of certification authorities actively consulting with the community in ways that aim to achieve openness, rigour, and service to the community.

ACACA procedures characteristically have 'built-in' practices of consultation that incorporate these principles. In relation to this last point, the extent of consultation undertaken by ACACA members suggests that they are guardians of a system and have a specific job to do, while at the same time they actively encourage 'ownership' of, and participation in, the system by all members of the community. The partnership between ACACA members and schools is particularly close, although ACACA members also share partnerships and consult with a broad range of groups—parents, students, employers, universities, VET authorities and private providers, and so on.

Accordingly, the work of ACACA members is also characterised by 'stand-alone' practices of consultation, when agencies will consult on an *ad hoc* basis. For example, when developing proposals for certification, ACACA members will form working parties or steering committees, develop a research paper with proposals, and invite public comment, before a decision is made by the Board, or recommendation put forward to Government.

Conclusions

The above discussion of ACACA structures, procedures and practices suggests some significant differences in how things are done, but it also demonstrates fundamental similarities in terms of the ends, or principles for achieving quality certificates and certification. The need for a set of agreed principles is not restricted to the national context. As the Australian economy becomes more a part of an international 'global' economy so will the need increase for formal accreditation and certification of standards of achievement in education and training in a way that assures the long-term credibility, quality and authenticity of the certificates involved. The ACACA *Guidelines for the Integrity, Quality, and Long-term Credibility of Certificates of Achievement* suggest the wealth of experience and expertise of ACACA members in producing high-quality certificates, and the lessons of that experience. In summary, and on the basis of the above discussion, we could make the following observations about the importance, for quality certificates and certification, of particular ACACA structures, procedures and practices.

ACACA Boards and their offices

Quality certificates are issued by authorities that are legally constituted as representative bodies, and are sufficiently separate from government and community groups to arbitrate the many competing and conflicting interests in senior certification; these authorities actively consult with the community in ways that aim to achieve openness, rigour, and service to the community.

Curriculum development

Quality certificates report results in learning programs that are based on curriculum documents developed in a participative and responsive manner, taking into account a broad range of student and community interests.

Quality certificates involve proactive development of the curriculum, including Vocational Education and Training, in ways that take into account likely future national and international trends, pressures and events.

Quality certificates involve the development of clear, coherent and workable curriculum

documents that provide explicit standards for assessment that can be declared in advance and used to achieve fair, valid and reliable assessments of students' achievements.

Quality certificates require a coordinated approach to curriculum development to achieve cross-curriculum goals and provide schools with a sound basis for offering students opportunities to acquire the best possible range and balance of knowledge and skills.

Quality certificates provide results in learning programs in which all the components, including VET components, have been audited against overarching considerations of program quality, including coherence, compatibility, quality of learning outcomes for students, and relevance to sound learning program objectives.

Registration and accreditation

Quality certificates require expert monitoring of the balance between standardisation of the learning outcomes to be reported and flexibility to meet local needs; results on quality certificates involve a form of expert quality control of the nature and content of learning programs.

Quality certificates require expert monitoring and periodic re-examination of the currency, relevance, and value of learning programs undertaken by senior students.

Quality certificates report results for learning programs that are accountable in the sense that the programs are based on a document of record that describes what has been taught, and the nature of the outcomes provided for certification purposes.

Moderation

Quality certificates involve a partnership between ACACA members and the schools responsible for providing school-based assessments. The partnership is characterised by active self-scrutiny as well as expert peer review of the quality, equity and comparability of these assessments.

Quality certificates are based on moderated school-based assessments that are comparable in the sense that the same result in the same learning program means the same thing across the state.

Examinations and testing

Quality certificates require expert and participative examinations and test development leading to rigorous, valid and reliable assessments of student performance.

Quality certificates provide results in tests and/or examinations that have been obtained using sound practices for developing and scrutinising assessment items, as well as post-test evaluation of these assessment items.

Quality certificates provide results in tests and/or examinations that have been administered under conditions that are substantively the same for all students.[16]

Quality certificates provide results in tests and/or examinations that have been assessed

[16] The discussion of special consideration suggests that the detail of the conditions vary for some students, but are *substantively* the same for all students in that agencies aim not to compromise the validity of the assessment instrument being administered.

in ways that achieve high standards of validity and reliability of assessments by expert, trained assessors who know and understand the standards being applied, and whose judgments are monitored for reliability.

Examinations and testing as well as moderation

Quality certificates are based on verification of student results by some kind of process of scrutiny of student work.

