

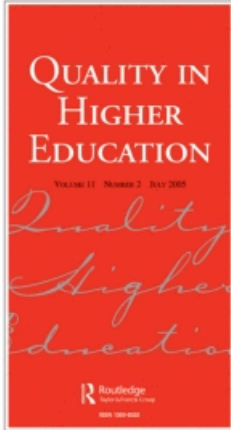
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Increasing Understanding of Decision Making in Higher Education: the case of Taiwan

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ABSTRACT *This paper seeks to explicate the processes of decision making in higher education in order to assist decision makers and stakeholders. The research examines the relationship between the locus of decision making and the mode of decision making in Taiwanese higher education and the relationship of decision making to specific policy areas. Based on a review of the literature and interviews with university presidents, other administrative officers, teaching staff, and Ministry of Education (MOE) officials, this study examined the extent to which both locus of decision making and mode of decision making are related to policy decisions relative to institutional mission, organisation, governance, admissions, finance, facilities and equipment, personnel, curriculum, and research. The data supported the conclusion that neither variable is sufficient explanation and that both the mode and the locus of decision making are linked to policy area.*

Introduction

Quality is an elusive concept. The higher education literature is replete with diverse efforts to achieve, understand, explain and rationalise quality. We have observed that assessment (for example, Ratcliff, 1989; Banta, 1993; O'Neil, 1994) is one approach used to obtain empirical bases for improving practice. Another is philosophical analysis, for example, Bloom, 1989. A third approach has been administrative analysis such as the TQM movement (see Ruben, 1995). The research presented in this article seeks to understand about quality from a different perspective and is based on an assumption that higher education is a political environment both within institutions and external to colleges and universities, *sic*, legislators, taxpayers and bureaucrats. We add programs, hire personnel, increase and decrease resources on the basis of decisions made. Faculty, staff, administrators, students and their parents have been known to be perplexed about decisions made and unable to understand how such decisions came to be. The research conducted in this article addresses the issue of where decisions are made concerning higher education in one country, Taiwan, and shows that different kinds of decisions are made in different places depending on the political environment. As we come to understand the decision process, we will be better positioned to understand to what extent and at what level optimal decisions can be made about different policy areas. Furthermore, such knowledge can enhance the potential for strategic intervention in the decision process.

Decision making in higher education in the US has been described as collegial (Millet, 1962), political (Baldrige *et al.*, 1971) and as a garbage can (Cohen & March, 1974) in which organisational choice involves problems, solutions, participants, and choice opportunities. Birnbaum (1988) described the cybernetic model which is a dynamic model of an insti-

tution working in concert with its environment by using an on-going feedback mechanism to allow decision makers to make adjustments in the operation of the organisation.

Lane & Frederiksson (1983) criticised these models (including the bureaucratic model (Weber, 1946)) as failing to account for structure. Although Weick's conception of loosely-coupled systems (1976) attended to structure, according to Lane & Frederiksson (1983), it did not address power relationships across units adequately whether they be loosely or tightly-coupled.

An alternative characterisation of decision making offered by Lane & Frederiksson (1983) is what they call the 'Public Administration Model', a model of organisational choice and change within a hierarchical system. Their model accounts for power relationships based on level in the hierarchy. They argue that for the public administration of higher education systems, for example, structure and decision approaches cannot be separated. Except for the cybernetic model, these models tend to be constrained by time and place because they do not accommodate change. Even the cybernetic model, while dynamic, is limited in its ability to explain changes in decision making over time. Decision making in systems or organisations, then, involves the locus of decision making authority (structure), the choices (of problems to address or alternatives to try) (see Mayhew, 1982), and the relationships among stakeholders (mode or process of decision making).

Scholars examining the idea of centralisation tend to treat the concept as dichotomous, that is, either that there 'is centralisation' or there is 'not centralisation' Rhoades, 1983, Iram, 1992. The locus of authority in a system can be characterised on a continuum from centralised to autonomous. Centralised decision making can be consultative through the seeking of counsel from stakeholders by the centralised unit or individual or it can be autocratic, when pronouncements are made. 'Autonomous' is used here in the sense that individual units or leaders act independent of the system or have final authority, but operate within the parameters of the system. Centralised decision makers may choose to defer to units lower in the hierarchy yet still maintain the authority (legally and otherwise) to make the final decision. Furthermore, autonomy is not inversely proportionate to co-ordination (Clark, 1978).

