

A monitoring and evaluation system for South African higher education: conceptual, methodological and practical concerns

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ABSTRACT

This article is based on research done at the Council on Higher Education (CHE) to produce a framework for the monitoring and evaluation of the achievement of higher education policy objectives in South Africa. The article situates monitoring and evaluation systems within the context of the rise of the evaluative state and argues that for monitoring and evaluation to have a function beyond mere accountability and resource allocation they have to transcend the generation of baseline data and venture into the more complicated and contested terrain of explanation. For this to happen, monitoring and evaluation systems need to be deeply embedded in the socio-political dynamics of the societies in which they operate both at the conceptual and the design level.

restructuring and from top down by means of institutional mergers (Badat (forthcoming); Fataar 2002). While the creation of the Council on Higher Education (CHE) in 1997 as a statutory body with a policy advice and an executive function in relation to quality assurance falls squarely within this initial phase, its actual work has obliged the CHE and its permanent committee on quality, the HEQC, to grapple with the reality and contradictions of policy implementation.

Monitoring and evaluation are part of the responsibilities of the CHE, to provide informed, independent and strategic advice to the Minister of Education assigned to it in terms of the White Paper 3 on Education of 1997 and the Higher Education Act of 1997. Over the last two years, the CHE Advice and Monitoring Directorate embarked on a process to develop a monitoring and evaluation system for South African higher education. In the course of this process, we were faced with a number of conceptual, methodological and practical concerns. Not the smallest among them was how to conceptualise and implement a monitoring and evaluation system without creating one more layer of bureaucratic control, rapidly rejected by higher education institutions.

This article is based on the engagement with local and international literature that went into trying to answer this question. Our fundamental argument is that for monitoring and evaluation to have a function beyond mere accountability and resource allocation they have to transcend the generation of baseline data and venture into the more complicated and contested terrain of explanation. For this to happen, monitoring and evaluation systems need to be deeply embedded in the socio-political dynamics of the societies in which they operate both at the conceptual and the

INTRODUCTION

In 1994 South Africa's first democratically elected government inherited a racially segregated higher education system, with institutions defined to provide different and unequal higher education in terms of apartheid's social engineering. The first term of government between 1994 and 1998, characterised by the elaboration of a vision for a transformed higher education and the putting in place of concrete policies, was followed by an implementation period focused on new funding provisions, a student financial aid scheme, new governance frameworks, and, most dramatically, the restructuring of higher education both from bottom up through programme

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design level. But a monitoring and evaluation system, never mind how sophisticated, without a transformative capacity would be an empty exercise for a body like the CHE to embark upon. Thus, we argue that the value of such a system resides in its capacity to produce knowledge on which to base change and improvement.

By necessity the starting point of this reflection has to be a definition of monitoring and evaluation and the ways in which they relate to each other. Specialised literature defines evaluation as a type of research that applies social science procedures to assess the conceptualisation, design, implementation and utility of social intervention programmes (Rossi & Freeman in Babbie & Mouton 2001:335). It is generally accepted in the literature that evaluation studies have three main purposes: to judge merit or worth, to improve programmes and to generate knowledge (Patton 1997:76). Monitoring, on the other hand, is a particular type of formative evaluation that relies on routine management information in order to establish whether a programme is achieving its targets or outcomes, or what changes have occurred in a state, eg staff equity and the increase of opportunities for women academics. The production, nature and utilisation of data as well as its final purpose inform the distinction between monitoring and other types of evaluation as research methods within a conceptual continuum.

This article combines a theoretical reflection on policy monitoring and evaluation in relation with policy implementation with political considerations about the purpose, scope, potential benefits and risks of establishing a monitoring and evaluation system. The article is organised in four sections that deal respectively with the relation between evaluation systems and the state; the CHE's reasons and purposes in developing a monitoring and evaluation system; the relationships between policy, structures, instruments and socio-political dynamics in the conceptualisation and design of a monitoring system; and the opportunities and risks that the development of this system poses to the CHE and the higher education system.