Technical procedures for determining student results

Quality certificates involve open, rigorous, defensible, and accountable expert scrutiny of the technical procedures for determining student results: this scrutiny is also participative and responsive to community needs and concerns.

Quality certificates involve technical procedures for the calculation of student results that are based on rigorous scaling techniques with extensive 'built-in' checks and balances for achieving accuracy.

Special consideration

Quality certificates involve representation and inclusion, in the procedures of the certification authority, of the interests and views of all groups in the community with a stake in certification, such that all these different groups have equal access to opportunities to provide advice about the education issues that affect them.

Quality certificates involve providing every opportunity to students to show what they know and can do; that is, varying the way in which information is communicated from and to the student, in ways that maintain the validity of the assessment result obtained.

Certification

Quality certificates require inclusive and proactive development of practices of certification in ways that take into account national and international best practice, as well as local needs and contexts.

Reporting

Quality certificates are credentials in the sense that, as well as reporting accurately a broad range of achievements, they also attest to a student's having reached a certain standard of education defined by the requirements for receiving the credential.

Quality certificates reflect high standards of presentation and production quality, and are despatched as 'parchments' to the students who are awarded these certificates.

Quality certificates report results in terms of recognised state or national standards, in a form that is recognisable by community users of these results.

Appeals

Quality certificates require that students have opportunities to raise questions and concerns about their results before experts who scrutinise the evidence for the appeal in ways that are consistent with principles of natural justice.

Appendix 2: Quality assurance procedures in some other systems in Australia and overseas

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What is the aim of appendix 2?

This paper aims to answer the following questions about several educational systems that issue certificates:

What achievements are reported on certificates?

What are the key procedures for ensuring the accuracy, comparability and validity of student results reported on certificates?

The systems included in this paper are the Australian VET sector, the International Baccalaureate (IBO) and the international examinations offered by the University of Cambridge Local Examinations Syndicate (UCLES).[17]

The relevance of these systems' certificates to the ACACA Certification Project lies in their various degrees of similarity, difference and overlap. The approach to certification in the VET sector, for example, is important to ACACA agencies as a result of the increasing overlap of the VET sector and the school sector, but VET certificates are significantly different from the various senior certificates, particularly in their being exclusively competency-based. The IBO and UCLES, on the other hand, resemble ACACA agencies in issuing certificates that may lead to tertiary entrance, but differ in the international range of educational backgrounds to which their students belong. (This range includes Australia, and IBO and UCLES certificates represent a potential alternative to those issued by ACACA agencies.) In such comparisons, insight can be gained both from points of similarity and from points of difference.

This paper is based largely on documents provided by various State Training Authorities, the IBO and UCLES. This paper does not attempt to comment on any organisation's success in implementing its policies as stated in these documents.

Summary

All three sectors discussed in this paper face the issue of ensuring the quality of results reported on the certificates of students from a wide range of institutions, whether these are schools in many different countries or many different training organisations across a state.

The research paper given in appendix one, *The Importance of ACACA Structures, Procedures, and Practices for the Integrity, Quality, and Long-term Credibility of Certificates of Achievement*, sets out three levels of quality control:

- Look at the guidelines (curriculum)
- Look at the plans (accreditation/registration)
- Look at the results (moderation/examination; technical procedures for calculating student results; special consideration and appeals procedures).[18]

In the VET sector in Australia the content of what is taught is centrally monitored, either through the accreditation of courses by a State Training Authority or through the

[17] These three systems responded to a request for information about their certification procedures. Four other organisations were also contacted: three did not respond; one responded but was not directly involved in the issuing of certificates.

[18] This report forms Appendix 1 of the final report of the DETYA funded project undertaken by the Queensland

endorsement by ANTA of a national Training Package. Registration of providers is a key component of the VET sector, and the primary source of quality control. Centralised monitoring of individual student results is not a feature of this sector; rather, competency-based assessment is the responsibility of the provider, and the provider's demonstrable ability to conduct this assessment validly is a requirement of the registration cycle. Certificates in the VET sector report level of qualification, the industry descriptor and the occupational or functional stream.

