

Upper Secondary Certification and Tertiary Entrance

Western Australia. Ministry of Education, 1989 (Written by Professor David Andrich)

Overview of the document

114 page research report written by Professor David Andrich for the Minister for Education, Hon Dr Carmen Lawrence. The report (known as The Andrich Report) was designed to examine the degree to which procedures for upper-secondary education and tertiary entrance were achieving their aims. New procedures were put into place in 1985, in accordance with the recommendations of the McGaw Report (1984), and this report is essentially a response to the effectiveness of those changes. The report is organised via its four key terms of reference and it makes recommendations which support the aims of the McGaw Report but which argue that a more flexible upper-secondary schooling system is required.

Keywords

The McGaw Report (1984); CATE (Certificate of Achievement and Tertiary Entrance); tertiary entrance procedures; TEE (Tertiary Entrance Examinations); TISC (Tertiary Institutions Service Centre); SEA (Secondary Education Authority); typically resourced students; highly resourced students; breadth of studies; relevance of studies; rigour of studies; satisfactory performance; tertiary-bound students; non tertiary-bound students; small group moderation; internal assessments; external assessments; eligibility for tertiary admission; TEE subjects; non-TEE subjects; scaling; statistical moderation; flexibility; school structure.

Terms of Reference

1. Does the present system for upper-secondary certification and tertiary entrance encourage both breadth and appropriate rigour in both tertiary and non-tertiary bound students?
2. What constitutes a sufficient definition of satisfactory performance for the purposes of Secondary Graduation and tertiary admission?
3. Is a change from the 3, 4 or 5 subject average to a 4 or 5 subject average justified, and what would be the consequences of such a change for certification of tertiary and non-tertiary bound students? What are the advantages and disadvantages of the present system of taking a 3, 4 or 5 subject average?
4. Do the benefits of the inclusion of school-based assessment outweigh the emerging problems it poses, including small group moderation, and if so how can comparability best be achieved and the results used most effectively to determine eligibility for tertiary admission?

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Summary of Contents

CHAPTER 1: BACKGROUND

- States that “A key factor in the reforms of the Secondary Graduation and the tertiary entrance procedures of this decade across Australia (McGaw and Hannan, 1985) is concern with the impact that the procedures for tertiary entrance have on the secondary school curriculum.” (p. 1)
- Refers the reader to the McGaw Report (1984) and its major impetus, which was to investigate the fact that for students not entering tertiary studies, the traditional requirements for tertiary entrance seem overwhelming.
- Notes that the term ‘tertiary entrance’ in this report refers to entrance to four WA universities (Murdoch, Edith Cowan, UWA and Curtin), but not to TAFE.
- Provides an overview of some key features of the systems of tertiary entrance that were in place prior to the recommendations of the McGaw Committee organised under the following headings: Certification of achievement and tertiary entrance in 1974-1985; Comparability among schools and among subjects; the Certificate of

Secondary Education; Tertiary entrance; A single aggregate and ordering; The impetus for change in 1984; and Characteristics to be retained.

- Provides an overview of the key recommendations of the McGaw Report (1984). Notes that the McGaw Report led to changes in tertiary entrance procedures that this report is required to examine and looks at secondary graduation and satisfactory performance, school based assessment in tertiary entrance, the 3, 4, or 5 subject Tertiary Entrance Examination (TEE) score, literacy, and English Literature, English, and Senior English.
- Outlines the reports terms of reference.
- Discusses the social context. Notes that this report, alike the McGaw Report, is a research project carried out in a political, sociological and economic context and that to streamline the language of this report, the term “social context” will be used to refer to three contextual factors.
- States that “Recognising the social context will be useful in understanding why the same data can be interpreted in entirely different, and even opposite, ways.” (p. 11)
- Notes that even though this report’s observations and explanations are set in its wider social context, the substantive questions of the terms of reference have directed the study.

CHAPTER 2: PROCEDURES

- Briefly outlines the procedures that were employed in collecting data and information for this report.
- Notes that quantitative and qualitative, as well as macro-level and micro-level data were collected and that the data sources comprise:
 - Summary statistics and trends (quantitative and macro-level): Includes statistical data from the Secondary Education Authority (SEA), some data from the Tertiary Institutions Service Centre (TISC) and some data from the universities.
 - Anomalous cases (quantitative and micro-level): Notes that these came from the same data as the trends.
 - Committee reports and submissions (qualitative and macro-level): Includes the minutes and reports of official committees with a stake in the TEE system such as Admissions Committees of the universities, the Western Australia High School Principals Association, the Association of Independent Schools and the Catholic Education Commission.
 - Interviews (qualitative and micro-level): Notes that in addition to receiving submissions, interviews and discussions with many groups and individuals were held.
 - Literature: Notes that an array of literature and documents are cited, which informed the recommendations of the McGaw Report (1984) and the authors of this report in staging its investigations.

CHAPTER 3: THE SECONDARY STRUCTURE

- Notes that although the McGaw Committee made drastic changes to the Certificate of Achievement and Tertiary Entrance (CATE) procedures, the committee seems to have taken the existing structure of the secondary education system for granted and thus made its interpretations and recommendations within that structure, as opposed to putting the structure itself under examination.
- Notes that during the compilation of this report it became apparent that the existing structure of the secondary education system “was, and would continue to be, a major

constraint on the CATE procedures” and that as such, the structure has had a major impact on this report’s recommendations. (p. 14)