THE RISE OF THE EVALUATIVE STATE

The rise in preoccupation with monitoring, performance indicators and evaluation is an integral part of the state demand for accountability of publicly funded institutions around the world. This development actually reached its zenith in the developed world during the 1980s. In higher education, it implied a significant change in the relationship between the state and higher education institutions. Higher education institutions were asked to show not only that they were doing their work for the state at acceptable costs but also that they were doing a job worth paying for. The need to demonstrate efficiency and

effectiveness created the space for the multiplication of largely quantitative indicators which were to measure, mostly, the relation between costs and outcomes of the different services and activities characteristic of higher education as an enterprise (Abercromby & Fielden 2000; Davis 1996; Kells 1992; Johns & Taylor 1990). This movement can be located in a broader development referred to as "the rise of the evaluative state" and the need for higher education to respond to the consequences of massification (Neave 1998:265–284, 273). The development coincided with the state pursuing deregulation and the rediscovery of the market as the invisible regulator of socio-economic processes. The need for institutional self-regulation, as opposed to direct state control, aided the rise of, and bureaucratized, "exploratory evaluation" which was previously characterised by the appointments of commissions of enquiry that sought to steer higher education in what was considered the appropriate direction (Neave 1998:269).

Two important features of the advent of the evaluative state in this context must be highlighted. Firstly, the evaluative state conceptualises higher education institutions as instruments and agents of economic or social change, and therefore sees them to some degree as implementation sites of socio-economic policy (Neave 1998:269, 276). This is, of course, a significant departure from the orthodox view that higher education institutions were "less the place to meet than to transcend change" (Neave 1998:267). Secondly, the actual power to evaluate is transferred from the state not to the institutions themselves, but to intermediate organisations, which have as their responsibility to control and oversee institutional self-regulation through the utilisation of performance indicators (Neave 1998:278–279).

In South Africa, the development of the relationship between the state and the higher education sector since the inception of a democratic government in 1994 illustrates in a striking manner our own experience with this global trend.¹ The adoption of the WP and the creation of the CHE and its quality assurance committee in 1997 are a case in point. The issue, however, is whether and to what extent institutions like the CHE that originate from a radically different political perspective than the one that supported deregulation can actually perform a constructive and progressive role in terms of monitoring and evaluation.

One of the characteristics of the evaluative state is the need to develop instruments to measure efficiency and effectiveness. In two decades of performance indicators literature, the relationship between inputs, outputs and processes have gone through every possible combination of weight and import of its components. Revisiting the issue of performance indicators in higher education, Johns and Taylor

(1990) concluded that outputs without inputs and processes were meaningless in explaining the differences in institutional performance and, more importantly, that the nature and history of institutions was a fundamental variable to make sense of whatever trend performance indicators pointed to. The main question, however, remains: what is the core impetus for monitoring and evaluation and can any system of performance indicators adequately resolve it.

The trend to measure as an expression of a demand for accountability has not been limited to the Northern hemisphere, where this movement started. In the developing world, this particular kind of accountability and its link to monitoring and evaluation was introduced by international aid funds (eg IMF, World Bank). This, more often than not, has worked towards the generalisation of a globalised view of society, government and economy, disregarding contextual issues as well as local discourses and practices. In the specific terrain of higher education, evaluation is often linked to the primacy of one model of higher education reform against which the achievement of other systems should be measured and judged. In this sense monitoring and evaluation systems in the developing world could be seen as an aspect of the importation of the managerial model of higher education (Abercromby & Fielden 2000; Arnové & Torres 1999; Marginson & Mollis 2001 & 2002).

In this sense it is not surprising that most of the literature on monitoring and evaluation in higher education is narrowly related to accountability and resource allocation with issues of social transformation being at best peripheral to the construction of performance indicators and at worst being limited to the capacity of higher education to generate economic wealth and to run its business in a cost effective manner. While certain aspects of the movement towards quality assurance of higher education seem to be tempering this, especially in those countries where quality improvement is as fundamental an objective for external scrutiny as accountability, so far we do not know of any national higher education system that has taken the issue of transformation head on and incorporated the problems of social and institutional change in the conceptualisation and implementation of a monitoring and evaluation system. While the UNESCO project on higher education indicators translated into indicators most of the transformative objectives of the World Declaration on Higher Education and of the Framework for Priority Action arrived at the World Conference on Higher Education of 1998, so far most of the work done is concentrated on the development of quantitative performance indicators, leaving the issue of change untouched (Yonezawa & Kaiser 2003).

