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Higher Education Reform in Japan: Amano Ikuo[1] on 'The University in Crisis'

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Japanese education has been a focus of comparative studies for the past 20 years. Many scholars have attributed the economic success of this industrialized society to a highly literate and well-educated population. Recent studies, however, have tended to be more critical of, in particular, Japanese higher education. Indeed, most universities in Japan are acutely aware of the need for change and a considerable effort at institutional change is sweeping the nation. Unfortunately most of the constructive *criticism of Japanese higher education has not yet been published in English. One of the most vocal of the reformists, Professor Ikuo Amano, has published widely on various aspects of higher education in Japan. In the following paper I have translated a chapter from his book* Challenges to Japanese Universities. *This translation is prefaced by both an introduction to Amano and his work, as well as an explication of the socio-cultural context of higher education in Japan today.*

Education, Japan, reform, translation, ethnography

INTRODUCTION

Preface

Japanese education has been a focus of comparative studies for the past 20 years (e.g., Goodman & Phillips, 2003; Benjamin, 1997; Cummings, 1986; Hendry, 1986; Rohlen, 1983; White, 1987). Many of these scholars have attributed the economic success of this industrialized society to a highly literate and well-educated population. Recent studies, however, have tended to be more critical of the Japanese educational machinery, often concluding that without major reform the system of schooling in Japan will continue to be a disservice to societal needs of the 21st century.

Arguably the least regulated area of education, and therefore simultaneously both a potential starting point and the place most resistant to change, tertiary education in Japan has been targeted as lagging far behind western societies, an embarrassment to the world's second largest economy and a potential Achilles heel in the fine-tuned engine that is the Japanese state and economy (Hall, 1995; 1998). Most universities in Japan are acutely aware of the need for change and a considerable effort at institutional change is sweeping the nation. Unfortunately most of the constructive criticism of Japanese higher education (HE) has not yet been published in English.[2]

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[1] In the title of this paper I have written the author's name in Japanese fashion, surname first, following exactly the title page of the Japanese original. Throughout the rest of this project, however, I have decided to write Japanese names in Western form, given name first followed by surname.

[2] Brian McVeigh's recent volume (2002) notwithstanding.

The following translation will hopefully add a comparative perspective to the discussion of higher education reform that is sweeping the educational world. In particular, colleges and universities in Britain and Asia are undergoing a period of upheaval. This is especially noteworthy if the intrinsic conservative nature of such institutions is considered. These 'discourses of reform' are unique in the academic world of debate if only because the subject being discussed directly affects the careers of the discussants. Whether an academic is an expert in the field of education or not, all teachers at universities seem to have an opinion on this subject.[3] As Roger Goodman (2001) pointed out in the introduction to a recent seminar series at the University of Oxford, these 'lay' opinions are not often taken seriously, or even considered, by those implementing the reforms, a point that others have made as well (see, e.g., Wisniewski, 2000). Because of Ikuo Amano's unique viewpoint as both education researcher and university educator, in *Challenges to Japanese Universities* we have a volume that begins to bridge this gap between the 'armchair reformers' and 'teachers in the trenches.' Amano speaks to both audiences.

In this introductory section, I will set the stage for the translation that follows. First I offer brief biographical notes to give the reader a sense of Professor Amano's background. In this part I also discuss in some detail the book itself, *Challenges to Japanese Universities*, to give context to the translated essay. The realities of Japanese higher education must be grasped in order to understand the topics that Amano discusses in both the book generally as well as in this translated essay in particular. Although I have tried to explain with footnotes certain points as they arise in the translation itself, in this introduction I have also included a general description of the Japanese university. Though I risk patronizing readers with expertise and experience in Japanese universities, for those with less background in the area this description will hopefully further elucidate Amano's points on the crisis that higher education is now facing in Japan.

Ikuo Amano

One of the most vocal of the reformists, Professor Ikuo Amano, has published widely on various aspects of HE in Japan. Although one of the leading researcher on Japanese HE, to date only one of his innumerable books has been translated into English.[4] To better disseminate his ideas, I have translated a chapter from his book, *Daigaku: choosen no jidai* (1999, Tokyo University Press).[5] The text, "Daigaku no kiki", is the first chapter in the book and comprises approximately 16 pages.

Professor Amano holds a degree in Economics from Hitotsubashi University, a prestigious

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[3] A parallel, but different, example can be found in the field of teaching English as a Foreign Language (EFL). In countries where English is widely taught as a foreign or second language, most teachers (and even the average person on the street, for that matter) no matter what their subject area have an opinion on how English should or should not be taught simply because of their own personal experience in learning the language themselves.

[4] *Education and Examination in Modern Japan*, translated by William and Fumiko Cummings, 1990, University of Tokyo Press.

[5] Japanese is transcribed throughout this paper according to the Hepburn system of romanization, with two important modifications:

① Instances when the same vowel phoneme occurs consecutively (i.e., cases of the so-called 'long vowels') are not marked with a macron, but rather the letter is repeated (e.g., *choosen* and *gakusee*). But this "double letter" has been omitted in commonly known place names (e.g., the capital of Japan is written as *Tokyo* not *Tookyoo*). The rationale for this method of transcribing long vowels follows Horvat's (2000) argument on phonetic grounds (cf. also Mizutani, 1981).

② The syllabic nasal (the sound indicated with the hiragana "ん") is always written *–n*, the regular change in pronunciation to [m] before labials is not indicated (e.g. *Monbushoo*, not *Mombushoo*) (cf. Miller, 1967; Mizutani, 1981).

national university in Tokyo, and a doctorate in Education from the University of Tokyo. He was formerly on the staff of the National Institute of Educational Research and an associate professor of Comparative Education at Nagoya University. Presently he is professor emeritus in the Faculty of Education at the University of Tokyo, honorary visiting professor at Tamagawa University and professor at the Center for National University Finance.[6]

Amano's prolific career has been spent researching the sociology and history of Japanese education. The number of articles he has published and papers that he has presented are too numerous to mention. As for books, at last count he has written 25, co-authored and edited another 12, and translated eight into Japanese. His research spans numerous educational issues ranging from the entrance examination system (Amano, 1982, 1983, 1986; Amano, 1990), the 'credentialization' of Japanese society (Amano, 1986, 1992a), job placement after university, and specialized tertiary institutions (Amano, 1978, 1993), to more general explanations of the Japanese education system (Amano, 1984, 1989, 1992b, 1997a, 1997b). Most of his recent research, including *Challenges to Japanese Universities*, focuses on higher education and university reform (Amano, 1980, 1985, 1988a, 1994, 1995, 1996, 2000, 2001). Though at times his writing could be characterized as critical, this is always a constructive and objective criticism. Although he himself has been a university professor for over thirty years, he has the unique ability to step back from this role when analyzing the issues surrounding university reform in Japan today. By outlining below the points he covers in this text, one of his most recent works, Amano's position *vis à vis* HE reform becomes apparent.

Challenges to Japanese Universities

Amano's book entitled *Challenges to Japanese Universities* is a collection of 18 different essays. "The Japanese University in Crisis" is the first of these essays.

The first part of the book is a collection of papers that deal with macro-level problems at universities, including the changes in higher education policy. Amano purports that the greatest challenge to universities in the past ten to twenty years has been 'marketization.' As 'deregulation' efforts in Japan started in the 1980's and 1990's, for the world of higher education as well, under the simultaneous control and protection of the government, 'liberalization,' 'diversity,' and 'individualization' became the slogans of university reform. Amano has pointed out elsewhere that behind such catchwords— *koseika* (individualization), *tayooka* (diversification), and *ikiru chikara* ('zest for living')— is this central ideology of *kisei kanwa* ('deregulation'). This reform was designed to "get rid of controls or weaken [the Japanese Ministry of Education]", liberalization that, of course, the Ministry initially opposed (Hood, 2001b, p. 106).

Included in this problem— university reform accelerated by the low position of (Japanese) higher education in the eyes of the world— was an assertion previously voiced since the 1970s, that in order to activate research into education as well as to measure the rise in standards, regulations must be relaxed and a principle of competition should be adopted for the allocation of resources. A crisis in the universities and a structural change in higher education was brought about not only by the development of a mass education symbolized by tremendous increase in the number of university-bound students, but this sudden start of politicization was a result of Japanese society and the economy itself facing difficult times. Amano points out that the severity of the challenge facing universities bespeaks just how high the expectation is for these institutions.

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[6] The Center (or *Kokuritsu Gakkoo Zaimu Sentaa* in the vernacular) is a government research institute cum think tank established in 1992 to advise national universities on issues of financial and management restructuring.

Amano feels that the educational research activities and administration *modus operandi* of universities are distinct from for-profit enterprises and they cannot be expected to completely adopt competition and market principles. That being said he also asserts that universities are not immune from marketization forces. As for the national universities, Amano suggests that these institutions have begun to be regarded as a sort of Orwellian 'Big Brother Japan.' Voices calling for their independent administration and privatization are getting louder. After all, the trend towards adopting market and competition principles and the demand for the self-government of the university's management bodies is a worldwide one, observes Amano. "It can be said that the 'contemporary' universities that were founded at the beginning of the 19th century are now being confronted with an era of deep-rooted reform and change" (Amano, 1999, p. ii).

Universities in Japan, however, are not merely standing by passively. One after another, four-year institutions have appeared that are boldly challenging themselves to keep abreast of the changing times. In Part Two of Amano's volume he presents case studies of such examples of university 'experimentation'. As with most audacious experiments, reforms, and innovations, changes start not with the traditional established part of a system but rather with the periphery. The case of higher education in Japan is no exception. Specifically, within an environment of both intensified competition from a relaxation of regulations and a steady long-term decrease in the population of 18 year-olds, newly established universities looking to add a fresh approach to 'the system' can not survive and prosper without challenging the established universities and offering a noticeable difference.

The six 'experiments' that Amano describes in this book are examples of such challenge and differentiation: Tohoku University of Art and Design, Japan Advanced Institute of Science and Technology, University of Aizu, Miyazaki International College, Hokkaido Information University, and Aomori Public College. These universities engage in unique approaches to higher education not commonly found in Japan such as American-style liberal arts courses in English, education focused on strictly graduate-level education, greater accountability in teaching, innovatively designed campuses, and faculty-student collaborative research.

Interestingly though, the author rightly points out that new players on the field of higher education are not alone in setting out on this course of experimentation and reform. Even in the more 'Ivied' universities new faculties and research departments are being established, in addition to the restructuring, change and various other efforts at reforms that are taking place. Since the changes that are taking place at such pillars of tradition as Tokyo and Keio Universities are widely publicized in the national media, Amano chooses to describe the six universities listed above, smaller in scale and less well known, to exemplify the diversity of university and tertiary education.

In the third part of *Challenges to Japanese Universities*, Amano presents the specific issues that presently challenge universities in Japan. The university reforms now underway have as their impetus the revision of the standards for university facilities as put forth in the 1991 report of the *Daigaku Shingikai*.[7] However Amano claims that "the revision most aspired toward in this report was no less than an innovation of 'education' itself"(Amano, 1999, p. iii). He believes in particular that the liberalization of the content of the education curriculum has achieved a considerable change in the make up of the four-year university education. The removal of the division between the 'General' education and 'Specialized' education courses has resulted in the disappearance of liberal arts and 'General' education curricula at many universities.

[7] Often translated as the "Ad Hoc University Council".

The question remains, however, to what degree such reforms have succeeded in changing the quality of a university education. Although he admits that to assess the results at this stage may be premature, Amano questions whether by international standards the quality of education that students are receiving has actually improved. The relaxation in entrance examination competition due to the decline in the population of eighteen-year olds,[8] the diversification in the selection process of applicants, and a curriculum reform that has lowered the standards of elementary and junior high school have all raised new issues about the content of education at universities. Furthermore, Amano feels that a university attendance rate of 50 per cent (approaching the level of 'universal'[9]) combined with the development of the 'information age' means that new issues, such as the admission of adult learners and more involvement in the global community, are forcing universities to confront very new and challenging issues. The issues discussed in this section are only a very few of such reform problems that challenge universities.

Amano admits that because of the timing of its publication, he was forced to compromise the discussion in the book. In particular, while editing the collection of papers, in October of 1998 the *Daigaku Shingikai* issued a report entitled "On the 21st Century Image of Universities and the Future Direction of Reform." This report, while indicating the importance and necessity of the topics dealt with so far, discussed many of the reform issues that had not yet been addressed and presented a detailed plan regarding these problems. The report was filled with reform issues that must be addressed at universities across the country— the overhaul of university management, the establishment of vocational graduate schools, the formation of a system for outside assessment, the institution of module credit-hour courses, and the creation of stricter standards of grading. Amano feels that the way in which university and tertiary education in Japan tackle these issues are of great concern to both the observers of and actors in universities across the country.

Amano warns that from the standpoint of both university practitioners and education researchers these problems are more than ever before issues of such a new character that the heretofore accumulated experience, information, and research is inadequate. In the last chapter of Part 3, the author explains that with the recent establishment of an official organization, researchers into higher education have only just taken the first step to legitimize their findings. He doubts that amongst researchers such as himself there is enough competence to theoretically, practically, and accurately answer the new challenges and in this way it is not only the universities that are in a conundrum. Academics working on research into higher education are finding that they have few answers.

University in Japan

As an academic researcher on HE reform in Japan, Amano focuses on some of the key players and issues in this translated essay. He describes the state of affairs, 'the crisis', and the challenges that are confronting universities across Japan, indeed not without similarity to the challenges HE education is faced with in other Asian, European, and North American countries. Most of his discussion is from a political, historical, and bureaucratic viewpoint as he explicates the intricacies of the many "Challenges to Japanese Universities". In both this introductory section as well as in the footnotes, I hope to add a bit of detail to this picture that Amano paints. Against this backdrop, hopefully the translated essay can be seen in a clearer light.

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[8] In an interview conducted by Christopher Hood (2001b, p. 163), he even goes so far as to support "a change to certification or graduation examinations, such as those in many Western countries" to further help to alleviate the problems caused by the entrance examination system.

[9] Amano believes that there are places for most students that apply to HE institutions (Hood, 2001b, p.166).

Japan has one of the highest rates of post-secondary school attendance among all industrialized nations, with nearly 50 per cent of all 18-22 year-olds (almost 1% of the entire population) enrolled as undergraduates at over 600 national, public, and private four-year universities (Hirowatari, 2000).[10] Well over half of all Japanese teenagers, then, apply to take a university entrance examination for admission into a tertiary institution. This transformation of HE from an elite to a 'massified' system in Japan, along with various other post-War societal changes, has contributed to a commonly held belief in "the educationally credentialized society," or *gakureki shakai,* a phenomenon that in his essay Amano describes within the context of university reform.[11] In many cases, the extraordinary emphasis on ranking colleges and universities has led to a brand-name sensitivity that may affect a person for their entire life. One effect of a *gakureki shakai* is the resulting hierarchical university and college entrance system in Japan, a phenomenon that has been described as 'examination hell' by more than one critic (see, e.g., Cutts, 1997; Yoneyama, 1999). The pressure of this phenomenon is felt by many young adults in Japan (as well as South Korea, Taiwan, Singapore, and other Asian countries for that matter[12]), even when they apply to second or third-rate schools (McVeigh, 2001, p. 31). Most teenagers are expected to prove their intellectual mettle (or exam-taking talent) on these fact-oriented examinations, even though they are rarely pushed to excel once they have matriculated at a college or university (see McVeigh, 2002). Entrance into a university is often equated with passing the test, and in actuality this is often the case. Though admissions procedures are becoming more creative in recent years, the majority of universities have resisted any change in a system that has been in place, arguably, since the Meiji Era in the late 1800s (Amano, 1990). Indeed the university entrance, and overall education, system itself is inherently immobile (Frost, 1991; Schoppa, 1990), and has been described as a societal filtering mechanism to create a class structure where otherwise none purportedly exists (see Cutts, 1997; McVeigh, 1997, 1998, 2002).

Students are strictly ranked according to *hensachi*, the "abstract notion of a national norm-referenced person-indexed score" (Brown, 1995, p.25). Using this score, high school and cram school teachers advise their students about which university entrance examinations they should take based on their probability of acceptance (a high school teacher's reputation is on the line if their students shoot too high and miss their mark— conservatism that is a necessity). In fact, the largest cram school syndicates in the Tokyo and Osaka area publish *hensachi* ranking lists of two and four-year colleges and universities which students and teachers use to make application decisions.

Families invest enormous resources, both in time and money, to cram for the tests. In nearly one-third of these cases, students even devote a year or two after high school to prepare further to sit the examination yet again, often receiving intense instruction at *yobikoo,* schools designed to help them prepare. To what extent this so-called 'hell' affects the entire university-bound student population is open to debate. Hood points out that the predominant assumption that almost all Japanese students have to endure an 'examination hell' is both "over-hyped" (Hood, 2001a, p. 7) and "was probably never correct and certainly does not apply now" (Hood, 2001b, p. 166).

Nonetheless, in a competitive atmosphere these tests for entrance into universities are held with great import by students, parents, institutions, and the general public. Considering the authority

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[10] In Britain the rate of HE attendance is only 13 per cent (Smith, 1998).

[11] *Gakureki shakai* is a society that places utmost importance on a person's educational background, particularly where they studied rather than what they studied (adapted from Hood, 2001b, p. 186).

[12] At least one expert on Japanese education believes that some sort of 'examination hell' is felt by those taking exams in most countries around the world (Hood, 2001, personal communication).

these university examinations hold in Japanese society, a commensurate assessment of the quality of the tests themselves seems lacking; the entrance test developers themselves, as well as the institutions where they are employed, are especially hesitant to offer public data that would objectively evaluate these numerous admissions examinations.[13]

Interestingly, the same societal pressures that have helped direct the development of such a *gakureki shakai* and 'examination hell' in Japan have forced a normally conservative sector of society to move in relatively innovative ways in an attempt to counteract their growing inability to attract students. Japanese society is now faced with two demographic challenges that sociologists have termed *shooshika* (low birthrate syndrome) and *kooreika* (aging syndrome). These changes, of course, have repercussions throughout society, and schools are already witnessing the effects. Most universities in Japan have seen, first, a slowing in the rate of applicants, and, now, an overall decrease in the number of students sitting the yearly examinations. Even top name schools in the higher echelons of the rankings have had to consider the ramifications of fewer and fewer applicants each year. Not least of their concerns is financial, of course, since entrance examination fees are a substantial source of revenue (in the ý100s of millions[14]) even for the prestigious, but inexpensive, national universities (roughly ý20,000 per application). No school in Japan can afford to sit on the laurels of past achievement and national prestige, least of all the universities occupying the lower rankings. In recent years university prep and cram schools have instituted a new 'F' rank, designating those universities where the entrance examination is a mere formality since any student that applies is automatically accepted, given a 'free pass.'

Even with the changes that are taking place in recent years, observers still note that the paradox of Japanese HE is the commonly held view that students are subjected to an examination hell to enter university, but then the actual university experience of 'higher learning' is no more than a four-year 'leisure land' (Doyon, 2001). Indeed, former US ambassador Edward Reischauer, at times infamous for his uncritical praise of Japan, once lamented that often classroom realities do not result in a commendable university education environment: "The squandering of four years at college level on poor teaching and very little study seems an incredible waste of time from a nation so passionately devoted to efficiency" (Reischauer, 1977, p. 178). Of the many popular explanations for this paradox, the two most recurrent 'excuses' are that university life is a reward for high school hell and that university life is a break before the hell of working. There are more complex explanations however.

Brian McVeigh (2001; 2002) offers a functionalist interpretation of what he terms the 'myth' of higher education in Japan. In a Parsonian sense, he argues convincingly that Japan's exam-centered schooling socializes students to think that studying means examination prep, classroom participation means teacher inspection, test-taking is a sort of multiple-choice 'catechism', academics is merely credentialism, and learning is nothing more than rote memorization. The education and examination system in Japan encourages in students an apathy toward learning and an 'over-conformity' that manifests itself in shyness in the classroom.

Many (e.g., Cutts, 1997; Hall, 1995, 1998; McVeigh, 1997, 2001, 2002) have discussed the

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[13] Most such admissions examinations include a compulsory English proficiency sub-test although English as a Foreign Language (EFL) is not a state-required subject, per se, at primary, secondary, or tertiary schools in Japan. Partly because of this university entrance examination focus on English, while only a handful of students are exposed to language classes in primary school, over 10 million 12 to 18 year olds, and another million or so university students, study English, numbers estimated from Japanese Ministry of Education (MOE) statistics on enrolment nationwide.

[14] 100 Japanese yen was equivalent to roughly 0.5 GBP and 0.8 USD in June 2003.

problem of HE in Japan with explanations that point out the many faults of the system. They point out that there is no quality control— a lack of private accrediting associations, university assessments, course evaluations, departmental reviews, interuniversity evaluations, inspection committees, and peer review. These observers often place the blame of HE failing on over-bureaucratization. The MOE centrally monitors HE which discourages innovation. They also have pointed to the lack of competition among academics since there does not exist the same probationary period in the tenure system in Japan as exists in the United States. There has also been the explanation that because of the lack of semester system and uninspiring poorly attended lectures, students receive what amounts to superficial schooling (McVeigh, 2001).

There is not universal agreement on these issues, however. Some anthropologists have pointed out that the so-called audit culture of HE in Britain may not be the proper remedy (Goodman, 2001; Shore & Wright, 1999; Strathern, 2000). Other social scientists with cross-cultural experience in HE point out that European and North American scholars may do well to learn lessons from the relaxed and relatively prolific nature of academic enquiry in Japanese universities (e.g., Eades, 2000).

Whatever the explanation and no matter the best remedy, there is general agreement among the public, academics, the government, and industry that something is amiss with the university system and reform must be undertaken soon if universities are to thrive as viable educational institutions. This is the crisis that Amano so clearly describes in his book, and especially, in the following chapter.

TRANSLATION: THE JAPANESE UNIVERSITY IN CRISIS

(AMANO, 1999, pp. 3-19)

I would like to think about the problem of university reform by focusing on university crisis. This is because I feel that for an organization as fundamentally conservative as a university,[15] without having to confront a grave crisis there would be no hope for the advancement of reforms. To put it the other way round, an opportunity for university reform lies within this crisis. Since they are facing a period of turmoil, universities have arrived simultaneously at an era of reform.

Unfortunately it is uncommon for this perception— of universities on the brink of crisis—to be born from among the university professors[16] themselves. University professors are educators and at the same time they are researchers. It is a profession in which one is expected to be loyal to both one's own specialization as well as one's university affiliation. However, professors normally feel a stronger loyalty toward their field of research. I suppose that this is only natural if we consider that society's evaluation of university professors is made, above all, on the basis of their academic achievements within their field of specialty. But this suggests that university professors, while responsive to a crisis in their own specialized field, are not necessarily sensitive to a crisis in universities or education.

University professors feel a great sense of crisis when, as a result of the expansion of other fields or the formation of new interdisciplinary areas, their own academic field is threatened or it becomes clear that their own area of specialization is markedly behind the international standard. However, it is usually the case that Japanese professors are not aware of a crisis of the university

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[15] Observers have often noted the conservatism of Japanese education in general (e.g. McVeigh, 1998; Schoppa, 1990) and Japanese tertiary institutions in particular (e.g. Marshall, 1994; McVeigh, 1997; Nagai, 1971, 1979).

[16] The word "professor" is used here in the American generic sense of adjunct, assistant, associate, or full "professor." In Japan, like the United States, regardless of their rank, university teachers are normally referred to as simply "professor".

itself, especially of education, until acrimonious criticism has been made from outside the university, or from non-professorial university personnel within. Only when the voices of criticism are raised from inside and outside the university and the pressure demanding reform mounts inescapably do university professors, and in turn the university, embark on reform. In the history of Japanese universities this has always been the case, and I think it is fair to say that is also the case now.

So, then, who are the critics of the university and what is being criticized? Furthermore, how is this criticism being perceived by the university and the university professors? What kinds of reform measures are being brought about? Let us look at these questions first of all from the perspective of the ultimate 'insider critics'— the students.

The Student as Critic

Students first raised their voices in criticism of the university and university professors in the late 1960s—a period of campus dispute and student unrest.[17] This also symbolized the end of the Japanese university as an 'elite escalator', and the beginning of the 'mass staircase'.[18] Students had concerns for the total research orientation of professors and made strong demands that their request for an 'education focus' be granted. However, the university made no effort to address in an appropriate way this 'voice of the student masses.' During the period of campus disputes and student unrest a great many proposals for reform were drafted. However, for the most part they dealt with organizational or institutional issues and, moreover, once the student rebellions quietened down nearly all of these plans were filed away, never again to see the light of day.

Entering the 1970s students stopped their efforts to forcefully push through their demands but instead continued their criticisms and resistance in a more underground fashion. There was the spread of a passive resistance among students, namely, they poured their energies into the extracurricular activities of the so-called 'clubs or circles'[19] rather than attending classes, or else

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[17] In the late 1960s and early 1970s a rash of campus disputes were triggered by protests against the Vietnam War and the United States-Japan Security Treaty, as well as more mundane issues such as tuition hikes at Waseda University. The student unrest swept across campuses nationwide and most major universities were forced to shut down at one time or another during this period. Surveys by the Japan Association of Private Colleges and Universities show that the number of disputes went from 20 in 1965 to 115 in 1968. Students protested a diverse set of issues that, along with anti-War sentiments, included complaints ranging from the mass-production of education to the relocation of campuses outside the large metropolis areas (JAPCU, 1987, p. 36; Marshall, 1994, p. 194). The duration of these disturbances was a distinctive characteristic. For example, the pinnacle of Japanese higher education, the University of Tokyo, was not able to hold proper classes for 17 months (Nagai, 1971, pp. 246).

[18] Traditionally, a very few universities provided the escalators to the most important positions in Japanese society. In the pre-war, less than one in 200 of every graduating school child could be expected to attend one of the prestigious imperial universities (Pempel, 1978). Only a small minority ever received a university education. In 1946, during the post-War reorganization of the education system, less than six per cent of young adults attended university (Kitamura, 1979, p. 68). In recent years, higher education has become a mass phenomenon, with around two million students enrolled— nearly 40 per cent of all 18 year olds attending school at the more than 1000 junior colleges and universities in Japan (MOE, 1989, p. xiii).

[20] Clubs and circles at Japanese high schools and universities are a major part of school life, more so than in the United States (cf. Rohlen, 1983, p. 274-275). Since at Japanese universities there are no dormitories, fraternities, or sororities, these clubs serve the important role of facilitating the campus social life of students. Larger schools can have hundreds of these officially registered clubs, and scores more of unofficial circles. They are often formal organizations with a hierarchical structure (see, e.g., McVeigh, 1997). There are many different kinds of clubs, which centre on academic, athletic, arts, and hobby interests. The membership of a single club can span several institutions, partly because of the large number of women's colleges (about 20% of all colleges and universities) that still exist in Japan; membership in the clubs at large coeducational universities gives students at women's colleges a chance to socialize with male students. It also gives students a wider range of activities from which to choose than they would

they went but did not listen to the lectures, chatting[20] in the classroom with friends instead.

At about the start of the 1980s university professors finally started to realize the seriousness of this change in students' attitude. They realized that simply berating students who are indifferent toward their studies will not change anything and questioned themselves— "In order to avoid 'education empty of content,' is it not necessary for us to change our way of thinking and search for a method that will answer students' voiceless criticism?" In this way, near the end of the 1980s, the educational reform movement began to spread, among private universities in particular.

With regard to the idea of the 'student as critic', I must raise one more point at this juncture— the appearance and increase in non-traditional students. These are the mature students and the international students. In Japan, mature students who come to university after already having gained considerable life experiences both in the workplace and at home are called *'shakaijin gakusee'*[21]— students who are also members of society. Though the number of these students has yet to reach 10,000 a year, from about the start of the 1980s they began to grow steadily. Also, foreign international students predominately from China, Taiwan, Korea, and SE Asian countries began to increase from the latter half of the 1970s and have now reached roughly 60,000 in number. Compared with regular, traditional students who enter university straight after high school graduation, these students, obviously, have distinct learning needs and volition, and it is these points that make them intrinsically critical of the traditional way of university education. The increase in numbers of non-traditional students means that there is one more potent critic emerging within the university. Now, indeed, a number of universities have started to take steps toward reform in an attempt to meet the requirements of these non-traditional students.

Examination Competition and *Gakureki Shakai*[22]

Among the critics from outside the university, by far the largest in number are the parents who send their children to university, and their extension, the citizens. Their critical opinions have taken on the blurry epithet of 'public opinion', an opinion that is reported over and over by newspapers, television and other mass media. Their criticism has been directed at, more than anything else, the intense competition of entrance examinations and the *gakureki shakai* that is at the root of this competition. In the 1970s and 1980s this became the ultimate social and political issue surrounding universities. The need for reform to ease the pressure of examination hell[23] received the support of a public influenced by the loud cries of the journalists and politicians alike.

The university and university professors have been apathetic for the most part towards reform of

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normally have at their own institutions (cf., Amano, 1988b).

[20] The problem of 'chatting in class' afflicts nearly every lecture course offered at Japanese university. The issue is raised in entrance ceremony speeches and teachers' lounges across the country, but for the most part professors are left on their own to come up with a solution.

[21] *Shakaijin*, literally a "person of society" is a common Japanese term that refers to working adults. Even if in fact employed, university students (*gakusee*) are not considered part of the working world in Japan, and so are not normally referred to as "*shakaijin*". "*Shakaijin gakusee*", then, if not exactly an oxymoron, certainly has a "non-traditional" ring to the Japanese ear—how could one be a member of society whilst being a student?

[22] See note #11 above.

[23] Because entrance to one of a few elite universities has historically been the ticket to prestigious jobs and upward social mobility (see note #18 above), and because entrance to Japanese universities has traditionally been a one-dimensional affair based solely on the results of a battery of test, students must study long and hard to ensure successful entry to their school of choice. The resulting environment of fierce competition and intense pressure has been labelled "examination hell."

the entrance examination system. This is because a stringent and difficult examination is by far the most effective and convenient insurance that students will be of high ability, and hence easier to educate. In addition, from the standpoint of the professors, any change in the entrance examination system would mean added responsibilities beyond teaching and research. Nevertheless, the government, supported strongly by public opinion, started with examination reforms of the national universities and faculties, a majority of which are known to be highly selective. This reform was inaugurated in 1979 and called the 'National Preliminary Scholastic Achievement Test'.[24] This test (the name of which was changed to 'The Center[25] Examination for University Entrance' in 1990) has developed into a national system, with private universities also quick to utilize the exam.[26] On top of this, in order to alleviate the pressure of examination hell, the government has continued to promote actively among universities a policy of 'diversification'— selecting applicants using an assortment of methods beyond the examination. One method representative of this policy is the recommendation pathway to enter university, which places great importance on high school grades and activity reports.[27] More recently, the number of universities that use a myriad of assessment tools— interviews, short essays, sport, cultural, and community involvement— is increasing. In terms of the entrance examinations as well, the number of universities that test for numerous subjects has declined, and the number of private universities that set only one or two subjects on the entrance examination has grown considerably.

Nevertheless, the critical public is far from being satisfied with these series of reforms. The reason is that at the schools that are most difficult to enter, the so-called 'first tier universities', the nucleus of an examination based on numerous subjects[28]— the selection process of old— remains fundamentally unchanged. The now nearly 590 universities in Japan are starting to be neatly separated into three groups: a) universities that are highly selective, b) universities that are mildly competitive, and c) universities that are non-competitive.[29] Furthermore, in a society that places more importance on the name of the school from which one graduates referred to as 'labelization' or 'branding' (*gakkooreki*) [30]— than simply possessing a university qualification—

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[24] Although similar in function to the Scholastic Aptitude Test (SAT) in the United States, the content of the Japanese college board examinations is closer in design to the American Advanced Placement (AP) examinations, designed to test academic achievement in numerous different subjects rather than general mathematical and verbal aptitude. This test is preliminary because it is designed to screen students for the second step of the university entrance system— further examination papers designed and administered independently by individual university faculties.