- Notes that the current structure of the secondary education system is under a lot of pressure to change in order to better cater for students who are not tertiary bound.
- Discusses the frame of reference for upper secondary education and notes that the “main concern in making changes to certification procedures has been to cater better for those students who are remaining at school beyond the compulsory years, but who for a variety of reasons will not enter a tertiary institution on completion of 12 years of schooling”. (p. 14)
- Discusses a fast track system for the tertiary bound and notes that:
 - The system for tertiary bound students in Western Australia is an extremely efficient “fast-track” system compared to other Australian states (12 years of schooling, compared to 13 in some other states). (p. 14)
 - Secondary schooling in Years 11 and 12 in Western Australia is very much a preparation for continued study at tertiary level, which negates the often expressed idea that tertiary institutions are primarily interested in selection procedures that predict tertiary study based on some general education/ability of entering students: “In the present system, it is not simply a matter of selection of those students who are able in some educational sense, but also of identifying those who are prepared in terms of knowledge of substantive content.” (p. 16)
- Discusses educational resources and notes that:
 - “Such a fast-track system, when compounded with the competition for places among those who are relatively successful in their studies, places very high demands on tertiary bound students: in the process, it places significant demands on the non-tertiary bound.” (p. 16)
 - To cope with such demands, students need supportive out-of-school environments, which include access to help and opportunities to study at home. That is, the student needs to be “educationally resourced” outside the formal education system. The fast-track system for the tertiary bound not only augments these resources, but also depends heavily on them, and assumes that they are there. (p. 17)
 - “Educational resources often are related to the socio-economic status of the family, but not exclusively.” (p. 17)
 - The main reason for the McGaw Report changing the CATE procedure was to cater for the increasing numbers of students who are not highly resourced educationally who remain at school beyond the compulsory leaving age.
- Discusses tensions in the system and notes that:
 - “One of the main features of the McGaw Committee recommendations in dealing with the concerns and demands of those typically resourced in the post compulsory schooling was to change and thereby reduce some of the demands placed on them”. This was achieved by reducing the demands on the type and amount of content that the more typical students were required to cover. (p. 17)
 - Changes involved the introduction of a 3, 4 or 5 subject TEE score aggregate and the prerequisite of a Secondary Graduation that included 6 subjects at Year 12 but not necessarily subjects with tertiary entrance accreditation.
 - Unintentionally, however, in changing the framework to cater for typically resourced students, the fast-track system may have been impeded and the type and amount of content studied by the highly educationally resourced affected.

- “The consequence of legitimising the programme of study for the typically resourced by permitting the highly resourced to study less than 6 TEE subjects has raised the question of whether they have maintained the rigour in their studies.” (p. 18)

CHAPTER 4: THE FIRST TERM OF REFERENCE:

“Does the present system for upper-secondary certification and tertiary entrance encourage both breadth and appropriate rigour in both tertiary and non-tertiary bound students?”

1. Breadth of study

- Notes that a “broad programme of study includes subjects from each of mathematics, natural science, humanities and social science. The purpose in engaging in a broad programme is in part to have a wide range of information and knowledge for personal development and in part to provide greater options for entry into a vocation or profession.” (p. 19)

2. Rigour

- Outlines three related components of rigour as follows:
 1. Learning is centred and rooted in experience and direct involvement in the topic or activity.
 2. Rigour involves representation and a level of abstraction of a body of knowledge, often circumscribed as a discipline area. The mode of representation of a subject is an integral part of the subject; therefore understanding the subject involves understanding its representation.
 3. Reflection on the subject. This component of rigour goes beyond having traditional experiences and understanding traditional representations, to reflecting and even questioning those experiences and those representations.
- Discusses the relevance of studies and notes that:
 - It is a misconception that a hallmark of intellectual study and rigour is enhancing the representational and the reflective component at the expense of the experiential component: “Representation and reflection in an experiential vacuum are often seen to provide studies that are irrelevant.” (p. 20)
 - There are two aspects to relevant studies: (1) Learning should draw upon recent experiences so that the representational and reflective components are meaningful and tangible; (2) The learning and subject matter should be relevant to future application.
 - Another important aspect to relevance concerns students’ perceptions of perceived relevance to the future. It is particularly important for students to feel learning has a perceived relevance to their future if relevance to previous experience is missing.
 - Notes the following tensions between two different orientations towards relevance: vocational orientations to learning (more practical, for non-tertiary bound students, non-TEE subjects) that pride relevance to prior experience and ‘intellectual studies’ orientations to learning (less practical, for tertiary bound students, TEE subjects) that pride representation and reflection. Notes that the first orientation reinforces anti-intellectualism; whilst the second orientation forgets that most young people enter tertiary institutions with a vocation in mind.
- Discusses some issues regarding the ‘status differences’ between TEE and non-TEE subjects. Suggests that whilst it may be desirable to reduce overt status differences

among students who may be more or less resourced, it needs to be appreciated that any attempts to eliminate completely and artificially the distinction in status among subjects and careers is futile. Notes that ‘typically resourced’ students are not likely to see the distinctions in status, and that the more highly resourced students will endeavour to extend study for as long as possible, with or without explicit reinforcement of differences in status between programmes of study.

- Discusses the extent to which school programmes adequately prepare students for further study.

3. Non-tertiary bound and breadth

- Notes that no formal breadth requirement has been implemented for Secondary Graduation for two main reasons: (1) it was considered that the greater the number of conditions imposed for Secondary Graduation, the fewer the number of students likely to achieve it; and (2) school systems and schools resisted the imposition of a breadth requirement arguing that timetabling constraints together with effective counselling would ensure breadth in all students’ programmes.
- States that “The requirement of breadth for Secondary Graduation through the selection of subjects of Year 11 should perhaps be strengthened. One way in which this might be done is to offer students programmes of study rather than permitting choice across the full spectrum of subjects offered. While each programme should permit flexibility within it, it might also be expected to require both breadth of study and depth in a major area.” (p. 23)