Hence, despite the numerous reservations and objections to monitoring systems based on a narrowly conceived idea of accountability, they can be a useful

and productive tool for progressive and reflective thought and action as far as they transcend the mere generation of baseline data characteristic of monitoring and enter into the more interpretive and explanatory field of evaluation. Most monitoring systems have bureaucratized and simplified issues of fundamental importance and complexity which, looked at more closely, actually define the nature of the relationship between higher education, the state and society (Neave 1998:273). The obscuring these relationships and their changes seem to be, at least in part, one of the consequences that the rise of the evaluative state in the field of higher education brought about. Taking this into account the fundamental challenge for the construction of a monitoring and evaluation system is to take its own contradictions as a potential tool for democratisation as a point of departure. This might make possible the realisation of a progressive link between evaluation and democracy.

The American evaluation specialist, Michael Patton, posits a link between civil society, public management and the polity to argue that evaluation strengthens democracy (Patton 2000; also see Alkin 1990). This is so, Patton argues, because in democratic societies the evaluation of a social intervention analyses the relation between specific democratic goals, eg the distribution of a social good such as education, the process of implementation of a programme which has been designed to realise that particular goal, and the impact that this programme has had in actually achieving a more equitable distribution of education in society. However, the relation between evaluation and democracy is not limited to establishing the effectiveness of democratic governance in tackling social issues through the assessment of policies, processes and impact. According to Patton, evaluation has a role in strengthening democracy: it improves the transparency of government and provides the kind of knowledge that contributes to responsive decision-making. But it also creates the space for different social actors to enter into dialogue, to critically examine purposes, processes and the results of individual and collective actions (Patton 2000).

SYSTEM-LEVEL MONITORING AND EVALUATION IN SOUTH AFRICA

The monitoring function of the CHE derives from the responsibilities given to it by the WP, to advise the Minister of Education on "the performance of the system, having regard to available performance indicators ..." and on "the progress being made towards achieving national equity and human resource development goals and measures to overcome impediments to achieving transformation goals" (Department of Education 1997:section 3.25 (i & j)). Thus a monitoring and evaluation system

should help the CHE to discharge its responsibility to provide independent and strategic advice to the Minister of Education on all higher education matters; generate information and analysis that could be of use for the effective steering by government of higher education; and produce, as required by the Higher Education Act (1997:sections 5 & 19), annual reports on the state of South African higher education that are ever more comprehensive and analytical.

However, the CHE monitoring system does not come to fill a vacuum; South African higher education has previous experience with monitoring systems. The first attempt at monitoring higher education performance, the South African Post-Secondary Education (SAPSE) system, was fundamentally geared to provide data for the allocation of government subsidies. In 1996, in a very different political context, the National Commission on Higher Education (NCHE), which had been appointed to investigate all aspects of higher education and present proposals on how to restructure fundamentally the higher education sector, proposed to government that a new management information system and a performance indicator system should be developed for South African higher education (NCHE 1996:182 & 335). The NCHE reasoned that although the two systems were inter-related, they should be considered separately. The system-level management information system should be developed first and would have many uses. One of these uses could be "in developing performance indicators when the information in a database is connected with explicitly stated policy goals to illuminate the extent of national progress in higher education" (NCHE 1996:337).

The Department of Education (DoE) has had a fundamental role in the development of HEMIS, the Higher Education Management Information System, which will eventually provide a wealth of information about higher education at an institutional and systemic level. With respect to the development of a system to monitor and evaluate the achievement of policy objectives that takes HEMIS as its point of departure, however, three issues need to be addressed: first, how to use HEMIS information and link it to social transformation objectives by means of reliable quantitative/qualitative indicators; secondly, how this monitoring is different from the DoE's own reporting requests; and finally, what the point is of adding yet another interpretive layer to the national data produced by HEMIS in the form of a monitoring and evaluation system designed by the CHE.

That change seldom takes place as planned is a fact with which implementation agencies are very familiar. However, it is not their function to give an analytical account of the different paths to change or comprehensive explanations about success, deviation and failure, and unintended consequences of policy implementation; much less is it their function to

critique possible inconsistencies or incongruence in the process of policy formation and implementation, or to single out specific problems that need to be studied in detail. Moreover, in a situation of political transition in which social transformation and substantive democracy are fundamental objectives, monitoring needs not only to show whether or not certain objectives have been achieved, but to evaluate how far have they been achieved, and, fundamental for the development of a theory of social change that could help to steer, correct, plan and improve, to explain how change takes place, what the roles are of government agencies, market forces, social environment and the individual institutions in effecting change? In this sense, the CHE Monitoring and Evaluation system needs to operate with the data available in the system providing different interpretive layers that would have different uses for government, higher education institutions and stakeholders.