[25] 'Center' refers to the actual examination center where the test is designed by representative professors from numerous universities. The examination is often abbreviated as simply the Center Test.

[26] As mentioned in the introduction, the practice in Japan of each university administering a separate examination can be an important source of revenue for the schools. Private universities charge each applicant thousands of yen to sit the examination, a multi-million yen business if one considers that thousands and thousands of high school students sit the examinations for the more prestigious schools. Obviously in these difficult financial times private schools are reluctant to forgo completely this independent testing system. For this reason, even though the Center Test is now used by many private universities as another of many entrance pathways, it will probably never become a standard entrance examination as the SAT is in the United States.

[27] The recommendation system is considered sub-par because it is associated with junior colleges (see Hood, 2001b, p.165).

[28] See note #24 above.

[29] This third category has been recently named the "F-rank" by Kawai Juku and other college preparatory and cram schools. "F" stands for "free pass"— every student that sits the school's examination is almost "guaranteed" a "free pass" to admission, no matter how poor their test results.

[30] The Japanese propensity for branded, quality goods is common knowledge (for an extensive analysis of Japanese consumerism see McVeigh, 2000). In a society that places such import on educational qualifications it is no wonder

'credentialization' (*gakureki*)[31]— no matter how much the selection process of university applicants is reformed, students will continue to strive to enter a small number of so-called 'top-tier' or 'brand-name' universities, and the severe entrance examination war will not disappear. In this sense university entrance reform is a permanent issue for Japanese universities, and it does not seem hopeful that condemnation of the problem will subside easily.

Industry and Government

Japanese industry as well has always been critical of universities, and has claimed for some time that university is 'good for nothing.' I should say this is natural if we consider the difference in the nature of the two institutions— the goal of a firm is the pursuit of profit, and the *raison d'etre* of a university is the study of truth. Moreover, there was already an antagonistic relationship with industry since the era when the majority of university professors took an anti-Establishment stance[32] and the university opposed a cozy, cooperative teaching and research relationship with industry— *Sangaku Kyoodoo*. During the university strife at the end of the 1960s, this anti-industry attitude on the part of the university grew stronger still. For its part, industry also despaired at the lack of self-governing and self-managing capabilities displayed by universities and university professors, consequently further aggravating relations.

After this, it also meant that the expectations industry held for the university were lowered. Japanese industry had in the first place never expected from universities training and supply of a fully skilled and talented workforce that is highly specialized. After hiring fresh graduates, industry made it a policy to train a highly skilled and specialized workforce and management through its own efforts. This trend was further reinforced after the period of university strife. With the rapidly expanding economy,[33] highly profitable firms built their own new research facilities, expanded and strengthened existing ones further, and thus even on the research front their expectations of universities were lowered.

Where there is no expectation, there is no criticism either. For the university's crippled relationship with industry could not escape the weakening process, both in terms of research and human resource development. Particularly in the field of natural sciences, not only did the growth of research budgets stagnate, but also the best talent was snatched up by corporate research centers. Basic research promptly went the way of impoverishment. The university was, in a word, abandoned by industry.

From the latter half of the 1980s, industry renewed its hopes for the university. Facing the end of steep economic growth, international economic competition, and concomitant rivalry in cutting-edge technologies, industry began to feel apprehensive about the future. Once again it could not ignore the importance of universities' roles in terms of developing human resources and basic research. Also, with the Cold War structure of the East-West divide broken, universities started to experience a new freedom from previous ideological divisions and changed their, until now,

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that university education has become another commodity to be judged and compared according to the 'label'.

[31] See note #11 above.

[32] During the post-War period there emerged a political conflict, spilling over into educational issues, that has been described by one historian as "warfare waged between the entrenched" (Marshall, 1994, pp. 167-205)—the conservative Establishment versus the progressive Opposition. For support the Progressive camp counted on the Japan Teachers' Union (*Nikkyooso*) as well as intellectuals both within and outside of universities. The battle over a history textbook that one professor, Ienaga Saburoo, has waged against the conservative government for over 30 years is one example of this anti-establishment stance.

[33] The post-war Japanese economic miracle has been well documented as one of the greatest growth spurts in the history of nations (see, e.g., Vogel, 1979). Perhaps the fastest growth was experienced in the 1960s and 1970s.

disapproving stance toward industry. Universities began to adopt more flexible policies with regard to exchange with industry and the acceptance of research monies for both teaching and research.

As industry raised anew its hopes for universities, criticism and sternness intensified. In the beginning of the 1990s, representative organizations of industry such as the Japan Federation of Employers' Association, the Japan Committee for Economic Development, and the Japanese Chamber of Commerce, one after another began to present proposals and written reports demanding university reform. What these had in common were, first, in order to better invigorate the industry-university exchange in research and teaching, the call for more openness and transparency in both the institution and academics and, secondly, the hope for the training of highly specialized talent, rich in originality and creativity. Once again, there was criticism levelled at a university system that was not meeting these expectations.

For the university, the government— namely the Ministry of Education (MOE or *Monbushoo*)[34]— is also an important, and principal, critic. It goes without saying that the university is recognized as a self-governing institution, and under the Japanese Constitution private universities are guaranteed an even larger freedom than national universities. That being said, at the same time all universities in Japan are under the control and surveillance of the Ministry. National universities, especially, exist under strict regulation by the government concerning personnel and finance. This means that when the government is dissatisfied with the way a university is handling its affairs, it not only expresses its criticism, but also has the power to sway the university toward reform. This dissatisfaction and criticism was expressed with no mincing of words in the report by the deliberative body *Rinkyooshin,*[35] set up by the Nakasone cabinet in 1984 and advising directly to the Prime Minister. The report of the *Rinkyooshin,* released in 1985, expressed strong dissatisfaction with the state of universities and demanded the formation by the government of a new body, the *Daigaku Shingikai,*[36] and the commencement of a deliberate and concentrated examination of university reform. Then to begin with, in 1987, this *Daigaku Shingikai* started with sweeping revisions of the *Standards for the Establishment of Universities* (SEU).[37]

The SEU is legislation that lays down various stipulations universities must satisfy when seeking official MOE approval for establishing or expanding universities. Turned around, this legislation specifies the authority of MOE to control and direct the university. A revision in the SEU suggests the possibility of promoting or restricting university reform depending on the way the legislation is modified and applied.[38] The *Daigaku Shingikai* began a revision of the SEU aimed at stimulating an autonomous effort toward reform on the part of the university.

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[34] Although referred to almost universally as simply *Monbushoo*, or the Ministry of Education (MOE), the official title was the Ministry of Education, Sports, Science, and Culture (MESSC) at the time of the book's publication. In 2001 the Ministry merged with the Science and Technology Agency to form *Monbukagakushoo* (the Ministry of Education, Culture, Sports, Science and Technology (MEXT). "MOE" is used throughout the translation of this essay to avoid confusion.

[35] The name *Rinkyooshin* is a Japanese abbreviation for the official title, *Rinji Kyooiku Shingikai*. The translator has chosen to use this term in place of the numerous English translations (such as Ad Hoc Council on Education and National Council for Educational Reform) to avoid confusion (cf., Hood, 2001b, p. xii).

[36] See note #7 above.

[37] This is a ministerial ordinance stipulating the basic framework of the university system.

[38] Perhaps it should be pointed out here that while the MOE as a whole was hampered by conservatism before Nakasone's *Rinkyooshin*, some feel that it is now a relatively liberal institution (Hood, 2001b, p. 169).

The SEU stipulates in detail the so-called 'hardware' of the university— the square measure of the school grounds and buildings per student, the student-teacher ratio, the library holdings per student— as well as the 'software'— the naming of schools and departments, the way the educational curriculum is organized, the courses that should be offered. From early on criticisms that these standards were obstructing the free development of the university and restricting any independent effort toward reform were heard from both within and outside the university. In other words, the SEU has been regarded as one of the key causes of the crisis of the university. In 1991 especially, the software aspects of the SEU—the educational part focusing on curriculum development— were largely revised and this fact became an important force thrusting the university toward reform effort.

The Critics within the University

Finally, in order to give proper credit to the university and university professors, I must point out that in the 1980s, from within the university powerful critics of the *status quo* began to make themselves known. I mentioned previously that it was, if anyone, the private universities that first gave ear to the students' voices. For private universities, where the tuition that students pay is in effect the only source of revenue, the student is both the customer and the consumer of educational services. Everything is fine as long as the number of prospective applicants is increasing every year, the demand for educational opportunities is far higher than supply, and a severe competition in examination is materializing. However, once the increase in prospective applicants stops, and they even begin to decline in number, private universities might be immediately stricken with financial difficulty. The population of 18 year olds, the source of prospective applicants, continued to rise throughout the 1980s. But after peaking in 1992, the population of teenagers has been in a long-term decline and is predicted to halve by 2010.

While this sense of management crisis is common to many universities, it is felt most strongly by the newly established universities who have just recently entered the market. The reform movement to consider seriously the content of an educational service for students began with these recently established private universities. This first started with the establishment of the so-called 'Faculties with New Labels' (departments of International, Information, Cultural, Environmental, and Policy Studies) and continued with curriculum reform, syllabus-based teaching, innovation in teaching methods, and class evaluations by students. This was the first time in the history of the university in Japan that true reform in university teaching and learning had begun. Before long, this reform spread among other private universities who anticipated an intensified competition or survival of the fittest. We could say that the bold decision in 1990 by the oldest private university in Japan, Keio, to establish two new schools— the Faculty of Policy Management and the Faculty of Environmental Information[39]— symbolizes such change.

The university trustees, with sharp business acumen, as well as a number of university professors feeling there was a crisis in 'the emptiness of education' were those that carried the reforms.

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[39] Keio University is the oldest private institution of higher education in Japan, founded in 1858 by an intellectual leader of the time, Yukichi Fukuzawa (whose portrait adorns the Japanese ý10,000 note), who established a private school for Dutch studies in Teppozu, Edo (present-day Tokyo). Along with Waseda University (founded 25 years later as the Tokyo Senmon Gakko by Shigenobu Okuma, a scholar and government leader), Keio University is one of the two most prestigious private universities in Japan. These new faculties are located on a purpose-built 80-acre site an hour and half outside downtown Tokyo—the Shonan-Fujisawa Campus (SFC). SFC opened in 1990, in 1992 a high school was added, and in 1994 the new campus became the site of yet another so-called 'school with a new label'—the Graduate School of Media and Governance.

However, the fact that reform was progressing above all with the establishment of new universities and new departments plainly shows that these reformers were limited to a minority group within the university. I think it is safe to say that real progress in reform involving existing universities and departments is yet to be seen.

Critics from within the university have also come forth because of an awareness of crisis in research as well. Many of these critics, the main force of which are professors in the fields of science and engineering, began to feel there was a crisis in Japan after having been students or researchers in Western countries, particularly at American universities. They argue that Japan will continuously fall behind in the international science and technology race because of such poor research and teaching conditions and, on top of this, such a rigid and closed organizational structure at the Japanese university. According to one American researcher (Rosovsky, 1990), of all schools boasting cutting-edge research capabilities— the so-called 'research universities'— three-quarters are concentrated in the United States, with Japan having only a handful of such institutions, all of which are at the bottom of the global ranking. Within the leading research universities in Japan— Tokyo University and other national universities— this strong feeling of crisis triggered another wave of both criticism against the present state of affairs and subsequent reform movements.

Deregulations and Educational Reform

In this way, from the 1970s to the 1980s, responding to the strengthening voices of criticism from both inside and outside the university, small reform experiments in diverse forms were advancing in the conservative world of universities and university professors. What immediately accelerated these reforms and functioned to spread them throughout the university was the previously mentioned revision of the SEU.

With regard to this revision to the SEU, I should point out that it was part of what by the mid 1980s had become a widely discussed issue of deregulation centered around economic issues, removing regulations on public corporations, provincial self-governing bodies, and all sorts of groups and organizations. For a long time Japanese education, universities and schools alike have existed under the strict supervision and control of the MOE. Without a relaxation in and removal of restrictions, one could not expect a break in the crisis of education, research, universities, or schools, a press for reform, or stimulation for dynamic development. This was the basic concept of the *Rinkyooshin's* scheme for educational reform. The banner of 'liberalization, individualization, and diversification' that the *Rinkyooshin* displayed and the fundamental principles of 'autonomy and independence' they demanded of schools, universities, teachers, and school boards, these were nothing less than symbols of this concept of reform.

This revision of the SEU is merely one part of the deregulation that affects the entire Japanese education system. However, in its function to propel university reform, it is extremely important. The reason is because it had the power to shock severely, to loosen from its roots the organizational structure of Japanese universities and force the conservative university professors to engage in a discussion of reform. If we think about what kind of basic structure existed at the level of university departments previously, we can easily understand why the previously mentioned software aspects of the revision of the SEU held such a powerful shock value.

According to the SEU before the revisions, the four years of undergraduate education were divided into two years each of a Specialized Education (SE) phase and a General Education (GE)

phase.[40] The core curriculum in the first two GE years required students to take foreign language and health and physical education subjects as well as a certain number of elective course credits distributed across the humanities, social, and natural sciences. Furthermore, the name and educational curriculum of a SE department was restricted to the traditional academic fields while the GE existed, if necessary, as an independent organization of professors and thus had to be referred to with a rubric such as 'Liberal Arts Department.' In other words, the university in reality did not have the freedom to either organize the four-year undergraduate education as it saw fit or even to decide the name of the course. The 1991 SEU revision removed most of these regulations and sanctioned the complete freedom for each university to organize their own curriculum. What was feared with respect to this liberalization process was the danger of a lowering in the quality of education.[41] It was with this concern in mind that the *Daigaku Shingikai*, as collateral conditions for liberalization, demanded universities to provide syllabuses, improve teaching methods, introduce class evaluations, and the like. On top of this they specified clearly in the revised SEU that continual vigilance in the form of self-inspection and self-evaluation was the responsibility of the individual universities.

This liberalization actually only belatedly approved various experiments at reform that were already underway as either responses to the critics or having been implemented in anticipation of such a coming period of change. However the shock that this formal approval of freedom to organize undergraduate education gave to the university was huge and far exceeded the expectations of those involved. Universities and university professors, always criticized for their conservatism and apathy toward change, scrambled to begin the race of reform efforts almost as if they were responding to a starter's gun. The basis for this response was, needless to say, in the harsh criticisms made from in and outside the university. Although the degree of these criticisms differed, at every university a mood of crisis enveloped the university trustees and professors. In addition, there was also intensification in the struggle for survival among the universities, in particular private universities, faced with the premonition of the decrease in the population of 18 year olds after the peak in 1992. Under such a state of emergency, Japanese universities entered a so-called 'season of reform' in the 1990s.

More than anything else the focus of the university reforms underway was on teaching. One would not be exaggerating to call these changes 'revolutionary' for Japanese universities. This is because by international standards Japanese university professors have been known for their apathy towards teaching and enthusiasm for research. For example, according to an international survey conducted a few years back, in answer to the question "Which do you feel is more important, teaching or research?", almost 70 per cent of Japanese professors answered "research" while just over 30 per cent of the American professors felt so, numbers that show a striking contrast.

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[40] The division between a General Education (GE) and Specialized Education (SE) curriculum can be traced back to 1947 when the United States converted the curricula of the state run high schools, the *kootoogakkoo,* along with the independent, post-secondary prep or cram schools, the *yoka*, into the first and second GE curricula at public and private undergraduate schools nationwide. These *kootoogakkoo* and *yoka* were literally transferred in their entirety into the universities—materials, methods, and faculty—with little effort at integration with the SE subjects of the university faculties. In fact, the *yoka* curriculum of the 1920s is strikingly similar to the GE curricula at most universities today, 80 years later (Terauchi, 2001). Little attempt was made to incorporate a system of majors and minors that might have better harmonized the disparity. Instead, a legacy of dichotomy between GE teachers and SE faculty has evolved at many of the older, more conservative universities. In fact, many in Japan could not accept the lack of differentiation and specialist training that was imposed by the Occupation. These were clearly inferior institutions labelled 'universities' (Schoppa, 1990, p. 36).

[41] This is similar to the debate of 'dumbing-down' in the context of the 'massification' of higher education in the United Kingdom. The bureaucratic response in Britain has been the Quality Assurance Agency.

Of course this does not mean that university professors in Japan are shirking their teaching responsibilities and instead devoting themselves entirely to research. In the reality of university mass education, at every school teaching is the most important role played by university professors. Nevertheless, the more they face such teaching demands, the more they would put greater importance on research.[42] And this feeling amongst professors has tended to create an attitude of indifference toward teaching, beginning with curriculum and instructional methods, as well as a general apathy about changing their stance with respect to teaching students. Reform that radically and forcefully altered the research-education balance in favour of education started rapidly advancing. This surely could be called 'revolutionary'.

After 1991, most universities set about to reorganize the four-year undergraduate education with the removal of the GE curriculum and independent Liberal Arts Departments and the merger of these classes with SE. The names of faculties were greatly diversified and increasingly, even amongst established faculties, labels were changed. In addition, there was also the steady progress in such areas as syllabus provisions, improvement in teaching methods (especially focusing on foreign language and computer instruction), and the adoption of class evaluations by students. We could regard this as on the track to a so-called 'teaching revolution'. But, obviously, if reform is to be radical enough to warrant the label 'revolution', resistance and opposition to it will grow. No matter how strong the pressure from criticism both inside and outside the university, no matter how strong the feeling of crisis, it is difficult to imagine that professors immediately become reformists in their hearts and aggressive in the drive for reform. It will be a long time before the values and consciousness of the majority of professors, and students for that matter, change fundamentally. I have to say that the stronger the pressure for reform and the higher the innovation banner is flown, the deeper the university crisis will become.

Innovation in Research

I am afraid that I have over-emphasized the education side of university reform in my discussion. Finally, let me touch upon the reform of research at universities. I have stated previously that a sense of crisis among university researchers in scientific fields began to match the feeling among industrialists, who became increasingly aware that the crisis at universities was a crisis of basic research as well as even cutting-edge science. The result was that universities began to receive stronger material and human resource support for basic research, in forms such as corporate sponsorship of professorships, involvement of industry researchers at universities, and a more active exchange of manpower. The cooperation and exchange between industry and university had finally begun to get more serious.

The MOE seized this opportunity to begin to take constructive measures to build up the previously neglected research function of the university— specifically the expansion of graduate programs, the nurturing and ample supply of young researchers, the augmentation of research monies, and the renewal of equipment and facilities. In a time of austerity in public finances and continued economic sluggishness, the fact that the government had begun serious efforts to improve basic research at the university proves how strong the feeling is that the ground beneath Japanese university research is caving in to fierce international competition.

The fostering and strengthening of the research university, as it is called, surfaced as the focal point of these policies to promote the facility for research. For a long while, particularly during

[42] This reaction to teaching responsibilities can be interpreted in two ways. First, many professors subscribe to the notion that research supports and enhances teaching. Secondly, because so much time and energy is spent in the classroom, teachers feel the need to place more importance on research as a balance.

the 1970s and 1980s, the MOE had maintained an egalitarian policy[43] with respect to each university's role in research. The latter half of the 1980s marked the period when this policy toward research began to be critiqued and reconsidered. This meant that an aggressive policy effort was begun to restore and improve the standards of Japanese representative research universities like the University of Tokyo and the University of Kyoto.[44] Various and sundry plans for strengthening these research universities were hammered out of this overall series of policies referred to as the 'Prioritization of the Graduate School'. Specifically these included the shift of teaching and research from the level of the undergraduate departments to that of the graduate school, the addition in numbers of both faculty and students, the increase in operating expenses, the increase in research monies allocated competitively and preponderantly, the introduction of financial resources from other government ministries and private firms, and the institution of priority research units called 'Centers of Excellence' (COE).[45]

Reform did not stop with this series of policies but extended to the internal organization of the university as well. It became a mainstream practice for universities to change a system that had existed ever since before the War of organizing sections within departments with one professor, called a *sho koza sei* (micro-chair system),[46] to a *dai koza sei* (macro-chair system) with multiple professorships. Other trials that began to be undertaken at many universities included an increased openness and fluidity in the organization in order to stimulate research activity, as well as implementation of changes in the tenure system for faculty called the 'term system'.[47] I think it is fair to say that setting up a system of teaching and research that is better able to produce more original and creative researchers and research results is, alongside teaching innovations, one of the pillars of university reform.

I know I am repeating myself when I say that the root of the crisis that universities are faced with is deep. This is to suggest that the imminent reform of universities must be radical enough to be called a revolution. It is hard to exaggerate the immensity of the fundamental switch in consciousness and values that is pressuring the university and university professors.

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[43] Historically, the government ideal for education has been one of "equality", the "right to equal education" which is guaranteed by the Constitution (in Passin, 1982, p.287). This ideology of equal opportunity has necessitated a policy of 'mass education' in which students are not streamed according to abilities (Rohlen, 1983, p. 66). (Notably, recently, in the summer of 2001, the MOE has just announced that they will be distributing a gifted and talented manual to public school teachers in Japan to help them better educate the, until now neglected high achievers — a group of students that has always received an almost disproportionate amount of attention in the United States and United Kingdom). This egalitarian ideal was also held by the MOE with respect to universities.

[44] *Toodai* (University of Tokyo) and *Kyoodai* (University of Kyoto) are the "Oxbridge" of Japan.

[45] In 1995 the Japanese MOE began a funding program for cutting-edge Center of Excellence research projects at various national and private research universities in Japan. These include a ý350 million grant to the University of Kyoto and a ý120 million grant to the University of Tokyo for research in microbiology, a ý300 million grant to Waseda University for material science research, ý100 million to the University of Hiroshima for a physics research program, ý85 million to the Tokyo University of Foreign Languages for a corpus linguistics project, and another ý85 million to the University of Nagoya for research in medicine.

[46] At larger graduate school universities in Japan, the basic unit around which departments are organized is the professorship—chairs (*koza*). Each department has several of these *koza,* which consist of one professor, one associate professor, one or two assistant professors, and several junior research assistants. Since each *koza* has control of its own budget and, hence, research and teaching activities, the professors have traditionally had considerable autonomy from the department, and university (Tomoda & Ehara, 1979, p. 188). By changing to a *dai koza sei* universities hope that the multiple professorships will help to break down the sectional walls within a department.

[47] Many public and private universities have begun to institute semi-permanent contract positions, limited to only a few years, as a separate track from the normal tenured professorships and the ubiquitous part-time adjunct lecturer positions. One of the MOE reform measures in the 1990s was the policy of allowing individual universities to decide with greater flexibility their own individual tenure contracts with full-time faculty.

So when the revolution is progressing with fierceness appropriate to such a name, it is inevitable that various types of opposition will be born and confusion will spread. However, at the same time, I do not think we will be able to see the image of the new university until such a period of disorder, confusion, and groping has passed. The important thing is not to fear the profundity of the crisis, but rather to have the gumption to seize the day and change this so-called 'crisis' into an 'opportunity.' This is what is now asked of Japanese universities and university professors.

APPENDIX: ORIGINAL JAPANESE TEXT

大学の危機

(Amano, 1999, pp. 3-19)

大学改革の問題を、大学の危機という視点から考えてみたい。それは基本的に保守的な大学のような組織体にとって、深刻な危機に直面することなしに、改革が進展するのは望みがたいことと思われるからである。逆にいえば大学改革の機会は、大学の危機のなかにこそあることになる。大学はいま危機の時代をむかえているが、それは同時に大学が改革の時代をむかえたことを意味している。

残念ながら大学が危機に瀕しているという認識が、大学教員自身のなかから生まれることは稀である。大学教員は教育者であると同時に研究者であり、自分の専門とする学問と自分の所属する大学の双方に忠誠心をもつことを期待された職業である。しかし、その忠誠心は一般に専門学問に対するそれの方が強い。大学教員の社会的評価がなによりも学問上の業績によって決まることを考えれば、それは当然のことだろうが、このことは大学の教員が、自分自身の学問の危機については敏感だが、大学や教育の危機については必ずしもそうではないことを示唆している。

大学教員たちは他分野の発展や学際的な領域の生成によって、自分の学問がおびやかされたり、また自分の専門領域の学問が国際的な水準に著しく遅れていることが明らかになるとき、強い危機感をもつ。しかし大学それ自身の危機、とくに教育の危機については外部から、あるいは自分たち以外の大学の構成員からきびしい批判をむけられるまで、それに気づかないのが普通である。大学の内外に批判の声が高まり、改革を求める圧力が有無をいわせぬ形で強まってはじめて、大学の教員、ひいては大学は改革にのり出す。それが少なくとも日本の大学のこれまでの歴史であったし、また現状でもあるといってよいだろう。

それでは誰が大学の批判者であり、なにが批判されているのか。またその批判は大学と大学教員によってどう受けとめられ、どのような改革の動きをひき起こしているのか。それをまず最大の「内部批判者」である学生たちからみることにしよう。

批判者としての学生

学生たちが大学と大学教員にはじめて強い批判の声をあげたのは、一九六〇年代後半、大学紛争・学生反乱の時代である。それは日本の大学の「エリート」段階が終わり、「マス」段階が始まったことを象徴するものでもあった。学生たちは「研究」の方ばかり向いた教員たちに、「教育」の方を向くことを、自分たちに関心をもち、自分たちの要求に応えることを強く求めたが、大学はこうした学生「大衆」の声に適切に答える努力をしなかった。大学紛争中、おびただしい数の改革案がつくられたが、その大部分は制度や組織にかかわるものであり、しかも学生反乱が収まると、ほとんどがファイルの中にしまい込まれ、再び陽の目をみることはなかった。

一九七〇年代に入ると学生たちは、暴力的に要求を通そうと努力することはやめたが、その代わりに隠れた形で批判や反抗を続けることになった。すなわち、かれらは授業に出るよりもクラブやサークル活動とよばれる課外活動にエネルギーを注ぐか、あるいは授業に出席してる講義を身を入れて聴かず、教室内で仲間同士で「私語」するという、消極的な抵抗運動を展開するようになったのである。

一九八〇年代に入る頃、大学の教員たちはようやくこうした変化の深刻さに気づきはじめる。勉強に不熱心な学生たちを批判しているだけでは、なにも変わらない。教育の「空洞化」をさけるには自分たち自身が考え方を変え、学生たちの声なき批判の声に答える方法をさぐる必要があるのではないのか。こうして一九八〇年代の後半になると次第に「教育改革」の動きが、とりわけ私立大学の間に広がっていくことになる。

批判者としての学生についてはもうひとつ、「非伝統型」の学生の出現と増加をあげておかなければならない。成人学生や外国人学生がそれである。職業生活や家庭生活など人生経験をつんだあと大学にやってくる成人学生は、日本では「社会人学生」と呼ばれている。その数はまだ年間数千人程度にすぎないが、一九八〇年代に入る頃から着実に増加しはじめた。また外国人留学生も、中国・台湾・韓国など、東アジア諸国を中心に一九七〇年代の後半から増加しはじめ、現在では六万人弱に達している。高等学校卒業と同時に進学してくる正規の、「伝統型」の学生にくらべて、これらの学生は当然のことながら、学習の条件や意欲の点で異なっており、その点で本質的に大学教育の伝統的なあり方に批判的である。こうして「非伝統型」の学生数の増加は、大学が内部に、もうひとつの有力な「批判者」をもちはじめたことを意味する。そして実際に一部の大学は、かれらの要求に応えることをめざして改革へと動き出すことになった。

受験競争と学歴社会

大学外部の批判者として最大の規模をもつのは、大学に子どもを送る親たち、ひいては国民である。かれらの批判的な意見は「世論」というあいまいな形をとり、しばしば新聞やＴＶなどのマスコミによって代弁されている。かれらの批判はなによりも大学進学をめぐるはげしい受験競争と、その基底にあるとされる学歴社会に向けられてきた。それは一九七〇年代から八〇年代にかけて、大学にかかわる最大の社会問題・政治問題となり、「試験地獄」を緩和するための改革の必要が、マスコミや政治家たちによって声を大に叫ばれ、世論の支持をうけた。

大学や大学教員たちは、その入試制度の改革についても基本的に消極的であった。なぜなら、きびしい学力試験は学力の高い、ということは教育しやすい学生を確保するもっとも有効で簡便な方法であり、また入試方法を改善することは教員たちにとって、教育と研究以外の負担の増加を意味したからである。しかし政府は世論の強い支持のもとに、まず、選抜のきびしい大学・学部が多数をしめる国立大学の入試改革に着手した。一九七九年に発足した「共通第一次学力試験」制度がそれである。一九九〇年に「大学入試センター試験」と名称をかえたこの共通テストは、やがて私立大学も利用する全大学的な制度へと発展することになった。「試験地獄」の緩和のために政府はさらに、学力試験以外のさまざまな方法で入学者を選抜することを奨励する「多様化」政策を、積極的におし進めてきた。高校在学中の学業成績や活動記録を重視する「推薦入学」は、その代表的なものであり、この他にも面接、小論文、それにスポーツや文化・社会活動など、さまざまな評価方法で入学者を選抜する大学が増えている。学力試験についても多数の科目を課す大学は少なくなっており、一ー二科目の学力試験しか課さない私立大学もかなりの数に達している。

しかし、批判的な世論は、こうした一連の改革に十分満足するに至ってはいない。なぜなら、もっとも入学のむずかしいいわゆる「一流大学」は、依然として多数の試験科目による学力試験主体の入学者選抜方法を、基本的に変えていないからである。現在五九〇校近い日本の大学は、①選抜のきびしい大学、②入学の際にある程度の競争を伴う大学、③事実上だれでも入れる大学の、三つのグループに、次第に分かれはじめている。そして大学卒業の「学歴」以上に、どの大学を出たかという「学校歴」の重視される社会では、入学者の選抜方法がどれほど改革されようと、一部の「一流大学」ないし「銘柄大学」をめざす、はげしい受験戦争が姿を消すことはない。大学入試改革はその意味で、日本の大学にとって永遠の課題であり、それに対する批判も容易に弱まることは望みがたい。

産業界と政府

日本の産業界もまた大学に対してつねに批判的であり、大学を「役に立たない」と批判し続けてきた。それは営利の追求を目的とする企業と、真理の探究を目的とする大学という、二つの組織体の性格の基本的な違いを考えれば、当然のことというべきだろう。しかも反体制的な立場をとる大学教員が多数をしめ

た時代、大学は研究教育面での「産学協同」に反対するなど、つねに産業界と対立的な関係にあった。一九六〇年代末の大学紛争のなかで、こうした反企業的な態度はいっそう強まり、産業界もまた、大学と大学教員たちの問題解決に必要な自治能力や当事者能力のなさに失望し、その結果として両者の関係はいっそう悪化することになった。

このことは、産業界の大学に対する期待の低下を意味するものでもあった。日本の企業はもともと大学に、高度の専門的能力を身につけた人材の育成・供給を期待せず、新規大学卒業者を採用したあと、企業自身の努力で高度の専門的人材や専門経営者に育成する方策をとってきた。その傾向は大学紛争以後いっそう強まり、また経済の高度成長により利益をあげた企業は自ら研究所を設立し拡充強化して、研究面でも大学への期待を低めていった。

期待がないところには批判もない。産業界との関係の稀薄化した大学は、人材養成面でも研究面でも弱体化を免れず、とくに自然科学の分野では、大学に投入される研究費の伸びが停滞しただけでなく、優秀な人材を企業の研究所に奪われ、基礎研究が急速に貧困化していった。大学はいわば、産業界に「見はなされた」のである。