The International Baccalaureate Organisation and the University of Cambridge Local Examinations Syndicate share many approaches to quality control of student results. Their curriculum is either centrally developed (with a diverse clientele in mind) or is locally developed with centralised endorsement. Schools need to register with each organisation to offer their courses; in the case of UCLES, individual teachers need to be certificated by the central body before they can set or assess coursework. Both organisations have established procedures for the assessment of students and the calculation of their results. The IB Diploma reports student performance in six main subjects, as well as in a Theory of Knowledge course and an Extended Essay. An overall grade is not awarded, but minimum overall achievement is guaranteed by the requirement that a certain minimum total number of points be obtained. In contrast, the IGCSE and the AICE certificates issued by UCLES report both an overall level of achievement, and individual subject results.

The following table summarises major points of comparison between the three systems.

		VET sector	IBO	UCLES
Achievements reported on certificate	A qualification	Yes	Yes	Yes
	Results in individual subjects	Issued separately from certificate	Yes	Yes
	Overall grading of achievement	No	No	Yes
Forms of assessment	Internal	Yes	Yes	Yes
	External	No	Yes	Yes
	Primarily competency-based	Yes	No	No
Quality control measures	Registration of provider or school	Yes	Yes	Yes
	Approval of curriculum	Yes	Yes	Yes
	Stated assessment principles and procedures	Yes	Yes	Yes
	Centralised scrutiny of student work	No	Yes	Yes
	Moderating and/or statistical adjustment of marks	No	Yes	Yes
	Monitoring of inputs/outputs	Inputs	Inputs/outputs	Inputs/outputs
Responsibility for awarding certificate	Certificate awarded by the body with responsibility for monitoring standards	No	Yes	Yes

Board of Senior Secondary School Studies in collaboration with the Australian Curriculum, Assessment and Certification Authorities; *Principles for the integrity, quality, and long-term credibility of certificates of achievement.* In the present paper 'quality control' is meant not in the industrial sense of 'a form of inspection involving sampling of parts in a mathematical manner to determine whether or not the entire production run is acceptable, a specified number of defective parts being permissible' (*Chambers Science and Technology Dictionary*, 1991), but in a broader sense of monitoring and influencing some or all stages of a process, with a view to ensuring the quality of the product (in this case the validity, value and currency of a certificate). In this sense of quality control, as applied to the processes of education and certification, there is of course no agreed proportion of defective certificates that is permissible.

The Australian VET sector

Who issues certificates in the VET sector?

Certificates in the VET sector are issued by Registered Training Organisations (RTOs).[19] Registration of training and assessing organisations is conducted by the appropriate State Training Authority (STA), within the Australian Recognition Framework (ARF). An organisation may be registered either to provide training, conduct assessment and issue certificates, or just to conduct assessment (skill recognition) and issue certificates. The terms of registration specify an organisation's *area of operation*, that is, the vocational training area or areas it may operate in and the highest qualification it may issue. One of the principles of the ARF is mutual recognition, so that certificates issued by an RTO are recognised throughout Australia.

An important difference between this approach to certification and that of ACACA agencies is that the State Training Authority does not itself issue certificates, but rather authorises the various training organisations to issue their own certificates.

What achievements are reported in the VET sector?

The Australian Qualifications Framework states that a certificate in the VET sector must report the level of qualification (for example, Certificate II), the industry descriptor (for example, Engineering) and, where appropriate, the occupational or functional stream (for example, Fabrication).

A student achieves a qualification by demonstrating competency in a certain set of areas of industry-related skill and knowledge. These areas are either modules (in accredited courses) or units of competency (in Training Packages). Achievement in a module or unit of competency is generally not graded other than according to demonstrated competency or lack of it, and does not always depend on completion of a certain segment of a course: through demonstrating competency, a student may receive Recognition of Prior Learning. 'The concept of competency focuses on what is expected of an employee in the workplace rather than on the learning process.'[20]

If a student has not demonstrated competency in all the areas required for a certain qualification, a Statement of Attainment may be issued, which lists those modules or units of competency in which the student has demonstrated competency, as well as stating the qualification that has been partly completed.

A significant feature of this system of certification, in comparison with certificates issued by ACACA agencies, is that it states that a student has attained a level and a range of competencies that have been judged by the relevant industry to be adequate; it does not place a student in any ranking among others who have also earned this qualification, nor does it describe a student's *degree* of success, either in the course as a whole or in any component of it. Some subjects reported on ACACA certificates may be competency-based, but an essential feature of ACACA certificates in general is to differentiate not

[19] In the Australian Qualifications Framework, the VET sector is authorised to issue Certificates I–IV, Diplomas and Advanced Diplomas. Throughout this paper, the term 'certificate' is used to mean any statement of qualification.
[20] ANTA, 1997. *Guidelines for Training Package Developers*, Brisbane, ANTA, p. 8.

just between students who successfully completed a course and those who did not, but also between those who achieved a high standard in completing it and those who achieved a lesser standard. [21]

Two systems of certification that vary to this extent may require different sets of quality control procedures.