4. Non-tertiary bound and rigour

- Notes that the question of rigour for the non-tertiary bound is relatively complex, primarily because it is mixed up with status.
- Cites sections of the McGaw Report, which suggested that the hurdle was previously set too high for graduation requirements and that graduation from secondary school should not be equated with admission to the next (tertiary) level of study.
- Critiques the McGaw committee’s recommendations to address this problem and to reduce status differences between TEE and non-TEE subjects. Notes that despite the steps taken to reduce status differences, non-TEE subjects are intended to be less rigorous than TEE subjects.
- Notes that two other key issues have arisen regarding the non-TEE system: (1) teachers of non-TEE subjects want their subjects to be taken seriously so they often set amounts of work for students comparable to TEE subjects; and (2) when non-TEE subjects attract more able students, teachers tend to make the subject matter more rigorous (more abstract, representational and reflective), which tends to put pressures on students and makes the subjects more like TEE subjects.
- Discusses the assessment of non-TEE subjects and notes that external examinations are no longer conducted in any of the non-TEE subjects, but that there are benefits of external examinations for course standards and credibility. Suggests that “to enhance the credibility of school-based grades in non-TEE subjects some formal external assessment should perhaps be conducted where it is deemed appropriate.” (p. 24)
- Discusses the notion of considering the syllabuses of subjects as a means of exploring rigour. Refers to the subject Applied Technology as an example of a subject which involved high levels of rigour but which clearly involved practical or manual work.
- Discusses the contribution of TAFE and makes the following points:
 - Students view TEE subjects as ‘leading somewhere’ – notably to tertiary study and into professions. From this observation “it becomes apparent that at least

- some of the non-TEE subjects need also to be seen as explicitly preparing students for their next stage of study and ultimately a vocation.” (p. 25)
- Unfortunately, it is not always explicit to students where non-TEE subjects lead in terms of future TAFE study or work. “It is perhaps ironical that the route from study to vocation is more clear for the tertiary bound, who delay entry into a vocation for some six years or more after Year 10, than it is for the non-tertiary bound who may expect to gain employment within two to four years.” (pp. 25-26)
 - Two key characteristics of subjects should be taken into account whenever a subject is considered or reviewed for post-compulsory schooling (both for TEE and non-TEE): (1) whether the subject is a prerequisite for any TAFE qualification; and (2) whether the subject provides an exemption within a qualification.
 - More than 30 SEA accredited subjects could provide exemption from particular TAFE subjects and the recognition by SEA of TAFE courses contributing to Secondary Graduation needs to be acknowledged.
 - Whilst some schools already have programmes very closely associated with studies at TAFE, many factors need to be addressed to formalise and streamline these connections.
- Raises several concerns for those students who would like to enter tertiary study but who are advised to enrol in only 3 TEE subjects (the minimum) because they do not have enough resources to handle more than 3 TEE subjects. Illustrates that approximately 10 percent of students sitting examinations in only 3 TEE subjects were offered places in a tertiary institution and suggests that of this 10 percent, most were mature-age or second-chance students attending TAFE or a senior college.
 - Discusses school structure and notes that in addition to the demands that the fast-track secondary structure places on those who are typically resourced educationally, it is added that additional stress is put on post-compulsory students because the timetable structures/procedures remain “the same as in Year 8, and in many cases not all that different from the procedures in Year 1 of primary school”. Argues that “It seems reasonable that the structure in which they study should not be that of a typical secondary school but rather one which gives them more independence and a more flexible and extended timetable.” (p. 28)

5. Tertiary bound and breadth

- States that “The reasons for encouraging breadth of study among tertiary bound students are no different from those for the non-tertiary bound: delaying choice that reduces career and study options; and having a more informed background for professional and personal development.” (p. 28)
- Discusses the McGaw Report’s recommendations regarding ‘breadth of study’ and the way it can be encouraged and notes two requirements which emerged: the recommendation to include Year 11 as a part of Secondary Graduation; and the division of the TEE subjects into the H/SS (Humanities/Social Sciences) and Q/S (Quantitative/Science) categories/lists.
- Suggests that the breadth requirements resulting from the McGaw recommendations are minimal and should be retained, but that the study programmes of many students actually show more breadth than the minimum requirements and two-thirds of students in 1987 did at least two subjects from each list.
- Discusses retaining options for further study and notes that since the McGaw Report, secondary school prerequisite subjects for university courses have been made much

more explicit. Notes that the prerequisite subjects are almost exclusively for degrees in Mathematics, Physical or Biological Sciences while no prerequisites are required for degrees in the Humanities or Social Sciences; hence, students who take more subjects from the Q/S list have more options available for tertiary study. Argues this confirms that breadth should not be defined simply in terms of the distribution of subjects across the two divisions of H/SS and Q/S, but also in terms of future options.

- Discusses the distribution of subject choice between H/SS and Q/S including several problems in trying to ascertain whether students are dropping to the minimum number of subjects in the Q/S domain prematurely as a result of the present system. Tabled data suggests “An overall drop is apparent in the average number of TEE enrolments in both domains, the drop being greatest in the Q/S domain, and an increase in enrolments in non-TEE subjects.” (p. 31)
- Discusses the impact of classification on the subject of Accounting and notes that following the McGaw Report, the subject of Accounting was shifted from the H/SS list to the Q/S list and is hence useful to consider when investigating the distribution of choice between the two lists. Cites statistics which suggest that following the changes there was a fall in the proportion of students who included Accounting in their TEE.

6. Tertiary bound and rigour: macro-level analyses

- Reiterates that a major impetus for this report concerns the rigour of the studies of the tertiary bound. States that the TEE subjects are more rigorous than the non-TEE subjects in representational, and to some degree reflective, components.
- Argues that because the greater rigour of the TEE subjects exists more or less by definition, “the question of rigour for the tertiary bound can be turned into one concerned with the number of TEE subjects students are taking”. (p. 32)
- Notes that there is also concern with choice of TEE subjects, because of the perceived hierarchy among them.
- Raises concern that ‘educationally highly resourced’ students may concentrate on only 3 TEE subjects to gain higher tertiary entrance scores (when they are capable of studying 5-6 TEE subjects), which may reduce the breadth and depth of their studies.
- Notes there has been an increase in full-fee-paying international students in Western Australian schools but that as these students represent an atypical group in the context of this research, they have been excluded wherever possible in the following data.
- Discusses the distribution of 3, 4, 5 and 6 subjects based on the following tables:
 - Table 4.4 which shows the number of students sitting at least 3 TEE subjects (the minimum required for tertiary entrance) between 1985 and 1987. In 1986 and 1987 (following the McGaw changes) there was a dramatic fall in the amount of TAE/TEE subjects taken by students. It is also evident that the number of students sitting 3 TEE subjects has increased substantially. (p. 33)
 - Table 4.5 which shows in more detail the tertiary places offered to students from schools, the number of TEE subjects taken by students, and the institution to which they were admitted. Data shows “less than 2% of offers are made to school leavers who sat 3 or fewer TEE score examinations. Second, as the number of TEE subjects increases, so the proportion who enter a tertiary institution increases”. There is also a hierarchy among institutions, with the UWA having the greatest number of students studying 5 or more TEE subjects. (p. 34)
 - Tables 4.6 and 4.7 which both suggest students studying more TEE subjects have higher ASAT and TEE scores than those who study less TEE subjects.