産業界の大学に対する期待が復活するのは、一九八〇年代の後半になってからである。高度成長期の終わりをむかえ、国際的な経済競争、ひいては先端科学技術競争の前途に不安を抱きはじめた産業界は、あらためて大学のもつ人材養成と基礎研究の重要性に目を向けざるをえなくなった。また東西対立の冷戦構造がくずれ、イデオロギー対立から自由になりはじめた大学も、産業界に対するこれまでの拒否的な態度を捨て、研究・教育面での交流や研究費の受入れに弾力的な方策をとるようになった。

こうして産業界の大学に対する期待が高まるなかで、批判もまたきびしさを増し、一九九〇年代に入ると日本経営者団体連盟、経済同友会、日本商工会議所など、産業界を代表する団体が次々に、大学の改革を求める提言や報告書を発表するようになった。それらに共通しているのは、ひとつには教育研究面での「産学交流」をいっそう活発化させるための、大学の組織や学問の開放化であり、またひとつには独創性・創造性に富んだ高度の専門的人材の育成への期待であり、さらにはその期待に十分応えていない大学に対する批判である。

大学にとって、 政府＝文部省もまた、重要な批判者である。いうまでもなく大学は自治を認められた組織体であり、私立大学はさらに憲法によって国立大学以上に大きな自由を保障されている。しかし同時に日本の大学はすべて、政府＝文部省の管理・監督下にある。とくに国立大学は人事・財政面で、政府の強い規制の下におかれている。このことは政府が大学のあり方に不満をもつ場合、その不満や批判を表明し、改革の方向にゆり動かす力をもっていることを意味している。その不満と批判は、一九八四年に当時の中曽根康弘内閣が設立した。首相直属の審議機関である「臨時教育審議会」の答申のなかに、率直に表明されることになった。一九八五年に出された「臨教審」の答申は、大学の現状に強い不満を表明し、政府に新たに「大学審議会」を設置して、大学の改革に向けて積極的・集中的な検討を開始することを求めた。そして一九八七年に設置されたその大学審議会がまず取り上げたのは、「大学設置基準」の大幅な改訂であった。

大学設置基準は、大学が文部省の設置認可をうける際に備えているべき諸条件を定めた法規である。裏返せばそれは、文部省が大学に対してもつ管理監督の権限をあらわすものであり、その変更や運用の仕方によって大学改革を促進したり制約したりする可能性をもつことを意味している。大学審議会はまずはその設置基準を改訂し、改革に向けて大学に自主的な努力を喚起することをめざしたのである。

大学設置基準は学生一人当りの校地・校舎面積、教員・学生比率、学生一人当りの図書冊数など、大学のいわば「ハード」面、それに学部の名称や、教育課程の編成の仕方、開設されるべき授業科目などの「ソフト」面について、細かく規定している。それが大学の自由な発展を妨げ、改革への自主的な努力を制約しているとする批判は、早くから大学の内外にあった。つまり大学設置基準は、大学危機の重要な原因のひとつとみなされてきたのである。一九九一年、その設置基準が、とくにソフト面、カリキュラム編成を中心とした教育の面で大幅に改訂されたことは、大学を改革に向けて突き動かす大きな動因となった。

大学内部の批判者

大学と大学教員たちの名誉のために、最後に、一九八〇年代に入ると彼らの間からも、現状への強力な批判者があらわれ始めたことを指摘しておくべきだろう。学生たちの声に耳を傾け始めたのが、なによりも私立大学であったことはすでにのべた。学生の納入する授業料を事実上唯一の収入源とする私立大学にとって、学生は「顧客」であり教育サービスの「消費者」である。進学希望者が年々増加し、教育機会への需要が供給を大きく上まわり、はげしい受験競争が展開されているうちはいいが、進学希望者の伸びが止まり、さらには減少に向かえば、たちまち経営危機におそわれかねない。そして進学希望者の供給源である一八歳人口は、一九八〇年代を通じて上昇を続けたあと、一九九二年をピークに長期的な減少の局面をむかえ、二一〇一〇年には半分近くにまで激減することが予測されている。

こうした経営面での危機感は当然のことながら、新たに市場に参入する新設大学ほど強い。学生に対する教育サービスの内容を重視する改革の動きは、これら新設の私立大学から始まった。それは、国際、情報、文化、環境、政策などの名称のついた、いわゆる「新名称学部」の開設に始まり、教育課程の改革、シラバス（講義要綱）の作成、教授法の革新、学生による授業評価の導入などに及んでいった。日本の大学の歴史のなかで初めて、本格的な大学の「教育」改革が始まったのである。この改革はやがて、「生き残り」競争の激化を予想した他の私立大学にも広がっていった。もっとも長い歴史をもつ私立大学・慶應義塾が、一九九〇年に総合政策と環境情報の二学部の新設にふみ切ったのは、そうした変化を象徴するものといえよう。

改革の担い手となったのは経営感覚の鋭い大学の理事者、それに教育の「空洞化」に危機感をもった一部の大学教員たちである。しかしかれらがまだ大学の内部で「少数派」にとどまっていることは、改革がなによりも大学の新設や学部の新設という形で進行していることに、端的に示されている。既存の大学や学部までまきこんだ改革の本格的な進行は、まだこれからといってよいだろう。

大学内部の批判者はまた、研究面での危機意識からも現れはじめた。理工系分野の大学教員を主力とするこれら批判者の多くは、欧米諸国、とくにアメリカの大学での学生や研究者としての体験から、危機感をもつようになった。日本の大学の貧弱な教育研究条件、それに硬直的で閉鎖的な組織構造では、国際的な科学技術競争に立ち遅れるばかりではないかというのである。あるアメリカの学者によれば（ヘンリ・ロソフスキー『大学の未来へ』佐藤隆三訳、ＴＢＳブリタニカ、一九九二年）、先端的な研究能力を誇る、いわゆる「研究大学」（research university）の四分の三がアメリカ一国に集中しており、日本の大学はわずか数校が、しかもその下位に入るにすぎない。この強い危機感もまた、東京大学をはじめとする日本の主要な、「研究大学」型の国立大学のなかに、現状への批判と改革の動きをひき起こしていった。

「規制緩和」と教育改革

このように、一九七〇年代から八〇年代にかけて、大学の内外で強まった批判の声に応えて、保守的な大学と大学教員たちの間に改革の小さな試みが、さまざまな形で進みつつあった。それを一挙に加速し、大学全体に広げる役割を果たしたのは、先にふれた一九九一年の大学設置基準の改正である。

この設置基準の改正については、それが一九八〇年の中頃から経済の領域を中心に広く議論されるようになった、中央政府の企業や地方自治体など、各種の団体・組織体に対する規制の撤廃、いわゆる「規制緩和」（deregulation）の一環であることを指摘しておく必要があるだろう。

日本の教育も、大学・学校も長い間、政府＝文部省のきびしい管理・統制の下におかれてきた。規制を緩和し撤廃することなしには、教育と研究の危機、大学や学校の危機を打開し改革を促し、活性化を図ることはできない。それが、「臨時教育審議会」の教育改革構想の基本的な理念であった。臨教審が掲げた教育の「自由化・個性化・多様化」というキャッチフレーズ、それに学校・大学、教員、教育委員会等に求められた「自主・自立」の原則は、そうした改革の理念を象徴するものに他ならない。

このことは、設置基準の改訂が、日本の教育システム全体にかかわる「規制緩和」の一部にすぎないことを意味している。しかし、それが大学改革の推進にはたした役割には、きわめて大きなものがある。な

ぜならそれは、日本の大学の組織体としての構造を根底からゆさぶり、保守的な大学教員たちをも改革論議にまきこまずにはおかないような、強い衝撃力をもっていたからである。

先に述べた設置基準の「ソフト面」の改正が、なぜそのような強い衝撃力をもちえたのかを理解するには、それ以前の大学の学部段階の教育がどのような基本的な構造をもっていたかを考えてみればよくわかる。

改正以前の大学設置基準によれば四年間の学部教育は、専門教育・一般教育それぞれ二年の二段階に分かれ、前半二年間の一般教育は外国語、保健体育を必修とし、また人文・社会・自然の三領域にわたって一定数の授業科目を開設し、これも学生の必修とすることを定めていた。また専門学部の名称や教育課程は伝統的な学問領域に応じて定められ、一般教育については、必要に応じて「教養部」等と呼ばれる独立の教員組織をおくことになっていた。つまり、どのような名称の学部をおき、四年間の学部教育の課程をどう編成するかについて、大学の自由は事実上認められていなかったのである。

一九九一年の設置基準の改正は、こうした規制の大部分を廃止し、それぞれの大学に教育課程編成の完全な自由を認めるものであった。こうした「自由化」の進展について懸念されるのは、教育の質の低下の危険性である。そこで大学審議会は「自由化」の付帯条件として、大学にシラバス（講義要綱）の作成、教授法の改善、授業評価の導入などを求め、さらにたえまない「自己点検・評価」の努力をすることが、それぞれの大学の義務であることを設置基準に明記した。

この「自由化」は一部の大学が批判に答え、また時代の変化を先取りする形で進めていたさまざまな改革の試みを、追認したものにすぎない。しかし学部教育の編成の自由が正式に認められたことが大学に与えた衝撃には、関係者の予想をはるかにこえて大きなものがあった。これまで保守的で改革には不熱心と批判されてきた大学と大学教員たちが、一斉にといってよいほどに、競って改革に動きはじめたのである。その基底にはいうまでもなく、これまでみてきた大学内外からの高まる批判があり、それが程度の差はあれ、大学の理事者や教員たちに抱かせるようになった危機感がある。さらにもうひとつ、一九九二年をピークに一致して進行する一八歳人口の減少が予感させる大学、とりわけ私立大学間の「生き残り」をかけた競争の激化がある。こうして危機のなかの日本の大学は、一九九〇年代に入って改革の季節をむかえることになった。

進行しはじめた大学改革の中心は、なによりも大学の「教育」改革にある。それは日本の大学にとって、「革命」といってもいいすぎではないほどの変化である。なぜなら日本の大学教員たちは国際的に見て、もっとも教育不熱心、研究熱心な教員たちとして知られてきたからである。たとえば数年前に行われた国際調査の結果によれば、「教育と研究のどちらが重要だと思うか」という質問に「研究」と答えた教員が七〇％近くにのぼり、アメリカの教員の三〇％強という数字と、著しい対照を示している。

もちろんこのことは、大学教員たちが教育の責任を免れ、研究に専念していることを意味しない。「マス化」した現代の大学ではどの大学であれ、教育は大学教員の果たしているもっとも重要な役割である。にもかかわらず、いやそうであればこそ、教員たちは研究の方を大切にしたいと考える。そしてそのことが、カリキュラムや教授法をはじめとする、学生に対する教育面での改革に、大学教員たちに消極的な態度をとらせてきた。そうした研究と教育の、研究に傾いたバランスを、教育の方に大きく変えることを強いるような改革が、急速に進行しはじめたのである。それはまさに「革命」的な変化といってよいだろう。

一九九一年以降、多くの大学が一般教育の課程や教養部を廃止し、専門教育とあわせて四年間の学部教育の再編成にのり出した。学部の名称も著しく多様化し、既存の学部の中にも名称を変更するものが増えた。またシラバスの作成や、とくに外国語教育と情報教育を中心とした教授法の改善、それに学生による授業評価の導入なども着実に進んでいる。「教育革命」はほぼ軌道にのったとみてよい。ただ改革が「革命」と呼べるほどに根底的なものであろうとすれば、それに対する批判や抵抗もまた、当然のことながら大きなものにならざるをえない。教育軽視のこれまでの体制に慣れた保守的な大学教員たちが、どれほど内外の批判が強く、危機感が高まったからといって、直ちに心の底から「革新的」になり、改革の推進に積極的になるとは考えにくい。大多数の教員、それに学生たちの意識や価値観が根底から変わるまでには、長い時間が必要とされる。改革への圧力が強く、「革命」の理念が高く掲げられるほど、 大学の危機もまた

深くなるといわねばならないだろう。

研究の革新

大学の教育改革の側面に偏りすぎたかも知れない。最後に研究面での改革にもふれておこう。大学の危機が基礎研究の、ひいては先端科学技術の危機でもあるという認識がようやく産業界にも広がり、大学における理工系の研究者たちの危機感と、産業界のそれとが一致しはじめたことはすでにのべた。その結果として、大学は企業からの研究員の受入れや人的交流に積極的になり、企業もまた「寄付講座」などの形で、大学の基礎研究に、物的・人的な支援を強めはじめている。産学協同・産学交流が、ようやく本格化しはじめたのである。

そして政府＝文部省は、この機をとらえて、これまで軽視されてきた大学の研究機能の強化、具体的には大学院の拡充、若手研究者の育成・確保、研究費の増額、施設設備の更新などに積極的な施策をとりはじめた。財政状況がきびしく、また経済の低迷が続くなかで、政府が基礎研究のレベルアップに向けて本格的な努力を開始したことは、それだけ激しい国際競争のなかでの、大学における研究の地盤沈下に対する危機感の強さを物語っている。

こうした研究機能の振興策の焦点に浮かび上がってきたのは、いわゆる「研究大学」（research university）の育成・強化である。これまで長い間、とくに一九七〇年代から八〇年代にかけて、政府＝文部省は大学の研究機能について平等主義的な政策をとり続けてきた。一九八〇年代の後半は、そうした研究政策への批判と反省が始まった時期であり、それは東京大学や京都大学等に代表される日本の研究大学の、積極的な整備・充実のための政策的努力の開始を意味するものであった。

具体的には「大学院重点化」とよばれる一連の政策のなかで、これら研究大学の中心は学部段階から大学院での教育研究に移され、教員数、入学者数の増加、経常費の増額、競争的・重点的に配分される研究費の増額、他官庁や民間企業からの資金導入、若手研究者に対する奨学金制度の拡充、ＣＯＥとよばれる重点的研究ユニットの設置など、さまざまな強化策がうち出されている。

改革はそれだけでなく、大学の内部組織にまで及び、戦前期以来の一講座一教授の小講座制にかわって、複数の教授から組織される大講座制が主流になり始めたほか、研究活動の活性化をはかるための組織の開放化、流動化の試みが、多くの大学で進められるようになっている。導入の決まった教員の任期制も、そのひとつである。独創的・創造的な研究者と研究成果をより多くうみ出すことのできる教育研究体制づくりは、「教育改革」とならぶ大学改革のもうひとつの柱になっているといってよいだろう。

くり返しになるが、大学が直面している危機の根は深い。それは、大学の迫られている改革が、「革命」とよべるほどに根本的なものでなければならないことを示唆している。それが大学と大学教員たちにとって、どれほど大きな意識や価値観の根底的な転換を迫るものであるかは、あらためていうまでもあるまい。

そして「革命」が、その名にふさわしい激しさで進行するとき、そこからさまざまな抵抗が生じ、混乱がひろがることはさけがたい。しかし同時に、新しい大学の像は、そうした混乱と混迷、模索の過程を経ることなしに、見えてくることはないだろう。必要なのは危機の深さをおそれることではなく、その「危機」を変革への「好機」ととらえる積極性であり、日本の大学と大学教員たちは、いまそれを問われているのである。

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Making Groups Work: University Students' Perceptions

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Group work has many benefits for effective learning while also preparing graduates for future work. However, group work often elicits a mixed reception from participants. This paper explores the perceptions of final year university business students of their formal group work experiences. Information has been gathered through the collection of quantitative and qualitative data, and analysis reveals student experiences, both positive and negative. This paper also examines students' perceptions about the extent to which their experiences enabled them to achieve the university's graduate group work competencies. Finally, it reports students' own suggestions for improving the problems they encountered thus providing strategies for addressing their concerns.

university, groupwork, perceptions, free-riding, education

INTRODUCTION TO THE STUDY

Universities are being challenged to provide high quality education that is accessible and delivered in flexible ways. Such challenges must be met in the face of increased global competition and the pressure of diminishing resources. Group work has long been accepted as an effective learning strategy because it provides opportunities for students to negotiate meaning and manipulate ideas with others and reflect upon their learning (Fraser & Deane, 1997). Trist (1983), amongst others, believes that the solution to many complex problems requires individuals to collaborate to find solutions. Furthermore, universities are responding to the need to prepare graduates for 21st century workplaces where teamwork skills are valued (DETYA, 2000; Furnham, 2000; CIHE, 1996; Harvey et al, 1997). At the same time, group work appeals as an efficient way to teach as workloads increase and available time diminishes.

Group work is not always viewed positively, however, due to tensions that can arise as individuals meet to complete set tasks. It was the purpose of the current research to investigate final year, university business student perceptions of group work.

RATIONALE AND AIM OF THE STUDY

The investigation was concerned with the group work experiences of students in contexts where they were given specific assignments to complete for assessment, meeting as small groups, face-to-face, to collaborate on the task.

The following questions were used as the basis for exploring student experiences in group work settings in order to gain insight into which aspects of group work led to positive perceptions, and which were viewed negatively. Such insight could guide educators in constructing, monitoring and assessing group work tasks.

- What are student perceptions of their experiences of face-to-face group work undertaken for assessment?
- What do students perceive as strategies for improve group work processes and outcomes?
- To what extent do students believe they have developed the desired group work competencies?

ISSUES CONSIDERED BY THE STUDY

Teamwork (group work)

Group work is not new to education. Educational theorists such as Trist (1983) believe that complex problems require input from individuals from many different disciplines, and a collaborative model has been widely and enthusiastically adopted at all levels of education in much of the Western world.

The desire of universities to develop skills for employability has also seen a drive to develop group work competencies. This drive is reflected in the University of South Australia statement that at university teamwork is emphasised and practised because it is an effective and meaningful way to learn (University of South Australia, 2000a, p.1).

Positive outcomes

In supporting the effectiveness of a group approach to learning**,** Gatfield (1999) cites an empirical study conducted by Sorbral (1997) in one higher education setting which demonstrated that the students working in groups achieved a higher grade point average than those working in a control situation involving individual students. Johnson and Johnson (1991) and Baloche (1994) argue that the majority of current research indicates that group work strategies promote greater academic success through strengthened social interaction because students are placed in situations where they must cooperate with one another.

Group work challenges

Imel explains that the group work environment is fraught with problems, however, and challenges the view that effective group skills are learned by simply giving students more opportunities to work in groups (1991)[1]. Tensions can arise due to concerns about assessment of group tasks (Gatfield, 1999), competition for high grades (Imel, 1991) and coping with the complexities of group dynamics (Johnson & Johnson, 1994).

The University of South Australia's research suggests that students do encounter frustration with aspects of group work in spite of its apparent popularity. For example, one graduate student, when surveyed, offered the following view:

> I acknowledge the reasons for including group work as a component of a university course; however due to the nature of groups, it usually falls to one or two individuals to do the bulk of the work. As a student motivated to achieve the best results of which I am capable, I find it frustrating that not only do other students get a free ride so to speak, but that through being forced to work in groups, the task becomes more difficult than it would have been if done alone. (University of South Australia, 2001c)

[1] Page numbers are not given in this online journal

Moreover, research aiming to answer the question about the effectiveness of group work has been largely confined to the primary and secondary sectors of education. According to Imel (1991), there is little empirical evidence that collaborative learning works as it relates to learning outcomes in adult education. Homan and Poel (1999) express a similar view that group work has been demonstrated to be far less effective than it should be in many cases and that students must be taught how to be effective group members.

There are several reasons why group work can result in less than positive participation and outcomes for the participants. Among them are competition, group dynamics, assessment and poor group work organisation.

Difficult group dynamics

Working collaboratively means making significant changes to conventional learning styles as learners come to grips with the dynamics of group work. Bosworth and Hamilton point out that this is not an easy task:

> Collaborative learning requires students to participate actively and perform cognitive and social tasks that are new and often difficult. It is not surprising that students do not always greet this experience with unalloyed enthusiasm. (Bosworth & Hamilton, 1994)

Miller et al. (1994) assert that group work can force tensions to emerge and as a result students may well experience confusion and even anxiety about the work in a collaborative classroom and about how they will be evaluated. Mutch (1998) also observes, ironically, that the tension students experience as they work in groups often, in fact, foreshadows what they will experience in the workforce; and Finnegan and O'Mahony (1996) cite Nour and Yen's (1992) finding that group decision making in organisations demands increased levels of communication, coordination and collaboration and that this form of decision making generally takes longer.

Such observations serve to focus attention on the fact that group work can be hard work emotionally and intellectually; and that this fact is sometimes overlooked by group work advocates and practitioners. Individuals thrust into the demanding activity of working with other individuals, sometimes strangers, need to have time, skill and motivation to work through the stages of 'forming, norming, storming and performing' (Mutch, 1998) to which group work gives rise. Faced with difficult group dynamics caused by conflicting personas, a group may never reach the stage of successfully performing a task through a unified effort.

Assessment and competition

Universities are by nature competitive and much importance is placed on the awarding of academic grades. Gatfield states that:

> One of the major difficulties of group work projects is the awarding of marks by the lecturer or tutor for each member's contribution. The marker normally does not have access to the understanding of the contribution of each group member across all aspects of the project. Yet, the group has a much clearer understanding of the relative contribution of each member. (Gatfield, 1999)

Group work organisation

Most often there is an implicit assumption that group skills will be learned by just being part of a group and regrettably no formal or informal instruction related to group behaviour or interpersonal dynamics is provided (Johnson & Johnson, 1991). Moreover, it is likely that groups will be formed with little consideration given to personality, life experience, ability or aptitude, so that a successful mixture of individuals is more likely to be achieved by happy accident rather than design.

Paying adequate attention to the mastery of group work skills requires explicit treatment and teaching in much the same way that other areas of skill and knowledge are addressed (Mutch, 1998).

CONDUCTING THE STUDY

Fraser and Deane (1997) encourage the development of relationships between university staff and students in which there is an honest discussion of teaching delivery and strategies for learning and that staff take into account student learning preferences. It is important therefore that student opinions are sought. Allowing students to individually reflect on their group work learning experiences provided an opportunity for the research participants to take a self-reflective view of their experiences and describe those experiences (Schon 1983).

The use of a questionnaire with both closed and open-ended questions supplied quantitative and qualitative data for analysis. Students were asked to express in their own words their perceptions of the best and worst aspects of their group work experiences and to explore their own ways of addressing these perceived issues. In this way, descriptive information was obtained and was available for interpretation and elaboration of the feelings behind the statistics.

The survey instrument

A pilot investigation (Burdett 2000) using interview-based research with four business students gave valuable preliminary insight into student perceptions of group work, both positive and negative. The University of South Australia's (2000c) course evaluation responses from students also provided information. It was clear from these sources that while benefits were acknowledged, some difficulties were encountered with formal group work which resulted in student frustration and, at times, deliberate avoidance of this form of collaborative work. The themes which emerged from the pilot study and evaluation data assisted with the formulation of questions for more in depth research to be conducted via a survey instrument.

The draft survey tool was trialled with four graduate business students from the University of South Australia. Peer feedback from three academics in the field of education was also sought. Amendments were made to the inclusion, wording and order of survey questions based on feedback from both groups.

The survey instrument, a questionnaire, consisted of 43 items and was divided into four sections. The first section contained demographic questions to gain information about the student's age, year level, program, fee status and the number of times they had participated in group work for assessment, as well as the average number of students in those groups.

The 25 questions contained in the second part dealt with general issues of group work such as participant experiences, group work processes, (see Table 1 questions 1-11) and prior learning and work experience. Items relating to prior learning and work experience are excluded from analysis as they were not a focus of this paper. The third section contained eight items relating to competencies, with items on issues such as task management, problem solving and conflict resolution (see Table 1, items 12-19). Students were asked to rate their own performance in terms of the statements of competency for group work compiled by the University of South Australia as part of its Graduate Qualities Statement (2000b). Sections two and three were responded to on a 5 point Likert type scale and analysed using the statistical software package, SPSS version 9.

Finally, in a fourth section, three qualitative items asked respondents for their perceptions of the best aspects and the worst aspects of their group work experiences and also for actions they believe could be taken to address the worst aspects.

Participants

The population for this study comprised 344 final year business degree students at the University of South Australia. Final year students were chosen because they were more likely to have the richest experience on which to base overall perceptions, having engaged in formal group work over the period of their degree studies. The mail out did not differentiate internal from external students, as many students do not complete their whole degree through only one mode. It is quite possible that final year external students have studied on campus in years one or two of their degrees. In total, 105 questionnaires were returned, giving a response rate of 31 per cent.

Ages of the students ranged from 19 to 56 years ($\underline{M}$ = 27, $\underline{SD}$ = 7.8). Seventy percent (70%) were female and 91 per cent were onshore HECS-based students. The average number of times they had participated in assessable group work over the course of their degrees was eight times, and each group had an average of three members. Group size ranged from two to 10 members.

FINDINGS

Participant responses to the survey questions are summarised in Table 1 and discussed in the following section.

Table 1. Distribution of agree and disagree responses to selected items

	N = 105	% Disagree	% Agree
	Experiences of group work		
1	My experiences of formal, assessed group work have been positive.	26	57
2	Generally, the groups worked well.	23	63
3	I did not enjoy working on group assignments.	46	36
	Group processes		
4	I often assumed a leadership role.	20	56
5	Generally, I did most of the work.	40	25
6	Working in groups requires less work of myself.	61	24
7	Problems often arose when doing group work.	27	52
8	Problems that arose were solved by the group.	22	52
	Outcomes		
9	I achieved better outcomes working alone.	23	40
10	Marks awarded were generally fair.	18	58
11	Peer assessment was generally fair.	19	53
	Competencies gained		
12	I learned to negotiate with other group members	6	84
13	I learned to build positive relationships in groups	8	73
14	I learned to manage tasks effectively	13	72
15	I learned to share responsibility	9	76
16	I learned to use rational argument to persuade others	9	71
17	I learned to solve complex problems	14	57
18	I learned to resolve conflict	10	61
19	I learned to develop a shared vision for the group	12	58

Positive perceptions of group work

Quantitative data reveal that the majority of students feel positive about their group work experiences. The survey data responses (see Table 1) show 57 per cent agreement with the statement that *experiences have been positive* and 63 per cent agreement with the statement *groups worked well*. Analysis revealed that students who found the experience of working in groups to be positive were also more likely to believe that:

- the workload was fairly shared ($r = 0.56$, $p<0.01$) (see Table 2)
- they could not have achieved better outcomes when working alone ($r = 0.62$, $p<0.01$)
- that marks awarded were generally fair ($r =0.40$, $p<0.01$).

Students who felt positive were less likely to believe they held a leadership role ($\underline{r} = -0.25$, $p<0.01$) or that they did more work than other team members ($\underline{r} = -0.50$, $p<0.01$).

The majority of final year students rated themselves highly (Table 1, items 12-19) on the achievement of competencies for group work stipulated by the University (2000a).

Negative perceptions of group work

Thirty-six percent (36%) of students did not enjoy working on group assignments. Those students who did not perceive their group work experiences as positive (26%) (see Table 1) tended to:

- agree with the view that they would have achieved better outcomes working alone ($r = 0.53$, $p<0.01$) (see Table 2)
- perceive that they did most of the work ($r = 0.46$, $p<0.01$) and that the workload was not shared fairly ($r = -0.42$, $p<0.01$)
- feel disgruntled overall with the fairness of marks awarded ($r = -0.30$, $p<0.01$)
- question the fairness of the peer assessment process ($r = -0.37$, $p<0.01$).

An examination of relationships in Table 2 shows that in particular those who took on leadership roles were more likely to feel that their group work experiences had not been positive ($r = -0.25$, $p<0.01$).

Table 2. Correlations of items reflecting attitudes to group work roles and processes

N = 105	Experiences of group work positive	Groups worked well	I Did not enjoy group work	Often assumed leadership role
Experiences of group work positive	-			
Groups worked well	0.80**	-		
Did not enjoy group work	-0.61**	-0.56**	-	
Often assumed leadership role	-0.25**	-0.28**	0.23*	-
Workload was shared fairly	0.56**	0.52**	-0.42**	-0.20*
Generally I did most work	-0.50**	-0.48**	0.46**	0.35**
Achieved better outcomes working alone	-0.62**	-0.60**	0.53**	0.30**
Group work requires less work of myself	0.21*	0.13	-0.32**	-0.18
Marks awarded were fair	0.40**	0.37**	-0.30**	-0.07
Peer assessment fair	0.41**	0.48**	-0.37**	-0.22*

Note: *p<0.05, **p<0.01

QUALITATIVE ANALYSIS

Qualitative data were gathered through open ended questions asking participants to identify the best and worst aspects of their group work experience, and to suggest remedies for the worst aspects. These responses were coded, grouped and categorised as connecting themes emerged. The number of comments relating to each theme, as well as the percentage of total comments made, is provided to indicate the significance of the response.

Findings and Discussion

Best aspects of group work

The 120 written comments about the best aspects of group work fell into five main categories:

- generating ideas and sharing views
- meeting people and building friendships
- improved learning processes
- sharing of workload
- improved grades.

In addition, one student commented that the admiration from his/her peers was very satisfying.

Generating ideas and sharing views. The contribution of many different perspectives builds knowledge and understanding that working alone may not provide for many students. This has long been accepted by educators as one of the major benefits of students working collaboratively. In a group environment, new ideas are formed and shared.

The most significant category was the largest category, given the number of comments made that related to the aspect of sharing views and ideas through collaboration in group work situations (43%, 52 comments). Qualitative data, therefore, reflected the benefits of working cooperatively and collaboratively with peers, where opportunities arose to make new friends and form supportive networks in the pursuit of improved outcomes and greater academic success (Baloche 1994).

Comments from students included: *We got a broader range of knowledge. Three opinions usually made for a better assignment*. Another student indicated that there were benefits in *brainstorming and hearing others' views that [they] would never have thought of*; and others appreciated *the opportunity to learn new things from peers that [they] did not know before and gaining different perspectives.*

Another student observed that *members had excellent ideas, skills, knowledge, and motivation that brought out the best in me*. Not only was the collective knowledge improved, but also the environment was motivating as evidenced by the comment: *Working in a group motivated and inspired me to present my best work to benefit the whole group*.

Meeting people and building friendships. Meeting people and building friendships and networks (28%, 33 comments) were considered to be the second most positive aspects of group work. Comments such as *getting to know others that I probably wouldn't have met otherwise, developing good friendships* and *meeting other students to form study networks* reflect the value students placed on social aspects of university life.

Improved learning processes. Improved learning comments (16%, 19 comments) were related more to learning about group work processes than to learning about content. Such comments as *learning to be assertive, learning to become diplomatic and learning to work*

with others and compromise; *able to build my leadership skills*; *helps me in learning communications skills*; and *teaches me better teamwork* reflect this and students' appreciation of the importance of such skills.

Sharing workload. Positive views about the benefits of a shared workload comprised 10 per cent of comments (12 comments). Working with those whose standards and willingness to contribute to the task were similar made for satisfying experiences. Analysis made it apparent that choice was seen as an essential requirement for achieving a fairer workload. For example: [The best groups are] *when you can choose your own members* and *being able to choose people whose standards and outlook were similar*.

Improved grades. Only three per cent (4 comments) of the best aspect comments related specifically to actual improved learning outcomes evidenced by the achievement of high grades. While students commented on positive experiences from sharing knowledge, only a small percentage of students made specific claims regarding better learning outcomes in the form of higher marks: *Group assignments helped me get good grades and I got better results.*

Worst aspects of group work

From the 147 comments about the worst aspects of group work, the following categories emerged:

- unequal distribution of effort
- difficulties of accommodating different work schedules for meeting times
- lack of staff support.

Unequal distribution of effort. Comments by participants (59%, 86 comments) reflected the frustration of dealing with inequalities of effort among group members and the conflicts that resulted. These comments indicated that group work was viewed as an experience involving individuals offering varying levels of motivation, commitment, effort and contribution to completing assignment tasks.