What quality control procedures exist for certification in the VET sector?

Quality control for certification in the VET sector occurs mainly through the registration of providers, the accreditation of courses (or the endorsement of Training Packages), and the establishment of assessment principles.

Registration of providers

'Under the Australian Recognition Framework, registration of training organisations becomes the key critical quality assurance mechanism for the vocational educational and training sector.' [22]

Before a training organisation can issue certificates within the Australian Qualifications Framework it must be registered with a State Training Authority. Registration lasts for up to five years, after which the organisation must apply for re-registration. Auditing of the organisation by the State Training Authority is built in to the registration cycle, as well as being an option in case of complaint.

Before registration or re-registration, a training organisation must be able to provide evidence that it meets the National Core Standards for Registration and either the National Product/Service Standards for Training Delivery or, in the case of organisations seeking to offer only assessment services, the National Product/Service Standards for Skill Recognition Services.

The National Core Standards for Registration relate to:

- operating in accordance with the National Principles for Registration and Mutual Recognition
- following all relevant Commonwealth and State or Territory legislative and regulatory requirements
- demonstrating a focus on quality and consistency in the development and provision of its services, products and operations
- commitment to access and equity principles and processes
- participation in external monitoring and audit processes
- sound financial, administrative and client/learner records management procedures
- operating in accordance with the National Operational Protocol for the Marketing of Recognised Training.

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[21] Although achievements in the VET sector are generally reported only in terms of competency, the South Australian State Training Authority gives the following additional information to prospective training organisations: 'All reporting must include the units of competence achieved. The assessment principles do not preclude the reporting of superior performance. If you do this, you should negotiate how it is to be done with the relevant industry stakeholders. Assessing and reporting on merit should be against clearly defined criteria.' DETFE, 1997. *Principles for Competency-Based Assessment in Vocational Education in South Australia*, Adelaide, DETFE, p. 9.

[22] AQF, 1998. *Australian Qualifications Framework: Implementation Handbook*, Carlton, AQF Advisory Board, p. 3.

The National Product/Service Standards for Training Delivery relate to:

- resources for the delivery, assessment and issuance of qualifications (including personnel, materials and documentation)
- identifying the learning needs of individual clients, planning and implementing appropriate learning strategies
- conducting or facilitating assessments
- providing timely and appropriate information, advice and support services
- issuing qualifications in accordance with the requirements of the *AQF Implementation Handbook*, the *Guidelines for Training Package Developers*, and specific qualification requirements of the relevant endorsed Training Package(s) and/or accredited courses.

The National Product/Service Standards for Skill Recognition Services relate to the assessment-specific aspects of the Standards for Training Delivery.

As 'the key quality control mechanism' of the VET sector, the cycle of registration focuses on the demonstrable ability *of an organisation* to provide quality training and/or assessment in specific areas and therefore to issue quality certificates; it does not methodically validate *certificates awarded to individuals*. The concept of quality control that informs certification in the VET sector, then, can be described as being based on monitoring inputs.

Training packages and accredited courses

The ability of an organisation to deliver and assess a training program is one area that requires quality control if the certificates issued by that organisation are to be valued. Another is the content and structure of the training program itself. In the VET sector, training programs are currently of two kinds: accredited courses (composed of modules), and programs derived from Training Packages (composed of units of competency).

Accredited courses are developed by training organisations. Quality control is effected through the requirement that they be accredited by State Training Authorities. Once accredited, they are nationally recognised. However, concerns that this process was not fully appropriate[23] led to the establishment in 1997–98 of Training Packages, which are packages of national vocational qualifications based on industry competency standards, and have 'the advantage of ensuring national standards yet at the same time allowing training to be more closely tailored to the needs of different enterprises'.[24] Training Packages are developed by national Industry Training Advisory Bodies and other approved bodies, and are endorsed by the Australian National Training Authority. The endorsed components of a Training Package are competency standards, assessment guidelines and qualifications. These components are required to be closely integrated and to be 'appropriate to and effective across the range of industry and enterprise uses of the Training Package'.[25]

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[23] 'Industry concerns about the lack of workplace competence gained through provider-based courses have been matched by provider concerns about a lack of underpinning knowledge in competencies developed in the workplace. In some cases there have been difficulties in securing national recognition for training curriculum and qualifications.' Jack Keating, 1998. *Australian Training Reform: Implications for Schools*, Melbourne, Curriculum Corporation, p. 37.

