

## CONTRASTING NOTIONS OF POWER IN PROBLEM-BASED LEARNING

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*Problem-based learning is commonly advocated as an approach which empowers students to learn. But in recent times, various writers have questioned whether Problem-based Learning practices automatically enhance student autonomy. Some writers have even warned that students' participation in the Problem-based Learning process may discipline, rather than empower, students.*

*It is argued that student empowerment can only be realised if the ways in which power is exercised over students in Problem-based Learning are first understood. This paper examines the issues of power that underlie common practices in Problem-based Learning and analyses how different notions of power enhance or undermine student empowerment.*

*The notion of the teacher's unilateral power is critically examined against three contrasting notions of power in student self-assessment: sovereign power, epistemological power and disciplinary power. Each of these notions explains how power is exercised in Problem-based Learning in ways that enhance or curb student empowerment.*

### INTRODUCTION

Problem-based Learning (PBL) is frequently credited with emphasising self-directed learning and enhancing students' responsibility for learning. For example, Blumberg's (2000) review of studies on self-directed learning in Problem-based Learning contexts observed that PBL students spent more time in self-directed learning activities. Likewise, Dolmans and Schmidt (2000) characterise PBL as "an educational strategy in which students are encouraged to take responsibility for their own learning ... to be independent, self-directed learners." (p. 252). Clearly, a core goal of PBL is the development of self-directed learning skills (Mok & Lai, 2003; Winning *et al.*, 2004).

In the area of assessment, self-assessment is concomitant with self-directed learning in "teaching" students, in a PBL context, and preparing and developing students to take

responsibility for their present and future learning. Swanson *et al.*, (1997) argue that self-assessment practices are “nicely congruent with PBL’s emphasis on judging the state of one’s knowledge as an essential element of the learning process” (p. 271). Likewise, Sluijsmans *et al.*, (2001) identify self-assessment, together with peer-assessment, as higher-order skills which are important for students to develop in Problem-based Learning contexts.

However, various writers in recent years have questioned whether assessment, and in particular self-assessment practices, necessarily leads to more autonomy for students. Savin-Baden (2003) warns of the potential of assessment practices to discipline rather than empower students in PBL. In the context of Problem-based Learning, she warns that

what continually undermines such learning is the assessment processes, which at worst are surveillance games and at best would appear to meet some of the ideals of constructive alignment without necessarily being constructivist per se. (p. 103)

There is therefore a distinct danger that assessment practices may undermine the self-directed nature of learning and assessment that characterises Problem-based Learning. In particular, it cannot be assumed that self-assessment practices will lead to more autonomy for students to pursue self-directed learning in PBL. Taras (2001) argues that the real control of power in the assessment process is not challenged if students are excluded from summative graded assessment. However, student participation in grading their work may not necessarily mean that students are empowered. Race (1991) points out that if students know that tutors will intervene if they think that the marking process is unsatisfactory, then summative self-assessment cannot be claimed to be participative nor empowering. The practice of student self-assessment therefore does not guarantee that students are empowered in the assessment and learning process.

Burgess *et al.*, (1999) warn that the way self-assessment is used determines whether it is empowering for the students rather than a process that is imposed by academic staff. Reynolds and Trehan (2000) warn of participative approaches to assessment being experienced by students as a more subtle technique for disciplining. For participative assessment such as self-assessment to “realise in practice what it promises in principle, therefore, it is important to be alert to the tendencies for hierarchical relations to persist” (p 273). The practice of student self-assessment may therefore curb student empowerment by preserving existing hierarchical powers.

How can Problem-based Learning be practised in a way that empowers its students instead of disciplining or controlling them? Assessment is the process which acts as a powerful inhibitor of student autonomy (Heron, 1988; Boud, 1995). Hence, student empowerment can only be realised if the ways power is exercised over students in assessment practices are first understood. In the context of Problem-based Learning, self-assessment is a central assessment practice for student empowerment because its provision for student involvement in the assessment process is a concession to student autonomy. This paper examines the issues of power that underlie student self-assessment practices in PBL and analyses how different notions of power enhance or undermine student empowerment.