Students expressed annoyance with the laziness and 'free riding' on the part of group members who were able to benefit from the compensatory effort of others. Inequality was apparent *when people [didn't] participate and [rode] on the back of others* and where groups had to deal with *free riders and loose cannons*. *Lazy group members who [allowed] others to do all the work* and who were *not pulling their weight* created an inharmonious group environment. Another student commented on how the impact of just one free rider had the power to *drag the whole group down* and lack of cooperation meant that *usually [they] left it so that one person does all the work at the last minute*.

Free riders, therefore, are individuals who fail to contribute to the activities of the group, but who benefit from the contributions of others who they believe can and will provide for task success. They often fail to attend meetings, are late or difficult to contact. Free riding is most likely to occur when one group member is capable and willing to provide for group success (Chapman & Arenson, 1993). Conversely, students who take on such leadership roles are more likely to believe that they do most of the work (Table 2).

Free riders (Table 2) and free riding are troublesome when collaborating on group work tasks. Not only does the unfair sharing of workload annoy students, but often free riders benefit from higher grades achieved by the efforts of other group members. As one student remarked: *When one person doesn't do any work but still gets the same mark as the rest of the group*, the individual is unfairly rewarded. Such sentiments were reflected in the words of another student who related an incident where: *In the worst example, two days before the*

assignment presentation the other group members still hadn't come up with a draft. I had to take a day off work to complete the whole assignment. They contributed nothing but still got 80 per cent.

In his theory of deindividualisation, Zimbardo (1996), cited by Furnham (1997), suggests that being in a large group provides people with a cloak of anonymity and diffuses personal responsibility for the consequences of one's action. Students are likely to work less efficiently when in large groups, particularly when individuals work with strangers (Furham, 1997; Johnson & and Johnson, 1991). Working in a group can, therefore, engender 'social loafing' or laziness, and the effort an individual exerts when working collectively is less than the effort an individual exerts when working alone (Chapman & Arenson, 1993).

Occasions where inequality of effort had resulted in more serious forms of conflict were related by students. Comments ranged in strength and severity from those amounting to *personality clashes* to one case where a student claimed to be the victim of *bullying* by other group members.

Other comments reflected the difficulties of dealing with differences in attitudes and motivations of full-time versus part-time students, as well as younger students with *other interests*. This required negotiation and compromise that was often unsuccessful, to the detriment of the group's progress. *Working with students who don't share the same work ethic* caused problems and created negative repercussions for group cohesion and output.

Unequal effort not reflected in marks. Despite the numerous benefits of cooperative learning, many existing assessment practices act to undermine the goals of peer learning and lead students to reject learning cooperatively (Boud et al., 1999; Gatfield, 1999; University of South Australia, 2000c; James, cited in Morris, 2001). The use in universities, for example, of norm-referenced assessment implies competition against others rather than cooperation and tends to de-emphasise the collaboration fostered in peer learning (Kohn, 1992 cited by Boud et al., 1999). In addition, the Western cultural bias toward competition and individualism can undermine collaborative efforts (Imel, 1999). Students are encouraged to maximise individual grades and achievements, and can resent others benefiting from the results of their hard work.

Participant comments suggest that frustrations with the unequal effort of group members were exacerbated by the fact that this was not reflected in the marks awarded. The desire to work individually is more likely to be preferred by students who assume leadership roles (see Table 2); and research conducted by O'Malley and Scanlon (1990) found that 75 per cent of 80 students surveyed preferred to work alone rather than work collaboratively in groups.

Difficulties of accommodating different work schedules for meeting times. Over one third, 37 per cent (55) of the comments relating to the worst aspects of group work talked about problems of negotiating times to meet as a group and the added problems of a lack of commitment to meeting on the part of some group members. Finding common times that suited all members, particularly times that accommodated both full-time and part-time students with non-university work commitments, was a considerable challenge.

Several comments reflected the frustration arising from dealing with different work and study arrangements. One participant said: *Group work generally takes a lot more time due to organising tasks, agreeing on the approach, and this is difficult for those working full-time*. Another student wrote: *Making times to meet was difficult as I work full-time and work 1 hour away from the city*. One student was annoyed at having to give up a number of weekends for work on assignments to accommodate the commitments of part-time students

during the week, saying: *My weekends were ruined because I had to go to meetings with part-time students*.

Inconsistent attendance, lack of punctuality, and the costs of additional travel were also raised as problems that detracted from group work satisfaction. These present barriers to group efficiency even before the task is tackled.

Lack of staff support. Of the 147 comments, four per cent (6) related to negative attitudes of academic staff to group work. Comments referred to students' perception that assignments were poorly designed, and that staff were unaware of the complex demands of group work.

Furthermore, students perceived that inequality of effort was being neither acknowledged nor addressed as a matter of concern by academics, and was not being reflected in the assessment process. Research participants believed that closer, ongoing monitoring of group progress was needed so that problems could be dealt with in a timely way. One comment suggested cynically that group work had not been designed to improve learning outcomes but was more *a work avoidance strategy* on the part of academics and another claimed it was a *substitute for tutorial classes* and *to mark fewer assignments*. Staff were at times perceived negatively as not caring if *work is unequal or if there is conflict* and *staff don't want to hear complaints about lazy students*.

Resolving these inequities to everyone's satisfaction is not an easy matter as alternatives have benefits and limitations (Bourner et al., 2001). Boud et al. (1999) conclude that the key concern is not compromising assessment practices for the sake of peer learning, but making assessment tasks friendly to peer learning.

Addressing Group Work Issues

A total of 104 comments from participants about how to improve group work were grouped into categories reflecting common themes. In order of frequency of comments these were:

- improving time management and communication
- better assessment practices
- increasing arbitration by staff
- more effective allocation of students to groups
- allowing choice of group members
- making group work optional
- restricting group size.

Generally, the remedies suggested by participants were aimed at overcoming the frustrating and disabling inequities they associated with formal group work.

Improving time management and communication

The most important initiatives for resolving problems were associated with communication and totalled 28 per cent (29 comments). These were related to inequities of commitment to the group and problems associated with establishing effective means of collaborating with each other. Students suggested that: *[We communicated] better with others by email or phone* and *chose tasks that [could] be performed via email as trying to get together physically [was] difficult.*

Other students realised that to an extent it was their responsibility to deal with problems themselves saying they needed to *discuss problems in the group rationally and calmly which is harder if you have too many people in the group* and *[we] need to find ways to communicate within the group to negotiate and solve differences.*

A student comment highlighted the different level of commitment between conscientious and lazy students: *It was hard to find times to meet with people, [to ensure] that they did see it as a priority, [but] all they wanted to do is pass, so they didn't need to put much effort in.*

Another student's lack of confidence in communicating was revealed as a barrier to his/her ability to deal with problems: *If only I had the courage to open up I am sure we could work things out in a better way.* This lack of confidence can manifest itself in ways that can be misunderstood by others as laziness and unwillingness to contribute.

Ten percent (10%) of participant suggestions (10 comments) referred to formal scheduling of group time in the same way as tutorials to assist with getting together, either in tutorials or during an additional hour after a tutorial to assist face-to-face collaboration.

Strategies: Time management and communication. Given the evidence of significant student frustration and conflict arising from unequal effort on group tasks and assessment, ways to counter the effects of loafing and free riding should be considered if group work experiences are to improve.

Building confidence and cooperation. Even though most students perceived that they had achieved competence in group work, qualitative data suggested that more inclusive practices need to be encouraged so that all are involved, and the confidence of less assertive students is improved. This may contribute to more equal participation and the sharing of workload. Attention must be given to explicit development and mastery of group work skills in much the same way as other areas of skill and knowledge are developed. An adequate level of competence in dealing with group tasks and processes must be achieved through the curriculum before students begin working in groups.

Scheduling group meetings. A significant number of students identified the problems associated with the management of meetings and finding a mutual time suitable for part-time and full-time students with varying work commitments to meet. There are two possible responses to this. Firstly, as students suggest, it may be possible for a set, timetabled slot to be allocated in the weekly contact timetabled hours for a course to accommodate group meetings. This has problems in that it would force students in particular tutorial groups to work together whereas the ability to choose groups is seen by students as desirable after the first year of study. Secondly, enabling students to collaborate asynchronously online during group work assignments has the potential to overcome difficulties with communication where groups cannot meet face to face.

Better assessment practices

The second greatest number of responses related to assessment and comprised 23 per cent (24) of comments overall. Comments dealt with ways to address the inequities of assessment and argued for a more accurate recording of individual effort so that this was properly acknowledged and rewarded. Students thought that those who had not made an equal contribution should not benefit from the mark achieved by the efforts of others in the group.

Students identified the need to divide tasks so that each person was assessed on their individual effort, and that assessors *should mark relative to each person's input* and another participant thought staff should *find a better way of individually allocating marks*, and that *each group member should be able to assess the other's work effort*.

One student thought that *to break the assignment into parts so that members can be given their own part* would lead to improvements in group work. Students also acknowledged the dilemma in this solution, pointing out that if the group became too divided and

individualistic, then members would be overly focused on their own component with the *final product (being) too disjointed*.

Strategies: Assignment design and assessment. One strategy to address group work problems would be to design group work assignments so they relied equally on the input of each individual for success (in contrast to disjunctive tasks). This would make it more difficult for free riders to avoid contributing and would make individuals more accountable for the consequences of work avoidance This may also assist markers in recognising individual group member's efforts and achievements in completing a task for which every member is responsible (Johnson & Johnson, 1991).

Increasing arbitration by staff

Where problems could not be solved by the group, arbitration by staff members was suggested in 15 per cent (16) of the comments. Such 'arbitration' comments referred to greater monitoring of group progress on tasks by academic staff and suggestions that students should seek advice when problems arose. For example: *Advise staff to step in if necessary; talk to staff for assistance; contact the tutor so they are aware of the situation; progress sessions (with a tutor) to check equality of workload; lecturers to intervene if there's a complaint.*

One student focused on increasing group member skills by *instruct[ing] groups on how to share responsibility*. But one student was not sure that relying on outside parties would be helpful: *It's up to us – it's part of group work to solve problems. Academic staff are not interested in solving our problems*. Another student cited the case where: *A teacher refused to give different grades although the work comparisons were obviously varied - they said it was too bad.*

Said another student: *In a work team there is a process of mediation, support and review which doesn't happen at university*; while another student observed: *There is no accountability for group members who do not want to participate.*

Strategies: Greater arbitration and monitoring. Group work is one way in which the University of South Australia attempts to prepare students for the demands of teamwork in the wider community. Qualitative comments referred to the significant differences between group work at university and teamwork in the workplace. The absence of a system of accountability for those group members who chose not to make the effort or lack of assistance for groups encountering trouble were seen by some students as deficiencies of the university model.

While suggestions for greater intervention through monitoring and arbitration have merit, it is obvious that this requires more of an academic's time to manage group activity and monitor progress. Given pressures on limited staffing resources, such intervention and arbitration may be difficult to achieve.

Moreover, intervention implies greater structure and control over learning in direct contrast to the tenets of the student-centred learning environment being promoted by the University of South Australia. Ideally, students should be encouraged to take greater responsibility for their learning and group work is one way of providing such opportunities.

It may be reasonable to argue, however, for greater academic intervention in group work in the first year of study followed by a move to the more student-centred model in the years following when group work skills have been sufficiently developed.

More effective allocation of students to groups

The category of 'allocation' contained 11 per cent (12) of comments and referred to forming groups based on part-time and full-time study modes. This was seen as a way of overcoming problems of scheduling common times to meet and that specific tasks should be allocated to individuals within the group, once again presenting the concept of the individual within the group. Comments such as: *Put people together who share similar time constraints & work commitments* and *Put people from same workload together* (e.g. working full-time) or *Put part-time students with other part-time students* were typical of the suggestions students made with regard to allocation of students to groups to bring about greater homogeneity.

Allowing choice of group members

The importance of group composition was supported in 10 per cent (10) of comments suggesting that it would be beneficial for students to have choice about group membership. One student warned *that group members should be chosen carefully* and another advised that academics *should allow students to choose their own group members*. It was recognised however that *this is difficult if you don't know anybody.*

Strategies: Group membership. Responses show the importance of students being able to choose their own group members. Presenting choice to students at first year level may not be effective in the early stages of study when students are unlikely to know enough about their colleagues to make informed choices.

However, Williams (1981), cited in Houldsworth and Mathews (2000), claims that giving students the choice of members is an important contributor to group success, arguing that when students have the opportunity to work with their friends, then social loafing is less likely to occur.

Making group work optional

Eight per cent of student responses (8 comments) suggested that group work should be optional: *Give students the option to work individually or in a group* and *Group work should be optional, especially for people working full-time*

Restricting group size

Five per cent of comments (5 comments) suggested that the number of members in a group should be carefully managed because *groups of six are too large* and effectiveness *would increase if groups were kept small.*

Johnson and Johnson (1991) point out that individual accountability can be achieved where groups are kept to a small number; 'the smaller the group the greater individual accountability could be' (p.20). Thus personal responsibility is increased. Furthermore, groups should comprise either two or four individuals and the shorter the amount of time available to complete a task, the smaller the group should be.

SUMMARY

This research has explored and revealed student experiences in formal group work settings. Such insights provide valuable information to educators in constructing, monitoring and assessing group work tasks seen as an essential part of student learning, social development and preparation for life beyond university.

The majority of respondents expressed a positive view of their group work experience and appreciated its value as part of their university learning. Such positive perceptions come from an ability, when faced with tasks, to generate ideas and different views with others.

Forming networks and friendships and to a lesser extent improved learning processes were also recognised. For some students, sharing of workload was a positive aspect.

Despite these positive aspects and perceptions of competence, this research has highlighted student concerns with aspects of formal group work processes and outcomes. The majority of concerns relate to student frustrations associated with perceived unfair assessment practices and the difficulties related to coordinating meeting times with group members.

Feedback from students was sought in order to formulate ideas aimed at correcting negative aspects of group work. Responses suggested a priority should be the consideration of an effective means of assisting groups to meet and communicate. Improved assessment practices, ongoing monitoring of progress, and the structure and composition of groups were other notable themes.

On the basis of this feedback, possible avenues to examine to overcome obstacles include more effective management of group composition and formal timetabling of group meetings. Online collaboration which alleviates the need to meet face to face offers the potential to reduce the problems of coordinating meeting times. In addition, thought needs to be given to the design of assignments and assessment practices in order to reduce the likelihood of work avoidance by some and overload for others. Strategies to assist positive group interdependence and accountability for all members are essential for achievement of fairness and equity in processes and outcomes.

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Searching for Development Education in Africa: Select Perspectives on Somalia, South Africa and Nigeria

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The important and constructive role of education in the development of postcolonial Sub-Saharan Africa is a taken-for-granted issue with different countries and communities generally expecting better livelihood possibilities through public and available educational programs. Due to recurring and continuing political and economic pressures, educational programs have been, at best, limited in advancing reliable platforms of social development for many countries in the sub-continent. This essay focuses on the three countries of Somalia, South Africa, and Nigeria, and delineates some weaknesses in education and development. The analyses presented here are intended to instigate minimally the refinement of some components of the current debate on African education and development. The paper highlights the most conspicuous problems in each case, and finally calls for the re-examining of development education in these and related contexts.

Africa, Development Education, Somalia, South Africa, Nigeria

INTRODUCTION

The positive relationship between education and development, i.e., education leading to relative notions and components of social advancement and institutional efficiency, especially in the less industrialized zones of our world, has been highlighted by both academic researchers and political leaders (Mandela, 1994; Pillay, 1994; Tilak, 1994; Fagerlind and Saha, 1985, Thompson, 1981; Nyerere,1968). In the recent and especially post-colonial histories of Somalia, South Africa, and Nigeria, education, as the engine of development, might have not responded to people's needs and expectations (Abdi, 1998; Nwagwu, 1997; Harber 1998; Saunders 1996; Soudien, 1994; Mzamane, 1990; Kallaway, 1999, 1984).

Primarily responding to pertinent conceptual and contextual exigencies, development education would, in the analysis undertaken in this paper, generally connote or speak about instructional and learning systems that deliberately seek and eventually lead to personal and community advancement through the maximum harnessing of available human and natural resources. As such, an important aim of this article is to delineate, at this crucial juncture of an Africa that is continually of "scant strategic interest to the West" (Magyar in Smither, 2001, p. 664), the state as well as the possibilities of an expansively reliable development education in three African countries. Somalia, South Africa, and Nigeria are different in their population sizes, regional locations, colonial histories, development possibilities, and current nation-state structures.

Somalia, with about seven million inhabitants, lies in East Africa and gained its independence from British and Italian colonialists in 1960. It has been under civilian rule until 1969 when the military seized power, and has been stateless since early 1991 when the still continuing civil war rendered all civic institutions, including educational programs and

structures, out of service and unusable. South Africa, on the other hand, has been under Dutch, British, and Afrikaner domination for over three-and-half centuries, and gained its independence in 1994. It is now under a political democracy, but the ravages of cruel colonization and apartheid are sustaining a cluster of previously *de jure* and now *de facto* constituted powerful schemes of inequities in socio-economic possibilities among the country's so-called 'racial groups'. South Africa's population of about 40.5 million people is more than five times that of Somalia. In the case of Nigeria, the country gained its independence from Britain in 1960, and besides being the most populous country in the continent (about 125 million inhabitants), it should also have been, primarily because of a huge oil wealth and a relatively educated populace, a potential case of African educational and social development. But that has not been the case, at least until the writing of this paper. Even with the ending of the country's successive military dictatorships and the election of the globally respected General Olusegun Obasanjo as Nigeria's 'civilian' president, the current crises in Nigerian education continue, and will probably continue in the foreseeable future.

In discussing the three countries in the context of development education, I am not undertaking a direct comparative analysis of the three case studies. Rather, I am presenting select observations on the thematically related problems of education and development in the three contexts. A legitimate skepticism that might arise, especially for Africanists, in this situation could, for example, be the relevance of discussing de-developing Somalia with no organized and official economic and political institutions, and South Africa which is seen by many as a rising star that is democratic, economically powerful and politically stable, in the same analytical forum. While I understand and welcome that and similar concerns, my own take in the case is that South Africa, despite its potential, has a number of both subjectively and objectively based educational and, therefore, development problems (Ash, 1997; Herman, 1995; Kallaway, 1999; Soudien, 1999 & 1994; Stromquist, 1999) that it could share a number of discursive and observational platforms with optimally underdeveloped Somalia. Just to give an important observational snapshot of the South African situation, one must see the painful continuities of the educational legacies of apartheid in the so-called 'farm schools' where, as Christie and Gakanagis (1989) previously pointed out, education for African children was at the mercy of white farmers. The importance of farm schools in South Africa was that in the late 1980s, 1 in 5 of black children was studying in schools located in white- owned farms, with these farmers closing schools at will (Wilson and Ramphele, 1989). In the current post-apartheid configurations of the situation and a testimony to how little things have changed in certain areas of the education terrain, Kallaway (1999, pp. 9-10) gives us these recent observations:

> In a situation where the majority of parents live in houses that belong to their employers, where they are employed by those same farmers, where the farm schools are located on land belonging to the employers, and where the farmers even provide the transport to enable the children to go to school in many cases, there is little chance of pressure, *despite all the post- apartheid and "racial democracy" pronouncements,* being able to be brought on those farmers to increase their .funding to the schools if they are not of a mind to do so. The principals of the farm schools. ..have to face the fact that they are dependent on the farmers *for all the resources they need to run the school.* In all but a very few cases, the farmers have showed a marked lack of interest in the welfare of the schools and a resistance to spending more on the farm schools (emphases added).

In terms of Nigeria, the country has been and should still be an educational powerhouse with, for example, more universities (35) than any other country in Sub-Saharan Africa (hereafter SSA), that cater to tens of thousands of students (Nwagwu, 1997). That has apparently resulted in the formation of an already large number, in African terms, of Nigerians with advanced degrees both inside and outside Nigeria. But all of that apparently

did not respond to the development needs of the country's populace. With these introductory and explanatory notes in place, I will now selectively look at the educational and development situations of the three countries.

SOMALIA: THE TOTAL ABSENCE OF DEVELOPMENT EDUCATION

If there is a present and clear case of underdevelopment and de-development partially due to lack of formal systems of learning, Somalia would be a very good example. For the past 11 years, Somalia has been without a state and without any national systems of formal schooling. With the destruction of national institutions during the 1991 civil war, tragically complemented by the *de facto* division of the country into autonomous, regionally based 'chiefdoms' (Samatar, 1991), Somalia's primary and secondary schools, specialized technical centres and the national university have all been decommissioned by the major protagonists in the conflict (Abdi, 1998). In describing the bleak educational and development actualities that Somalia's children are subjected to, in current Somalia, Abdi (1998, p. 336) writes:

> With no organized systems of learning in place now, millions of Somalia's children, young adults and adults are all at the mercy of whatever informal education "bestows" upon them. Informal education, seen in this context at what is randomly learned from the general societal situations, may sometimes, and depending on the situation, enhance social development. In Somalia's case, though, the country's situation in the last seven years or so would lead us to believe that informal education is not only destructive at the moment, it also seems to be legitimizing a host of negative consequences, and in the process, it is self- perpetuating.

With Somalia now residing in this developmentally deprived space, any discussion about development education must be preceded by the physical rehabilitation of the country's basic education system. These must be constituted along with the rebuilding of the country's whole economic, political and other social infrastructure. While the need for a situational turn-up in the education front is greatly needed in Somalia, the fact that the country's regions are still socio-politically detached from one another, does not help either the formulation or the implementation of any nationally based development education programs. Despite that difficulty, though, new thinking as well as new possibilities must not only be explored, but are actually being discussed and designed by grassroots organisations in many parts of the country. In almost all of Somalia, there have been certain attempts, some successful and some not so successful, in re-establishing new learning possibilities for Somalia's children and adult learners.

Despite the situational importance of these scattered and sometimes isolated efforts, it is clear that without full-fledged educational programs that could effectively and comprehensively re-tool Somalia's schools and specialised learning centres, the country's development prospects will, at best, be limited. Currently, for example, UNICEF (2000) estimates that about 15 per cent of the country's school-age children are in quasi-formal structures of learning, a number that Somali observers in the field dispute as highly overestimated. While my aim here is not to minimise local efforts including the opening of a number of private schools that are charging 'a manageable fee', it should still be clear that when primary school enrolment in most SSA countries is, at least, over 50 pe rcent, the possibility of 15 or so per cent of Somalia's school age children in hugely under resourced classrooms with sometimes unpaid, unsupervised and uncertified teachers does not at all bode well for the much needed reconstitution of the country's educational and development sectors.

Especially in the case of Somalia also, the social by-products of lack of education are hugely problematic. In many instances, when there is a vacuum of educational and learning opportunities, the space may be immediately filled by the Horn of Africa's new merchants of

death (or factional warlords) who, because they are more likely financially more solvent than others, would recruit many young men into their so-called 'armies' that are, in the first place, responsible for the destruction that has befallen upon the Somali people in the past 10 or so years. Here, the paradox, especially from the educational and development forum, should be clear and undoubtedly, humanistically disturbing and even frightening. When tens, if not hundreds, of thousands of potential young learners who would have constructively contributed so much to their societies are now being trained to decommission anything that hinders their "through the barrel of the gun" existence which is, by the way, now internationally known through the slogan, *haddaan qorigayga dhiibo, yaa qada isiina* (if I give up my gun, who will feed me today), the destructive nature of this (their) current informal education and the distance it pushes back any viable development prospects for the country should be, analytically and, of course, practically, conspicuous. Hence, the urgent need to reconstitute some educational possibilities that are expansively located, and that could minimally re-direct current trajectories of social development and institutional aptness for methodically de-developing Somalia.

SOUTH AFRICA: THE CHALLENGE OF EDUCATIONAL REBUILDING AND SOCIAL DEVELOPMENT

The most important component in analysing integrated development education in post-apartheid South Africa represents for me the learning difficulties as well as the endemic culture of 'non-learning' that black students have brought with them into the new system of integrated education. With the implementation of educational integration in 1992 (Lemmer, 1993), one ministry of national education has been created and important allocations have been made, through the Reconstruction and Development Program (RDP), for the socio-economic uplifting of the previously disenfranchised segments of the population (African National Congress, hereafter ANC 1994). But a fundamental and developmentally pressing question has yet to be answered: are current allocations enough, and what is the current educational situation of the previously segregated, and still underdeveloped black majority in the post-apartheid period? As is argued below, the different components of any answer to this important question would be hardly encouraging. Hence, the post-apartheid reality that despite the political triumph over apartheid, "in general. ..there is a feeling of disappointment at the apparent slowness of change and development [especially] in the field of education in this new era of multiracial and multi-party democracy" (Hartshorne, 1999, p. 105).

To get a generalised glimpse of the severity of educational problems under discussion here, let us consider some numbers: In 1990, the retention rate up to matriculation for black students was 33 per cent. And even if 10 per cent of African pupils entering school achieved matriculation, the numbers who achieved matriculation exemption (i.e., admission into universities) was as small as one in 1,000 (Kahn, cited in Lewin, 1995, p. 202). More discouragingly, 19.3 per cent (about eight million people) of those over 20 years of age had no schooling (South African Institute of Race Relations, hereafter SAIRR, *Fast Facts* No.11, 1998, p.10). With these highly disadvantaged millions overwhelmingly from the ranks of the African population, the urgency of the case for development education in the post-apartheid situation should be quite clear.

The quality as well as the possibilities of education in a given society usually correspond to the realisation of available, livelihood choices that one can attain. In the case of South Africa, the mis-education of Africans and their subsequent economic marginalisation and overall underdevelopment are, in essence, conspicuous in present life possibilities. In this regard, let me look at what may be arguably the most important indicator of economic

development, i.e., the availability of jobs or lack of them. The rate of unemployment, one of South Africa most serious problems was 39 per cent in the first half of 1996 (SAIRR, *Fast Facts* No.6, 1996, p. 3). Of the unemployed, and clearly a disturbing sign in this post-apartheid period, 47 per cent were African women, 29 per cent were African men, four per cent were white men and eight per cent were white women. When the so-called four 'racial' groups in South Africa are comparatively surveyed in the unemployment terrain, the numbers are again painfully dismal for Africans. "Africans at 38 per cent have nearly twice the unemployment rate of Coloureds at 21 per cent; more than three times the rate for Indians at 11 per cent; and nearly ten times the rate of whites at 4 per cent" (ANC, *Mayibuye,* February 1996, p. 11). Worse, a study by SAIRR shows "unemployment increasing by nearly two percentage points" in the coming years with a projected unemployment rate of 43 per cent by the year 2006 (SAIRR, *Fast Facts* No.1, 1999, p. 1).

Moreover, the problems of lack of money for the required educational expenditure are complicated in that even if the government could have attempted some bold steps towards that direction, it should be discouraged by the fear of losing what is selectively called "credibility with international financial markets." As such, with South Africa now in the thick of the neo-liberal economic paradigm (O'Meara, 1997), the sacredness of fiscal responsibility is ever too important and must be promoted as a national policy. It is in the spirit of this neo-liberal worldview that the RDP has now been replaced by a new program called Growth, Employment and Redistribution (GEAR). And despite the presence of the term 'redistribution' and the political ingenuity of its policy implications (i.e., redistributing resources that have been in the hands of few), GEAR is economically focused on reducing national budget allocations for housing, health and education (Stromquist, 1999). In justifying GEAR in a South African environment that urgently begs so much resources for development, the ANC government is quite conspicuous in its adherence to the expectations of the global capitalist economy even if the political language is still developmentally friendly. Stromquist (1999, p. 15) elaborates on this last point:

> South Africa's Deputy President Thabo Mbeki (now President) seeks to reduce the difference between RDP and GEAR stating that while RDP is the blueprint for better quality, GEAR is the vehicle to attain it. [But] a Key strategist of the ANC expressed in a private meeting that GEAR was unavoidable as the means to establish international confidence in the macroeconomic environment, as private investments are essential to growth. But macroeconomic stability and investment incentives to entrepreneurs have not yet led to jobs.

It is, of course, possible, indeed selectively pragmatic, that fiscal responsibility and/or national monetary policy would have a directional similarity with the exigencies of the inter-continental macroeconomic environment. But reducing expenditure on essential areas of social development such as education will only make the situation worse for South African's unschooled millions. If literacy rate for black South Africans is 30 per cent in contrast to 97 per cent for whites (Stromquist, 1999), one could only guess to what extent so many people are still peripheral to the post-apartheid political and economic enterprise. As such, South Africa will be facing, at least for the foreseeable future, a sizable block of educational problems that were mostly transported from the apartheid era, and that have not yet been solved, and may not be solved with current allocations and economic policy directives.

The about 20 per cent of the South African budget that is now allocated for education is not nearly enough to deal with the acute problems in the country's learning systems. That, of course, does not mean the government can get more money for education. In fact, as Murray (1993) has pointed out, to create a racial parity in educational provisions, current outlays must be more than doubled, i.e., close to 50 per cent of the national budget must be spent on education. The possibility of that happening is, *ipso facto,* far fetched, but the need is still there. And if a gradual move towards anywhere near an acceptable level of education for the

oppressed majority is to be attained, the national economy must cooperate. That is to say that high levels of gross domestic product (GDP) growth (at least 6% or higher) would be required. Unfortunately, recent South African GDP growth rates are, to say the least, dismal. In 1997, GDP growth was 1.3 per cent, and 3rd quarter growth for 1998 was -0.4 per cent in comparison with the same period in 1997 (SAIRR, *Fast Facts* No.2, 1999, p.7).

Perhaps cognizant of the immensity of educational and, therefore, current and future development problems in the post-apartheid space, and, of course, fully aware of the lack of enough government resources to ameliorate the situation, Mandela called upon white South Africans to renew their patriotism by giving something back to the less redeemed African population. Mandela called this the opening of "a new page on civic morality" (Government of South Africa, hereafter GSA, *Rainbow,* 4(12) 1998, p. 1). Also pragmatically reflecting upon this same issue, Mbeki, the current President was seemingly less patient with the development situation since the fall of apartheid. Mbeki, in effect, derides, "the level of inequality in the country by warning about the mounting black anger unless expectations were met" (GSA, *Rainbow,* 4(13), 1998, p. 1). These statements from the highest levels of South Africa political office, must pose serious observational and analytical concerns. In other words, problems of education, problems of development and, therefore, the continuing marginalization of millions who are still searching for any rewards from their struggle against colonialism and apartheid are immense, enduring and must be attended to, *le plus tôt possible.*

NIGERIA: THE RISE AND DECLINE OF THE EDUCATION SYSTEM

Nigeria has been and still is, as is said above, an educational powerhouse in Sub-Saharan Africa, but the qualitative crisis in Nigerian education has also been going on for a while now. Besides primary and secondary education, where Nigeria's educational strength lies in the African context is, perhaps higher education. The establishment of the first generation of Nigerian universities (lfe, Ahmadu Bello, University College of Ibadan later becoming Ibadan University , University of Lagos, University of Benin) took place in the early 1960s. The second generation (Calabar, Jos, Maiduguri, Sokoto, Kano, Ilorin, Port Harcourt) came into existence in the mid 1970s, while the third generation of Nigerian Institutions of higher education, generally known as federal universities of science and technology were established in early 1980s (Enaohwo, 1985).

The subsequent stages of creating these universities are apparently responsive to Nigeria's needs for trained personnel that could effectively deal not only with administrative tasks but also with complex and high level technological demands. The establishment of so many universities in such a short time in Nigeria was basically instigated by the exponential rise in primary and secondary school enrolments in the 1960s and into the 1990s. Generally, though, the state of Nigerian education in crisis has been hastened by a multitude of situations that may have served as so-called 'push-and-pull' causes for one another. As early as the late 1970s, it was clear that the quantitative increase in Nigerian education was not to be complemented by a qualitative rise as funds for higher education were, for example, cut in the 1978/79 state expenditure. In addition, the worldwide oil glut around that time, and the resulting shortage of petroleum sales which accounted for 80 per cent of Nigeria's income from exports, was seen as another important culprit for the decreased spending (Enaohwo, 1985). Nwagwu (1997) also identifies the 1980 oil glut and the accompanying critical shortages of funds as having led to decreased provisions to education at all levels. These were, of course, to be complemented by the introduction of Structural Adjustment Programs (SAPs) in to the African development terrain in the early 1980s when a reduction of public expenditure, especially on educational and other social programs, was important.