Indeed, this research found that autonomy can co-exist not only with co-ordination, which is likely to allow considerable autonomy while a central authority oversees events and activities, but autonomy can also exist in the context of highly centralised decision making and that the variation is driven by the type of decision made. Centralisation infers a hierarchy, a bureaucracy. A trade-off for centralisation is the efficiency gained from perceived unnecessary duplication at the cost of multiple layers of decision making. If all pertinent decisions of a highly complex centralised system were to be made at the pinnacle of the system, especially in a professional organisation (Etzioni, 1964), the organisation has the potential to become calcified. Increased centralisation also fosters standardisation which to some policy makers also implies greater equity.

The more recent spotlight on increasing state control across the US for example in Ohio, can be attributed to the same reasons as similar efforts noted before: fiscal constraints, the declining public perception of the value of higher education, leading to gubernatorial scepticism and legislative distrust of higher education's efficacy, and the reduced ability of institutional leaders to communicate their contributions to the states' development. Thus the idea of centralisation as a monolithic conceptualisation of decision making in complex organisations requires closer inspection.

Within any system there is a tension between the locus of decision making (where in the organisation a decision is made) and the mode of decision making (the process of making the decision) and *both are related to specific policy areas*. Indeed, Clark (1983, p. 268)

| | Central | Decentralised |
|--------------|--|---|
| Autocratic | Decisions are unilateral and members of the system are required to comply. | Sub-unit leaders make unilateral decisions and inform central offices. |
| Consultative | Decisions are made by the central office in consultation with actors within and external to the system | Decisions are made at local level in consultation with key actors within the unit across the system |

FIG. 1. Where and how decisions are made.

suggested that at different levels in the system there might be different configurations of interests and expertise to offset the legitimate central control of states or nations. It is from this vantage point that the importance of the inclusion of the relations of the policy areas to the decision-making process becomes clear.

These two dynamics, locus and mode, are depicted in relation to one another in Fig. 1. The locus of decision making is characterised as a continuum from centralised to autonomous. The mode of decision making is shown as a continuum from autocratic to consultative and different kinds of decisions fall at different points in the matrix. In this study of decision making in higher education in Taiwan, decision making in complex organisations is shown to be driven by policy area varying by the salience of the issue and public perception of the issue (context) and that a unidimensional model of decision making is insufficient.

Higher Education in Taiwan

Higher education in Taiwan is at once young and ancient, built on the foundation of a medical college begun by the Japanese to study tropical medicine during their occupation of the island in the beginning of the twentieth century (Wu *et al.*, 1989) and steeped in Chinese tradition. When control of Taiwan was returned to the Chinese after the Second World War, the mission of higher education in Taiwan changed to serve as the vehicle for culture and ideology. Higher education sought to transmit Mandarin Chinese culture and to conform to higher education patterns on the mainland (Wu *et al.*, 1989) to rid China of Communism and to promote the *Three Principles of the People* written by Dr Sun Yat-Sen. Military training became mandatory in 1954. The post-Second World War period saw several of the universities from the mainland moved to Taiwan, as well as the erection of several new ones, both public and private. The organisational structure reflected the rigid governmental system established by the single political party, the Kuomintang (KMT).

In the sixties, economic growth was a focus and the mission of higher education was intimately entwined with the island's quest for economic prosperity. The development of the junior colleges (post-secondary school, pre-baccalaureate institutes) at that time signalled the interest in higher education as a prop for economic development. During the 1970s the economy was weak and could not readily absorb college graduates. The MOE restructured new private institutions and controlled the enrolment in existing institutions

(Chen, 1991). By 1983, the Ministry responded to a growing concern about the narrow focus of university education and expanded the general education requirements for students majoring in the sciences (Wu *et al.*, 1989). This reflected a view of the purpose of university education as the fostering of intellectual development in the nation. In the eighties, economic development became a priority for higher education with support for humanities and social sciences less vigorous than it was for business (22% of the students in 1987–88) and engineering (33% of the students in the same year) (Chen, 1991). Increasing interest in access to higher education prompted the opening of the University of the Air, an open university on the British model, that began in 1986 with 20,000 students in its first year. In 1987–88, 70% of the enrolment in higher education in Taiwan was in private colleges (Chen, 1991). Thirty-seven per cent of the funding for higher education was obtained from private sources (usually for the private institutions) (Chen, 1991).