(N.B. It is noted that such macro-level trends are not consistent with the common assumption that the less able students will improve their chances of tertiary selection by doing fewer TEE subjects).

7. Concentration of study on 3 subjects

- Notes that there are concerns that even though able students tend to take 5 and 6 TEE subjects, the current system encourages students to take only 3 TEE subjects.
- Suggests that although this may be seen as negative, there “seems no reason why a student should study with equal intensity all six subjects, especially if the extra intensity study is designed to add a few marks to the TEE score.” (p. 37)
- Suggests that a better average TEE score does not necessarily reflect the variation among scores across all six subjects, so ASAT data is utilised (shown in Table 4.8) to analyse standard deviations of TEE scores in students studying 6 TEE subjects. Notes that contrary to expectation, the data shows that the overall standard deviation has decreased marginally from 1984-1987.
- Discusses Mathematics and the Physical Sciences and notes that:
 - The subjects are rigorous, and are made even more rigorous because of the prerequisite structure leading from secondary to tertiary courses.
 - “There is a current political and economic drive to produce more technologists and engineers in order to develop industries involving modern technology” (p. 39), however, there is concern that there may be a drift of students away from studying these subjects.
 - Tables 4.11 and 4.12 show that between 1976 and 1988 there has been a steady increase in students taking Mathematics I and Human Biology, whereas there has been a decrease in students studying Mathematics II and III, Physics, Chemistry and Biology.
 - Table 4.14, which considers enrolments in mathematics and science subjects in relation to gender, location (metro/rural) and school type (government/non-government), illustrates that declining enrolments are more marked in government schools than non-government and there is marked decline in enrolments of rural students in Mathematics II.
 - Broader changes in the social context may also be affecting enrolments.

8. Tertiary bound and rigour: micro-level analyses

- Summarises trends from the previous section and notes that these are more or less in accord with expectations but that there is concern as to whether the trends have gone further than is expected and further than is desirable.
- Discusses Tables 4.15 and 4.16 which illustrate a concern for rigour and highlight concern that some students are opting for ‘easy courses’ (that is, combinations of easier TEE subjects, as opposed to combinations of more difficult subjects).
- Raises issues of ‘justice’ and debates whether or not students who choose less TEE subjects are given greater rewards than those who choose 6 subjects.
- Discusses Table 4.17 which shows the enrolment trends in mathematics and science subjects taken in 1985, 1986 and 1987 by students who gained entry into Medicine at UWA. Notes that the data “shows quite clearly that the students are moving away from Mathematics II and Mathematics III, and towards Mathematics I.” (p. 46)

Competitive entry and education as capital

- Canvasses issues regarding the competitiveness of entry into tertiary studies and links this to the concern that some students “may be choosing subjects in a way that

maximises their TEE score at the expense of maintaining their options beyond secondary school”. (p. 47)

- Discusses some other ‘consequences’ of competitive entry including the rising prominence of the view of ‘education as an investment’ and more complex ‘rules’ for tertiary entrance/selection.

Educationally resourced schools

- Notes that just as individuals are differently resourced, so are schools. Many schools can be classified as highly educationally resourced and some can be classified as not so highly resourced. The observation is made that non-government schools are generally resourced better than government schools.
- Discusses Tables 4.18 and 4.19 which highlight the percentages of students taking 5 and 6 TEE subjects within the government and non-government sectors, and group these in relation to ASAT scores. Notes that the non-government sector tends to have a slightly greater percentage of students achieving higher ASAT scores than the government sector. States that “as a whole students in the non-government sector were more concerned with the TEE entrance procedures as an investment than are those in the government sector, and therefore looked to the rules more”. (p. 49)
- Notes that during discussions with representatives of several government schools, there appeared a shift toward this line of thinking in the government sector, and that some “students and teachers were beginning to look more closely than previously at the pattern of results and were beginning to consider whether students with different combinations of subjects could have gained better TEE scores”. (p. 51)
- Implies that students and teachers in non-government schools are aware of how the rules can be exploited to obtain a marginally higher TEE score, whereas students and teachers in government schools are less aware, reflecting a significant social division between the two sectors.

9. Summary response to the first term of reference

- Concludes that “while the system does provide for breadth and rigour for all students, on balance it could provide for them somewhat better”. (p. 51)

CHAPTER 5: THE SECOND TERM OF REFERENCE

“What constitutes a sufficient definition of satisfactory performance for the purposes of Secondary Graduation and tertiary admission?”

- A short introduction notes that ‘satisfactory performance’ has “now come to mean a C average...in 6 subjects taken at Year 12, 5 of which must be Year 12 accredited subjects”. (p. 53)

1. Satisfactory performance and tertiary entrance

- Quotes the official TISC (Tertiary Institutions Service Centre) definition of ‘Satisfactory Performance’.
- Notes that the setting of Secondary Graduation performance as preliminary criteria for tertiary admission was not motivated by attempts to improve the selection procedure, rather the criteria were recommended by the McGaw Report to ensure that students continue to study a full set of subjects in Years 11 and 12 and satisfy the breadth requirements prescribed for graduation.
- Discusses some key problems with the current definition and problematises the McGaw Report’s ‘loose definition’ of ‘Satisfactory Performance’. States “it is very important that it be applied uniformly and fairly” (p. 55) and suggests that such a

definition should not be flexible as the McGaw Report's intended, but strict and fair because satisfactory performance is intrinsically linked to tertiary entrance.