Taking this into account the CHE Monitoring and Evaluation system's main purpose is to monitor and evaluate whether, how, to what extent and with what consequences the vision, policy goals and objectives of the transformation of higher education defined in the WP are being realised at a systemic and at an institutional level. The system is therefore geared to:

- Describe and analyse the state of higher education in relation to the implementation of the transformation agenda set by the WP and the National Plan for Higher Education (NPHE), as its implementation strategy.
- Establish the direction in which the higher education system is moving in relation to the goals and objectives set in national policy and whether this direction is desirable.
- Establish the role and efficacy of policy, structures, instruments, strategies and processes in the implementation of change in higher education and at higher education institutions.
- Establish and analyse the form and pace at which change takes place, and how and to what extent this relates to the agency of the different social actors involved.

A monitoring and evaluation system for South African higher education therefore needs to be able to monitor trends in higher education and evaluate them in relation to policy goals in general as well as to specific policy strategies, implementation structures and instruments. In addition, the emerging patterns of change should allow some theorisation about how systemic and institutional change take place. This issue and how it relates to the understanding of monitoring and evaluation constitute the focus of our next section.

CONCEPTUALISATION AND DESIGN OF THE CHE MONITORING AND EVALUATION SYSTEM

One important safeguard against the audit culture currently prevalent in higher education worldwide is to establish as clearly as possible the connections and differences between monitoring and evaluation. Moreover, the possibility of improvement and the realisation of the link between substantive democracy and evaluation depend not only on the transparency with which institutions and organisations produce and utilise data² but also on the definition and nature of the data. In this sense a culture of evaluation needs to define what to evaluate, why to evaluate and, finally how to evaluate.

For the purpose of initial conceptualisation, two operative definitions of monitoring and evaluation were chosen, situating the CHE Monitoring and Evaluation system within a conceptual continuum. According to Unicef (2002:3), "monitoring is the periodic oversight of the implementation of any activity which seeks to establish the extent to which input deliveries, work schedules, other required actions and targeted outputs are proceeding according to plan, so that timely action can be taken to correct deficiencies detected. Evaluation is a process which attempts to determine as systematically and objectively as possible the relevance, effectiveness, efficiency and impact of activities in the light of specified objectives. It is a learning and action-oriented management tool and organisational process for improving both current activities and future planning, programming and decision making." In this conceptualisation, monitoring and evaluation represent qualitatively different yet complimentary activities. While monitoring is the continuous observation of an activity and aims to identify the need for corrective action by measuring change (input, output, processes, instruments) over time, hence taking a "broad" look, evaluation is preoccupied with the interpretation of monitoring data, and the attempt to discern, explain and assess change patterns and causalities, hence taking a "deep" look (Naidoo 2001). These differences should not detract from the fact that there is a blurred line between these two activities, especially if the object of monitoring is not simply to produce data regularly but to produce intelligence on data, which in turn has some role in pointing to incipient problems and trends that cannot be simply signalled but need some level of explanation and interpretation.

Explanation and interpretation in a monitoring and evaluation system imply that the system itself has to be embedded in social dynamics, as well as in the contradictions of the policy process and that it has to take into account that higher education is not a closed system but, on the contrary, is deeply permeable to political and social pressures. However, the idea of

higher education as a system needs to be qualified, by saying that the system itself is not a social actor; the social actors are the higher education institutions themselves. From this point of view the degrees of permeability of the system to societal and political pressures as well as its responses to them are those of the institutions that form it. This said, the CHE Monitoring and Evaluation system is based on a series of assumptions about the socio-political context of the country as well as on the process of policy implementation.

In democratic societies policies are the result of historically conditioned political contestation, conflict and cooperation between social actors with different interests and unequal power. Thus the process of policy implementation as well as its outcomes are often unpredictable and depend on the ways in which policy is read, interpreted and used by governments as much as by the social actors themselves.

Secondly, as a consequence of their apartheid legacy, the 36 institutions that made up the South African higher education system in 1994 were characterised by differentiated identities, capabilities and resources. These differences seriously conditioned the ways in which institutions accepted, responded to, reinterpreted and resisted the transformation agenda and the country's changing political circumstances.