By the 1990s, military rule had been lifted, a two-party system was in place, and government control over newspapers was eliminated (Chen, 1991). An Association of Teachers' Human Rights headed by radical dissident professors emerged. The MOE responded to some demands by improving teacher grievance procedures.

Higher education in Taiwan is organised similarly to that in Mainland China. The Executive Yuan and the Legislative Yuan are at the pinnacle of the governmental hierarchy of which higher education is an important part. The Minister of Education reports to both units. Reporting to the Minister are two administrative vice-ministers and one political vice-minister. The Minister appoints the Head of Higher Education who reports to one of the two vice-ministers for administration. This is also the case for the head of the Accounting Division. The presidents of the higher education institutions are accountable to both of these division heads (see Ministry of Education, China 1992).

All public colleges and universities are governed by the MOE. Private colleges and universities, the only ones that have individual governing boards, are subject to supervision by the MOE. Within the MOE is the Department of Higher Education. There are 14 private institutions, 28 national universities and colleges (280,249 students in 1991), and 12 national junior colleges (332,127 students in 1991), and one open university (308,861 students in 1991) (MOE, 1992).

The Cabinet from the Executive Yuan is responsible to the Legislative Yuan. The Minister of Education submits a policy proposal to the Cabinet which is then sent to the legislative Yuan for their approval. The President appoints all ministers who are part of the Executive Yuan. Most ministers are members of the KMT as is the President. The President is also the head of the KMT central party which advises the President and its members in the Legislative Yuan on policy issues. The Minister of Education selects his vice ministers. Party membership and participation are not unimportant factors in these selections, although that is not, according to all respondents, the only driving force in the selection of ministry officials.

Methodology

This was a qualitative study of decision making in higher education in Taiwan. Only public universities and colleges falling under the aegis of the University Act of Taiwan were included in this study. Junior colleges, therefore, were not included. Arrangements for interviews with policy makers in higher education in Taiwan were made by colleagues in Taiwan. In December 1992, interviews were conducted with two university presidents, two MOE officials, two college deans, and a department chair. In addition, multiple informal discussions with several teaching staff members in public institutions in Taiwan

were held to clarify current practices and perceptions. Descriptive data gleaned from these interviews were reviewed by scholars in Taiwan who are knowledgeable about higher education. Published materials were also consulted to verify the factual data and to expand upon the data from the interviews.

Interviews lasted from 45 to 90 minutes. Interview questions were given to all respondents in advance of the interview. Some were faxed prior to the day of the interview; for others, the questions were given to them just prior to the beginning of the interview. One interview was conducted in Chinese with the assistance of a translator.

The focus of the interviews was on decision making in nine policy areas:

1. *Mission*: the purpose of higher education nationally and for individual institutions.
2. *Organisation of colleges and universities*, including the relations among colleges and universities and the relations of tertiary education to government, business and industry, secondary education, and other organisations in the country.
3. *Admissions policies*, including qualifications and numbers of students.
4. *Finance*, including tuition rates, government funding, other sources of funds.
5. *Facilities and equipment*, including library holdings and equipment, computers, and laboratories.
6. *Personnel*, for example, presidents, administrators, and teaching staff including selection, retention, academic freedom, and salaries and benefits.
7. *Institutional governance*, how institutions are organised and operated.
8. *Curriculum*, including content, structure (scheduling, requirements, electives), and instructional methods.
9. *Research policy*, including content, funding, and dissemination.

All respondents were asked: What is the current policy description in each policy area? How does each policy area come to the attention of decision makers? Who are the decision makers for each policy area and who influences decision making in each area? What are the perceived strengths and weaknesses of current practices? What are desirable changes?