The notion of the teacher's unilateral power is critically examined against three contrasting notions of power in student self-assessment: sovereign power, epistemological power and

disciplinary power. Each notion of power explains how power is exercised in Problem-based Learning in ways that enhance or curb student empowerment.

## **THE NOTION OF SOVEREIGN POWER**

Sovereign power can be understood as "making one's will determine the actions of others regardless of what they would will" (Schmitt 1991, p. 105). For example, Emerson (1962) described power as follows: "the power of A over B is the amount of resistance on the part of B which can be potentially overcome by A". The idea of sovereign power arises from the context of explaining power relationships between sovereign rulers and subjects in the general course of history. Such articulations of power characterises power in episodic and interpersonal terms (Clegg, 1989).

### ***Sovereign power causally produces explicit acts***

The actions of the person exercising power and the person subjected to the power must be explicit and obvious. For example, Dahl (1957) viewed power as occurring where 'A has power over B to the extent A can get B to do something that B would not otherwise do'. According to Clegg (1989), the status of causal arguments in traditional debates of power has virtually equated the exercise of power with a classical notion of causality. Hence, power existed only if it could be seen to be exercised, and power was seen to be exercised if its cause could be identified.

### ***Sovereign power is a zero sum paradigm***

Sovereign power is an indivisible commodity that can only reside with one individual at any given point in time. Power cannot be shared but can only be surrendered to another individual. In such absolute terms, one is either an agent of power (an authority) or a recipient who responds to power (subject). Hence, the teacher's unilateral power over students can only be redistributed but not shared. This means that power is seen as a commodity that some people possess at the expense of others. There is a definite sum total of power in any given context, and the key idea is to identify who had the power and how much power that person had.

### ***Who has sovereign power?***

The notion of sovereign power focuses on persons exercising power. In the context of student self-assessment, only two parties are relevant to the discussion of power – the teacher and the student. Sovereign power in student assessment means that the teacher possesses all the power and the student possesses none. Student self-assessment is then seen as the opportunity for students to be given some of the teacher's power for their own assessment.

The idea of the teacher being the sovereign power in student assessment has been adopted by Butcher & Stefani (1995) who criticised assessment processes for conferring on academic staff unequivocal control. Likewise, Reynolds & Trehan (2000) identify the issue of power in assessment as largely being a disparity of power between teachers and students, while McMahon (1999) argues that vesting such absolute power in teachers conditions students to

seek to please them rather than demonstrate their learning in assessment. Such statements of power in student assessment focus on only two actors, the teacher and the student. Analysis of the relationship of power rests firmly on episodes of the teacher exercising power over the student.

### ***How is sovereign power exercised in Problem-based Learning?***

The term “Problem-based Learning” implies that the problem assigned by teachers becomes the basis for what students learn subsequently in the PBL process. The construction and interpretation of the problem is therefore a potential site of control over what and how students learn in PBL. Consequently, teachers may be reluctant to allow their students too much leeway in how the problems should be interpreted. This is especially true for inexperienced facilitators who do not pilot test their problems for multiple interpretations. Drinian (1997) observed that much of the teacher’s control over students in Problem-based Learning centres around the problems used for learning in PBL. He argues that “having spent so much effort, teachers are understandably reluctant to change the issues or seize the opportunity to immerse students in real issues in the real world” (p. 336). Drinian’s observation is consonant with Heron’s (1988) view of the prevailing model of assessment and learning in higher education as an authoritarian one, vesting teachers with unilateral power over students.

This has implications for student autonomy and empowerment in PBL. Because sovereign power can never be shared, only one interpretation of the problem and the subsequent learning issues is considered valid – either the teacher's or the student's. If the student's interpretation is to be accepted, then it has to be subservient to the interests of the teacher. In the area of self-assessment in PBL, the existence of the teacher’s sovereign power is demonstrated in the emphasis on student-teacher mark agreement. Since sovereign power cannot be shared, teachers are left with little choice in student self-assessment. If they desire their students to have any power, it would mean they would then have to surrender their own power in determining the assessment outcome. The only option for student self-assessment is therefore to ensure that the student's self-assessment outcome is comparable to the teachers’. In other words, student self-assessment is viable only if the student’s self-assessed outcome is subservient to the teacher’s assessment.