Lastly, the general purpose of South African higher education policy post-1994 is the transformation of the higher education system in such a way that it redresses past inequalities, serves a new democratic social order, meets pressing national needs and responds to new realities and opportunities in a global context. This purpose, stated at the level of symbolic policy in the WP, has been disaggregated into a series of objectives, plans and targets as government and individual higher education institutions interpreted the policy in order to implement it. The process of translation of symbolic policy goals into implementable objectives is not always congruent or comprehensive.

Each of these assumptions about policy poses a methodological and strategic corollary at the time of embarking on the actual tasks involved in monitoring and evaluation. Firstly, the historical character of policy formulation implies that changing historical circumstances produce new political configurations that need to be taken into account if one is to adequately understand and interpret social change at the systemic and individual level. In other words, the CHE Monitoring and Evaluation system has to take into account broader social policy trends and processes which constitute the context within which higher education policy and policy implementation are shaped.

Secondly, historical differentiation between institutions must be brought to the fore in order to provide a

nuanced interpretation of systemic trends and to offer comparisons that help to understand institutional change from a systemic perspective. In terms of the selection and collation of data this implies complex forms of aggregation and disaggregation of the information provided by HEMIS, the HEQC, and other management information systems and databases.

Thirdly, the WP based its goals and objectives on a series of principles which, in turn, were prioritised and defined as targets with accompanying strategies in the National Plan. The efficacy of any measurement and diagnosis of the state of the South African higher education system then depends on the actual availability and quality of data in the system as well as on the measurability of the objectives themselves and on their correspondence with the stated goals. In other words, the need to define and conceptualise strategic performance indicators urges that these principles are brought into a workable format and plotted against specific functions or fields of higher education, ie teaching, learning, research, and community service.

The complex relation between the goals and objectives of the WP and those of the NPHE, which have been presented by the government as the implementation strategy of the WP, with a view to the construction of performance indicators, has therefore been solved by referring back to the principles which underlie the transformation process: equity which, in the monitoring project, refers to the achievement of increased black and female representation in the three fields of higher education that the system will monitor, particularly taking into account representation within different science domains or scientific cultures, as well as level of study; and responsiveness, which refers to the extent to which the inputs, processes, outcomes and effects of higher education in relation to teaching, learning and research meet national goals and the public good. This latter category will not be limited to the analysis of the economic and labour market-related outcomes of higher education but will also investigate the viability of constructing indicators that could account for the socio-political objectives of the reform (eg development of critical citizenship) and for the nature of knowledge production. The third principle is efficiency, ie the relation between both outputs and inputs within the higher education system (internal efficiency) and between inputs and effects in the wider society (external efficiency).

Indicators, nevertheless, are simply diagnostic tools when it comes to the explanation of complex social processes. Understanding institutional and societal change in the context of the changing relations between higher education institutions, the state and society, the second focus of the system, implied accepting the limits of monitoring in advancing explanations and interpretive frameworks for the

different trajectories/results of policy implementation. In this sense performance indicators per se can only suggest and insinuate. Fuller, deeper, and, especially, focused investigations are necessary to understand how and why institutional/systemic change takes place, and how this relates to fundamental societal/global trends. This has to be deepened and broadened by case study research and evaluation.

Finally, the issue of the unit of analysis constitutes a conceptual as well as a strategic issue. The higher education system is constituted by the aggregation of all the institutions recognised as providing higher education in South Africa, whether public or private. System level trends are the result of the different weight that individual institutions' trajectories have in the construction of an index. Systemic trends, however, can be misleading as well as an oversimplification of complex and diverse process. In order to understand change and to encourage improvement, the two fundamental objectives of the CHE Monitoring and Evaluation system, a system has to provide descriptions and explanation that serve comparative and analytical purposes. Thus systemic level trends need to be disaggregated into institutional types, and further into individual institutions in order to have a more nuanced and sharper understanding of the ways in which policy implementation unfolds, how is it mediated, and what the structures and instruments are that facilitate success. Once again these issues raised the differences and complementarities between monitoring and evaluation. The CHE Monitoring and Evaluation system utilises the conceptual continuum as well as the tensions between monitoring and evaluation to track change, to explain it, and to theorise it in the interface between the higher education system and its constitutive parts.