Data were analysed in recursive stages in accordance with recommendations by Miles & Huberman (1984). First, data were reduced by organising the data by policy area merging overlapping responses and highlighting any discrepancies in the descriptions of the policy stance. That is, a matrix was constructed with locus of decision making in columns and mode of decision making in rows. Policy areas were located in the matrix based on the responses. Second, data were represented, that is, charted; data depicting the context of decision making in higher education were shown, specifically the hierarchy of the higher education structure including who influenced different policy making areas and at what stage in the process (see Kingdon, 1984) in order to portray the actors and when their voice might be heard. Finally, the policy areas in flux were depicted to illuminate our understanding of the ways in which change is being made.

The discussion of the research outcomes are organised by the policy areas investigated. A description of the policies, the way in which the policy was determined, and the individuals or groups influencing the decisions are reported. These findings were clustered (see Fig. 2) according to the model shown in Fig. 1.

Mission

Mission was determined solely by the MOE. There was some evidence that increasing numbers of advisory committees were being used by the Ministry, suggesting that future mission decisions may be influenced by such committees (often including teaching staff

| | Central | Decentralised |
|---------------------|------------------------------|-----------------------|
| Autocratic | <i>Ministry of Education</i> | <i>Institutions</i> |
| | Mission * | Personnel (VPs) |
| | Governance * | Philanthropy |
| | Organisation * | |
| | Curriculum (sensitive) | |
| | Facilities (B) | |
| Consultative | Admissions | Facilities (C) |
| | Finance | |
| | Curriculum (design) | Personnel (fac) |
| | Personnel (pres) | Personnel (ch) |
| | Facilities (A) | Curriculum (pedagogy) |
| | | Facilities (D) |
| | | |
| | | |

*Determined by the Legislative Yuan.

FIG. 2. Where and how decisions were made for the nine policy areas.

and administrators from the institutions and public citizens in some case). A well-placed college administrator observed: 'I think that the Minister of Education absorbs ideas from outside. They hold several meetings of scholars and other professionals on an on-going basis'. Furthermore, one of the presidents interviewed indicated that his institution's mission was set by the teaching staff. They had a long-range planning committee in each college and a university-wide committee that works in a pyramid formation from the bottom up to determine institutional mission. Individual institutional missions reflected the common mission, but vary with the establishment of different faculties all with the approval of the MOE, the Executive Yuan, and the Legislative Yuan, which was the source of the funding.

The mission of the universities in Taiwan was consistently described as: research, teaching, and social service, 'all the same in this country—under law', and to provide a good environment to get a good education to become civilised persons. This means more than knowledge of a major area, but also a broader understanding of the international view. Government action sustains this description, since general education requirements were recently expanded, especially for students majoring in the sciences.

Organisation

The determination of the organisational structure of colleges and universities was determined by the University Act and implemented by the MOE. The University Act defined the similarities and differences among institutions and the structure of individual institutions (see Chen, 1991). Thus all institutions called universities had shared characteristics determined by law. For example, until recently each University had to have a minimum of three colleges that each encompass a particular field, for example, medicine or teaching. According to a MOE official, at one time it was necessary that an institution had to have three colleges to be a university, but that had been changed for future institutions to become universities. Those institutions that did not have three colleges were called

'independent colleges' headed by deans, while the universities were headed by presidents. Teachers' colleges are headed by presidents with deans reporting to the presidents. The mode of decision making is autocratic, determined centrally by law. While respondents indicated that there is discussion among elected officials and university officials about these matters, there is no official process to include their views. The Minister of Education does have more formal involvement but the degree of his authority varies depending on the extent to which the Minister is politically well-connected.

Department chairs report directly to presidents unlike the practice in the US where department chairs report to deans who report to vice-presidents for academic affairs or provosts who report to presidents or chancellors. The role of deans in Taiwan was more like that of professional staff in the United States, that is, they are not in the direct line of authority in the administrative hierarchy.

Institutions were organised by law into the following administrative divisions: Academic Affairs, Discipline and Guidance, and General Affairs each headed by a dean. Deans of Academic Affairs generally handle registration and other systems relating to academic affairs. They do not serve in the capacity of 'dean of the teaching staff' and had no responsibility for the instructional or research role of the university or college. There was also a personnel office and an accounting office.