## **THE NOTION OF EPISTEMOLOGICAL POWER**

Epistemological power may be understood as power that affects teachers and students in the broader politics of institutions and hegemonies. Power in this respect exists beyond explicit interpersonal episodes or confrontations. An individual can be said to possess power without having to use it explicitly against another individual. In the context of student self-assessment, students are subjected to power all the time as long as they are aware of the teacher's prevailing authority in the assessment process. This can be illustrated in the phenomenon known as backwash where the student seeks to learn according to their perception of what the teacher desires (Ramsden, 1992). In other words, what and how students learn depends on how they think they will be assessed (Biggs, 1999). It is therefore the student's perception of the teacher's assessment demands that determines student learning rather than the formal curriculum. Hence, the idea of backwash denies that teachers need to

explicitly control what students should learn in the form of a written curriculum. Instead, teachers both individually and collectively are said to possess dispositional power, since the students' intuitive awareness of the teacher's prevailing authority in assessment outcomes means that students will continually act in accordance with the teacher's tacit assessment demands.

Who are students and teachers subject to in respect of epistemological power? The concept of hegemonies is a useful idea in explaining how collective groups of people influence what students and teachers may do in Problem-based Learning.

### ***Hegemonies***

Hegemonies are defined by Bocock (1986) as occurring when the intellectual, moral and philosophical leadership provided by the class which is ruling successfully achieves its objective of providing the fundamental outlook for the whole society. Hegemony establishes and maintains its power through the continual consent of the masses to its leadership (Gramsci, 1971) and by manipulating the social context in which political contests are waged (Whitt, 1979). The teacher in this context is an institutional agent invested with authority (from the academic community) to make judgements about learners, and their power is legitimated in this way. The role of assessment is to enable and reproduce subjection of students by virtue of entrenching tutors (hegemonistic agents) in a legitimated position as credible assessors of student learning.

By acknowledging the existence of hegemonies, we may appreciate how students are subjected to the epistemological powers that prescribe the membership rules for entry into their professions. The collective privileges of hegemony depend on restricting entry to their profession and tying knowledge to their own interests. Hence, students must be inducted and assessed according to the same established knowledge frameworks of the academic hegemony in order to be accepted (Martin, 1998). In addition, there are the interests of various non-academic groups, such as the professions, who actively restrict entry into their privileged occupations. Often, these restrictions are entrenched in legislation and professional rules of conduct. Students therefore have to contend with more than their immediate assessors (agents of hegemonies). They have to contend with the over-arching hegemonies which dictate how students will eventually be accepted into professional and vocational memberships.

### ***How is epistemological power exercised in Problem-based Learning?***

Unlike sovereign power which manifests as explicit actions, epistemological power relies on the control of knowledge. This makes it more insidious and therefore more prevalent. In the context of PBL, epistemological power may exist in the form of problems representing the epistemological boundaries of accepted knowledge. This may then limit students' awareness of various knowledge agendas that underpin the immediate needs of problems. Boud and Felletti (1997) identify such a limitation as a key challenge for PBL. They warn:

One intrinsic danger is that students will equate learning solely with its practical or instrumental value, which comes from too narrow a construal of the problem ... the curriculum defining the world for them, or professional practice (being understood) as a

series of problematic situations which can be interpreted and resolved by using existing schemata and available routines. (p. 9)

Often, such epistemological control over what students learn is exercised through the assessment process in PBL. Epistemological power exists in the assessment process in terms of what can be assessed and how knowledge is assessed.

### ***Epistemological power in what can be assessed as valid knowledge***

Martin (1998) explains the domination over students by academic staff in the form of staff exercising almost complete control over the choice of material that is taught. The driving force behind staff domination is their interests in preserving their own power, and this is achieved collectively as a hegemony by tying knowledge to their entry point into their profession. Hence, in order to reproduce the academic profession, students must be inducted into the established knowledge frameworks and socialised into proper behaviour. In this way, power is exerted by teachers, hegemonies or prevailing discourses to control what students should learn for their formal assessment.