- States that "It seems that the application of the satisfactory performance criterion is causing sufficient concern that it is perhaps best left out, or at least simplified. Leaving it out, however, cannot be justified simply because it seems to produce anomalies: its original purpose must also be considered. Therefore, it is anticipated here that it should be abolished, but in the context of some other changes that will be recommended." (p. 55)

2. Satisfactory performance and Secondary Graduation

- States that "satisfactory performance for Secondary Graduation is effectively the specification for Secondary Graduation" (p. 56) and there seems to be no reason why the specifications should be changed.
- Admits that the nomenclature of the grades (A, B, C, D, F) does cause some confusion. Discusses problems with the D grade and suggests that because the D grade does meet the requirements for graduation, it must be interpreted as a passing grade: "it is proposed that the grade of D be replaced by the grade of Pass or P, and that this be defined as "minimal achievement". (p. 57)
- Argues that this change in definition may result in standards being raised slightly in some subjects, but it would also have two other useful consequences: (1) it could help eliminate the criterion of satisfactory performance for tertiary entrance and leave Secondary Graduation as the important preliminary criterion for tertiary entrance; and (2) it would assist employers in interpreting more simply the Certificate of Secondary Education and help raise its status in the eyes of the general community.

CHAPTER 6: THE THIRD TERM OF REFERENCE

"Is a change from the 3, 4 or 5 subject average to a 4 or 5 subject average justified, and what would be the consequences of such a change for certification of tertiary and non-tertiary bound students? What are the advantages and disadvantages of the present system of taking a 3, 4 or 5 subject average?"

- The introduction section raises three important points which must be considered before responding to the third term of reference:
 1. The 3, 4, 5 average arose out of a compromise between the proponents of a 3 subject average and a 5 subject average.
 2. The McGaw Committee did not envisage including, and explicitly rejected including, the subject English in the 3, 4 or 5 subject average. Instead it emphasised that it could be used by some students to prepare for the literacy requirement, but that literacy could be evidenced, at least in an interim period, in any subject with a substantial essay component.
 3. The number of subjects that are classified as TEE subjects is much greater than originally specified by the McGaw Committee.
- Argues that such "changes to the McGaw Committee's recommendations make it clear that the original intentions of the 3, 4, 5 average, itself a compromise, have been compromised further: the expected typical rigour of a 3 + 3 programme of study for highly resourced students has been diluted". (p. 59)

1. Advantages and disadvantages of the 3, 4, 5 subject TEE

- Argues that "The main advantages of the present system of taking a 3, 4 or 5 subject average, with the inclusion of 28 TEE subjects, is that it reduces the incentive or need for students who would have difficulty studying 4 or more TEE subjects, to study

them”. Notes that “If the minimum number of TEE subjects is to be increased beyond 4, then some mechanisms will need to be put in place that will still alleviate some of the demands on these students.” (p. 60)

- Highlights two main disadvantages:
 1. While it reduces demands on the students now typically resourced to meet the requirements of tertiary entry, it also can reduce the demands on those who are highly resourced.
 2. a) There is a small likelihood that students who can only really manage 3 TEE subjects will gain tertiary entrance and it may be deceptive to encourage such students to do 3 TEE subjects because it is technically possible; b) In terms of preparation for tertiary entry, it seems that students with 3 and 4 TEE subjects will not be as well prepared as students who study and prepare themselves with 5 and 6 subjects.
- Discusses medals and awards and argues that the “awarding of medals and General Exhibition awards based on a score of 3 TEE subjects rather than on 5 TEE subjects helped provide mixed signals to students regarding the importance of breadth of study”. (p. 61)
- Suggests overall that if awards are to be presented, and they are to have the symbolic power they are intended to have in recognising outstanding achievement, they should be based on an average with the greatest number of acceptable subjects.

2. Is a change from the 3, 4, or 5 subject average to a 4 or 5 subject average justified?

- States that “The arguments presented earlier point to a change from a 3, 4 or 5 subject average to a 4 or 5 subject average. Any change, however, needs to be placed in context, or frame of reference. This context involves complementary changes, that should be put into place, changes designed to reduce the added stress on the typically resourced student.” (p. 62)

3. Consequence of changing to a 4 or 5 subject average

- States that “The main consequences of changing to a 4 or 5 subject aggregate are that a more rigorous and broader background will be provided as the minimum basis for tertiary entrance, with fewer anomalies, but that more pressure may be placed on the typically resourced student unless complementary changes are made.” (p. 62)
- Argues for the inclusion of English as a TEE subject due to its symbolic power and because it allows for appropriate content in language awareness to be taught. Canvasses several reasons as to why English is currently excluded as a TEE subject, including the apparent belief that there are highly resourced students who can pass English without studying the subject. Notes that with the expansion of the number of TEE subjects, “the exclusion of English as a TEE subject can render it less important in the minds of those students who most need to work at developing English language skills.” (p. 62)
- Argue that perceptions are incorrect that many students do not need to study the subject to pass it, and moves are supported to “make the English syllabus have content that can be identified and that can be studied explicitly, not only by students who are highly resourced, but also by students who are typically resourced”. (p. 62)
- Argues that the school of thought that English does not have ‘content’ and that it must be learned only through exposure and modelling, must be abandoned: “There is a need for conscious articulation of the subject, and the English language and its uses are no less amenable to this articulation than any other subject.” (p. 62)

- Notes that recent changes in the English syllabuses are in accordance with the views expressed in this report.
- Discusses the coverage of the present subject English as presented in the Curriculum and Assessment Policy Committee (CAPC) document number C478.

4. Aggregation and multiple indicators

- References various academic studies in order to respond to opinions/proposals that suggest selection on the basis of a single index is problematic, that multiple indicators and profiles would serve the purpose better, and that selection should be made over a longer period of time. Argues that all tertiary institutions should allow an accumulation of a TEE aggregate over more than one year.