Admissions

Admission to higher education in Taiwan was based on the results of the Joint University Entrance Examination. Only 30% of students taking the Joint Examination were admitted to the universities (Wu *et al.*, 1989). According to Wu *et al.* (1989) and all the respondents in this study, this process was considered to be rational, cost effective, and helps to avoid duplication. There was a separate board that administered the Joint Examination. Membership on that board included the presidents of National Taiwan Normal University and National Taiwan University as permanent members. Two private institutions and two public institutions were represented on a rotating basis. The Minister of Education set the pass rate.

As described by two university presidents and other university and MOE officials, each year the Ministry asks the institutions for an estimate of their capacity by department. These data were used to assign students to institutions and fields of study based on their performance on the Joint University Entrance Examination and their institutional preferences. However, the Minister makes the final decision about the policy implemented each year. Actors in these decisions include the Minister, often university officials, and, on occasion, while the Legislative Yuan had no vote, individually elected officials expressed their opinions and recommendations to the Minister. Generally, if the department figures were lower than the MOE wanted, the MOE would increase funding to be sure the department could accommodate the number of students the MOE wanted to be there. From the institution's perspective, there was often a space-capacity problem. According to one president, they were not apprised of the reasons why the MOE wanted increased capacity in selected fields. There was some negotiation between individual institutions and the MOE to accommodate these changes.

According to a dean of studies, acceptance of students to individual universities and departments was not rigidly related to students' *total* test scores. For example, a given department could adjust students' total test score by changing the weights of different sections of the test. Thus for science fields, the weight of the science and mathematics sections of the examination could be increased and, similarly, decreased for arts and humanities. The MOE generally approved this procedure. According to a Ministry official,

there were some exceptions to the admissions policy for athletes, although few in number.

Finance

Finance was strictly controlled by the MOE, primarily within the Bureau of Accounting (the budgetary office). Central control, according to one president, was for the public good. The budget law was quite specific. The budgetary process was a line item process for each institution. According to a Department of Higher Education official in the MOE, that unit was trying to change financial control to his office. The Department of Higher Education was seeking to assume this responsibility in order for institutions to have more opportunity to structure their budgets in their own ways. The tension in this area was explained as a trade-off between standardisation and quality control and the development of unique and creative institutions.

Preparation of institutional budgets was done by presidents in consultation with the Faculty Council for the public institutions [1]. The private institutions determine their budgets with the approval of their Boards of Trustees. The Minister can add to the presidents' budgets, but this never occurs. Both presidents indicated that they did not know the details of the review process within the MOE. All Ministers make reports to the Legislative Yuan, which meets twice a year. Committees had sessions and there was an Education Committee. Annually the college and university presidents had a budget review and defended their requests. The Legislative Yuan could only approve or cut budget proposals; it did not have the authority to increase budgets.

Tuition Fees

Tuition fees were set for the universities and colleges by the Department of Accounting within the MOE, although by 1992 consultation with the Department of Higher Education had been initiated prior to setting the fees, according to a Ministry official. Representatives from different institutions were consulted. Public universities did not want tuition fees to be too high, believing that the government was responsible for supporting higher education. The details of how tuition fees were set was not clear to any of the respondents either in the universities or in the Ministry. Ideally, the Minister would have liked for institutional budgets to be evenly based on tuition, government subsidy, and external funding. At that time, however, tuition fees accounted for 65% while government funding was only 15–20% of the institutional budgets.

According to a Ministry official, in the previous year the Minister changed a long-standing policy regarding tuition fees to encourage universities to hire more qualified teaching staff members. If the universities follow-up on this effort to improve student-teaching staff ratios, the Ministry will give them higher tuition fees rates. The private institutions, particularly, were helped by this, since tuition fees had been low in Taiwan. Tuition monies collected by the public institutions had been sent to the government (the Finance Ministry). There was a recent policy change to allow the institutions to keep the tuition fees to allow them some more flexibility in their planning. To what extent this reduces the annual allocation to the institutions from the government was not clear to the institutional respondents. Private institutions kept their tuition fees.

The MOE set all rates for all institutional expenditures. For example, dormitory costs were set by a formula provided by the MOE. The accounting departments at the universities and colleges disbursed the funds. There was no leeway for moving funds from one account to another and institutions could not spend more than has been approved. Items were in standard unit prices, for example, the operating budget was determined using a

formula that accounted for enrolment and programme type, such as the liberal arts and the sciences.