The general trend of educational expenditure decline in the African context was not limited to Nigeria. As Hayward (1991) points out, the now enduring financial crisis in SSA education started in early 1980s when between 1980-1983, spending on education fell from nearly $10 billion to $8.9 billion. In the Nigerian case, for example, in the 1984-85 fiscal year, "Obafemi Awolowo University saw its recurrent funding fall to 58 per cent of its 1980-1981." (Hayward, 1991, p. 37) It is hard to imagine, especially from both operational and qualitative implications, how a university with such drastic cuts in its yearly operations could survive; the point is that it has survived, but practically with very limited capacity in programs, research and teaching. Among the enduring economic problems that resulted from this income/export decline, which were unfortunately complemented by government corruption including outright theft and unabated grand embezzlement of public funds (see Soyinka, 1996), was a six per cent decline in GDP between 1980-1990 (Nwagwu, 1997). These realities have led to more reduction of government subvention to educational institutions where, despite "the increasing enrolment in universities, government expenditure per student fell from N3085 (N=Naira, the Nigerian currency) in the 1980-1981 academic year to N3057 in 1984-85" (Nwagwu, 1997, p. 90). This was complemented by lack of paying teachers' salaries that were in arrears for months, all collaterally worsened by other educational woes such as "poor funding, inadequate facilities, admissions and certificate racketeering, examinations malpractice, and general indiscipline" (Nwagwu, 1997).

The issue of salaries especially at the university level, where professors are either not paid on time or what they are paid is not nearly enough to cover basic expenses, exacerbated by lack of academic freedom and the absence of funding for research all represent some of the major causes of why so many of Nigeria's best and brightest students have left their homeland for greener and, sometimes, not so greener pastures elsewhere. One of the major problems for reformulating educational programs in SSA and, therefore, the lack of viably situated development education is because so many of Africa's educated cadre are leaving the continent, more or less for the same reasons that Nigerians are departing. According to Brittain (1994, p. 22), the combined forces of economic collapse and institutional corruption have forced "over 100,000 African professionals and intellectuals to flee their continent in search of better opportunities, thus bleeding their countries of the talent, education, and energy that would offer a chance of reversing the trend of de-development." And this is an Africa that needs, perhaps more than anything else, new educational reconceptualizations and reformulations well into the new century.

Many of the thousands who left Africa and who, partially based on recent political and economic upheavals, should now number hundreds of thousands would be Nigerians. This estimate is based on the high proportion of Nigerians vis-à-vis other Africans with advanced degrees who are either employed, in many cases unemployed, or underemployed in Europe and North America. More conspicuously, it is not unusual to find Nigerian academics teaching or conducting research in almost all American universities and colleges. Qualitatively representative, for example, though not necessarily of important quantitative significance, of the Nigerian Diaspora in the United States institutions of higher education are the cases of the well-known writers Chinua Achebe, author of the classic *Things Fall Apart* (1958) who is at Bard College in Annandale-on-Hudson, New York, and the Nobel Laureate in literature Wole Soyinka who is at Emory University in Atlanta, Georgia. Nigerian academics are also scattered in other countries of the world, and lately in Southern Africa with the highest concentration in newly-independent South Africa. It was, for example, a surprise to Vice-Chancellor Makhubo (1996) of the University of Swaziland, how so many senior professors from Nigeria with an international reputation and with a distinguished record of teaching and publications that were coming to her university, were

willing to work as junior lecturers, especially when they could not be hired at a higher level. This is the essence of the brain drain problem that, while it is affecting all of Africa, is apparently more central to the educational problems Nigeria is facing. Overall, therefore, the Nigeria educational situation, is, from a multitude of corners, as Cordelia Nwagwu (1997, p. 94) instructs us, in urgent need of repair and re-direction:

> There is a crisis of confidence in the ability of the [Nigerian] education system to tackle the many serious problems confronting it. Nigeria is at a crossroads where she must develop the courage [nationally and institutionally] to fight problems which range from home to school and through society to government. The firs major step is a recognition that the environment that has generated and supported the Nigerian education crisis must be changed if an operational climate that will ensure effective teaching and learning is to be achieved.

CONCLUSION

With development education, problems of general social development and other concomitant national and continental depressants sustaining themselves in one of SSA's poorest countries (Somalia), Africa's, theoretically speaking, most promising nation-state (South Africa), and the continent's most populous country with a huge potential of human and natural resources (Nigeria), there must be serious considerations of the quality as well as the direction of SSA education at the beginning of this potentially promising new millennium. While development education in the three countries is symptomatic of the current overall livelihood difficulties in SSA, the remedies, based on the observations we have encountered in this paper, would vary. In Somalia's case, the physical rehabilitation of the education system as well as almost all educational institutions is urgent; in South Africa, new re-alignments in educational expenditure and social development through bold and proactive re-distributive policies and programs are needed; and in Nigeria, new prerogatives in educational efficiency and accountability must be undertaken. When some measure of these possibilities is achieved, the results would definitely contribute to a better tomorrow for the peoples of the countries under discussion, and beyond that, undoubtedly to the wider and still developmentally bleak SSA landscape.

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The Application of Rasch Scaling to Wine Judging

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The training of judges in sport and in industry is a challenging educational problem and recent developments in educational measurement can contribute to the resolution of this problem. The results of the judging of 98 wines from one class of a prominent Australian wine show were analysed using Rasch scaling. The raw scores were out of 20, graduated in steps of half a point, giving a total of 41 different scores. It was necessary to reduce this scale to an eight point scale, making all scores below 12.5 zero and compressing the remaining scores into seven scores from one to seven with each score combining two of the raw scores. It was found that this compression process does not adversely affect the analysis. This suggests that the traditional judging process tries to apply too fine a scoring system.

Two programs were used to estimate the harshness of the judges and the level of the wines. They were the Quest program and the RUMM program. It was found that there was a good fit to the Rasch model and useful, but some conceptually different information was derived from both the Quest and the RUMM programs. It was therefore possible to put the quality levels of the wines and the harshness of the judges on the one scale and make useful observations about the harshness and consistency of each of the judges which should prove useful feedback for the training and on-going professional development of wine judges. The RUMM program in particular offers very useful feedback to judges that shows just how they are awarding their grades along the continuum.

A means of reducing the total number of wines to be tasted by each judge was explored and it was found that the Rasch scaling procedure could be used to reduce the total tasting load on judges. Comparison of the raw scores the Quest and the RUMM showed very high correlations, with evidence of a greater spread of the Quest scores than the RUMM scores.

Wine judging, Rasch scaling, Quest, RUMM, consistency

INTRODUCTION

Imagine a prestigious scholarship or prize to be judged on the quality of a single essay from several hundred candidates by a panel of judges, each assessing the performance of each candidate. What procedures could be put in place to ensure that the most worthy candidate wins the prize? Picture an Olympic Games Diving final, with a diver poised on the 10m tower and a line of judges ready to assess her performance for a possible gold medal. What safeguards can be put in place to ensure that the judging process is fair and not subject to bias of the judges? A row of 200 red wines, lagers, cheeses or olive oils stands awaiting the judgment of a panel of judges. How can the judging panel be certain that their decisions really reflect the quality of the products?

All of these situations have a number of things in common. They involve the complex process of the judgement of a single performance of each of the subjects, assessed by a number of raters. They represent situations of significant advantage to the successful candidate or producer of the

product and it behoves the judges and the organizations that they represent to make the judging process as fair, as accountable and as transparent as possible.

Thus, it is clear that the training of judges presents a challenging problem for educators that lies outside the traditional fields of primary, secondary and tertiary education. Moreover, both sport and industry demand that their judging processes should be of the highest quality, giving considerable time and effort to the training of judges, but without using the knowledge of measurement that has been developed by research workers in education during the past two decades to deal with the judging problem. This article is written for publication to advance the argument that educators should look beyond their traditional fields of pedagogy and research and recognize that educational processes are involved in many fields of endeavour outside the organizations of primary, secondary and tertiary education. The processes of education operate wherever people are learning and teaching and at every stage in their lives, and educators and educational research workers should accept the challenge of contributing their particular knowledge and expertise to the resolution of common problems.

Cronbach (1964, pp.506-511) outlined some of the problems of making judgements. Referring particularly to supervisors making ratings of their subordinates, he outlined a number of sources of error in the judgement process. The first is 'generosity error' where the rater gives very favourable reports in all but the very worst cases and therefore the reports do not discriminate well. A second problem he cited was 'ambiguity' which is associated with varying interpretations of the criteria. A third source of error that was identified was 'constant error' or 'bias.' For example, one rater may not use the extremes of a scale while another may do so. A further concern is related to 'limited information' which may be available about the individual being judged and the final problem is the 'halo effect' in which an overall opinion might obscure some serious undesirable traits. He suggested that the reliability of ratings can be improved by combining the ratings of several judges. An alternative is to keep records of the ratings of a particular judge to establish and therefore correct any errors. The use of 5 to 7-point scales was suggested as a useful strategy that directs the rater to the kinds of deviation being explored.

Wolf (1997) discussed the use of rating scales, suggesting a number of ways in which their use can be improved. These included the use of multiple raters, and the training of raters. The use of Item Response Theory (IRT) methods was also suggested as a way of assigning the values of the scale.

Over the years, there have been developed a number of systems of checks in the judging processes used to rate various products. One particularly common practice is to include several samples more than once to test the consistency of the judgement at various times during the proceedings. However, there is no system in place to allow, either for the huge numbers of tastings or assessments required or the other problems of integrity involved. In diving, the highest and lowest scores are removed from the final score to reduce the spread of scores in order to eliminate outlier judgements.

Rasch Scaling

Rasch Scaling has been used in educational measurement to overcome similar difficulties to those described above. Bond and Fox (2001) have outlined the use of Rasch model in a range of measurement problems. Central to the Rasch model is the employment of a unidimensional scale that is used to define both the performance of the students taking a test and the difficulty of the items or questions in the test. This scale is graded in logits.

In Figure 1, the logit scale is shown on the left, ranging from –3.0 to 3.0. This scale is commonly calibrated to make the average difficulty of the items 0. The performance of the students taking

the test is represented by an x and the difficulty of each of the numbered questions or items is shown on the right. In the diagram, Item 20 has a difficulty of 1.00. This means that a student whose ability is also rated at 1.00 has an equal chance of getting Item 20 right or wrong. These difficulty levels are referred to as Thurstone threshold values and involve a 50 per cent probability of attaining a score on either side of the threshold value.

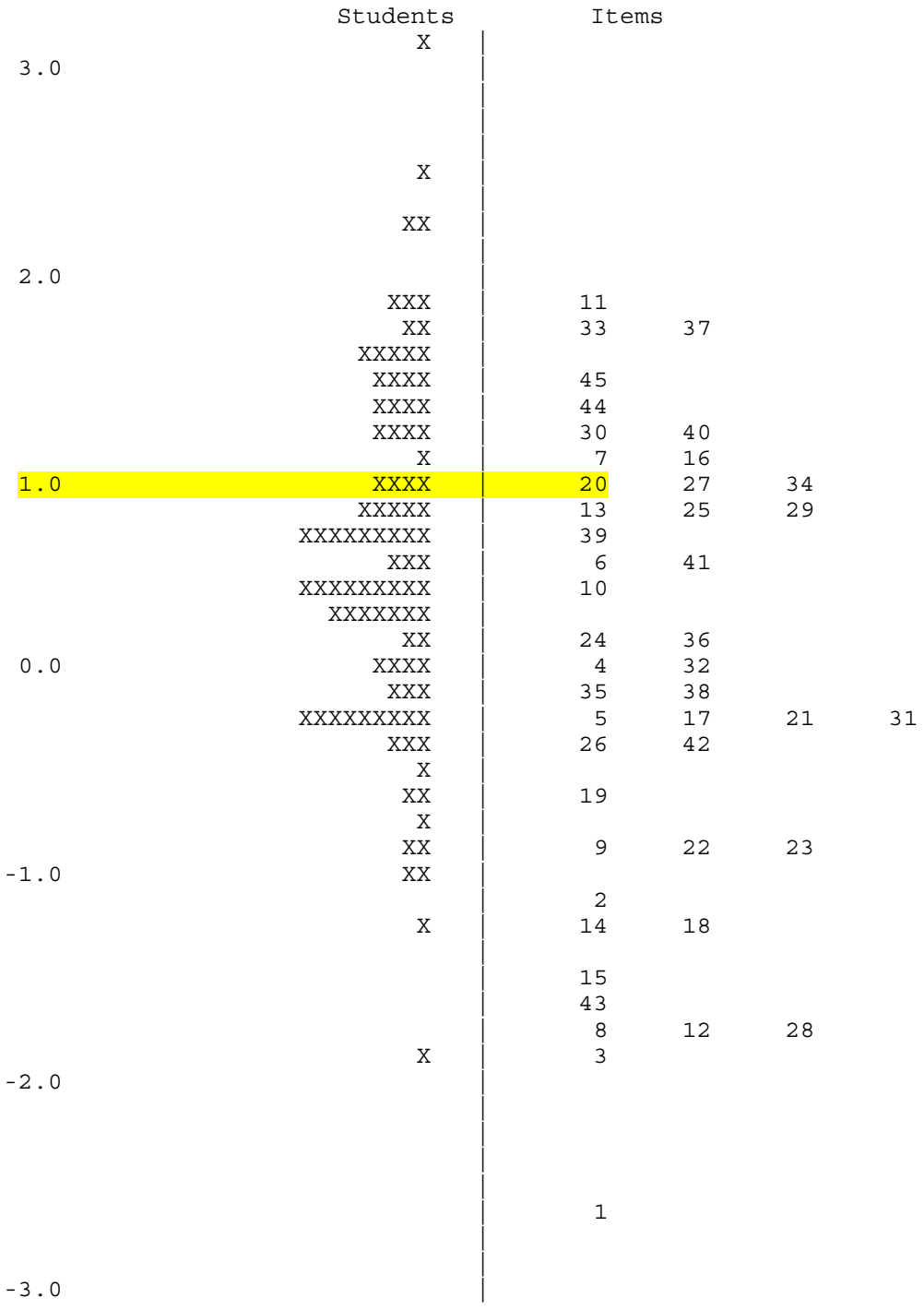

Figure 1. The performance of a group of students plotted on the same scale as the difficulty of the items or questions in the test

These ideas have been extended to incorporate more complex testing procedures, including allowing for various levels of performance in each question. Thus each item may have several

grades attached to it and students may be awarded a score in the range 0-7 for their performance on each question. This is known as the partial credit model and the difficulty of each item is subdivided into several levels. Thus for a particular item it is possible to describe the difficulty in the following manner. If an item has eight levels, 0-7, then a threshold between two of the levels is set in calibration as that scale distance between two grade scores. Thus, on a 0-7 scale, Threshold 4 would be the level at which a score of either 3 or 4 is equally likely to be awarded. Above this threshold level a 4 is more likely and below this threshold a 3 is more likely.

Once a set of test scores has been Rasch scaled, it becomes possible to use the scales to make important comparisons and connections. For example, it is possible to equate two different tests to one another and therefore make meaningful comparisons between students who take different tests. Similarly, it is possible to make comparisons between markers of essay questions so that essay scripts can be marked by a team of markers, without the need for every member of the team to mark every script. One of the important issues that can be explored using Rasch scaling is the question of judge bias.

Rasch scaling and judging

Recent advances in educational measurement techniques have allowed some very worthwhile analysis of testing. Of particular interest is the application of Rasch scaling to the area of judgment. This has been used to examine the harshness of essay markers in order to standardise the marking procedures as well as to determine the level of difficulty of questions and the abilities of the students.

Linacre discussed the use of Rasch models in the measurements of judgements. “A Rasch model analysis capitalises on the inevitable judge disagreement to construct a sample-free, objective and linear measurement continuum.” (Linacre 1999, p 244) He suggested that in a judging system involving the Rasch model, the only requirement is that there must be a connected network of each rater, each candidate and each assessment item. (Linacre 1999)

Andrich (1999) has applied such analysis to equate the marks given in essay questions. In this study the effect of question choice on the final mark was explored and a means of equating the marks in several different questions was developed. Thus the analysis was used to compare the marks of students who had selected one question that was seen to be more difficult than another. The point was made that with a minor variation in design, it would be possible to explore the effect of the raters, rather than the difficulty of the question.

Bond and Fox (2001) discussed judged sporting performances, citing particularly the work of Looney (1997) who used Rasch scaling procedures to establish Eastern Block bias in the Free Skate event the 1994 Winter Olympics.

The purpose of this analysis is to investigate the application of educational measurement techniques to some of the problems and challenges associated with the judging of wine. These problems include:

- variable judge harshness or difficulty,
- judge consistency,
- issues associated with the large numbers of entries,
- training of judges and giving appropriate feedback.

The data that have been used are from a leading wine show and a particular focus has been given to a particular class with a large numbers of entries. This was the cabernet sauvignon class. Each exhibit has been judged by six judges. These judges include three expert judges and three

associate judges. Each judge rated the wines out of a total of 20 points with steps of ½ point. Thus there were 41 possible scores that could be awarded by the judges. In practice, the range that was used by the judges was very much less than this. In the case of the cabernet sauvignon class, there were 102 exhibits, with four being withdrawn, leaving 98 wines that were judged in this class. From these wines, the lowest score was 10 and the highest was 19. It follows that in practice there were only 19 scores that were used by the judges. As well, it was found that scores at the extremes of these margins were rarely used, if at all by some individual judges.

For the award of medals, the scores of the three expert judges were totalled and so each wine was awarded a score out of a maximum of 60 points. It was assumed that the associate judges were being trained and that their scores were not included in the final tally. Thus, in the competition, there was no allowance made for the difference in the harshness of the various judges and that all of the judges were assumed to rate equally. However, it must be recognized that the judges had been trained over a long period, and consequently they might be expected to have standards that were highly similar in the assessment of wines of different types.

Problems with the Traditional System

Leniency and harshness

In the traditional system no account is taken of the leniency of the judges. For example, one judge may simply award all wines a point higher than the others. Similarly, another judge may be more harsh and so award all wines points lower than the other judges. This in itself may be seen to even out but for the sake of consistency between judges, it is desirable for judges to be given clear feedback about how they are awarding points compared with one another on a clearly defined and easy to interpret scale. The final points then can be weighted to take into account the variation in judge harshness.

Consistency

The question of judge consistency is also a difficult one. As described above, allegations have been made which suggest that in some competitions judges associated with particular business interests recognise their own products and award them high points and downgrade the points of direct competitors. (White 2000) The traditional system has no mechanism for examining the level of consistency of the individual judges. Quite apart from the concern of deliberately rating a particular product up or down, individual judges would be greatly assured by evidence of their consistency. It would be in effect a form of quality control for their work. This problem becomes worse as judges are required to judge more and more wines. The confusion and tiredness of the palate must become a concern. With the current analysis of 98 wines, the levels of concentration and memory required combined with the confusion of flavours must make this a very demanding task. Even the most experienced judge of a high level of integrity must have concerns about coping with this onerous responsibility.

THE APPLICATION OF RASCH SCALING TO WINE JUDGING

Of interest to wine judges is the question of how they award their scores for wines compared with how their colleagues do. Also of interest is how consistent is each judge. Under the proposed model, the judges take a role equivalent to items or questions and the wines have a role equivalent to the students. The analysis seeks to examine the level of each of the thresholds for each of the judges and the performances of each of the wines, placed on the same scale for easy comparison. The 41 point scale used by judges presents many problems, particularly as most of these scores are not typically used by the judges and, even within the usable range, scores on the extremes are

rarely used. Moreover, the computer programs require that a sufficient number of wines are associated with each score level for effective calibration and estimation of the threshold levels. Accordingly, the scores were compressed according to the following scale into an eight point scale prior to analysis.

Table 1. Conversion of the raw scores to an 8 point scale

Score awarded by judge /20	Converted to 8 point scale	Frequency (Total 588 = 6 x 98)
≤ 12.5	0	18
13, 13.5	1	41
14,14.5	2	106
15,15.5	3	186
16,16.5	4	135
17,17.5	5	73
18, 18.5	6	25
19, 19.5	7	4

It is readily seen that this scale compresses the scores at the lower end but retains most of the sensitivity at the upper end where the scores tend to be crowded and where greater discrimination is required. These transformed scores can then be analysed using two Rasch analysis programs. The two programs employed are the Quest (Adams and Khoo, 1993) and RUMM (Andrich et al. 2000) computer programs that tackle the problem of estimation of parameters in different ways. Moreover, these two programs present the user with somewhat different information on the results of analysis. Each supplies different information on the scaling process and these presentations are largely complementary in nature.

Figure 2 shows the frequency histogram of the scores after they had been transformed to the 0-7 scale. Of particular importance is the bell-shaped curve reflecting an essentially normal distribution of the scores.

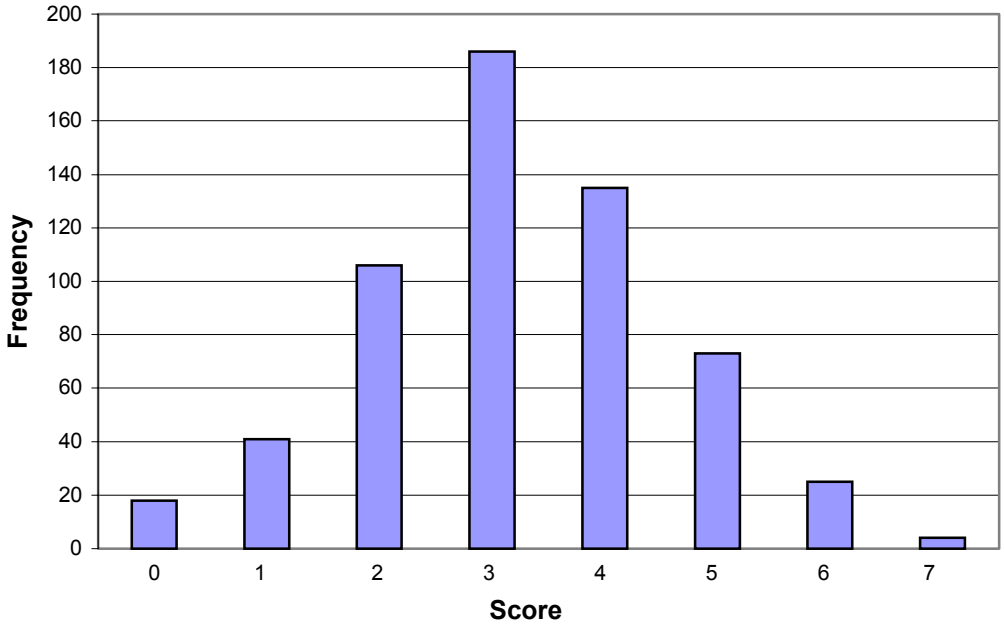

Figure 2. Frequency histogram of cabernet sauvignon data

The initial focus was on the cabernet sauvignon class, simply because this was the class with the largest number of entries. The first program to be used was the Quest program that estimated the performance of the wines and the harshness of the judges using a joint marginal maximum

likelihood estimation procedure, with the partial credit model. (Adams and Khoo 1993) This procedure requires a generally normal distribution of scores, which is true in this case, as illustrated in Figure 2. This program can be applied to a scale calibrated in a situation such as is presented by the judging of a class of wines. This analysis can be carried out in a number of ways so that its application can be explored.

The first analysis was to examine the scale calibration with all six judges, both experts and associates. In this analysis, Item 1 was Judge A1, Item 2 was Judge A2 and Item 3 was Judge A3. These were the associate judges. Item 4 was Judge C, Item 5, Judge B and Item 6 was Judge P.

In the situation of calibrating a scale for a group of wines, the wines are the students and the items become the judges. It thus becomes possible to rate the performance of each wine, the harshness of each of the judges by identifying where on the scale their scores lie and the consistency of the judges in scaling on a unidimensional scale.

Scale calibration

The Cabernet Sauvignon data were first analysed using the Quest analysis program using a partial credit model. Figure 3 shows the single scale used to rate both the performance of the wines themselves and the harshness of the judges. On the left, each of the wines is represented by x and it can be seen that the display indicates a well-shaped bell-like curve as would be expected with a normal distribution. On the right are displayed the thresholds in the scale levels for the various judges and between the eight different score levels. These thresholds are the points along the difficulty scale at which the individual judge selects the next highest score. For example, 1.1 is the level above which Judge 1would award 1 and not 0. Similarly 6.4 is the level at which Judge 6 would is equally likely to award 4 or a 3. Each threshold level is then the changeover scale level for each of the boundaries between the eight possible scores. These have been shaded to allow for the ready identification of individual judges. Note the differences in scale distance between threshold levels for different judges. As well as the individual thresholds on the right of the diagram the overall harshness of each of the judges is plotted.

An estimate of the consistency of each of the judges can be obtained using the infit mean square diagram, shown in Figure 4. In this diagram, it is desirable for the values estimating the degree of fit of the judges to the unidimensional scale to be within the dashed lines on either side. The ideal is 1. Deviation to the right indicates that the particular judge has been inconsistent, perhaps by awarding a wine with a low score when the other judges have awarded a high score. It can readily be seen that Judge A1 has been the most inconsistent, although this judge is within the acceptable limits indicated by the dotted vertical line. Deviation to the left indicates a high degree of consistency. This is particularly the case for Judge B, who is so consistent with the rest of the group nothing much new is being added by his opinion. What is very clear here is that the experienced judges C, B and P all show very strong consistency, while the associate judges A1, A2 and A3 are tending towards a lesser degree of consistency. This would be very useful feed back for inexperienced judges. The actual values of the infit mean squares for each judge are given, along with the discrimination indices for each judge shown in Table 2. The judges are considered to be items in normal test and item analyses.

In order to summarise these results, it is noted that the judging process does fit the Rasch model well and that the wines and the judge harshness can be placed on a single scale which enables estimates to be made of the performance of each of the wines and the harshness of each of the judges. Further, it is possible to examine the consistency of each of the judges. What is particularly noticeable is the consistency of the experienced judges compared with the associate judges in this analysis.

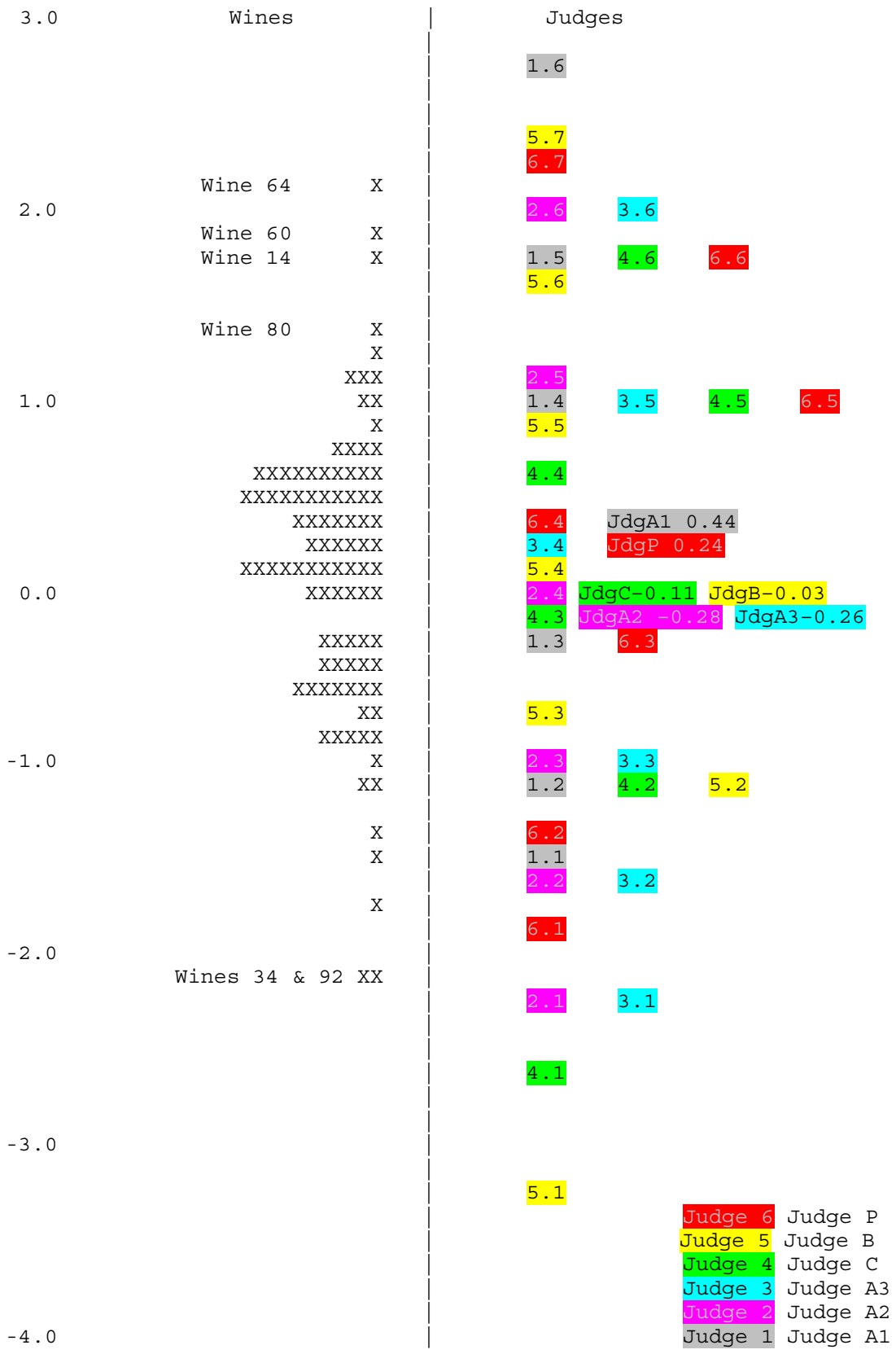

Figure 3. The performance of the wines and the thresholds of the judges, plotted on the same scale

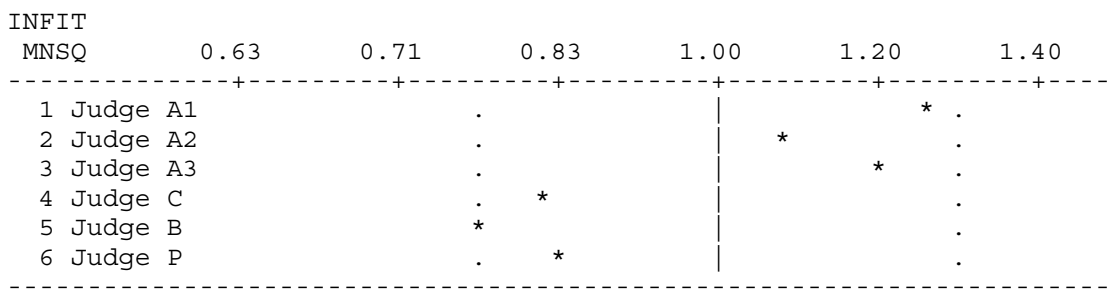

Figure 4. Infit mean square data for each judge

Table 2. The Infit Mean Square values and discriminations for each of the judges

Item	Judge	Infit MNSQ	Discrimination
Item 1	Judge A1	1.25	0.50
Item 2	Judge A2	1.08	0.59
Item 3	Judge A3	1.08	0.56
Item 4	Judge C	0.82	0.73
Item 5	Judge B	0.76	0.77
Item 6	Judge P	0.84	0.73

This is further enhanced with the same data being analysed using only the expert judges' ratings. In this case, only the expert judges' scores were analysed. The results are displayed in Figure 5 and the results of the infit mean square for this analysis are shown in Figure 6. The infit mean square values are also shown in Table 3. What is clear from Figure 5 is that the various thresholds from each of the judges are well spaced out. What is especially noticeable is the measure of consistency given by the infit mean square display in Figure 6, which shows all of the experienced judges with results close to the ideal value of 1, reflecting excellent consistency. The infit mean square values and the discriminations for the expert judges alone are shown in Table 3.