By means of a commissioned feasibility study, the CHE has identified a list of initial possible indicators and the data sources available, and is about to commission a pilot study based on the results in order to verify, correct, and prioritise the adequacy and pertinence of the selected indicators.

THE QUEST FOR DEMOCRACY: OPPORTUNITIES AND RISK

As we argued at the beginning of this article, despite the reservations that monitoring and evaluation should elicit they can be important tools for furthering social change and deepening substantive democracy. This section points out some of the potential benefits that a monitoring and evaluation system might bring to the CHE, the higher education system and civil society and also reflects on some of the potential risks that the implementation of such a system might entail.

From the point of view of the CHE, the implementation of a system that monitors the progress of higher education reform against general goals and specific

targets as well as looks for explanations, causal relations and interpretive theories for deviations, unplanned results and different trajectories to achieve similar outcomes, undoubtedly has benefits in better understanding policy implementation and in highlighting new problems that need to be dealt with at a systemic level. Thus, the CHE expects significant benefits from the system for its advisory function towards the Minister of Education.

In relation to the CHE's responsibility towards higher education institutions, the monitoring system will provide nuanced analyses of the specific paths to change followed by different institutions depending on their nature, identity, historical trajectory, resources and general capabilities. This will offer, it is hoped, useful terms of comparison as well as the possibility of identifying and sharing best practices in different institutional contexts. Also in relation to the institutions, the implementation of the system will show the importance of creating baseline information and institutionalising regular evaluation systems on which to base internal strategic planning.

In terms of the actual monitoring responsibilities of the CHE the system should allow the CHE to point to the DoE problem areas in terms of the instruments and indirectly the structures that support the implementation of higher education reform.

The monitoring and evaluation system will in two senses further support the CHE's function of steering and giving intellectual direction to the higher education system. On the one hand, the monitoring system will point out areas for research that will be undertaken by researchers and specialists within the higher education system, thus broadening the scope of research on higher education done in South Africa. On the other hand the CHE's focus on understanding and explaining institutional and systemic change could encourage South African specialists to sharpen their theoretical frameworks in order to account for the trajectory of South African higher education reform.

Finally, and in relation to the CHE's responsibilities towards the broader South African civil society, the monitoring and evaluation system can, through the dissemination of information, create the space for public debate and a better understanding of higher education's contribution to society, thus helping to

rethink the position and role of higher education within civil society.

The CHE's system differs in significant ways from the monitoring systems that Neave describes as characteristic of the evaluative state. One fundamental difference is that the CHE's Monitoring and Evaluation system has no implications for the allocation of resources to higher education institutions and is not sanctioned in a legislative manner. Secondly, the CHE system does not add an additional bureaucratic layer to the reporting systems of higher education. Its data needs in terms of baseline data can be satisfied by existing data and/or improved existing data collection. From the point of view of who funds the monitoring system, the CHE's exercise also departs from the evaluative state orthodoxy, in the sense that, so far, the development of the monitoring and evaluation system has been undertaken with international donor support.

There are a number of potential uses of a monitoring and evaluation system, the value of which, in the CHE's view, is to put it mildly, ambiguous. One of them is certainly the potential development of "transformation league tables" by the media, which are likely to over-simplify the complexity of South African higher education given the disparate institutional contexts. An even greater risk is posed by a potentially single-minded response of higher education institutions to the indicators selected by the CHE Monitoring and Evaluation system, which could stifle individual intellectual creativity and institutional innovation in order to simply report on existing indicators. For example, the reduction of "responsiveness" to the production of adequate high-level skills and certain types of research required by industry takes both the public good and the innovative understanding of responsiveness away from this indicator. Finally, monitoring results that give the appearance of neat balanced systems can make one lose sight of the fact that higher education institutions are social actors that have a dynamic and contradictory relationship to both state and civil society social relations.

In order to avoid the pitfalls and make the most of the opportunities opened up by the implementation of a monitoring and evaluation system, the CHE has to steer carefully between status quo description and analysis with a transformative capacity.

NOTES

- 1 The evolving relationship between the state and higher education institutions in South Africa has recently been conceptualised as a form of "conditional autonomy" rather than "co-operative governance" in the sense it was conceived of by the National Commission on Higher Education (Hall & Symes 2003; Hall, Symes & Luescher 2002:87-107; for a response see Moja, Cloete & Olivier 2003).
- 2 Data here refers to the different types of quantitative and qualitative information used to produce knowledge.

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