Facilities

Facilities and equipment were areas where variation from institution to institution was evident. Newly developed universities had master plans that have guided building projects and for which they had received generous funding support. Older universities had to submit proposals in order to expand and upgrade their physical facilities. One president noted constant pressure from students for new and improved facilities. Presidents could request capital funds for buildings, for example, and a standard rate was permitted by the MOE. However, some presidents got more of what they asked for than others and some asked for more, according to one president. Selection of specific library holdings, however, were handled by the individual institution. Architecture also varied from campus to campus. Hence, several kinds of decisions were required:

1. how much to spend;
2. which projects to fund;
3. designs of buildings;
4. what to purchase;

Presidents determined budgets and capital requests with administrative staff and through consultation with teaching staff associations. The usual basis for funding for facilities and equipment was based on student and teaching staff numbers and the urgency of the need. The greater success of some institutions over others suggested that the character, connections, and vision of the presidents could be important variables worthy of further study.

According to a Ministry official, private fund-raising was difficult. There was no tradition of private philanthropy in their culture; and he observed that people preferred to give money to the religious sector or to private institutions rather than public universities. Still, public universities in Taiwan had begun to seek private philanthropy. One president indicated that his institution had raised \$1 million in its first efforts. The MOE exerted no control over the foundations established for that purpose or the funds raised.

Personnel

Personnel decisions involved multiple decisions. Policies concerning the selection, retention, and terms of employment of all university personnel were set by the MOE. The Minister of Education was appointed by the Prime Minister with the participation of the presidents. These were political decisions. Until recently, the Minister of Education unilaterally selected the presidents (likely also in consultation with the President of the ROC and key party officials, since most ministers were KMT members). In an effort to decentralise aspects of higher education, the Minister had succumbed to pressure by associations of teaching staff to establish formal search committees to identify presidential candidates. These screened candidates and made recommendations for the Minister's final selection. At the time the data were collected (in December 1992) many details of this kind of process were being discussed. The head of the Higher Education Department in the MOE noted that the Minister believed that more power of selection should be given over to the universities, with the Minister retaining final power of selection. They were seeking to introduce a model similar to the US system. Under the new system, the Minister was to select some of the eleven members of these search committees specifically established for the presidential searches. Five were alumni (graduates of the universities) and outsiders

that the Minister was to appoint upon recommendation by alumni of the institution, and university professors. Six members were to be selected by the universities; each university could determine its own selection process. The Department of Higher Education collected information for the committee.

Administrator selection, according to a MOE official, varies from university to university. Some have search committees, others allow voting by teaching staff; in some, the president makes the appointments. Department chairs are elected from within their departments by teaching staff and are more responsive to needs of the teaching staff than to the university as a whole. All institutional respondents indicated that this process had advantages and disadvantages.

Professors select new colleagues through a search process and they are appointed by the president on the recommendation of the teaching staff and the department chair (Wu *et al.* 1989). The department chair is in charge of the search and generally a search committee of teaching staff members within the department is formed which makes the recommendation, on majority vote, to the college committee which may vote and send the recommendation to the university committee. The president plays a significant role in this process. As described by one president: 'I chair the university committee'. Another respondent indicated that the president was a rubber stamp for the committees. It appears that presidents have considerable opportunity to control this process, but are likely to assert their authority only when they have suitable political support from the MOE.

Teaching staff have no tenure in Taiwan universities and colleges. They are appointed on two-year renewable contracts and have 'no real legal guarantee of continued employment' (Chen, 1991, p. 554). There is no hearing required for renewal of contract. Deputy ministers served at the pleasure of the minister. His authority was delegated by the Minister of Education. The job was 'almost everything, almost nothing' depending on how much or how little was delegated by the Minister of Education. Finally, private college presidents were selected by their boards with the approval of the Minister of Education.

Curriculum

Curriculum decisions were made by the MOE so that there was consistency across institutions (Wu *et al.*, 1989). These decisions focused on minimum general education requirements, numbers of credits, graduation requirements, the number of electives possible, and the like. However, pedagogy and syllabi were determined by the teaching staff. There were some limits to academic freedom such as the restrictions on what can be taught in courses on Mainland China, for example. The physical sciences were substantially independent from such control. However, there were curriculum committees often chaired by teaching staff members, which rewrote and updated curriculum within the required framework. The recommendations of these committees is generally supported by the MOE. Every few years the Minister of Education asks for teaching staff from around the country to meet to revise curriculum in each area.