[24] DETE, 1998. *A Guide to Registration as a Training Organisation in SA*, Adelaide, DETE, p. 22.

[25] ANTA, 1997, p. 6.

Whether a certificate records achievement in an accredited course or a program derived from a Training Package, however, the content and structure of the program are subject to a degree of quality control at the state or national level that seeks to ensure national recognition of the qualification.

Assessment principles

There is an endorsed set of Assessment Principles in the VET sector. They are specifically designed for the delivery of Training Packages, but also inform the whole VET sector during the transition from accredited courses to Training Packages. They are:

- Endorsed industry/enterprise standards form the basis of qualifications in the vocational education and training sector, where they exist.
- Endorsed industry/enterprise standards are the benchmarks for assessment, where they exist.
- Assessment conducted for the purposes of national recognition should lead to a part or full qualification under the Australian Qualifications Framework.
- Assessment should be undertaken by, or auspiced through, a registered training organisation.
- Assessment for national recognition purposes shall be conducted within a quality assurance framework.
- Responsibility for assessment resides with the body that issues the qualification under the Australian Qualifications Framework.
- Assessment processes shall be valid, reliable and fair.
- Assessment systems must incorporate mechanisms for recording, storing and accessing assessment outcomes.
- Assessment reporting systems should indicate the units of competence that the individual has attained.
- Assessment systems should incorporate ongoing monitoring and review processes.
- Assessment processes shall provide for the recognition of current competencies regardless of where these have been acquired.[26]

As well as providing guidelines for training organisations, these principles can contribute to the accuracy, comparability and validity of the results reported on certificates in the VET sector at the primary level of quality control—the registration stage. In answering the question, 'How will the quality of assessments across providers be monitored?', one State Training Authority advises, 'The Accreditation and Registration Council will be auditing providers in conjunction with industry to ensure compliance with registration requirements. The registration process under the Australian Recognition Framework will place greater emphasis on providers establishing systems for monitoring the quality of the outcomes of their training.'[27] The responsibility for monitoring the quality of outcomes reported on certificates in the VET sector, then, rests with the providers themselves. The State Training Authority may in turn monitor those procedures but it does not directly monitor the outcomes.

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[26] DETFE (SA), 1997. *Principles for Competency Based Assessment in Vocational Education in South Australia*, Adelaide, DETFE

[27] DETFE (SA), 1997. *Principles for Competency Based Assessment in Vocational Education in South Australia*, Adelaide, DETFE

The International Baccalaureate Organisation

What is the role of the International Baccalaureate Organisation?

The International Baccalaureate Organisation (IBO) is an educational foundation which offers 'a comprehensive curriculum—leading to a baccalaureate—which [can] be administered in any country and recognized by universities in every country'.[28] Eight hundred schools in nearly 100 countries are involved. Its initial stimulus in the 1960s was the need for 'a common curriculum and university entry credential for geographically mobile students', and it continues to emphasise 'intellectual rigour and high academic standards' as well as 'ideals of international understanding and responsible citizenship'. In addition to its original scope of pre-tertiary studies, in the 1990s the IBO has extended its scope to include the primary and middle years.

What achievements are reported on IBO certificates?

At the Diploma level—that is, the pre-tertiary level—IBO certificates report student performance, using seven broad categories, in six subjects, measured against fixed standards of academic performance, not according to fixed proportions of the candidature. The certificates also report student performance in an Extended Essay (based on original research) and a Theory of Knowledge course, using five categories of performance.

The various categories of performance have numerical values, and the award of a Diploma requires a minimum of 24 points. In addition, the student must satisfactorily complete the Creativity, Action, Service component of the curriculum, which emphasises 'the importance of life outside the world of scholarship'.[29] If a student does not meet all the requirements of a Diploma, a certificate of examinations completed is issued.

A notable feature of the IBO approach to certification is that student performance is reported differently for the three compulsory curriculum categories: 1–7 for the six main subjects; A–E for the Extended Essay and the Theory of Knowledge course (which together can contribute three points to the student's total score); and ungraded but compulsory completion of the Creativity, Action, Service component.

What quality control procedures exist for IBO certification?

Quality control exists at the three levels: authorisation of schools, curriculum development and assessment procedures.