### ***Epistemological power in how valid knowledge is determined by assessment***

Students are also subject to epistemological power when the form of assessment pre-determines what valid knowledge is. For example, Paxton (2000) points out that the genre of multiple-choice questions epitomises the idea of the generic student, and no allowance is made for student differences or for student autonomy. By utilising multiple-choice questions, assessors are predetermining that the knowledge in a given field can be demonstrated through restrictive means and that students should not or need not be given the option to express their fuller views on the question. This confines the student to a closed interaction and reinforces the idea that someone else knows the answers to the question, so original interpretations are not expected. The teacher exercises epistemological power over the student by stipulating a fixed number of outcomes the student can consider, and by insisting that only one of the options is valid.

### ***The implications of epistemological power for student self-assessment***

Unlike sovereign power, epistemological power posits that power can be shared or negotiated between various parties in the PBL process. Hence, students and teachers need no longer face a standoff as to whose assessment is eventually decisive. It is therefore theoretically possible for both parties to negotiate and share control over how the student's self-directed learning and the teacher's control over students may be dialogued. In turn, it also means that the student's self-assessment need no longer be solely summative since the purpose of having students judge their own work is not to challenge the teacher's judgement of their work, but to assist both parties to negotiate a new understanding of the work. Epistemological power therefore allows staff and students to collaborate in the learning and assessment process in PBL by allowing both parties to assess the same piece of student's work, and to negotiate or dialogue the assessment outcome.

However, the sharing of power between teachers and students is in turn limited by the prevailing power of hegemonies. Student autonomy in Problem-based Learning may thus be

a fiction. Whilst students can be said to enjoy some measure of autonomy from teachers they negotiate the Problem-based Learning process with, the negotiation will always be conducted within fixed knowledge boundaries. While students may think that they are empowered by their teachers to direct their own learning, such independence is ultimately limited by the institutional and hegemonic forces that control their teachers in the first place.

## **THE NOTION OF DISCIPLINARY POWER**

In the context of PBL, Savin-Baden (2003) warns that lecturers are not only agents of power, but also subject to the disciplinary processes of the assessment and measurement of the individual. Disciplinary power is therefore a more pervasive notion of power compared to sovereign and epistemological power. As opposed to the notion of sovereign power, disciplinary power studiously avoids stipulating who possesses power and how much power is present. Instead, its approach is to explore (and not explain) how power arises in different discourses without being limited to individuals (sovereign power) or to hegemonies (epistemological power).

### ***Discourse and disciplinary power***

The concept of discourse is central to the idea of disciplinary power. A discourse in the Foucaultian sense is a particular way of organising meaning and hence of ordering the world (Lee, 1992). Discourses can therefore be understood as forms of regulation of social meaning and social actions. They may exist as a linguistic unity or group of statements which constitutes and delimits a specific area of concern, governed by its own rules of formation with its own modes of distinguishing truth from falsity (Gilbert & Low, 1994).

In contrast with sovereign and epistemological power, discourse views power as productive and not solely repressive, and as circulating rather than being possessed by individuals or groups of individuals (Gore, 1995). Power is no longer simply the evil impediment that prevents students from enjoying adequate autonomy in student self-assessment. Power is no longer simply the province of teachers and hegemonies that students have to compete with. Power is not simply the guarantee of student autonomy that enables independent learning to take place. Instead, power relies on knowledge in order to control its subjects. While students may want to free themselves of control in order to self-direct their own learning in Problem-based Learning, their acquisition of knowledge in turn renders them governable by subjecting them to measuring, categorising, normalising and regulating (Usher & Edwards, 1994). Sovereign and epistemological power assumes that the absence of power in Problem-based Learning affords the student autonomy to understand and value knowledge. In contrast, disciplinary power warns that the act of student self-direction in Problem-based Learning exposes the students' thoughts and inadequacies and exposes them to greater disciplining and governance.