University teaching staff choose texts, prepare their own syllabi, and conduct their own research. However, according to Chen (1991), there were no strong teachers' organisations, no associations for professors, and that has led to violations of academic freedom (see Altbach, 1988). Shapiro (1990, p. 65) observed that academic freedom was 'sustained only when a nation possesses faith in knowledge and a certain degree of self-confidence'. More importantly, the teaching staff have long expressed reservations about the limits to

academic freedom inherent in the system (Chen, 1991). While teaching staff are largely free to construct syllabi as they wish and to teach as they wish, there are limits imposed on content in politically sensitive areas, such as China, Communism, and the history of modern China. However, such intrusions into the academic enterprise are not pertinent to the physical sciences (Wu, *et al.*, 1989, Chen 1991). 'Liberalisation and democratisation have become two popular slogans' (Chen, 1991, p. 555).

Research

Finally, research policy was controlled by a separate research unit with the Executive Yuan rather than the MOE. All the respondents indicated that scholars were free to conduct research of their choice and academic freedom was alive and well. Still, the restrictions on teaching about Mainland China suggest that academic freedom was a restricted version not equivalent to US and European interpretations. The allocation of funds for basic research and for applied research was a centralised decision. Research policy was an area with which respondents were least familiar with and believed these issues were more appropriately within the domain of the academics. Hence, for lack of sufficient data, this area was not included in Fig. 2.

Decision making in this traditionally highly centralised structure was, in fact, partially decentralised. There were reports from respondents that increasingly the focus of discussions on higher education suggested that there would be changes in some areas moving some decisions from the centralised mode to a consultative mode. However, these initiatives were extremely recent and the presidential search process, for one, was very tentative, although endorsed in principle by the Minister of Education. There was a long tradition of acceptance of centralisation in this unitary culture that has long respected authority. Decentralised decision making was evident in both the autocratic and consultative sections of the model and those decisions held by the institution were more often consultative than autocratic. This suggests the weakness of authority by the leadership of the institutions whose authority seems more based on influence than power.

Conclusions

The model demonstrates that modes and loci of decision making vary by the policy area. Furthermore, a unitary model of decision making was insufficient explanation for decision making in complex organisations.

Decision making on higher education in Taiwan is changing and the changes are from centralised-autocratic to centralised-consultative. Decision making is becoming more inclusive by involving more actors, even deferring to their judgement as with the curriculum committees. As the data show, decision making even in this traditionally highly centralised system was, in fact, less monolithic than a simple centralised-autonomous model would reflect. From these data, we can show five areas in which decision making has been changing in Taiwan. Three involve financial issues (who controlled the higher education budgets within the MOE, the increasing degree of flexibility that institutions have with tuition monies, and tuition fee rates being based in part on institutional choice (limited)). One involved personnel, the selection of the presidents. The final area of change is decision making on curriculum modification. The model suggests that it can also accommodate changes in decision making to enhance our understanding of the direction of control of decision making both with respect to where in the organisation decisions were made and who plays a role in those decisions. Here, the changes represented a movement from

centralised-autocratic to centralised-consultative rather than a change from centralised to decentralised. In order to complete our understanding of the model, then, we need to examine systems that were moving from either of the decentralised modes, such as several states in the USA, to learn which policy areas were affected and in what way decision making was changing.

Towards Increased Quality

Who makes decisions, who is consulted and what their interests/agendas are have direct impact on the nature of decisions made. Concerned actors can intervene in the process in a variety of ways. Firstly, suitable information can be directed towards decision makers to broaden their knowledge of issues from multiple perspectives. Secondly alternative approaches to decision making in specific areas can be explored by including known participants in the dialogue. Finally, in a democracy the public can be informed and their voices can be included in shared efforts to improve decision making so that higher education serves the needs of society as effectively as possible.

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Note

- [1] There is one Faculty Council in each institution and they are professional bodies representing teaching staff, who also do research in most cases.

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