Authorisation of schools

Schools need to be authorised by the IBO to teach the IBO curriculum and register candidates for examination. This process involves an on-site inspection visit and the submission of written documentation to IBO headquarters. IBO Diploma candidates must be students in good standing at an authorised member school.

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[28] IBO, http:www.ibo.org.uk/aboutib.htm
[29] IBO, http:www.ibo.org.uk/aboutib.htm

Curriculum development

The IBO curriculum at the Diploma level allows for flexibility and local and personal relevance within a controlled framework. In addition to a core comprised of the Extended Essay, the Theory of Knowledge course and the Creativity, Action, Service component, students select one subject from each of six areas: First language, Second modern language, Individuals and society, Experimental sciences, Mathematics, and Arts and electives. Students select some subjects to be undertaken at standard level and some at higher level. The curriculum is generally centrally developed; school-based syllabuses require IBO approval.

Assessment procedures

The assessment responsibilities of the IBO, in issuing a single-format certificate that will accurately report the achievements of students from 100 countries and that will be accepted by universities worldwide, are considerable, but perhaps differ from those of ACACA agencies largely in terms of geographical scale rather than fundamental purposes. The IBO provides the following general account of its assessment procedures:

- Responsibility for all academic judgments about the quality of candidates' work rests with more than 2100 examiners worldwide, led by chief examiners with international authority. A variety of assessment methods is used to value both the content and the processes of academic achievement and to take into account different learning styles and cultural patterns.
- Conventional external examination techniques are chosen from a range of options: oral and written, long and short responses, data-based questions, essays, and multiple choice questions. These are complemented by internal assessment of coursework by the teachers responsible for evaluating students over the two-year period. With classroom teachers and international examiners working in partnership, the emphasis is on ensuring that students have ample opportunity to demonstrate what they know and are able to communicate.[30]

In addition, examination papers are drawn up according to detailed specifications, and established procedures govern the marking of examination scripts and the moderation of examiner marking. For most subjects there are publicly available assessment criteria which are used to measure candidate performance in internal assessment.

The grading process seeks to maintain comparability of student results, not only between students in any particular cohort, but across a range of years. Grading decisions are made centrally by experienced senior examiners and are primarily based on evidence and made against appropriate criteria, rather than on reproducing the percentage distribution from previous years.

The IBO seeks to enhance the accuracy of student results by considering potentially anomalous results, which are flagged initially by computer. In 1998, 'at risk' candidates were defined as those meeting any combination of two or three of various conditions, including a grade that is two or more below their predicted grade, and requiring one or two marks to achieve a higher final grade. If consideration of 'at risk' candidates reveals a more general cause of potential anomalies—such as a particular school over-predicting results—adjustments are made to the marks of all candidates affected by the general cause, not just those on the 'at risk' list.

[30] IBO, http:www.ibo.org.uk/diploma.htm

The University of Cambridge Local Examinations Syndicate

What is the role of UCLES?

Until 1998, the University of Cambridge Local Examinations Syndicate (UCLES) was responsible for a range of examinations and qualifications both within the UK and internationally. UK qualifications administered by UCLES included GCSE, AS and A levels. In 1998 a unitary examining body, OCR (Oxford Cambridge and the Royal Society for the Encouragement of Arts, Manufactures and Commerce Examinations or RSA) was established to assume responsibility for all qualifications and assessment services previously provided in the UK by UCLES and the RSA Examinations Board (RSAEB). UCLES continues to be responsible for a range of international examinations, including the International General Certificate of Secondary Education (IGCSE) and the Advanced International Certificate of Education (AICE), which are the culmination of programs undertaken by students within approved, participating schools.

The IGCSE is a two-year program leading to a certificate which is internationally recognised as equivalent in standard to the British GCSE. It provides a basis for higher level courses such as the AICE or the International Baccalaureate Diploma, but is also designed to provide 'a curriculum and methods of assessment appropriate for a wide ability range'.[31] It is used in more than 100 countries.

The AICE is an international pre-tertiary curriculum and examination system, 'designed to cater for academically able students, with courses written specifically as preparation for honours degree programmes'.[32]

What achievements are reported on UCLES certificates?

A student who successfully completes the requirements of IGCSE is awarded the International Certificate of Education. This requires the student to complete a certain combination of seven subjects, which are graded from A* to G (where A* is a superior A grade). Most subjects offer a choice between Core and Extended curriculum papers, with certain grades only being available to one of these strands. Grades are awarded for a combination of internal assessment and external examinations. Successful candidates are placed in one of three categories—Distinction, Merit or Pass—depending on their results.