### ***Who exercises disciplinary power?***

Unlike the first two notions of power, disciplinary power does not limit power only to that which is identifiable with persons. To do so would be to vest in certain persons or bodies of

persons the untenable status of supreme sovereign power. Instead, disciplinary power rejects the idea that any individual or any group of individuals possess ultimate power.

Power is not seen as residing in persons but is in itself neutral until used by individuals for their particular purposes (Leach *et al.*, 2000). Instead of focusing on who is subject to power, disciplinary power looks at the mechanisms of how power is produced (Gore, 1995). Hence, the question is not who holds or exercises power, but what specific practices actualise relations of power in pedagogy.

In the domain of Problem-based Learning, teachers and hegemonies are not in themselves sovereign powers but instead are subject to prevailing discourse(s). In as much as tutors are subject to discourse(s), they in turn utilise their own discourse to exert power over students in Problem-based Learning, in particular in the assessment practices. Higgins *et al.*, (2001) warn of the complicity of complex academic discourse(s) in the formulation and conveying of feedback to students on their assessment. Students may not understand their tutor's feedback simply because they struggle to understand the discourses underpinning their tutor's comments (Francis, 2001). The problem is exacerbated by competing discourses in different disciplines/subjects.

### ***How is disciplinary power exercised in Problem-based Learning?***

Disciplinary power is seen to exist not merely through overt expressions of the exercise of power. Power is not viewed through episodic demonstrations of A's power over B. Neither is power viewed as subjecting individuals to hegemonic structures. Instead, power is seen to subject a person through covert and overt forms. Disciplinary power may be exercised in Problem-based Learning through examination and confession.

#### *Examination*

Disciplinary power works through the construction of routine. Power is moved from the distant horizon into the very centre of daily life. Its object is to impose an ubiquitous pattern of normality and eliminate everything and everybody which does not conform. It may be seen that Problem-based Learning processes promote the observation, surveillance and examination of students which renders them knowable and identifiable as sites of intervention and control. Because disciplinary power requires knowledge of the subjects to be exercised efficiently, students who self-assess and demonstrate their competence (or lack of it) in Problem-based Learning invite and incite power to be exercised against them. This is commonly observed in the collaborative assessment practices common in Problem-based Learning. Boud, Cohen and Sampson (1999) identify covert forms of disciplinary power occurring when the reality of students collaborating for assessment purposes (e.g., peer assessment) is compromised through the influence of overriding assessment paradigms. The effect is that students examine themselves according to the range of outcomes unilaterally defined as legitimate by staff. Consequently, the students first learn to distrust their own judgements and then act as agents to constrain themselves.

*Confession*

Alternatively, students may exercise self-governmentality by confessing their knowledge in Problem-based Learning and thereby subjecting themselves to the disciplinary forces that such knowledge serves. Reynolds & Trehan (2000) warn of the risk of participative assessment imposing a form of governmentality through the action of students being their own policemen in self-assessment. This results in participative assessment becoming part of the machinery of normalisation utilising confessional techniques for the students to subject themselves. In this way, students offer themselves to surveillance by demonstrating how their self-assessed knowledge, arising from the self-directed learning processes of Problem-based Learning, conforms to or strays from acceptable disciplinary knowledge/power. The danger of utilising collaborative assessment practices in Problem-based Learning is that such assessment practices risk becoming a form of a confessional technique which hides behind notions of self-understanding but in effect acts as complex mechanisms of monitoring and control (Ball, 1990).

***The implications of disciplinary power in Problem-based Learning***

In the first two notions of power, it is assumed that the acquisition of knowledge is possible for students only when power is not exercised against them. Hence, Problem-based Learning is a means of neutralising forms of sovereign and epistemological power that obstruct students from their search for personal independent knowledge.

In contrast, the notion of disciplinary power argues that power is not simply a prohibition against knowledge but that the self-acquisition of knowledge actively produces power (Usher & Edwards, 1994). Disciplinary power does not merely impede the acquisition of knowledge but produces subjects who can be understood and monitored as a result of self-directing their learning and self-assessing their knowledge. As a form of examination, students are rendered knowable by their self-assessment, and this in turn provides knowledge for authorities to discipline students into docile bodies. As a form of confession, Problem-based Learning may be a part of the self-policing machinery of normalisation that sustains compliant identities in students (Reynolds & Trehan, 2000).