5. Non-direct entry into professional faculties

- Argues that tertiary institutions should consider eliminating direct entry to professional faculties and programmes of study as direct selection into professional faculties places a great deal of stress on students and the procedure for selection.
- States that “A change that retains the selection of students into tertiary institutions on the basis of subjects designed to prepare students for tertiary studies, but that does not select students directly into the highly selective professional faculties, is an important reconciliation of the conflicting demands on preparation and selection for tertiary studies, and certification of secondary studies.” (p. 68)
- Discusses a semester of study in a liberal Arts/Science programme, referring to the Law faculty at UWA as a case study for delayed entry into professional programmes. The Law faculty now requires a year of study in the Arts or Science faculties before entry into its professional programmes. Suggests that an immediate solution for delaying selection into professional programmes may be to emulate this procedure, however, this would put extra demand on resources, both in selection and teaching. Notes that a less demanding procedure would be to have the selection point for entry into professional programmes at the end of the first semester of tertiary study.
- Discusses the deferral of selection of students into tertiary programmes in terms of information, stress and disadvantaged students.

6. Complementary considerations to the 4 or 5 subject average

- Considers ‘typically resourced’ students and how the pressure could be reduced for them while at the same time preparing them for tertiary entry. Notes that this is especially important if the minimum number of TEE subjects were raised from 3 to 4.
- Argues that students should be able to accumulate their TEE scores over more than one year: “One method by which the demands could be reduced in Year 12 would be to permit students to accumulate their TEE scores over more than one year.” (p. 71)
- Notes two barriers to the accumulation of TEE across more than one year: competitive entry and the exploitation of the procedure by highly resourced students. Despite this, it is suggested that the benefits of being able to accumulate a TEE score are sufficiently important that it should be put into place in some form.
- Discusses several technicalities of such a potential reform, including the possibility of students staying on for a 13th year of study if necessary to achieve tertiary entry.
- Argues that increasing the participation of tertiary bound students in an extended post-compulsory schooling programme could also be expected to have a positive effect on the participation of the non-tertiary bound who do not achieve Secondary Graduation in two years.

- Discusses the role of the University of Western Australia (UWA) and notes that it is the most prestigious university in the state with the strictest criteria for entry, whereas other universities are more flexible and have lower minimum criteria for entry. Suggests that the power of UWA can be used to advantage but that this needs to be considered carefully, as whatever UWA specifies for its entry procedures will affect all other institutions and all secondary education.
- Argues that it is vital that UWA permits accumulation if the above changes are to take place and allow students to take a sixth year of secondary schooling: “If the University of Western Australia does permit accumulation, and if the possibility of accumulation is given the publicity it deserves, then it is much more likely to encourage typically resourced students to take a sixth year of secondary schooling.” (p. 74)
- Discusses possibilities for a literacy requirement for English competence including problems with the current system. Suggests that “the literacy requirement simply be the Pass in English or English Literature required for Secondary Graduation”, assuming both English and English Literature become TEE subjects. (p. 76)
- Discusses the possibility for a third category of subjects (in addition to the current H/SS and Q/S categories), but rejects such a change.
- Recommends that the criterion of ‘Satisfactory Performance’ (as introduced by the McGaw Committee) be abandoned. Suggests that if the requirement is changed to a 4 or 5 TEE subject average, then perhaps the schools can tolerate Secondary Graduation as the preliminary requirement, however: “If this criterion is considered weak, then it is suggested that the requirement be 5 passes in accredited TEE subjects at Year 12.” (p. 78)
- Discusses some unavoidable ‘anomalies’ in the rules of selection procedure, including the fact that students may sacrifice their sixth subject (that is, purposefully fail their sixth subject) in order to maximise their TEE score and still gain the required passes for Secondary Graduation.
- Notes that the possibility of accumulating the TEE score and staying on at school for a sixth year of secondary schooling “raises an important issue for the structure of schools and post-compulsory schooling” (p. 79)
- Briefly discusses two key points:
 1. Part-time study: “If students are permitted to accumulate their TEE score, then some students will have only one or two subjects to complete, having completed Secondary Graduation and one or two TEE subjects. Some of these students may wish to return to the school, and complete another full programme of study, but others will prefer to complete their requirements for a TEE score part-time...It may be necessary for schools to permit students to study part-time in their sixth year.” (p. 79)
 2. Upper secondary structure: “An alternative approach is to change the structure of the upper-secondary schooling so that it is more flexible and different from that of lower-secondary. In principle, the Senior College structure would be brought further back into the upper secondary levels. Again, this would not be new, as other States have or are considering similar schemes”. (p. 80)

CHAPTER 7: THE FOURTH TERM OF REFERENCE

“Do the benefits of the inclusion of school-based assessment outweigh the emerging problems it poses, including small group moderation, and if so how can comparability best be achieved and the results used most effectively to determine eligibility for tertiary admission?”

1. Standards and norm referencing

- Argues that it is inevitable that both standards-referenced and norm-referenced forms of assessment must co-exist and that despite perceptions or preferences for one or the other, both are intrinsically linked.
- Notes that the move towards school assessment is often associated with criterion or standards-referenced assessment and is often contrasted with external norm-referenced assessment and that proponents of each form tend to over-exaggerate their own strengths and the other’s weaknesses.
- Notes that “Most school and external assessments have both standards-referenced and norm-referenced features” (p. 81) and discusses the differences between each form and their benefits and importance.