Table 3. The Infit Mean Square values and discriminations for the expert judges

Item	Judge	Infit MNSQ	Discrimination
Item 1	Judge C	0.96	0.82
Item 2	Judge B	0.97	0.81
Item 3	Judge P	0.99	0.81

The consistency of the performances of these three judges is abundantly clear and well justifies the use of their results only in the final totals when the variability on fit and consistency for the other three associate judges is taken into consideration.

The results for the wines – The case estimates

The results for each of the judges are brought together to estimate the performance of each of the wines. These are the results of the combination of the measures given by each of the three expert judges that take into account their consistent differences in harshness.

Table 4 shows the top 10 wines in order of their scores, both using the expert total score and the calculated score using the scaling system. The totals have been converted to a whole number by multiplying by two. The expert raw score is the sum of the converted scores of the expert judges on the scale of 0-7 as described above. The maximum score is the maximum total score awarded by the judges in the sample. It is noted that the order is unchanged using the expert rankings. In the all judge raw scores, the maximum awarded score was 38 and not 42. The inclusion of the associate judges in the Rasch scaling process has led, not surprisingly, to some slight alteration of

the order of the top 10 wines. Wines 80 and 60 received different total scores from all judges, but the process of transforming these scores into the 0-7 scale has given them the same value.

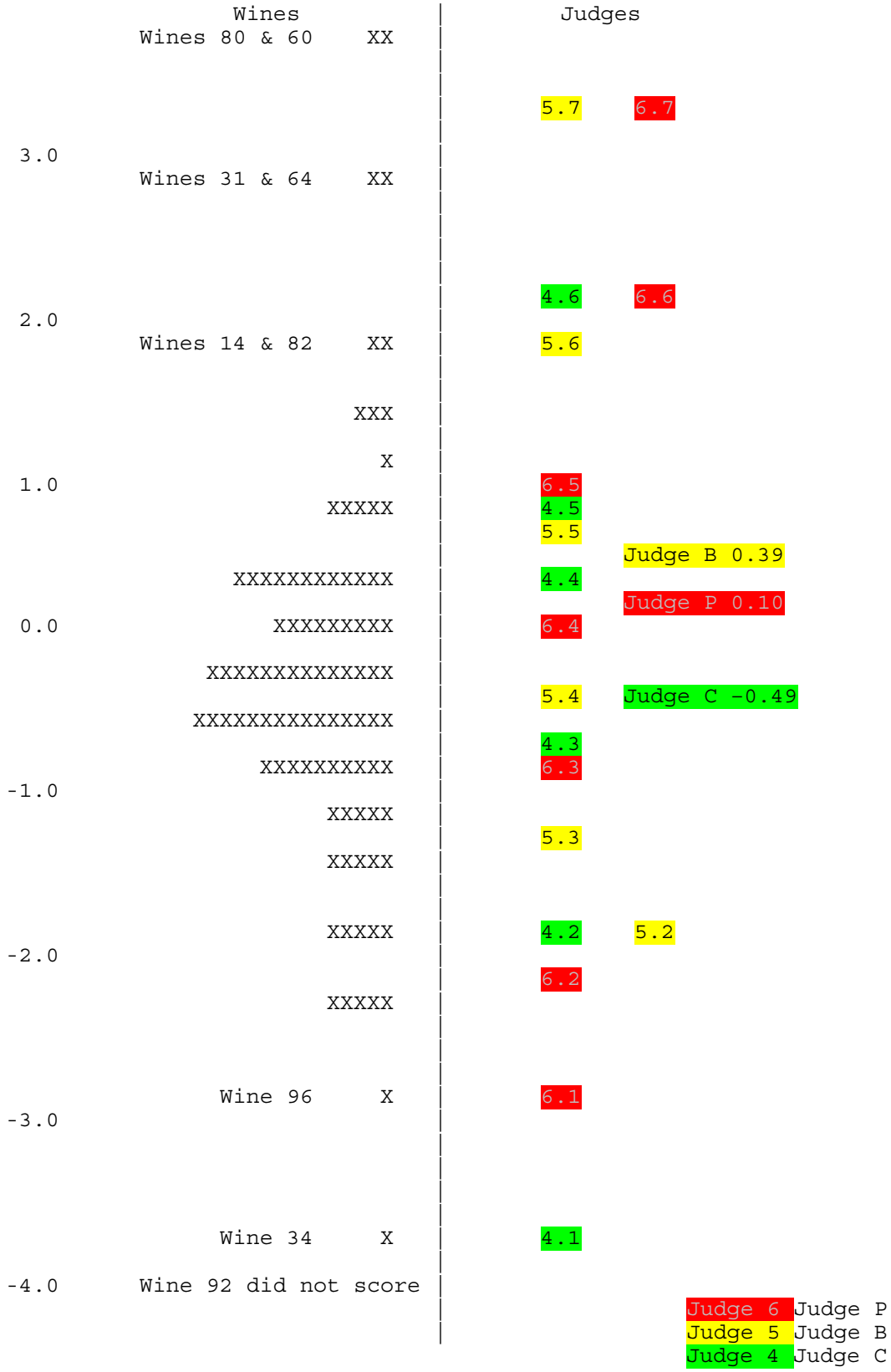

Figure 5. The wines and scores for the experienced judges only

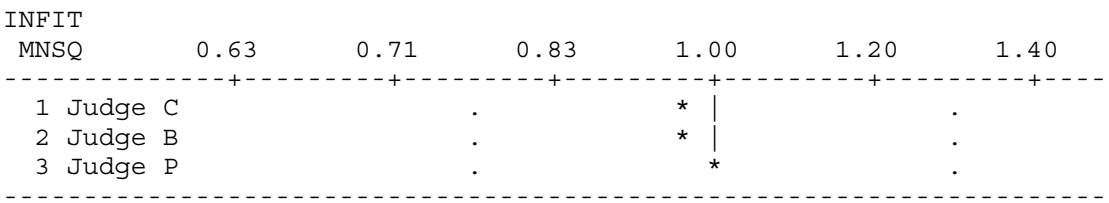

Figure 6. The infit mean square values for the expert judges alone

Table 4. The Ratings of the top 10 wines using the various rating systems

Wine ID Code	All judge total 240	Expert total 120	All judge raw score	All judge maximum score on a scale 0-7	Expert raw score	Expert maximum score on a scale 0-7	All judge estimate using Rasch scaling	Expert estimate using Rasch scaling
80	205	112	29	38	18	19	1.37	3.70
60	211	111	32	38	18	19	1.86	3.70
31	204	111	27	38	17	19	1.10	2.87
64	215	111	33	38	17	19	2.05	2.87
14	210	106	31	38	15	19	1.68	1.83
82	199	105	27	38	15	19	1.10	1.83
41	201	105	26	38	14	19	0.96	1.42
61	197	105	24	38	14	19	0.70	1.42
A6	197	102	26	38	14	19	0.96	1.42
94	203	102	27	38	13	19	1.10	1.06

The fit of the wines

The two ways in which Quest reports on the fit of items and persons, or in this case judges and wines are the infit mean square and the outfit mean square statistics. The infit mean square statistic tends to be used to investigate the fit of the items, in this case the judges, because it is calculated giving more weight to those wines closer on the scale to the judge than those further away. This is because those wines closer on the continuum to the judge provide more sensitive information. On the other hand, the outfit mean square statistic is not weighted and so is more affected by outlying scores. Just as the infit mean square statistic indicates when an item, in this case the judge, is being inconsistent, it can also happen that an individual wine may be judged inconsistently by the group of judges, where for some reason, there may be some disagreement about the individual wine. The outfit statistics indicate when there is a significant disagreement between judges and so is a reflection of outlying scores. In analysis of the scores of all judges, only five wines seemed to have some level of disagreement associated with them. The fit statistics for these five wines are shown in Table 5. In this table, the outlying scores are shown in bold.

There seem to be two reasons why these few wines are tending not to fit. In each case there is one score that seems very different from the others. In most cases, it is one of the inexperienced judges who seems to be at odds with the others. It is worth noting, however, that in two cases, wine 48 and wine 68, it is one of the experts who disagrees. In each case there has been an identified fault with the wine not picked by one or more of the others. Particularly interesting in this regard is the identification of the presence of volatile acidity (VA) in wine 48. The threshold of sensitivity to VA is said to vary greatly for different individuals. Table 6 shows the areas of disagreement for the expert judges, with the outliers shown in bold. There were only three wines out of the total of 98 and it can be seen that in each case there seems to be some wine fault at the heart of the problem.

Table 5. The wines that do not fit into the Rasch model using all judges' scores

Wine ID	Estimate	INFIT MNSQ	OUTFIT MNSQ	INFIT t	OUTFIT t	Judges' scores, associates row 1 experts row 2	Judge P's comments & score
19	-0.39	3.7	3.86	2.89	2.54	12.5, 16.5, **18**, 13, 13, 16	some cedar and earth, quite tannic full flavour (16)
31	1.1	2.97	3.23	2.66	2.39	**12.5**, 17.5, 16.5, 18.5, 18.5, 18.5	elegant fully ripened, well-composed, lingering tannins (18.5)
68	0.03	3.47	3.49	2.63	2.29	16, 13, 15.5, **18.5**, 14, 15	bitter astringent callow (15)
72	-0.25	3.2	3.37	2.47	2.23	12, **18**, 16, 15, 13,15	a bitter taint, 2nd bottle, some ripe fruit under (15)
48	0.43	2.81	2.58	2.28	1.77	16, 17, 17, 15, 17, **12**	VA aldehyde (volatile acidity) (12)

This procedure could also be used to identify those wines that may be positively or negatively affected by a judge of questionable integrity, although there is no evidence of any lack of integrity in any of the judges in this analysis.

Table 6. The wines that do not fit into the Rasch model using expert judges' scores

Wine ID	Estimate	INFIT MNSQ	OUTFIT MNSQ	INFIT t	OUTFIT t	Expert judges' scores C, B, P	Judge P's comments & score
A9	0.14	5.58	6.19	3.22	2.91	14, **19**, 14.5	filled with oak and under-fruited (14.5)
68	0.14	4.81	4.78	2.9	2.44	**18**, 14, 15	bitter, astringent, callow (15)
48	-0.76	5.05	4.95	2.79	2.39	15, **17**, 12	VA aldehyde (volatile acidity) (12)

A REDUCTION OF THE TOTAL NUMBER OF TASTINGS USING RASCH SCALING

The Cabernet Sauvignon class required 98 tastings, which must be a difficult and confusing task, even for the most experienced and conscientious judge. In the marking of essays, it has been possible to use the single scale established by the Rasch scaling process to connect the results of several markers and thereby take away the need for every marker to mark every script. Given the good fit of the Rasch model for the results of the wine judging, it follows that similar results could be obtained for the wines, in situations where there are experienced and well-trained judges, whose results fit the Rasch model. Accordingly, in this post hoc analysis of the data, each of the wines was assigned a random number and then they were ordered according to these random numbers. The wines were then divided into three groups, each of 32 wines, with extras, as shown in Table 7. The scores assigned by only two judges for each of the three groups were then analysed and the scores assigned by the third judge were ignored.

Thus, it was possible to assign randomly the wines as if they had been judged by only two instead of three judges, apart from the last two wines judged by all. It can readily be seen that instead of each judge judging 98 wines, they would only have been required to judge 66 wines. In this way it is possible to set up an assessment plan in which every judge rates at least some of the wines with each of the other judges and so it is possible to compare each of the judges with the others and

thus establish the harshness rating for each of them. An alternative process of dividing the wines up was also explored. In this second process, once again, each wine was assigned a random number and the scores for all judges for one quarter of the wines were included, two judges for the next quarter and so on as shown in Table 8. The important question that then arises is whether this reduced judging process can produce reliable results when compared to the complete process.

Table 7. The allocation of the wines to judging teams, with wines divided into three groups, with two extra wines

Wine group	Judges
Group 1 (wines 1-32 in list)	C, B
Group 2 (wines33-64 in list)	B,P
Group 3 (wines 65-96 in list)	C,P
Group 4 (wines 97 & 98 in list)	C, B, P

Table 8. The allocation of the wines to judging teams, with wines divided into four groups

Wine group	Judges
1-26 (first quarter + 2)	Judges C, B & P
27-50	Judges C & B
51-74	Judges B & P
75-98	Judges C & P

Table 9. The top 10 wines and their scores using various judge grouping

Wine ID	All expert Score	All expert raw score	All expert estimate	Wine ID	3/4 expert estimate	Wine ID	2/3 expert estimate
80	112	18	3.7	80	Perfect	80	3.97
60	111	18	3.7	60	Perfect	60	3.26
31	111	17	2.87	31	Perfect	64	3.26
64	111	17	2.87	64	Perfect	31	3.15
14	106	15	1.83	14	2.47	14	2.72
82	105	15	1.83	82	2.44	82	2.45
41	105	14	1.42	41	2.47	61	2.24
61	105	14	1.42	84	2.47	71	1.75
A6	102	14	1.42	A6	2.35	41	1.75
94	102	13	1.06	68	1.76	49	1.75

Table 9 shows the estimates of each of the wines under various judging systems, using only the expert scores. The second column gives the experts' total score for each of the wines in rank order. The third column gives the experts' total raw score (on the eight point scale) and column 4 gives the performance estimates of each of the wines using the Rasch scaled score for the expert judges as discussed earlier. The remaining two sets of data show the estimates achieved using the reduced data. It can be seen readily that the groups of wines selected for the top 10 wines are consistent and it certainly seems to be a viable method for, at the very least, creating a short list for the final selection in any competition.

SUMMARY OF THE QUEST ANALYSIS

Thus it has been shown that the Quest program can be used to place the performance estimates of the wines and the harshness levels of the judges on a single Rasch scale. Moreover, this scale can be used to examine the consistency of each of the judges and provide valuable feedback for each judge. It can also be seen that this may prove to be of value for judge training purposes. As well, it has been shown that the Rasch scaling procedure can be used to reduce the total numbers of wines tasted by each individual judge. At the very least this would enable a reliable selection of a short-list of finalists.

In summary, the scores from each judge out of a possible 20 points have been compressed into an eight point scale and these compressed score have been shown to fit the Rasch model well. This has allowed a ready comparison of the judges, both in terms of their harshness and their consistency. The analysis of these results provides excellent feedback for the training of the novice judge. Thus the Rasch scaling system provides a ready means for the analysis of such results.

Moreover, it has been found that the Rasch scaling system, with its means of estimating the harshness of the judges and linking the scores of the judges with one another through common wines, has provided a procedure that can be used to reduce the number of wines needed to be tasted by each judge.

THE RUMM PROGRAM ANALYSIS

Analysis of the judges

An alternative means of estimating the Rasch scale scores is the RUMM program (Andrich et al. 2000), which uses a pairwise conditional estimation procedure. The data were analysed using the RUMM program and it was found that there was good fit of the data to the model. This analysis allows for the provision of some valuable feedback of the judgment process. The item characteristic curve shows the eight point score against the location of the wines on the logit scale. The graph also shows group mean scores. The wines are divided into groups, in this case eight, and the means of the wine locations and the expected scores are calculated. These group mean points are represented as the dots on the graph of expected score against wine location. The idealised curve according to the Rasch model is plotted as well and a simple representation of how well the judges conform to the model is given by how closely the points lie to the curve. In addition, the residual and chi square statistics provided give an indication of the consistency of the particular judge. The RUMM analysis also provides category probability curves. In these curves the probability of a particular judge awarding each level from 0 – 7 is plotted against the Rasch scaled logit score. Clearly, in this graph, the ideal is to have each level being the most likely score awarded in order across the range, with each grade being the most dominant score for a section of the logit range. If the graph of a particular judge does not do this, it may reflect inconsistency or that some scores are under-used.

Figure 7 shows the item characteristic curve for Judge A1. The closeness of the plotted points to the curve reflects the closeness of the fit of the judge to the model. It can be readily seen that Judge A1, while conforming well to the model in the middle wine locations, is significantly off the curve in the lower and particularly the higher wine locations. In other words, Judge A1 is unreliable at the extremes of the scale. A low slope of the curve suggests low levels of discrimination. The large positive value of the residual and the small chi square probability score are indicative of the inconsistency of this judge. The low chi square probability reflects a large chi square statistic (14.81) which in turn reflects significant deviation from the model as evidenced in the wide spread of the points around the idealised item characteristic curve.

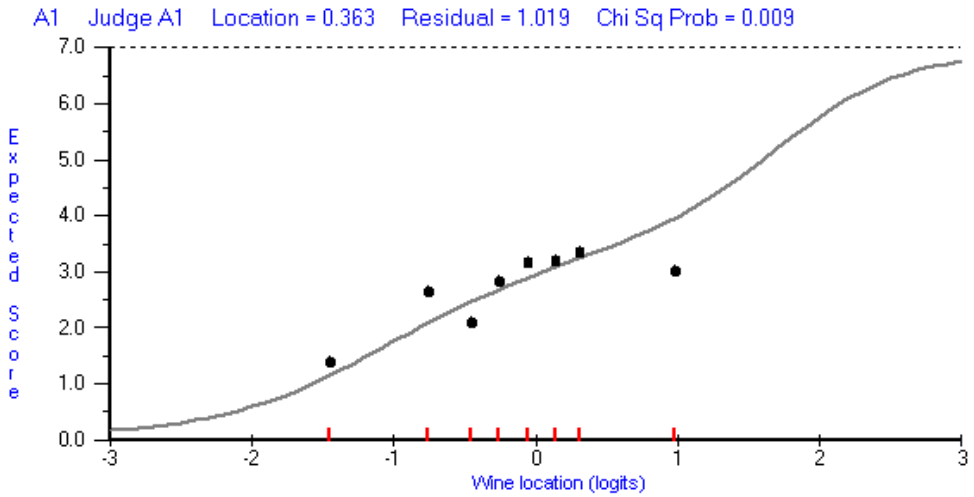

Figure 7. Item characteristic curve for Judge A1

These findings are well illustrated by the category probability curves for Judge A1 shown in Figure 8. It can readily be seen that a score of 1 or 2 is quite unlikely, with 0 or 3 dominating the logit range between –3 and 0.5. Similarly, a score of 5 or 6 seems very unlikely, with the scores of 4 and 7 dominating the upper logit range as shown in the item characteristic curve in Figure 7. These figures demonstrate that Judge A1 is not utilising the range as effectively as might be done and is not discriminating sufficiently well.

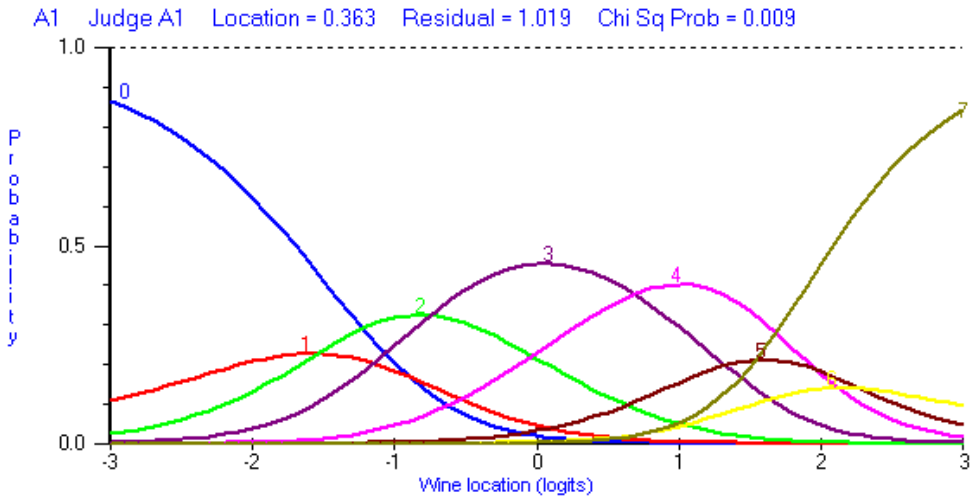

Figure 8. Category Probability Curve for Judge A1

The item characteristic curve shown in Figure 9 for Judge A2 shows more consistency than shown for Judge A1. The lower positive residual and the higher chi square probability are evidence of this. It can be noticed in Figure 9 that the plotted points lie much closer to the idealised curve, which is reflected in the high chi square probability. This tendency towards more consistency was reflected in the Quest program as well. The category probability curves in Figure 10 show a more consistent awarding of scores than Judge A1, with only a score of one being unlikely compared with the other scores.

Figure 11 shows the Item Characteristic Curve for Judge A3. As in the analysis using the Quest program, this analysis reflects moderate inconsistency from this judge with the relatively high

positive residual. However, like Judge A2, the plotted points lie close to the idealised curve leading to the higher chi square probability.

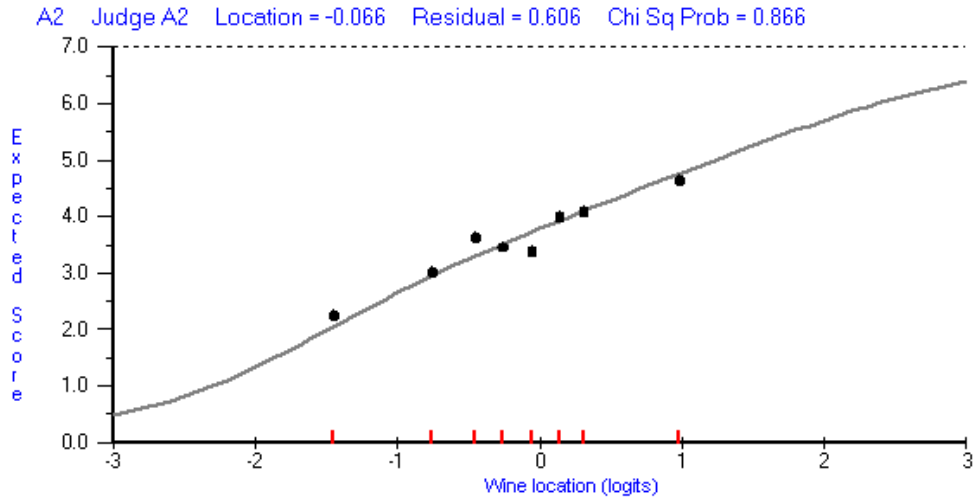

Figure 9. Item characteristic curve for Judge A2

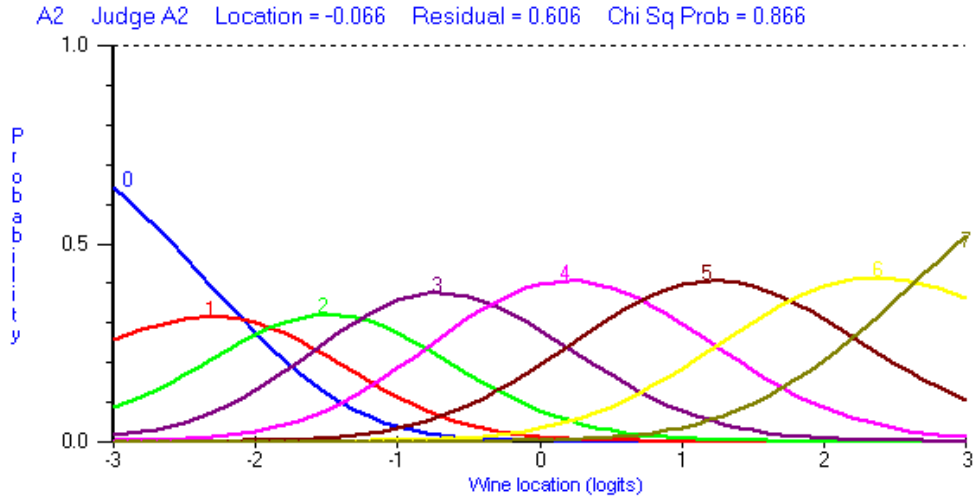

Figure 10. Category Probability Curve for Judge A2

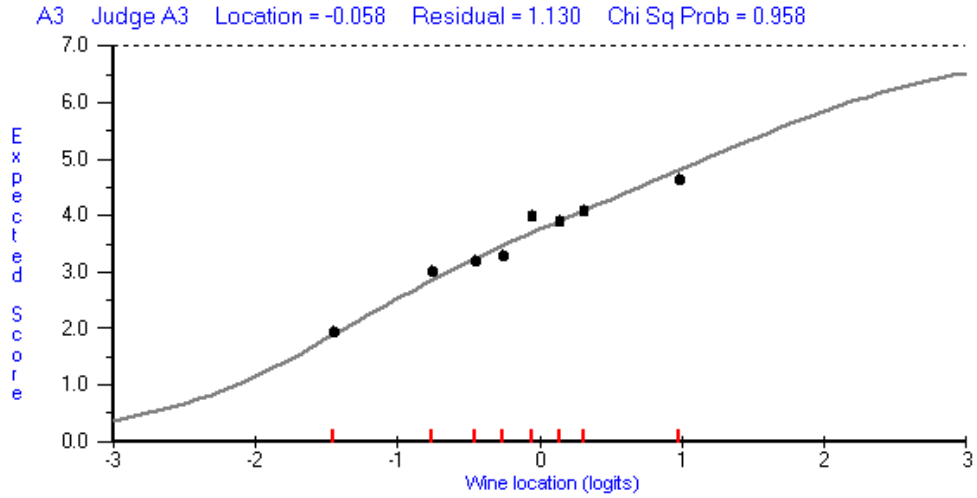

Figure 11. Item Characteristic Curve for Judge A3

The category probability curves shown in Figure 12 reflect a relatively even distribution of each score across the range, apart from a score of 1 which appears to have less likelihood across the range than scores of 0 or 2.

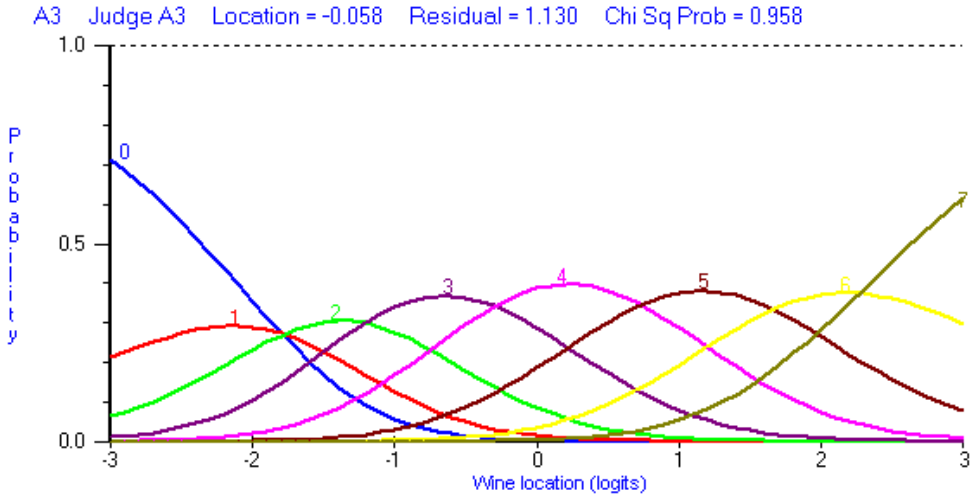

Figure 12. Category Probability Curves for Judge A3

Figure 13 shows the item characteristic curve for Judge C, one of the expert judges. The low value of the residual is immediately obvious and this is evidence of the greater level of consistency shown by this judge. This is also reflected in the category probability curves shown in Figure 14, which show a relatively even spread of scores across the range, although the score of 4 seems to be under-utilised, as does a score of 0. The slightly steeper slope reflects greater discrimination.

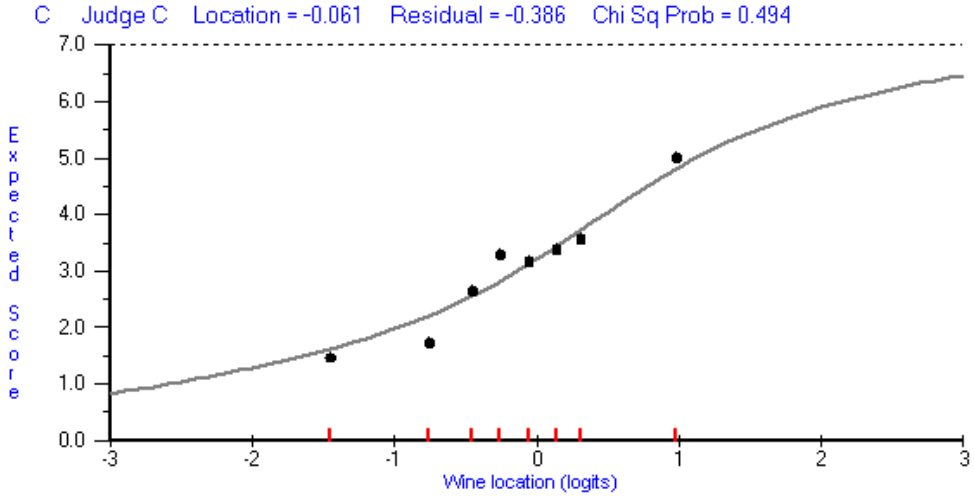

Figure 13. Item Characteristic Curve for Judge C

Figure 15 shows the item characteristic curve for Judge B, once again an expert judge. The consistency of this judge is shown in the low value of the residual, the closeness of the plotted points and the high value of the chi square probability. Similarly the steeper slope indicates good discrimination.

Figure 16 shows well the very even distribution of scores assigned by Judge B. Each of the scores is spread evenly across the range and this shows clearly the consistent awarding of scores.