Problem-based Learning may therefore produce a routine of practices that subjects students to even more power/discourse than it is intended to eliminate. The paradox of Problem-based Learning is that by providing students with more autonomy to direct and judge their own work, more is known about the student in terms of how they view themselves. Students are then subject to greater control and surveillance as a result of exercising more autonomy in their learning and assessment. The teacher's practice of unilateral assessment in non-PBL contexts subjects students to the teacher's overt control over what they should learn. In the context of disciplinary power, the student's self-directed learning and self-assessment practice subjects the students to self-surveillance over what prevailing discourses dictate knowledge should (be assessed to) be.

## **DOES PROBLEM-BASED LEARNING EMPOWER OR DISCIPLINE STUDENTS?**

Each notion of power presents unique and pertinent issues and challenges for student empowerment in Problem-based Learning.

The notion of sovereign power pits the teacher and the student in a direct struggle for power in the assessment process. Unless teachers are prepared to forego their own sovereign authority, self-direction in learning and self-assessment practices for students will be a token act of autonomy ultimately requiring their acquiescence to teacher control. Because sovereign power cannot be shared with students, academics with a notion of sovereign power cannot be said to empower their students in their Problem-based Learning programmes.

The notion of epistemological power allows students to share power but only to the extent that they acquiesce with prevailing knowledge interests and hegemonies. Unless students are prepared to risk their prospects for accreditation and professional acceptance by challenging entrenched epistemologies, they cannot be expected to exercise any form of power in Problem-based Learning that would allow them to assess and learn independently. Because epistemological power subjects teachers to professional and institutional hegemonies, academics with a notion of epistemological power enjoy limited success in empowering their students in their Problem-based Learning practices.

The notion of disciplinary power perhaps presents the greatest challenge for Problem-based Learning. Whilst the first two notions posit that student self-assessment may simply fail in not vesting sufficient power in students, disciplinary power warns that Problem-based Learning practices may subject students to even greater control.

## **SUGGESTIONS FOR ENHANCING STUDENT EMPOWERMENT IN PROBLEM-BASED LEARNING PRACTICES**

What can be done to enhance student empowerment in Problem-based Learning practices?

Firstly, power should be appreciated for its productive pedagogical potential. It is not simply an evil to be shunted away in order for students to learn freely. Power is always present, whether it is envisaged to be with individuals, hegemonies or discourses. The focus instead should be on exploring how power in requisite professions or discourses can be used for the benefit of students. Such an exploration obviously should involve the student.

Secondly, Problem-based Learning practices should be judged in terms of their benefit to students, and not in terms of how much power/autonomy the student has enjoyed. Focusing on student autonomy in Problem-based Learning is counterproductive. When student autonomy is the issue, the instinctive response is to consider how much autonomy can be surrendered, and consequently how such autonomy can be monitored. Focusing on learning allows all parties to consider the various impediments to students benefiting from their Problem-based Learning practices in terms of learning, and not in terms of autonomy. In this light, autonomy in Problem-based Learning should be viewed as a means to an end, and not a goal in itself.

Thirdly, the naïve assumption that students are naturally able to exercise responsibility and control for their learning in Problem-based Learning contexts should be avoided. Both students and teachers bring with them learned notions of behaviour and power relations into any learning and assessment process. Both may have been conditioned to accept entrenched roles in student learning and assessment. The risk is that outward forms of greater student autonomy in Problem-based Learning may be subverted by the inward tendencies of students to learn and self-assess according to the teacher's preferences. It is not enough simply to tell students that they have the power to self-judge and self-value their learning. Students need to be convinced, and then assisted, to exercise a form of autonomy in their learning and assessment that runs counter to all their educational experiences of being assessed unilaterally.