To qualify for the AICE certificate, a student is required to take the equivalent of five full courses (half-credit courses are also available), with at least one course (full- or half-credit) coming from each of the three subject groups: Mathematics and Sciences; Languages; and Arts and Humanities. Results in subjects are graded from A to E; numerical equivalents of these grades are added to decide a student's final overall level of achievement: Distinction, Merit or Pass. The AICE certificate shows the grades achieved by the student in each of the subjects taken, as well as the overall level of achievement and points earned in the AICE itself.

Students' achievements during the course may contribute to the final result in most

[31] UCLES, http://www.ucles.org.uk/int/igcse/index.htm
[32] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/curric.htm
[33] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/features.htm

subjects, although 'particular stress is placed on the use of externally-marked examination papers'.[33]

Both the IGCSE and the AICE, then, like the IBO Diploma, report on a student's performance in a number of subjects, according to various grades. The student has considerable flexibility in choosing subjects, within a framework that ensures a broad representation of academic disciplines. The achievements reported on all three certificates are measured by both internal and external assessment. Unlike the IBO Diploma, however, UCLES certificates aggregate these results to also report on overall achievement.

What quality control procedures exist for UCLES certification?

Quality control exists at the level of curriculum development and assessment procedures, with a further quality control process of teacher certification embedded in both areas.

Curriculum development

The UCLES curriculum 'seeks to avoid national or cultural bias, and does not exist to serve the educational purposes of any individual country. Curriculum content is chosen specifically to be of world-wide relevance.'[34] Nevertheless, the IGCSE and the AICE are based on comparable UK qualifications, and in particular 'International acceptance of AICE qualifications for entrance to higher education is based on their equivalence with the British GCE Advanced level (AS) examination'.[35] The concept of quality involved here is based on combining international relevance of curriculum at the student level with international acceptance of qualifications at the tertiary level.

One way UCLES seeks to attain this kind of quality is to design courses that meet standards already established in the UK but that may be 'adapted to local circumstances'[36] by the inclusion of coursework, which is set and marked by teachers. Quality control for these locally produced curriculum components is partly accomplished by the requirement that teachers be trained and certificated by UCLES before they may set or mark coursework. At the AISE level, schools may also devise their own half-credit courses, which 'provide teachers and students with opportunities to pursue interests which would not otherwise be catered for within AICE'.[37] These courses are externally validated by UCLES.

Assessment procedures

The achievements reported on UCLES certificates are generally assessed both internally and externally. UCLES has quality control procedures for each form of assessment.

For external examinations, detailed specifications exist for the setting of question papers and marking schemes. Before marking commences, all markers attend a standardisation meeting, at which the proposed marking scheme is trialled; the purpose is to 'ensure that Examiners have a well-founded and common understanding of the requirements of the mark scheme and can apply it reliably and consistently'.[38]

Following the standardisation meeting, all markers submit an early sample of marked

[34] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/features.htm
[35] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/intro.htm
[36] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/features.htm
[37] UCLES, http://www.ucles.org.uk/int/aice/aiceintr/curric.htm
[38] UCLES, 1998. *Instructions for Team Leaders and Principal Examiners (International Examinations)*

scripts for checking by the team leader; at a later stage, a larger sample is checked, and if consistent and excessive leniency or severity in marking is detected, the marks from that marker may be appropriately scaled. Supporting these procedures is a number of statistical analyses of past and present examinations which regularly inform key events in the examination cycle.

For internal assessment, in addition to the requirement that teachers be trained and certificated by UCLES before setting or marking coursework, there is a further quality control mechanism whereby samples of marked coursework are submitted to Cambridge for monitoring by an experienced examiner.

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Appendix 3: The process used to produce the guidelines

The information that follows is adapted from the report, submitted to DETYA at the conclusion of the project, of the actions taken to achieve the four project outputs, as specified in the DETYA Services Contract. It offers an account of key actions in the process of developing the guidelines and their accompanying discussions.