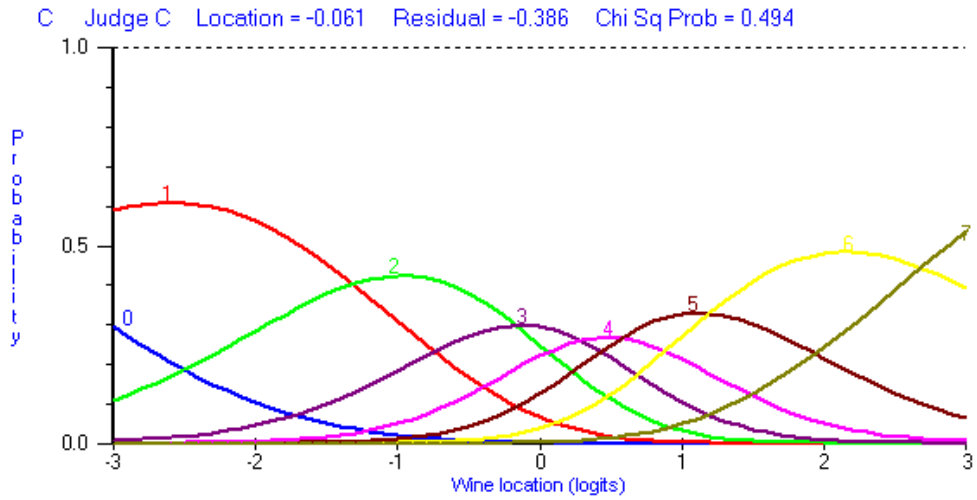

Figure 14. Category Probability Curves for Judge C

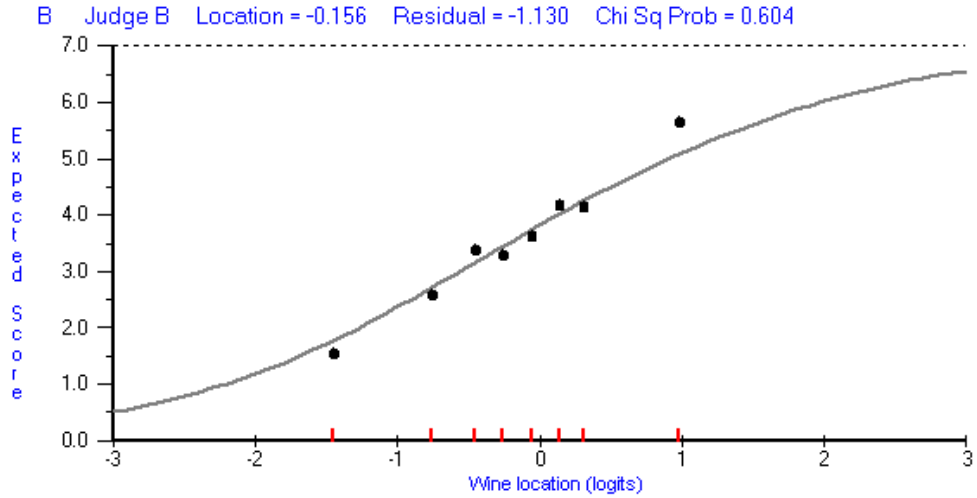

Figure 15. Item Characteristic Curve for Judge B

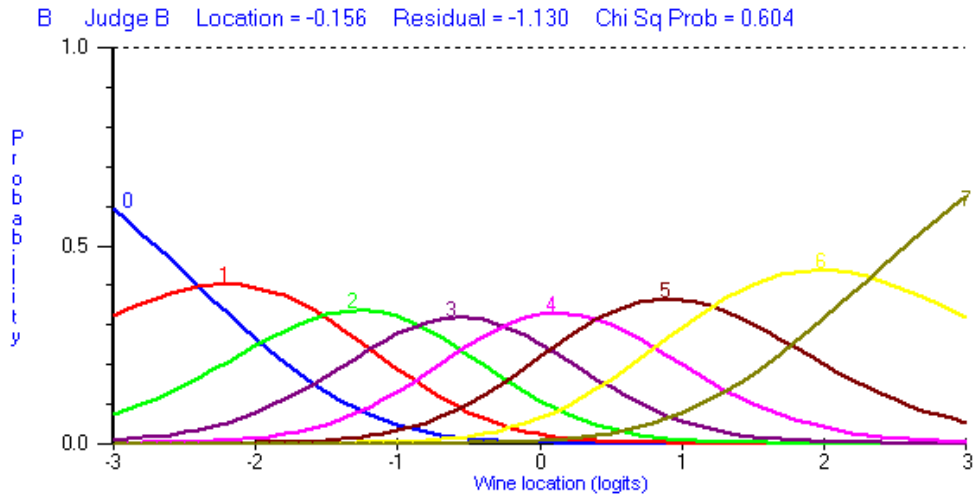

Figure 16. Category Probability Curves for Judge B

As has been shown for Judges C and B, Judge P shows consistency, both in the small spread of points around the idealised curve (and hence the high chi square probability) and in the low

residual score as shown in Figure 17. As for both the other expert judges, the steeper slope indicates good discrimination. The probability characteristic curves are shown in Figure 18.

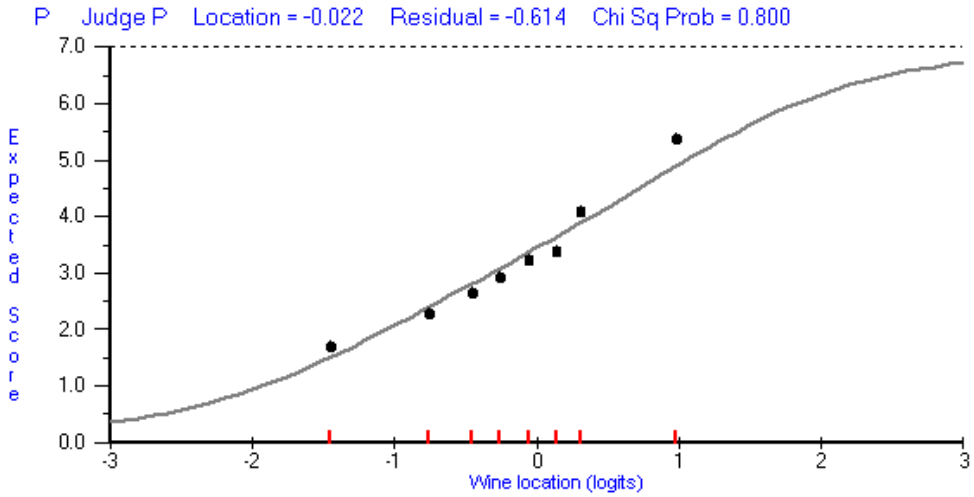

Figure 17. Item Characteristic Curve for Judge P

Likewise, Judge P shows an even distribution of scores across the range, with the possible under-representation of a score of 6, with a score of 7 becoming more likely beyond the logit score of 1.6.

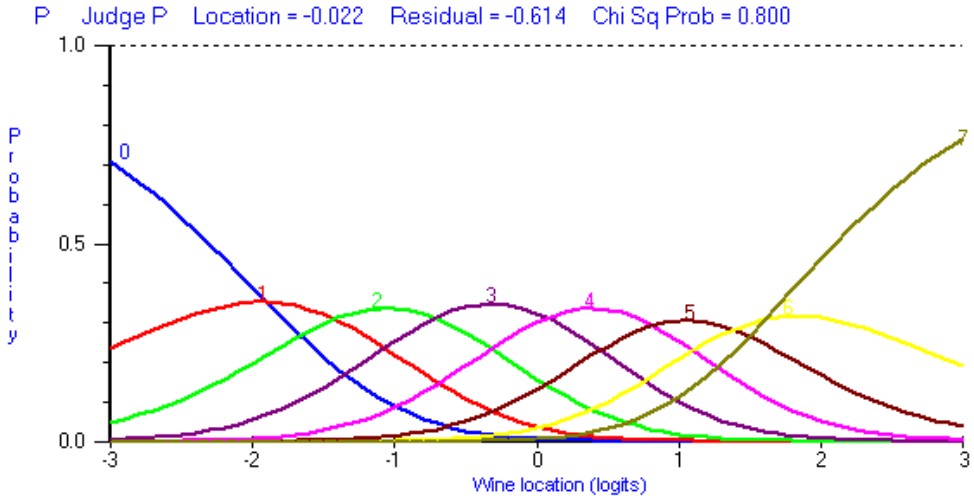

Figure 18. Category Probability Scores for Judge P

Analysis of the Wines

Like the Quest program, it is possible to analyse the fit of the wines and see if there are any disagreements between the judges. The program identifies those judges for whom the residuals are above 2 or below –2. In the analysis using all judges, no wines were found to have residuals above 2, although as in the Quest analysis wines 48, 72, 68, 31 and 19 approached this mark. The program did identify that a few wines had a fit that was better than expected. These were six wines where there was very little variation between the judges. It is interesting to note the comments of Judge P for some of these wines: “clean and quite nice berry fruit”, “light style OK,”, “oak far too charry”, “nice light going nowhere”, “rosé”, “savoury tart.” It is not surprising, then, that the judges found very strong agreement for these wines. A similar procedure was undertaken using the expert scores and interestingly, as well as those wines discussed above the

other group of wines on which the experts seemed to agree strongly were the very top wines that were awarded gold medals, underlining the effect of the considerable experience and training of these judges.

The Item Map

The RUMM program produces an Item and Person map as well, which in this case is interpreted as a judge and wine map. As in the Quest program, this shows the judges and the wines plotted on a single logit scale. The RUMM program produces as well an overall item location; in this case judge location and these have been added to the map shown in Figure 19. What is immediately clear from this is the unnecessary harshness of Judge A1 whose location is well above the other judges. It could be argued as well that Judge B is a little more lenient than the others. This is shown more clearly in Figure 20, in which the locations of each of the judges are plotted on a vertical scale. The outlying nature of Judge A1 is readily apparent.

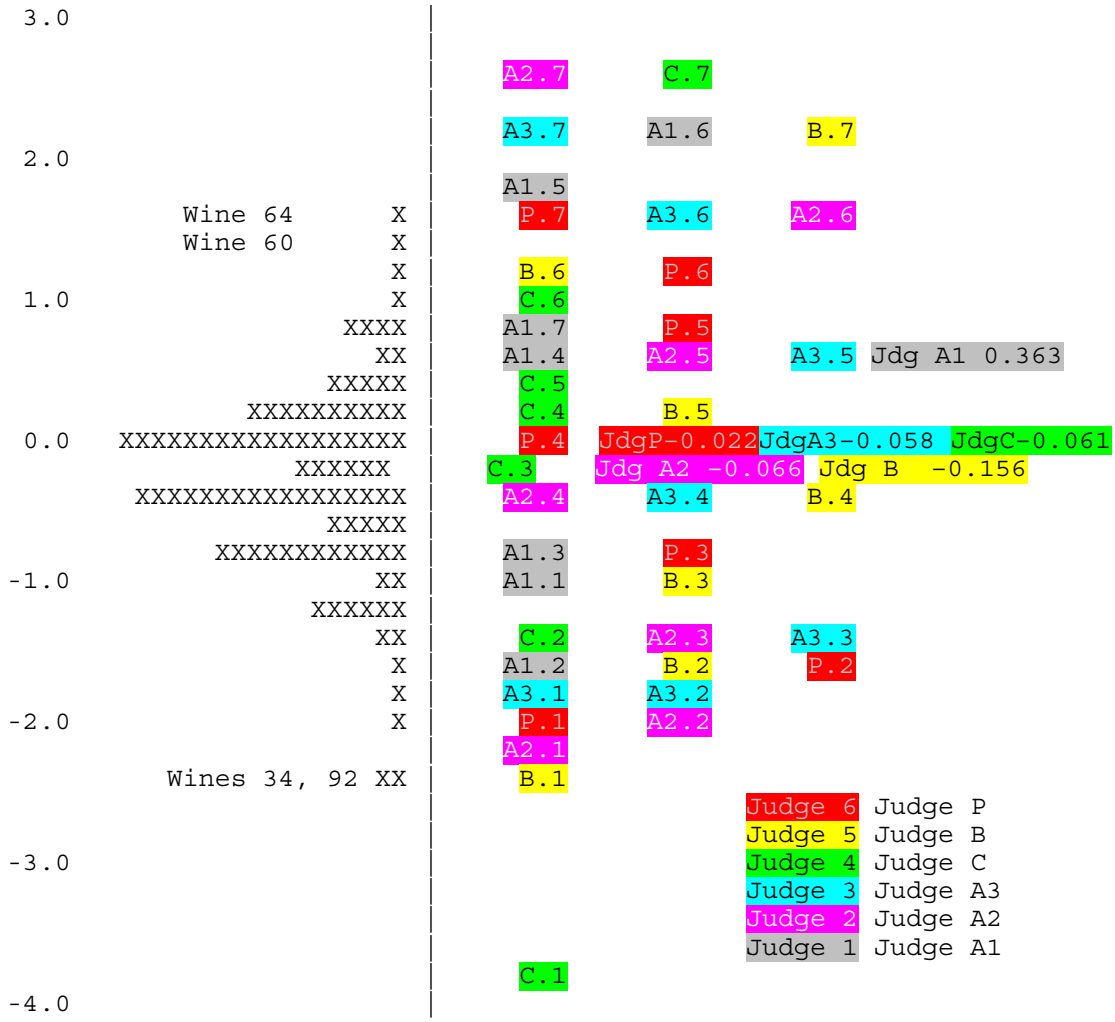

Figure 19. The Judge – Wine Map from the RUMM Program with the judges' locations added on the right

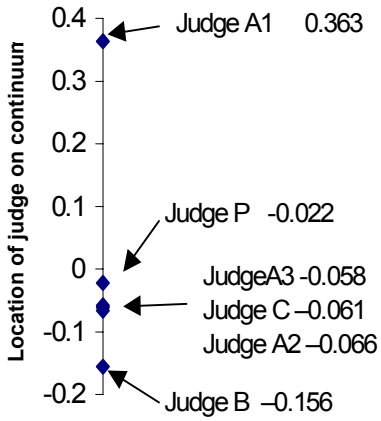

Figure 20. The relative harness of each judge plotted on a single scale

A COMPARISON OF THE SCORING SYSTEMS

The procedures that have been used to rate the wines have been the two Rasch based procedures and the total scores. An important question to be asked is how do the various systems compare with one another? Correlations were calculated between the pairs of scores. There was a very strong correlation of 0.98 between expert total scores and the estimates using the Quest Program. Figure 21 shows a plot of the expert estimate using the Quest program against the expert total scores.

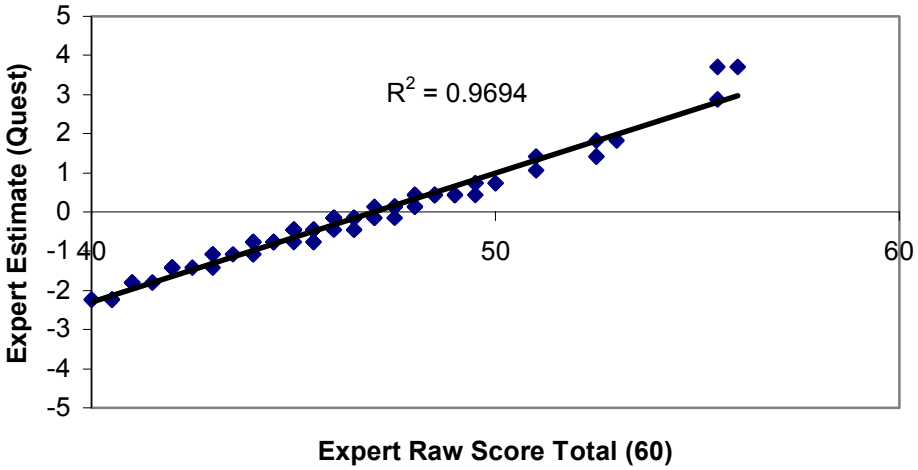

Figure 21. Expert estimate using the Quest Program against the expert total score

Likewise, there was a very strong correlation of 0.99 between the expert raw scores and the estimates using the RUMM program. Figure 22 shows the estimates from the RUMM Program plotted against the expert raw score.

The Quest and RUMM Program estimates yielded the almost perfect correlation of 0.999. The RUMM estimate is plotted against the Quest estimate in Figure 23.

Of particular significance here is the slope of the line. This slope of 0.919 indicates that the Quest scale and the RUMM scale are different. This difference is also borne out by the intraclass correlation coefficient of 0.89 that is noticeably less than the corresponding product moment correlation coefficient of 0.999. The Quest scale is more spread out than the RUMM scale. On the extremes of the scale, the Quest returns a value of 3.7 while RUMM gives 3.16. The difference in

scale seems to be due to the difference in estimation procedures used by the two programs and is somewhat puzzling. To summarise, the various estimates of the Rasch scaled scores correlate highly with the total scores and with one another. What is important, however, about the Rasch scaled scores is that they provide an interval scaled score. Such interval scores provide powerful means of making connections and comparisons.

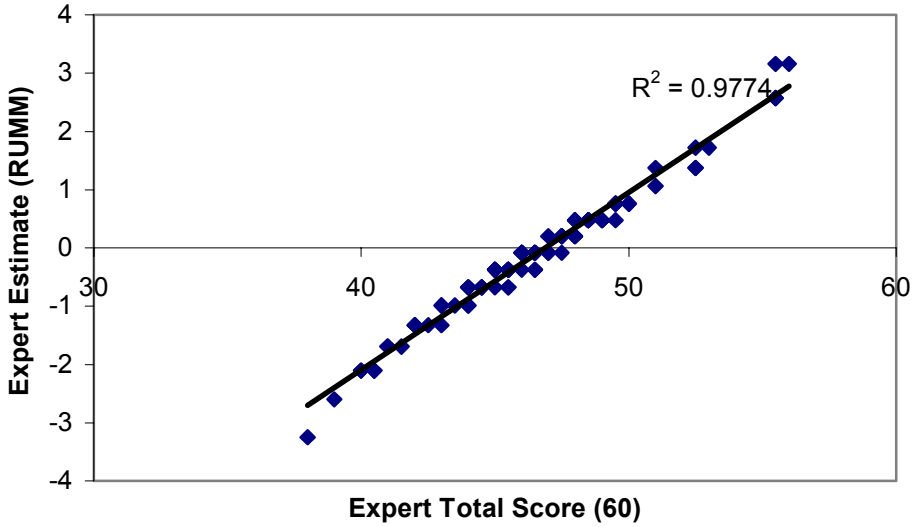

Figure 22. Expert estimate using the RUMM Program against the expert total score

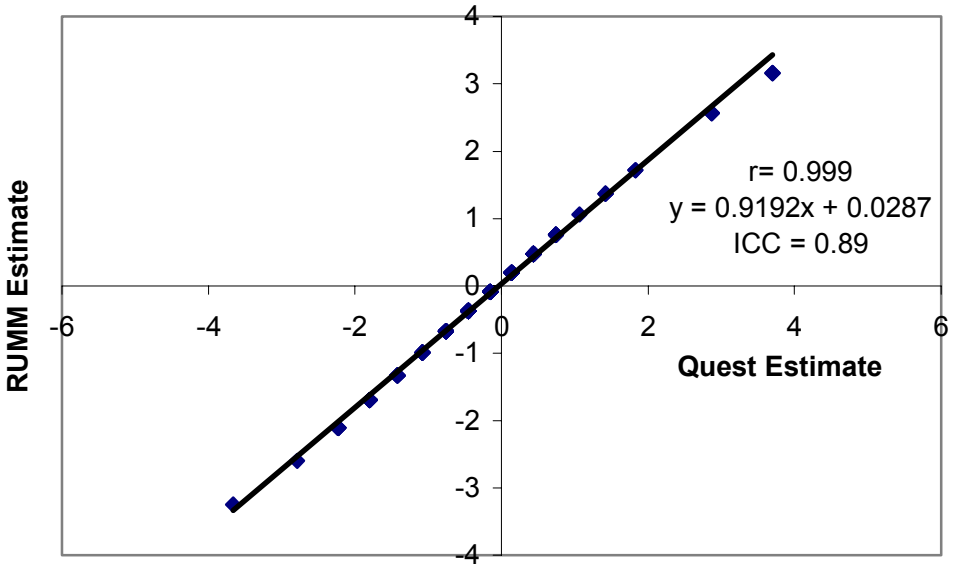

Figure 23. The RUMM expert estimate against the Quest expert estimate

Both the Quest and the RUMM programs provided estimates which fitted the Rasch model well and which gave good agreement with one another. For the purposes of feedback to the judging panel, however, the RUMM program, with its graphical displays provides easily interpreted feedback to those not familiar with the complexities of the Rasch scaling process.

In order to reduce the number of possible scores, these data were compressed from the 20 point scale, in increments of ½ point, to an 8 point scale from 0-7, compressing the scores in the lower range, making all scores below 12.5 zero and thereafter, compressing the range, with two possible scores sharing one final score. It has been shown that this compression makes little difference to the analysis. Thus, the Rasch scaling process could well be used as a means of simplifying the

difficult problem that arises when an attempt is made to apply too fine a scoring system, employing a wide range of possible scores, but actually using only a limited subset of them.

CONCLUSION

The Rasch scaling procedures that have been explored have been shown to yield some useful insights into the judging of wine. The application of these educational measurement procedures represents an important use of these powerful measurement tools and indicates that in the wider community and business and sporting worlds there is much to be gained from the applying the results of educational research procedures. Of particular interest has been the ability to put the scores of the judges and the wines on a logit scale that has allowed connections to be made between judges, thereby providing a reliable means of reducing the total number of wines that need to be tasted by any one judge. Moreover, this method provides a means of determining both the harshness and the consistency of a particular judge. It has been suggested that this information would be invaluable for the training of judges giving easy to interpret feedback about how a judge is awarding scores.

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Epistemological Beliefs and Leadership Style among School Principals

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The purpose of this research is to identify the differences in epistemological beliefs among school principals at primary and high school levels as well as to measure and assess the impacts of such differences on their leadership styles both, task-oriented and relationship-oriented. A total of 96 questionnaires were sent to school principals to assess their assumptions about the nature of knowledge including: simple, certain, innate, and quick (SCIQ). Ex-post facto research, t-test, and Lambda test were used to analyse the data. The result indicates that there is a strong relationship between the principals' epistemological beliefs and their leadership styles. The administrators with low levels of belief in SCIQ knowledge have stronger relationship-oriented leadership styles than those who showed a higher belief level in SCIQ knowledge. The research also shows a significant relationship between the epistemological beliefs of the administrators and their work levels. This means, that the secondary principals scored lower in epistemological beliefs than primary school principals. The data indicate that secondary school principals implement relationship-oriented leadership while the primary school principals apply task-oriented style.

epistemological beliefs, leadership style, school, Principals

INTRODUCTION

Educational scientists believe that administrators play an important role in the organization and operation of schools. Most of these experts consider administrators as the main source and the driving force for the organizational development and academic growth of students (Mirkamali, 1995). The success of administrators is due to the methods used in the administration process. The administrators' leadership style influences the effectiveness and efficacy of the organization, and is the function of several inter-related factors, such as the employees' level of psychological and social maturation at work; their main expectations (Alagheband, 1997, p.131); as well as their epistemological assumptions (Rezaian, 1996, p.13). Therefore, the person's assumptions and his or her attitude toward other human beings are the foundation of X and Y management theory. The person's cognition and attitude are the foundations for behavioural modification of individuals, groups, and organization (Hersi and Blanchard, 1993, p.3-5). Figure 1 demonstrates the stages of change and the level of difficulty at each stage.

The principals' style in leadership is based on his/her assumptions about human beings, human learning, and human nature. These assumptions, conscious or unconscious, are the foundation for decision making and choosing a leadership style (Bayat, 1998, p.37).

Likewise, epistemological beliefs influence all aspects of education especially on educational methods and leadership (Greise, 1981, p.185).

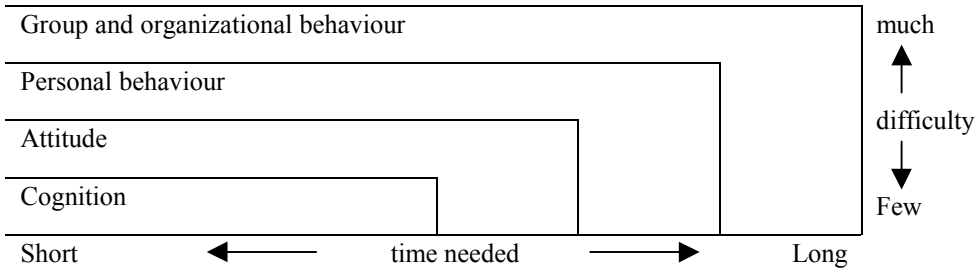

Figure 1. The stages of different changes according to time and mode of difficulty (adopted from Hersi and Blanchard, 1988, p. 5)

EPISTEMOLOGICAL BELIEFS

The principals' epistemological beliefs (EB) are conceptualized according to Schommer's taxonomy (Schommer, 1990). Schommer recasts epistemological beliefs as a system of more or less independent beliefs. "By system, it is meant that there is more than one belief to consider, and by more or less independent, it is meant that a learner could be sophisticated in some beliefs but not necessarily sophisticated in other beliefs" (Schommer, 1993, p.407). Four beliefs were hypothesized. Stated from the naive perspective, they are the following beliefs.

1) Belief in Simple knowledge

Knowledge is best characterized as isolated facts. People perceive knowledge as separate and unrelated facts and consider scientific information as interrelated elements.

2) Belief in Certain knowledge

Those who believe in certainty of knowledge argue that there is no mistake or error in scientific discoveries and knowledge is absolute. Opponents of certain knowledge argue that knowledge is relative and that scientific discoveries are tentative not absolute.

3) Belief in Innate ability

Believers of innate ability assume that human ability is not the product of achievement and is not subject to improvement. Therefore, learning ability is not changeable.

4) Belief in Quick learning

Learning is quick or not-at-all (Schommer, 1993, pp.406-411). Therefore those who believe in quick learning assume that learning is not a gradual process.

LEADERSHIP STYLE

Leadership consists of knowledge and skills which influence and direct others' activities (Khalili, 1995, p.47). Therefore, a person's leadership style is the behavioural patterns which he or she uses while directing others to do the job. These patterns can be classified as relationship-oriented or, task – oriented behaviour, or a combination of both.

The relationship-oriented style

The relationship-oriented style of administration is built upon informal, personal and social interaction. This behaviour is demonstrated through mutual trust, social affection, personal support, protection, and friendship (Slocum, 1996, p.453).

The task-oriented style

The task-oriented leadership style focuses on formal relationships between the leader and his or her followers. The leader provides directions and instruction and the followers do the tasks accordingly.

METHOD

This research assumed that the epistemological beliefs have already been formed in principals. Therefore, the ex-post facto research method was designed to measure the impact of epistemological beliefs on leadership styles among the primary and high school principals in the 1998-99 academic year in the city of Tabas, a North West city in Iran.

In order to measure the principals' epistemological beliefs, Schommer's questionnaire of epistemological beliefs (1996) was used. This questionnaire is the tool with 63 items, which measures people's beliefs about the nature and process of knowledge and learning. It has 63 items in 12 sub-sets. The leadership styles of participants were identified through Luthans' leadership questionnaire (1985). It has 35 items.

Schommer, who used Cronbach's Alpha and test-retest method in 1990, has assessed the reliability of the epistemological beliefs questionnaire. The coefficient of 0.74 was obtained. Moreover, the reliability of each factor was in the range of 0.63 to 0.85. In 1993, Schommer reviewed the questionnaire and then reassessed the reliability coefficient and found it in the range of 0.45 to 0.71. Marzughi (1997) examined the reliability of this questionnaire in Iran and the coefficient was 0.76 (Emami, 1998).

In this study, I used the revised version of Schommer's questionnaire. Its reliability was assessed using Cronbach's Alpha with a coefficient of 0.79.

Ebrahimi (1997) and Ghani (1995) by using a test-retest method, assessed the reliability of the leadership style questionnaire and found 0.95 and 0.89 reliability coefficients. In this study, also by using a test-retest method, the reliability was found to be 0.98. Both questionnaires were derived from the current psychological and management theories; therefore they have sufficient validity.

RESULTS

The principals' epistemological beliefs and leadership style

Table 1 and 2 show that most secondary school principals (57%) achieved a high score in epistemological beliefs (EB). This means that the secondary school principals believed in simple knowledge, absolute knowledge, innate knowledge and quick learning. Only 21 per cent of the primary school principals got a low score in epistemological beliefs and they believe little in them.

The results derived from Table 2 yield the following findings.

First 4.8 per cent of the secondary school principals have weak relationship-oriented and task-oriented leadership style, while 50.7 per cent of primary school principals follow this style.

Second, 28.6 per cent of the secondary school principals have high relationship-oriented and low scores in task-oriented leadership style, while 20 per cent of the primary school principals follow this style.

Table 1. The primary and secondary schools principals' beliefs

	Primary School		Secondary School		Total	
	%	Frequency	%	Frequency	%	Frequency
Desirable EB	21.3	16	57.1	12	29.2	28
Partly desirable	78.76	59	42.9	9	70.8	68
Total	100	75	100	21	100	96

Table 2. The primary and secondary school principals' leadership style

Leadership style	Low relationship Low task		High relationship Low task		High relationship High task		Low relationship High task		Total %	Total Absolute abundance
	%	F	%	F	%	F	%	F		
Secondary	4.8	1	28.6	6	57.1	12	9.5	2	21.9	21
Primary	50.7	38	20	15	20	15	9.3	7	78.1	75
Total	40.6	39	21.9	21	28.1	27	9.4	9	100	96

Third, 57 per cent of the secondary school principals have strong scores in relationship-oriented and task-oriented leadership style, while 20 per cent of the primary school principals follow this style.

Fourth, there is almost no difference between primary and secondary school principals in their belief in low relationship-oriented and high task-oriented leadership style: 9.5 and 9.3 per cent of them follow this kind of leadership style.

For analysing the assumption related to the epistemological beliefs and the leadership style of principals, analysis of variance (ANOVA) has been used and the results are presented in Table 3.

Table 3. The results of analysis of variance in principals' epistemological beliefs

Source	**Degree free**	**Sum of squares**	**Mean squares**
within groups	3	11.17	3.72
between groups	92	6.61	0.07
Total	95	17.78	

F=52 P<0.05

As presented in Table 3, there is a significant difference between the epistemological beliefs of the principals who have different leadership styles. The LSD test revealed that the epistemological beliefs scores of the principals who have strong relationship-oriented and task-oriented leadership styles are significantly lower than the epistemological beliefs scores of the principals who follow another leadership style. Therefore the principals, who use strong relationship-oriented and task-oriented styles, believe a little in simple, quick, certain and innate knowledge and learning.

For analysing the assumptions related to the primary and secondary school principals' epistemological belief differences, the t-test has been used. The results are presented in Table 4.

According to Table 4, there is a significant difference in primary and secondary school principals' epistemological beliefs. The epistemological belief scores of secondary school principals are lower than primary school principals' scores. It means that the secondary

school principals have weaker beliefs about simple, certain, quick and innate knowledge and learning.

Table 4. The primary and secondary school principals epistemological beliefs

Type of school	Number	Avarage	Standard deviation	Standard error
Secondary	21	2.18	0.46	0.1
Primary	75	2.71	0.34	0.04

A Lambda table has been used for analyzing the assumptions related to the relationship between kind of school and leadership style. The results are presented in Table 5.

Table 5. Leadership style and kind of school

Leadership style	Low relationship Low task		High relationship Low task		High relationship High task		Low relationship High task		Total	
	%	F	%	F	%	F	%	F	%	F
Secondary	4.8	1	28.6	6	57.1	12	9.5	2	21.9	21
Primary	50.7	38	20	15	20	15	9.3	7	78.1	75
Total	40.6	39	21.9	21	28.1	27	9.4	9	100	96

λ=0.315

The coefficient derived from Table 5 indicates that the amount of prediction of the principals' leadership style regarding the type of school (primary and secondary) is 31 per cent. Moreover, according to Table 5, it can be demonstrate that 57 per cent of the secondary school principals use high relationship-oriented and high task-oriented style, while only 28 per cent of the primary school principals follow this style.

ANOVA has been used for analysing the assumption related to the difference in secondary school principals' epistemological beliefs. The results are presented in Table 6.

Table 6. The difference between secondary school principals' epistemological beliefs

Source	Degree free	Sum of squares	Mean squares
Within groups	3	2.68	0.89
Between groups	17	1.64	0.10
Total	20	4.33	

$F = 9.27$ $P < 0.05$

As presented from Table 6, it can be seen that there is a significant difference in secondary school principals' epistemological beliefs. Also the ESD test of significance confirms the relation between epistemological beliefs and the leadership style in secondary schools and indicates that the principals who have strong relationship-oriented and task-oriented leadership styles have a significant difference with other principals regarding commitment to epistemological beliefs.

Coefficient η^2 has been used for examining the effects of each of these epistemological beliefs on leadership style. The results are presented in Table 7.

Table 7. The Effects of the epistemological beliefs on the leadership style of the secondary school principals

EB	η	η^2
Simple knowledge	0.80	0.65
Certain knowledge	0.78	0.61
Innate ability	0.51	0.26
Quick learning	0.67	0.46
Total	0.79	0.62

Table 7 shows that amount epistemological beliefs, simple knowledge explains 0.65 of the variance of leadership style while innate knowledge can only predict 0.26 of these changes. In sum, the epistemological beliefs results indicate that 0.62 of the principals' leadership style differences in secondary schools are related to their epistemological beliefs.

Analysis of variance (ANOVA) has been used for analyzing the assumptions related to the differences between the primary school principals. The results are presented in Table 8.