2. Combining school-based and external assessments

- States that “A school-based assessment component in each subject is included in the final score for a TEE subject, and this is provided by the school on a 100 point scale, as is the external examination. The justification for combining the two forms of assessment for a TEE score is that it overcomes the weaknesses of each.” (p. 83)
- Discusses the sections from the McGaw Report which detail the weaknesses and strengths of each form of assessment and supports views of the McGaw Committee that school-based and external assessments should be combined.
- Discusses issues regarding aggregation and moderation.
- Discusses preparing for external examinations and two major problems that need to be dealt with when scaling takes place: a potential corruption of the system and statistical concerns. Argues that “if the internal assessment, and teaching associated with that assessment, is geared solely towards maximising performance on the external assessment, then besides the corruption of the teaching and learning that goes with it, the relative numerical assessments are corrupted in the following two ways. One concerns the concentration of the teaching towards the examination, at the expense of other aspects of the course, and the resulting potential advantage those students might gain therefore in the examination. The other follows on from the first: not only are the external assessments inflated, but the internal assessments, which have their mean and variance equated to the external assessments, are correspondingly inflated.” (p. 85)
- Notes that higher resourced students who have private tutors are likely to perform better in both internal and external assessments.
- Discusses small groups and concerns with the accuracy of the estimates of the mean and variance of the scores on the external assessments for ‘the group as a whole’ and how these affect the scores of individual students within that group.
- Discusses the possibility that some students may not take their external TEE exams seriously: “As it happens, because of the 3, 4 or 5 subjects average, and because the grades for Secondary Graduation and satisfactory performance are available to students before the external examinations are taken, it is possible for students not to take some of their external examinations seriously.” (pp. 86-87)
- Discusses the implications of ‘non-triers’ for scaling/moderation and suggests the concept of returning examination results to schools before grades are finalised as a

direction that has considerable merit and that should be debated by the WA education community at large.

- Discusses concerns with forms of collusion and cheating in internal school assessments and examinations.
- Discusses student-teacher interaction and notes that “A second concern arising from inclusion of internal assessment is that it is seen to have changed adversely the relationship between the student and the teacher. Whereas previously, in obtaining a score for tertiary entrance, the students and teachers were joined in preparation for the external examinations, the teacher now is seen to be both a mentor and a judge” (p. 88). Notes that these roles require careful balancing.
- Discusses criticisms of the fact that the external assessment is carried out only once, and that too much may depend (50 percent of final score) on this once-only performance; whereas internal school assessments can often be excessive in number but are also only worth 50 percent of students’ final scores. Suggests that there is excessive testing and over-assessment in some courses, which may be driven by: The insecurities of teachers in a new system; and/or the idea that students won’t complete work unless it counts toward final assessment.
- Suggests that where assessment is excessive it should be reduced and students should be encouraged to submit work that allows them “to demonstrate or rehearse their skills and knowledge for no other purpose than to receive feedback and to learn the material.” (p. 89)
- States that “Finally, continuous internal assessment is seen often to penalise a student who, for whatever reason, shows a learning spurt towards the end of the year. It is considered the final status in the subject, not performance six months earlier, should be the dominant criterion in awarding a mark.” (p. 89)

3. Open book examinations

- Analyses examinations as forms of assessment and suggests ways that they might be used to reduce the amount of assessment in schools and to help overcome some other deficiencies that the report has so far observed. Suggests that examinations have certain weaknesses, including the standardisation of time and the elimination of any resources in the examination.
- Suggests that university settings are moving towards the open-book form of examinations and “it is reasonable for the same change to appear in school examinations” (p. 90). However, it is argued that the key aspect of the examination that needs to be preserved is evidence that the student does understand the subject at the required level.
- Argues that “If an examination depends on students not having materials, then it is tantamount to admitting that to pass the examinations students must have memorised the material in their books and that they need not carry out further processing of that material.” (p. 91)
- Notes additional benefits of open-book assessments, including a more rich/sound preparation process that is more consistent with what one would expect to find in the everyday workplace. Suggests that if such open-book examinations were introduced, then the ways students prepare for exams would have to change and students could not be presented with the exams without practice and rehearsal: “Students would need to realise...that even with resources at hand, there is little or no opportunity to learn new material in an examination. Students would need to be taught how to annotate their resources so that they can access readily the relevant sections when answering examination questions.” (p. 91)

- States that “Examinations that assume that students have their relevant materials with them need to go beyond requiring simple recall to answer the questions, and therefore should help overcome the charge that they encourage rote memorisation: they should help develop other desirable learning skills.” (p. 92)

4. Resolutions of statistical requirements of small groups

- Discusses the idea that small groups create a statistical problem, concentrating on how the SEA (State Education Authority) has attempted to cope with such difficulties.
- Notes that essentially the SEA has defined that: if a school has less than 10 students in a subject, then it will be deemed to have a small group; if a school has a small group then the SEA has required the school to find another school with which to collaborate and partner in order to ensure a large enough group; and if the school cannot find a partner, the SEA finds one for it.
- Discusses the unintended and unexpected benefits of staff interaction and development that have come out of the small group statistical group moderation exercises.
- Discusses one positive, but not explicitly intended, result from the combination of internal and external assessment in TEE subjects: the interest shown by principals and staff in educational measurement and assessment.
- Notes that the small group moderation exercise is both time-consuming and expensive. Three modifications to the current procedure are suggested and briefly discussed “in the event that the combining of internal and external assessments is retained” (p. 94): (1) making the formation of partnerships non-compulsory; (2) providing a ‘different type of partnership’; (3) applying another statistical procedure for monitoring the moderation.

5. Separation of internal and external assessments

- Discusses the separation of internal and external assessments and notes that “Most of the above analysis was based on the supposition that the internal and external assessments would be summed. An alternative procedure is to consider leaving the internal and external assessments separate, and to report them separately.” (p. 95)
- Discusses the advantages of separate reporting and argues that the key advantage is that it “obviates the needs for statistical moderation and the need to deal with small groups”. (p. 95)
- Notes that collusion and over-assessment may become less of a concern and that because Year 11 is all internally assessed, and so is the assessment for Secondary Graduation during Year 12, it may be reasonable to have only tertiary selection assessed externally.
- Outlines the disadvantages of separate reporting and notes that the weight of disadvantages listed supports the report’s suggestions so far, which assume combined reporting should, and will, be maintained. Lists three key disadvantages:
 1. Splitting the assessments means that selection for tertiary entrance returns to a one single and external assessment in each subject.
 2. Teachers and students in Year 12 would concentrate on parts of the assessment catered for by the external examinations.
 3. Important internal assessment information would be ignored for tertiary selection.
- Notes that “On the assumption that it was important to try to retain the internal assessment for tertiary selection, other procedures were considered.” (p. 96)
- Lists the following three key methods/options for change (in order of preference):