Output: Outline a set of principles of certification for senior secondary education

Actions completed

a) Before the first meeting of the Advisory Group on 27 March 1998, the project team developed a draft discussion paper and circulated it among Advisory Group members. This paper offered an initial overview of features of certification, both nationally and overseas.

b) Also before the first meeting, another preliminary paper was circulated. This paper discussed issues relevant to the development of principles of certification including features of senior secondary certificates, and raised key questions about certification systems and the nature of high quality certificates.

c) At the 27 March meeting, members of the Advisory Group discussed the nature and parameters of the project and its objectives, and proposed methods which could be used. They identified some key features of certification, relevant practices and VET issues. They also scrutinised the paper described in b) and discussed strategies for developing descriptions of current practices, as well as further action and timelines.

d) Following the 27 March meeting, members of the Advisory Group submitted to the research team copies of sample certificates as well as documentation about their procedures and practices.

e) By mid-April, copies of specimen certificates and supporting explanatory material for all States had been collected and circulated to all members of the Advisory Group; by this date also, most members had provided summaries and/or supporting documentation explaining their procedures and practices.

f) The project team prepared a draft document summarising existing procedures and practices and offering a draft set of principles, shaped by this scrutiny of existing practices.

g) This document was posted on 16 June to Advisory Group members requesting them to provide one set of annotations by 16 July correcting matters of fact and another set of annotations by 30 July commenting on the draft list of principles and any other aspects of the report.

h) Before the second meeting of the Advisory Group on 21 August 1998, members were sent a copy of the second version of the procedures paper that represented the research team's efforts to accommodate their annotations. Appendix 1 contains the final version of this document. Members were also sent a short paper on defining key terms, which was important to the development of agreed-on national principles.

i) At the second meeting of the Advisory Group, members examined progress achieved, discussed and identified key principles, explored definitions of key terms, discussed VET and TER issues, explored issues to be covered in the final report, discussed the accuracy of state descriptions of procedures in the working paper, and noted similarities and differences in procedures. They also attempted to identify any additional principles required (for example, a new principle relating to students transferring interstate was discussed). Advisory Group members considered the six VET principles that had been previously endorsed by ACACA members and decided that these do not relate directly to certification and that the project should focus on the project deliverables and the commitments specified in the Services Contract.

j) Following the second meeting, the project team developed a draft set of guidelines, which was sent to Advisory Group members for their annotation in early September 1998.

k) At the same time, the project team contacted bodies responsible for other certificates under AQF, as well as other certification authorities overseas, and asked them to provide information about their quality assurance procedures for certification (as specified in section A.5 of the Services Contract). Appendix 2 documents the quality assurance procedures in other systems.

l) The draft guidelines for quality certification were then developed further and submitted in February 1999 to ACACA CEOs for their initial consideration in individual meetings with members of the research team.

m) The guidelines represent the outcome of these actions, following consultation with ACACA CEOs and their further consideration of the guidelines in mid-April 1999.

n) The guidelines were formally endorsed by ACACA at its 2 August 1999 meeting in Perth.

Output: Describe an agreed national position, with ACACA members, on principles of certification

Actions completed:

a) The work detailed under the first deliverable led to the development of the guidelines—a succinct statement of an agreed national position on principles of certification, which takes the form of a 'guidelines paper' modelled on the *ACACA Guidelines on Assessment Quality and Equity*. They provide discussion of the context and scope of the principles, some explanation of key terms, a list of agreed principles, and an illustrative list of strategies.

Output: Implications, for policy and action by certifying authorities, of these principles for the assessment of students' achievements in terms of the key competencies and the integration of VET programs into senior secondary certificates

Actions completed:

a) Before the first meeting of the Advisory Group on 27 March 1998, a working paper was circulated, which raised key issues about the reporting of VET for consideration and discussion at the meeting.

b) Certificates and materials provided by Advisory Group members before the second meeting allowed identification of similarities and differences in the certification of VET by ACACA members. It also facilitated discussion of these issues in working papers and exploration of the relevance of the developing principles to certification of students' VET achievements.

c) During March 1999, after development of the final draft of the guidelines as described under the first output, the project team drafted a document which outlined implications of the certification principles, for policy and action by certifying authorities. This implications paper focused particularly on the assessment of students' achievements in terms of the key competencies and the integration of VET programs into senior secondary certificates.

d) This document was submitted in mid-April to Advisory Group members for their annotation, and was revised to reflect this consultation. In its final form it is included in the present document as 'Discussion paper: Issues and implications'.

Output: A discussion of issues relating to policy development and action for consideration by authorities responsible for certificates at the senior secondary certificate level and at other levels in the Australian Qualifications Framework

Actions completed:

a) The work undertaken for the project as detailed above has involved substantial discussion and dialogue between ACACA CEOs, their senior staff, and the research team of not only what the principles should be, but also their implications for policy development and action.

b) The paper that is included in the present document as 'Discussion paper: Issues and implications' represents issues raised by this discussion, and the project team's reading of the implications of the guidelines.