Table 8. The results of the ANOVA in primary school principals' epistemological beliefs and leadership style

Source	Degree free	Sum of squares	Mean squares
Within groups	3	4.951	1.65
Between groups	71	4.059	0.057
Total	74	9.011	

F=28.86 P<0.05

It is seen from Table 8 that there is a significant difference in the principals' epistemological beliefs and leadership style. The results indicate that the principals with strong relationship-oriented and weak task-oriented styles, compare to principals with weak relationship-oriented and task-oriented styles are significantly different in epistemological beliefs. Coefficient η^2 has been used for measuring the effects of each epistemological beliefs on leadership style. The results are presented in Table 9.

Table 9. The effects of the epistemological beliefs on leadership style of the primary school principals

EB	η	η^2
Simple knowledge	0.68	0.47
Certain knowledge	0.59	0.35
Innate ability	0.56	0.31
Quick learning	0.53	0.28
Total	0.74	0.55

It can be shown from Table 9 that of the epistemological beliefs, simple knowledge has the most effect and quick learning has the least effect on the principals' leadership style in primary school. In other words, simple knowledge predicts 0.47 of leadership style changes, while quick learning can explain 0.28 of these changes. In total the primary school principals' epistemological beliefs predicts 0.55 of their leadership style changes.

CONCLUSION

These results indicate that principals use different leadership styles. The secondary school principals use strong relationship-oriented and task-oriented leadership styles more than primary school principals .This is congruent with Hersey and Blanchard's situation-oriented theory (1996) and Kerman's cycle of life (Hersey and Blanchard, 1996).According to Hersey and Blanchard principals' leadership style in lower grades regarding the maturation in work, education and experience, which operate at lower levels, should be task-oriented. Higher grades of education, whose members have higher education and higher experience, use relationship-oriented styles. Accordingly, although the primary school principals would use weak relationship-oriented leadership styles; it seems that on the basis of these theorists they have acted according to the primary school situation.

The only difference in the results of this study from Heresy and Blanchard's conception and also Kerman's is that in the present study, the secondary school principals use strong

relationship-oriented and task-oriented leadership styles. In other words, it is indicated in this study that secondary school principals use both styles. This result is congruent with what Halpin has presented in his research report. Halpin holds that the characteristic of desirable and influential leadership behaviour should have high scores in both relationship-oriented and task-oriented leadership styles. On the other hand, the undesirable and uninfluential leadership behaviour would be characterized by low scores (Hovey and Miskel, 1997, 1998).

Another finding of this study is that the principals' epistemological beliefs are influential in their leadership style; therefore the principals with strong relationship-oriented and task-oriented leadership styles believe in simple, quick, certain and innate knowledge. In other words, this group of principals hold the following four beliefs.

1. Scientific knowledge is systemic; and relationships are integrated with each other.
2. Human knowledge is relative.
3. Knowledge is acquired, though the talent of learning is innate.
4. The process of learning scientific knowledge is a gradual process, so it needs continuous activity.

A glance at the different theories and studies about epistemological beliefs and their relations to the different variables indicate that these beliefs will influence all aspects of education. Furthermore, theory indicates that the anthropological conceptions are the basic factors influencing people's action and behaviour and Greise (1983) contends that the epistemological concepts are influenced by metaphysical visions (Cosmology and anthropology).

The results of the present study both confirm the relation between epistemological beliefs and leadership style and indicate the effects of each epistemological belief on leadership style are in a high level. Moreover, the studies done on this relationship, including Perry (1970), Schommer (1993), Bandikson (1994), Ardondo (1996), Marzoghi (1998) and Emami (1993), indicate that there is a significant relationship between epistemological beliefs and other different aspects of education such as educational performance, learning strategies, judgement, behaviour and teaching methods. So the results prove that epistemological beliefs have strong influences on educational methods and leadership style. There can be at least two consequences from this result. First, according to principals' epistemological beliefs, their leadership style can be predicted. Secondly, by reinforcing principals' positive beliefs, their leadership styles can be more easily influenced by the expertise of today's educational-administration experts.

RECOMMENDATIONS

1. Since there is a significant relation between epistemological beliefs and leadership style, it is suggested that principals' epistemological beliefs should be regarded when they are hired.
2. Regarding the influence of a desirable leadership style on organization efficiency and achievement, short-term training in service in relation to the active and positive epistemological beliefs (not regarding the knowledge and learning as absolute, simple, innate and gradual) should be prepared.
3. The training discussed should be presented in training school centres, higher education and training colleges.

4. Regarding the influence of education and training on the form of epistemological beliefs and considering that primary level is the foundation of formal training and has a special importance, it is suggested that at the primary level like the secondary school level, at least the possession of a Bachelor of Art should be regarded as a minimal requirement for teachers and principals.

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The International Baccalaureate: A Case Study on why Students Choose to do the IB

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The International Baccalaureate (IB), a global curriculum and associated assessment processes, is spreading rapidly throughout many countries of the world, presenting itself as an alternative to local assessment and curriculum offerings. It thereby offers a clear example of the globalisation of knowledge and the knowledge industry.

Meanwhile at the local level in South Australia both Public and Private Schools are coming to terms with the concept of educating for the twenty-first century with perceptions of being part of a global village and opting for the chance of educating world citizens. It would seem that many schools perceive the adoption of the IB Curriculum as one means of achieving this.

In this research study, 60 Year 10 students from a Public (State/Government) and Private (Independent) school, from one Australian city, took part in an investigation to determine why they chose to pursue the International Baccalaureate Diploma Programme in their final two years of schooling.

Comparative education, International education, Secondary school curriculum, College preparation, University admission, International Baccalaureate

INTRODUCTION

The *Report to UNESCO of the International Commission on Education for the Twenty-first Century* (Delors et al., 1996, pp. 16-18) describes seven tensions education needs to overcome in the twenty-first century. One of these is the tension between the "global and the local".

> People need gradually to become world citizens without losing their roots and while continuing to play an active part in the life of their nation and their local community (Delors et al., 1996, p. 17).

In 1970 the IB was established to reduce to one the number of tertiary entrance examinations students from International schools had to prepare and sit for (Peterson, 1972). In the inaugural IB examination trial, only 13 schools from 11 countries participated. Today, there are over 1000 schools from more than 100 countries participating in the IB curriculum, which has expanded to include an international Primary Years Programme (IB-PYP) for learners from 3 to 12 years of age and, a Middle Years Programme (IB-MYP) for learners from 11 to 16 years of age. The original IB programme is now referred to as the Diploma Programme (IB-DP) for learners from 16 to 19 years of age (IBO, 2003, On-line).

On the one hand, there is the International Baccalaureate Organization (IBO), a private organization, controlling the IB curricula that has consultative status with the United Nations Educational, Scientific and Cultural Organization (UNESCO). On the other hand, there are a number of local educational organizations, such as that found in South Australia, where public,

Catholic and Private school sectors' educational curricula are determined by the state government's Department of Education and Children's Services (DECS), ministerial team.

BACKGROUND TO THE STUDY

Adelaide is the capital city of South Australia with a population of about one million people. The city is a western city that could be said to be self-contained providing natural, manufactured and technological resources; housing, food produce, health benefits and care; and education. However, with respect to education, Heggan states that:

> Adelaide is the world's second largest city, behind Quebec, Canada, in terms of its IB school population (Heggan, p. 11, 2001)

This study focuses on local students entering their final years of schooling who choose to do the IB-DP instead of the South Australian Certificate of Education (SACE). The research question posed here is:

> **Why do students choose to do the International Baccalaureate Diploma Programme instead of the South Australian Certificate of Education?**

THEORECTICAL FRAMEWORK

In earlier days, the number of users and the need for trade and negotiations usually determined the dominant language and culture. Today, however, we are witnessing the globalisation of the English language and western culture even when more people speak Mandarin Chinese and live in Asian countries.

Appadurai (1997, pp. 32 - 36) sees globalisation as a "complex, overlapping, disjunctive order" involving five dimensions, or landscapes. These landscapes are identified as: "ethnoscapes", a concept of the shifting world such as guest workers, migration and refugees; "mediascapes", the production and dissemination of information; "technoscapes", the global configuration of technology; "financescapes", the disposition of global capital, and; "ideoscapes", the dissemination of ideologies.

The Tension between the Local and the Global

The tension between the local and the global is intensifying especially with the continuing effects of industrialisation such as tourism; telecommunications; fast food services; fashions; movie and music industries; stock markets; English based educational and research journals; technologies; and, the Internet. Bauman (1998, p. 78) states that, "Today's industry is geared increasingly to the production of attractions and temptations".

This research study focuses on one such aspect of the globalisation process, that of the globalisation of education. If we are truly to become a global village and educate world citizens the question is, 'Do we need to have a common curriculum and assessment tool?' Students completing their final years of schooling and with aspirations towards entering universities today have that option.

There are three factors evident in the IBO's globalisation process.

- IBO's recognition and realisation of the opportunity for expanding its student catchment can be seen with IBO's current campaigning and marketing strategies. The IBO provides schools already offering the IB with curriculum slogans such as 'Tell the world you are an IB school' or 'IB World School' (IB World, April 2001, p. 62).

- From the inception of the IB in 1970, governments around the world began accepting the IB-DP as a recognisable diploma for local university entrances. Initially acceptance was granted to assist disadvantaged students attending International Schools; today the IB's curriculum has expanded to include the full 12-years of schooling for all students attending any school.
- The decentralisation of educational decision making processes from one governing body to that of local schools has meant that schools at the local level can choose to run with the IBO's programme.

Teasdale points out that:

> We live in a world that is shrinking. Transport and communications revolutions have brought us closer together (Teasdale, 1999, p. 81).

This appears to be true for an organization such as the IBO as seen by the way it is gaining inroads and its influences on decentralised South Australian educational institutions (AAIBS, 2000). In the past five years, the number of South Australian schools opting to include the IB curriculum as an alternative to their local curriculum has grown (IBO, 2003, on-line), at a rate of 10 per cent per year (Heggan, p. 11, 2001). Two potential tensions have emerged in local schools as a result of choosing between a local or a global curriculum. These tensions are university entrance examinations and the homogenisation of ideas.

The Tension of University Entrance

The tension created between the delivery of local curricula or the IB curriculum for many communities around the world involves a range of factors, some of which include the acceptance of a western culture and a euro-centric language.In the case of South Australian schools, accepting the IB-DP curriculum over the SACE curriculum is not a matter of western values taking over the values of a non-western society, nor is it a case of the English language taking over the local language, because Australians hold western values and they speak English. The tension here lies between a local system being in touch with and addressing local needs as opposed to a global system that is in touch with and addresses global needs. For instance, a local community can fine-tune its academic pathways and channel it students accordingly to meet academic and professional demands of its community with the use of quotas, fluctuating tertiary cut off scores and scholarships. An international curriculum that is servicing global needs and demands would not necessarily be sensitive to local needs or demands and would not consider options such as weighing tertiary entrance grades because its focus is on global fairness, its pre-tertiary entrance examination marking-scheme would be based on fixed standards. Such is the IB-DP grading system where final results are criterion referenced and anyone achieving 75 per cent or more on an IB-DP examination will receive so called 'perfect' pre-tertiary score of 7 for that subject. This is contrary to a SACE examination score that is norm referenced – regardless of score, only the top five per cent get a 'perfect' pre-tertiary score of 20.

The Tension of Homogenisation

Ma Rhea and Teasdale (2000) highlight another contentious issue arising from the globalisation of curricula, the homogenisation of ideas. Homogenising ideas causes:

> *… human ways of knowing to become predictably capitalist, mechanistic and modern in their conception.* (Ma Rhea & Teasdale, 2000, p.24)

However, Delors (1996, p. 56) highlights the importance of focusing on the diversity of individuals and groups stating that,

> Education can promote cohesion if it strives to take the diversity of individuals and groups into consideration while taking care that it does not itself contribute to social exclusion.

With the IBO providing support material for its global curriculum through pre-published resources, newsletters, international conferences, magazines and now online resources, the homogenisation of ideas becomes a potential concern and could lead to lack of educational cohesion. The Delors Report (1996, p. 27) reminds us that,

> Increasingly stringent selection in order to ease the pressures brought about by mass higher education in the wealthiest countries is neither politically nor socially acceptable.

Globalisation occurs when there are impositions of ideas involving a dominant-recessive relationship. Internationalisation occurs when there is a sharing of ideas, where ideas are utilised, agreed upon, and mutually accepted. However, with respect to the IB-DP, western universities have determined entrance criteria into their institutions such as the compartmentalised of curriculum matter. The IB-DP has responded to this by the compartmentalisation of its courses rather than opting for a holistic approach to education, as experienced by many cultures, even indigenous cultures.

Fundamentally, each culture that chooses to run with the IB-DP potentially relinquishes its values and practices of education in exchange for those of the western world. From this perspective, the IB-DP is very much a process of globalisation rather than a process of internationalisation.

KEY CONCEPTS

To be able to complete Stage 2 PES (Public Examined Subject) and obtain SACE, students are required to have:

- successfully completed one year of SACE Stage 1 subjects, that involves the equivalent of six full year subjects;
- the completion of WBLA (*Written Based Literacy Assessment*) that involves four 250 word written pieces of student's work to be submitted to the WBLA committee;
- the study of five full-year subjects over a period of one year with an end-of-year public examination.

If these conditions are met, then entrance into one of three local Universities in South Australia is provided to a student. Which tertiary discipline a student chooses to study is dictated to by the TER (Tertiary Entrance Rank) score that is awarded by the South Australian Tertiary Admission Centre (SATAC, 2001, Online).

On the other hand, the IB-DP involves the following three aspects for completion. A student:

- must complete 150 hours of "Creativity, Action and, Services" in the local community;
- is required to complete two pieces of "extensions work" satisfactorily: one on the "Theory of Knowledge (TOK)"; the second, an original 4000 word "Research Essay";
- must study six subjects over a period of two years: three at a 'Higher Level' of study and three at a 'Standard Level' of study. At the end of the second year, there is an IBO set examination on each subject and all subjects must be passed.

If these conditions are met, then most universities around the world, including the three local universities in South Australia, give students entrance into various disciplines.

METHODS

The research study used as its instruments a written questionnaire (WQ) and focus group (FG) discussions. The WQ contained a battery of questions seeking answers to why South Australian Year 10 students have chosen to study the IB-DP for their final years of schooling as opposed to the SACE.

Only schools offering both the SACE and the IB-DP curriculum pathways were targeted for the provision of subjects for this research study. There were three reasons for doing this. First, it was believed that these schools had students and families who understood the IB-DP and the SACE curriculum programmes. Second, it was these schools that made students decide on the type of final years of schooling they wished to undertake. Third, it was believed that these students would become the adults who would generate and initiate much of the future discussions, beliefs and opinions affecting the globalisation processes in their local community and their society as a whole. Their perceptions, opinions and judgements would influence future local directions. As de Bono stated,

> For twenty-four centuries we have put all our intellectual effort into the logic of reason rather than the logic of perception. Yet in the conduct of human affairs perception is far more important (de Bono, 1990, p. 42).

One public (state/government) school and one private (independent) school were selected for the study. Both schools offer finishing Year 10 students the choice of either studying the IB-DP or the SACE programme in their final two years of schooling. All students had just completed both the Year 8 to Year 10 DECS and IB-MYP curricula, which the schools integrated into a single curriculum delivery.

Four WQ cohorts from the two schools were formed for the purpose of this research study ¾ an IB-DP and a SACE cohort of 15 students each. A total of 60 students participated. Figure 1 shows the structure of the samples involved in this study who responded to a WQ.

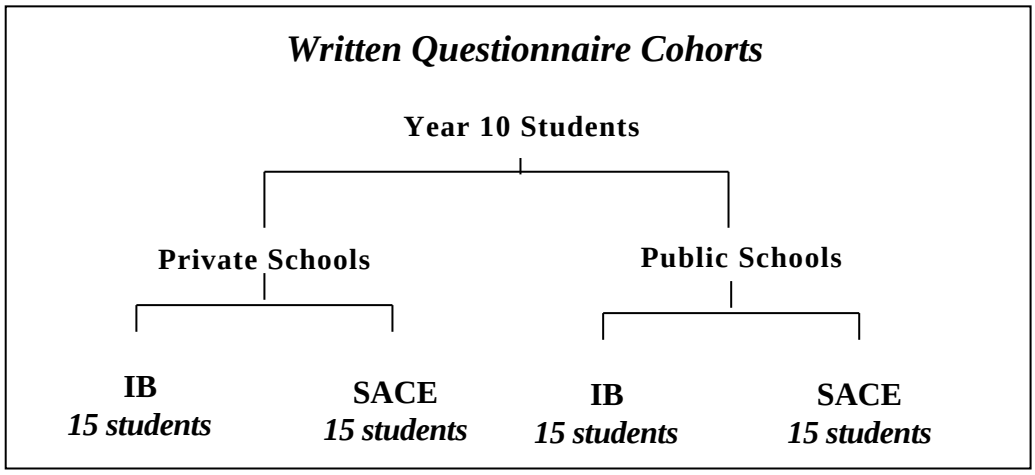

Figure 1. Breakdown of Year 10 students (N_{WQ}=60) used to respond to the Written Questionnaire

Four Focus Group were established and were subgroups of the WQ group. The FG group consisted of five potential IB-DP or five potential SACE students. A total of 20 students participated in separate 20 minute discussions.

The WQ included attitude scales based on the Likert Method (Grondlund, 1976, pp.474-476) because of its simplicity in both construction and scoring. It also included open-ended questions to provide further insight into the thought and decision-making processes undertaken by students when deciding the pathway chosen for their final two years of schooling.

The questionnaire consisted of three distinct sections: Section 1 collected personal details on the students without revealing their identity; Section 2 used the Likert Scale to measure student opinions towards the SACE and IB programmes; Section 3 used open-ended responses.

Data Analysis

Data from the open-ended questions and the FG discussion were categorised and scored. Table 1 shows the gender breakdown of each of the WQ groups.

Table 1. Gender distribution of students from both the public and private schools who formed the subjects for this research study (N_{WQ}=60)

Student No.	Public SACE	Public IB	Private SACE	Private IB	TOTAL
Males	7	4	11	8	30
Females	8	11	4	7	30
No. of subjects	15	15	15	15	60

The majority of students (68%) were 15 or 16 years of age. Eighteen per cent of the students were under the age of 15 and 13 per cent of the students were over the age of 16 years.

Over half (53 per cent) of the students planned to go to one of the universities in Adelaide, while 25 per cent planned to go to a university interstate, and only 18 per cent planned to study overseas. Of the students planning tertiary study overseas, 30 per cent of these planned to study the SACE and the remanding 70 per cent planned to study the IB-DP.

The majority of students (88%) were born in Australia while the remanding 12 per cent were born overseas. Of the students born overseas 71 per cent planned to study the IB-DP curriculum compared with 47 per cent of the students who were born in Australia.

The majority of mothers (55%) and fathers (58%) were born in Australia. Of these, 27 per cent of the mothers and 40 per cent of the fathers had children who wanted to study the IB-DP. In comparison, 78 per cent of the mothers and 64 per cent of the fathers who were born overseas had children wanting to study the IB-DP.

The majority of the families (90%) speak English as their primary language at home. Of the remaining 10 per cent of the families who had a non-English language as their primary home language, all had children planning to study the IB-DP curriculum compared with only 44 per cent of the English speaking families who had children planning to study the IB-DP.

Student Opinions

Questions in the WQ solicited students' opinions about their teachers, courses on offer, how courses prepared them for the future, and how the curriculum was delivered.

Student Opinions on Teachers

Year 10 students from the public school sector were more inclined to discuss their opinions about IB and SACE teachers than their private school counterparts. On average only 72 per cent of the

IB and SACE private students responded to questions about IB and SACE teachers compared to the average of 97 per cent of the IB and SACE public students.

Table 2 shows the median, mode and mean of the numbered responses for each WQ cohort on teacher opinions. These median, mode and mean scores were generated after allocating scores to student response choices as follows: 1-Poor; 2-Moderate; 3-Good; 4-Very Good; 5-Excellent.

Table 2. Student opinions on IB and SACE teachers (N_{WQ}=60) The numbers correlate with the numbered responses (1-Poor, 2-Moderate, 3-Good, 4-Very Good, 5-Excellent)

Student Cohorts (N_{WQ}=60)	Public SACE (N=15)	Public IB (N=15)	Private SACE (N=15)	Private IB (N=15)
Opinions on IB Teachers	Me = 3.00 Mo = 3.00 χ = 3.30 (3-Good)	Me = 4.00 Mo = 3.00 χ= 3.60 (4-Very Good)	Me = 3.00 Mo = 3.00 χ = 2.80 (3-Good)	Me = 4.00 Mo = 4.00 χ= 4.10 (4-Very Good)
Opinions on SACE Teachers	Me = 3.50 Mo = 3.00 χ = 3.50 (3/4-Good/Very Good)	Me = 3.00 Mo = 3.00 χ = 3.27 (3-Good)	Me = 3.00 Mo = 3.00 χ = 3.25 (3-Good)	Me = 4.00 Mo = 4.00 χ = 3.90 (4-Very Good)

Me = Median, Mo = Mode, χ = Mean

Table 2 shows the tendency for IB students (both public and private school students) to rate the IB Teachers as being 'very good' on the attitude scales. Private school IB students tend to rate both the IB and SACE teachers as being 'very good' whereas public school IB students tend to rate the IB teachers higher than the SACE teachers. SACE students in both private schools and public schools tend to regard all the teachers (IB and SACE) as being 'good' and tend to show no favourites.

Student Opinions on Course Offerings

With reference to the highest modal ratings, nearly 67 per cent of the public IB students believe that the IB-DP curricula offering are 'very good' (a response rating of 4 out of 5) and only 50 per cent believe that the SACE curricula offering is 'good' (a response rating of 3 out of 5). In comparison to the private IB students, with reference to the highest modal ratings, 75 per cent of believe that the IB-DP curricula offering are 'excellent' (a response rating of 5 out of 5) and nearly 42 per cent believe that the SACE curricula offering are 'very good' (a response rating of 4 out of 5).

Comparatively speaking, nearly 71 per cent of the public SACE students believe that the IB-DP curricula offering are either 'good' or 'very good' (a modal response rating of 3 and 4 out of 5) and 50 per cent believe that the SACE curricula offering are 'very good' (a rating of 4 out of 5). With reference to modal scores, 62 per cent of the private SACE students believe that the IB curricula offerings were 'good' (a rating of 3 out of 5) and 46 per cent believed that the SACE curricula offerings were 'good' (a rating of 3 out of 5).

Student Opinions of Future Preparation

Of the SACE students 44 per cent believed that the IB-DP and the SACE are equal in preparing students for their future and 93 per cent of them believed that the IB-DP is harder to study.

Of the IB students 80 per cent believed that the IB-DP prepared students better for their future and 100 per cent of them believed that the IB-DP is harder to study.

Student Opinions of Curriculum

Table 3 summarises the best curriculum deliveries offered by the IB-DP and the SACE, as judged by both public and private students. For each curriculum offering, students had to decide whether the curriculum was best delivered by the SACE, the IB, by both, or neither.

Table 3. Student opinions on the best curriculum deliveries. Students had the following choices: SACE, IB, Same, or Neither

Curriculum	Student Group	SACE better	IB better	Same	Neither better
Literacy	SACE Students	28%	28%	45%	0%
	IB Students	3%	77%	20%	0%
Mathematics	SACE Students	38%	24%	34%	0%
	IB Students	0%	77%	23%	0%
Sciences	SACE Students	24%	28%	45%	0%
	IB Students	0%	67%	33%	0%
Humanities	SACE Students	41%	24%	34%	0%
	IB Students	30%	40%	30%	0%
Physical Education	SACE Students	55%	7%	28%	1%
	IB Students	63%	10%	27%	0%
The Work Force	SACE Students	34%	31%	31%	3%
	IB Students	37%	27%	23%	13%
Cultural Understanding	SACE Students	7%	52%	28%	0%
	IB Students	7%	77%	7%	10%
Understanding one self	SACE Students	10%	48%	28%	14%
	IB Students	3%	70%	17%	10%
World Tolerance	SACE Students	3%	55%	28%	14%
	IB Students	0%	77%	20%	3%
Peace Education	SACE Students	14%	38%	34%	14%
	IB Students	0%	63%	30%	7%
Living Together	SACE Students	10%	34%	38%	17%
	IB Students	7%	57%	30%	7%

As seen in Table 3, while SACE and IB students believed that Literacy, Mathematics, the Sciences and Humanities were best delivered by their choice of curriculum pathway, the belief from both groups of student was that "Physical Education" and the "Preparation for the work force" was better dealt with in the SACE curricula, while "Cultural Understanding", "Understanding One-Self", "World Tolerance" and "Peace Education" were better dealt with in the IB-DP curricula. Overall, there was a much stronger support by the IB students for the IB-DP curricula than support shown by the SACE students for the SACE curricula.

The Decision Making Process

Of the public school, 73 per cent of the SACE students claimed that the decision to do the SACE curricula was both the parents' and student's decision while 67 per cent of the private school SACE students claimed that the decision was solely theirs to do the SACE curricula. Of the public school IB students, 67 per cent claimed that the decision to do the IB-DP curricula was

both the parents' and student's decision while nearly 50 per cent of the private school IB-DP students claimed that they made the decision to do the IB-DP curricula on their own.

Of the public school 88 per cent of the SACE students, compared with 64 per cent of the private school SACE students, claimed that the decision to do the SACE curriculum had nothing to do with gaining employment and local opportunities. Of the public school 29 per cent of the SACE students were deterred from doing the IB-DP because of the extra curricula hours required. Of the private SACE students 56 per cent claimed that they chose the SACE curricula because of subject variety.

Of the public school IB students 34 per cent believed that IB-DP curriculum required extra hours of studying and 33 per cent of them claimed that the decision to do the IB-DP was the portability of the IB-DP, that is, it is more recognised overseas. Of the private school IB students 50 per cent claimed that the decision to do the IB-DP was not influenced by the portability of the IB-DP. Of these students 32 per cent chose to do the IB-DP because of their belief that the IB-DP generated a better TER score. Of the total public and private IB student responses four per cent indicated that IB students chose to do the IB-DP because of prestige.

Focus Group Discussion

In addition to the reasons and opinions for choosing the IB-DP addressed above, arose from the FG discussion.

Highlights of the IB Student Discussions

Public school IB students mentioned that many teachers in their school taught both IB-DP and SACE but "teachers expect more from a student doing the IB-DP course". The private school IB students believed that teachers teaching IB had a "lot more energy because they enjoy putting in the extra effort and time required when working with brighter students". Students mentioned that "IB classes are smaller than SACE classes".

Public IB students believed that the IB work done in Year 11 was the same as doing SACE Year 12 and that subjects such as English were more analytical in the IB-DP programme and more creative and practical in the SACE programme. Private IB students believed that subjects were more in-depth in the IB-DP programme than the SACE programme. They believed that the IB course involved more work than SACE courses but pointed out that, "…it does not matter because we are not going to know the difference for we are not doing the SACE and wouldn't know the extra work involved (with the IB-DP)." Other students' pointed out that even though the Theory of Knowledge (TOK) was "on top of" the IB-DP subjects, TOK provided students with a better understanding of all subject matter.

Highlights of the SACE Student Discussions

Public SACE students felt that they were "not organised enough to do the IB-DP". They mentioned that their "Home Group teacher tells them that the IB-DP is too hard and that people drop out of the IB-DP because it is too stressful". The students also believed that "the school makes certain that the IB-DP get the better and more experienced teachers". One student stated that the "IB-DP Drama was too theoretical" whereas the "SACE Drama was far more practical". A student noted the "inflexibility of the IB-DP" curriculum as a critical factor for his decision not to do the IB-DP, for instance, this student wanted to do two sciences, two maths and one music, but was unable to do this combination under the IB-DP curricular structure.

One student pointed out that "people do IB-DP because they think they can go overseas with it and that with SACE you are stuck in South Australia". The student stated that others wanted to go to the USA and believed that the SACE was as equally accepted there, as was the IB-DP. Most of the students believed that other students chose to do the IB-DP "just to get a higher TER score into local universities". A student declared that he did not do the IB-DP because "it was expensive, costing $US250.00 dollars on top of existing school fees".

Private SACE students judged that "IB teachers are better" and considered that these teachers were "very strict and straight to the point". They also believe that IB teachers had "a huge subject knowledge". The students alleged that the "IB-DP 'High Level' subjects are equivalent to first year of university subjects and that the 'Standard Level' subjects were equivalent to the Stage 2 SACE subjects". One student indicated that she did not choose the IB-DP study pathway because she was thinking of "going to TAFE instead of university".

DISCUSSION

The IB has developed into an international curriculum for schools around the world, which has had a positive influence on the establishment of the ideal of global villages and world citizens. However, data collected in this research study indicated that the IB-DP was being seen by some as potentially prestigious, and possibly inequitable, and hence further discussion was suggested by educators at the local school level. Some of the issues that have emanated from the data include the following issues:

- At least one student mentioned the IB-DP's cost was a factor in a decision to stay with the SACE. Additionally, in Adelaide there were more private schools offering an IB-DP curriculum than public schools.
- There were some students who perceived that local schools were allocating their most experienced teachers with in-depth curriculum knowledge to teach the IB-DP curricula. Whether this was true or not, the perception might be enough to reinforce the image of superiority of the IB-DP over the SACE which might impact on student selection.
- There was a perception amongst some students who believed that the SACE would not get them into world universities even though this was not true.
- Some students saw the IB-DP as a fast track into university degrees because it was believed that they gained a higher TER score and they were accelerated through some local university degree courses, such as starting in the second year of the university programme.

As an extrapolation of the data, other potential concerns might need to be considered by local educators, such as the following concerns:

- The potential exodus of students from the local community because of not gaining acceptance into local degree courses due to quota fulfilment. Quotas were determined through supply and demand by local universities who were in touch with local community needs. Alternatively, the problem could be further amplified if degree courses were being filled with high scoring IB-DP students from outside the local community who had no intentions of staying after the completion of their degree course.
- The IB-DP was set up predominantly for pre-tertiary entrance examination preparation and as such it was geared towards the global success of academic students. Unlike the SACE, the IB-DP made little provisions for the educational needs of the non-academic students who formed the majority of student population in a local school environment. These students might require

special alternative education or seek non-academic careers. Such students would include students with learning difficulties, anti-social behaviours, physical, mental and psychology disabilities, or suffer from poverty.

· Students wanting or needing to pursue a vocationally pathway into non-academic careers such as agriculture, trade forces, factory work or hospitality industries were also not catered for by the IB-DP. These students required a specialised vocational educational system as opposed to academic educational systems such as the IB-DP.

CONCLUSIONS

The data analysis showed that some Year 10 students in Adelaide chose to do the IB-DP instead of the SACE for a number of reasons.

- IB-DP class sizes are smaller.
- IB-DP teachers are believed to be better, more caring and spend more time towards ensuring the success of their students.
- The IB-DP offers a superior curriculum to the SACE.
- The IB-DP secures a higher tertiary entrance ranking score into local universities.
- The IB-DP is viewed as being only for so called 'smart kids'.
- The IB-DP provides students with opportunities to study overseas.

The IBO initial goals in developing the IB-DP came from the need to provide an equal footing into world universities for students attending international schools and it was not to fulfil the educational needs of every student in every part of the world. Implications were that a potential upheaval of university entrances could be created by the exodus of local students or by the attraction of students from outside the local community who did not plan to stay on in the community once they had completed their award. Furthermore, there was the potential concern with the homogenisation of ideas and values that could come at the loss of existing diverse local ideas and values. As such, local educational systems needed to remain responsible and accountable for the well being and survival of its community members'. In essence, both the strengths and weaknesses of the global and local educational curriculum needed to be carefully addressed, discussed and considered at the local level, with a possible view towards a symbiotic relationship between both.

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