1. “To retain the present system of combining internal and external assessments, but with the reduction and modifications to the internal assessments and to the small group moderation. This will involve the redistribution of resources and perhaps the augmentation of resources in order to ensure comparability, but the positive outcomes in terms of (a) staff interaction where it is most needed, (b) encouraging feedback from the SEA on the issues of assessment, (c) ensuring that school-based assessments are used for tertiary entrance, and (d) the reduced pressure on students may be worth the resources and the effort.” (p. 98)
 2. “To report the external TEE score to their appropriate degree of accuracy, and to scale the school-based grades in order to provide a second order process of selection where the TEE score provides no separation among students.” (p. 98)
 3. “To simply use the external examinations as a basis for the calculation of the TEE score.” (p. 98)
- Further discusses the role of ASAT, with particular reference to Queensland and the ACT, where it has a much larger role than in some other systems. Suggests that ASAT should continue to be used as part of the scaling process for two reasons: 1) it provides a sound macro-level database for monitoring educational achievement; 2) it is the one common test taken by students and therefore it adds stability to the process of scaling subjects amongst each other.
 - Discusses the SAT (Scholastic Aptitude Test) in the USA and notes that the ASAT is modelled to some degree on the SAT.

CHAPTER 8: SUMMARY AND RECOMMENDATIONS

- Summarises the arguments in the report and formalises key recommendations. The first four sections reiterate information presented earlier in the report relating to Background, the McGaw Committee Recommendations, the Secondary Structure and the Terms of Reference.

5. Secondary Graduation

- Recommendation 1(a): “That breadth of study for all upper-secondary students be considered with a view to seeing whether formal breadth requirements for various programmes of study towards Secondary Graduation can be put into place.” (p. 104)
- Recommendation 1(b): “That the grade of D be changed in nomenclature to a grade of P for Pass, and that a Pass be defined as minimal achievement.” (p. 104)

6. Tertiary Entrance

- Recommendation 2(a): “That the 3, 4, 5 subject TEE score should be replaced by a 4 or 5 subject TEE score.” (p. 105)
- Recommendation 2(b): “That, in order to facilitate the change to a 4 or 5 subject TEE score, the following complementary changes be made to tertiary entrance procedures as quickly as possible:
 - (i) All institutions, including the University of Western Australia, to permit the accumulation of a TEE score over at least two years;
 - (ii) Able Year 11 students to be permitted to take, and accumulate, one or more Year 12 TEE subjects where prerequisites are not required or where they are already satisfied;
 - (iii) Tertiary institutions which have very selective professional programmes of study to implement a semester or a year of study that is cross referenced

- with general Arts or Science studies, with selection into the professional programmes to be made at the end of this period; and
- (iv) The proportion of the Year 8 cohort that gains tertiary entrance in five years to be monitored with a view to it remaining at its present level of approximately 20 per cent.” (p. 106)
 - Recommendation 3(a): “That the criterion of satisfactory performance as it is now defines be abandoned, and that Secondary Graduation be the major preliminary criterion for tertiary entrance.” (p. 107)
 - Recommendation 3(b): “That English may be included in the 4 or 5 subject TEE score by all tertiary institutions, including the University of Western Australia.” (p. 107)
 - Recommendation 3(c): “That the literacy requirement for tertiary entrance be satisfied by a Pass grade in English or English Literature.” (p. 107)
 - Recommendation 4(a): “That the effects of accumulation of a TEE score over more than one year be monitored with a view to checking whether or not it may be advisable to introduce a TEE score based on a minimum of five subjects.” (p. 107)
 - Recommendation 4(b): “That if general awards for outstanding achievement across TEE subjects are to be made, then they should be based on a 5 subject TEE score rather than on a 4 or 5 subject TEE score.” (p. 108)

7. Transition to TAFE

- Recommendation 5(a): “That TEE and non-TEE subjects, but particularly the latter, be related explicitly to TAFE courses wherever possible and that it be publicised that these subjects provide either exemptions or prerequisites for TAFE awards at the certificate and advanced certificate levels.” (p. 108)
- Recommendation 5(b): “That TAFE expand its contribution to syllabus construction for both TEE and non-TEE subjects, but particularly for the latter.” (p. 108)

8. Assessment

- Recommendation 6(a): “That most, if not all, assigned work for school-based assessment be assessed or reassessed under invigilated conditions. In addition, that in general there be a substantially smaller number of formal assessments that count towards the final mark, and that in these assessments students be permitted to use resources such as the results of assigned work, textbooks, and so on – that is, that these invigilated assessments be open-book.” (p. 110)
- Recommendation 6(b): “That the Secondary Education Authority consider forming a few regionally based large groups from schools that have small groups and that it help those schools in the coordination of assessments in TEE subjects.” (p. 110)
- Recommendation 6(c): “That for scaling purposes, only those students for whom the subject counts in a TEE score should be used in the scaling of the subject.” (p. 110)
- Recommendation 6(d): “That ASAT continue to be used as part of the procedure for scaling TEE subjects amongst each other, but that this minimal role of ASAT should not be expanded.” (p. 110)
- Recommendation 6(e): “That some relative workload be established so that the work requirements in a non-TEE subject are not as time consuming as those in a TEE subject.” (p. 110)
- Recommendation 6(f): “That, where possible, some form of common external assessment be made of accredited non-TEE Year 12 subjects at the beginning of Term 4, and that this assessment contribute to the final grade of the non-TEE subjects. This contribution would be substantially less than 50 per cent, perhaps in the order of 20-30 per cent.” (p. 111)

9. Conclusion

- Reaffirms the general subject matter and aims of this report and notes that “While retaining the main features of the present procedures, this report recommends that the preparation of all tertiary bound students should be comparable but that a more flexible system is required to provide wider opportunities for this preparation.” (p. 111)