Fourthly and finally, academics who are considering student self-direction and self-assessment in Problem-based Learning should themselves self-assess their motives and agendas. Is the "student autonomy" and self-assessment to ensure that students will learn more effectively? Will the student's own choice of learning issues and self-assessed outcomes enable the student to challenge prevailing professional interests and discourses? Is student self-learning and self-assessment a means to examine the student's inadequacies? Will self-assessment and peer-assessment compel students to confess their learning against norms of competence and behaviour?

## **CONCLUSION**

"The redistribution of power in educational decision making is what is at stake" (Heron 1988, p. 83).

What is at stake in any educational strategy which purports to empower students is not the redistribution of power. Arguably, what is at stake in the empowerment of students in Problem-based Learning is not the stakes of assessment. Notions of sovereign and epistemological power argue that students' autonomy and learning is what is at stake in self-learning and self-assessment. The reification of stakes, however, limits student self-directed learning and self-assessment into yet another struggle for students to contend with in their disadvantaged status as subjects of unilateral power. Instead of raising the stakes in Problem-based Learning, academics should critically examine their own agendas and practices for their liberating and at the same time disciplining potential. Student empowerment can only be realised if the ways power is exercised over students in Problem-based Learning practices are first understood. This is a problem that all academics have much to learn from, for our own Problem-based Learning practices.

## REFERENCES

- Ball, S. J. (Ed.) (1990). *Foucault and education: Disciplines and knowledge*. London: Routledge.
- Biggs, J. (1999). *Teaching for quality learning at university*. London: Open University Press.
- Blumberg, P. (2000). Evaluating the evidence that problem-based learners are self-directed learners: A review of the literature. In D. Evensen & C. Hmelo (Eds.), *PBL: A research perspective on learning interaction*. New Jersey: Lawrence Erlbaum Associates.
- Bocock, B. J. (1986). *Hegemony*. London: Tavistock.
- Boud, D. (1995). *Enhancing learning through self-assessment*. London: Kogan Page Limited.
- Boud, D., Cohen, R., & Sampson, J. (1999). Peer learning and assessment. *Assessment and Evaluation in Higher Education*, 24(4), 413 - 426.
- Boud, D., & Felletti, G. (1997). Changing Problem-based Learning. In D. Boud & G. Felletti (Eds.), *The Challenge of Problem-based Learning*. London: Kogan Page.
- Burgess, H., Baldwin, M., Dalrymple, J., & Thomas, J. (1999). Developing self-assessment in social work education. *Social Work Education*, 18(2), 133-146.
- Butcher, A. C., & Stefani, L. J. (1995). Analysis of peer, self- and staff-assessment in group project work. *Assessment in Education: Principles, Policy & Practice*, 2(2), 165-186.
- Clegg, S. R. (1989). *Frameworks of power*. London: Sage Publications.
- Dahl, R. A. (1957). The concept of power. *Behavioural Science*, 2, 201.
- Dolmans, D., & Schmidt, H. (2000). What directs self-directed learning in a problem-based curriculum? In D. Evensen & C. Hmelo (Eds.), *PBL: A research perspective on learning interaction*. New Jersey: Lawrence Erlbaum Associates.
- Drinian, J. (1997). The limits of Problem-based Learning. In D. Boud & G. Felletti (Eds.), *The Challenge of Problem-based Learning*. London: Kogan Page.
- Emerson, R. M. (1962). Power-Dependence-Relations. *American Sociological Review*, 27, 31-41.
- Francis, D. (2001). The challenge of involving students in the evolution process. *Asia-Pacific Journal of Teacher Education*, 29(2), 125-137.
- Gilbert, R., & Low, P. (1994). Discourse and power in education: Analysing institutional processes in schools. *Australian Educational Researcher*, 21(3), 1-23.
- Gore, J. M. (1995). Foucault's poststructuralism and observational education research: A study of power relations. In R. Smith & P. Wexler (Eds.), *After postmodernism: Education, politics and identity*. London and Washington D. C.: The Falmer Press.

- Gramsci, A. (1971). *Selections from the prison notebooks*. London: Lawrence and Wishart.
- Heron, J. (1988). Assessment revisited. In D. Boud (Ed.), *Developing student autonomy in learning*. London: Kogan Page.
- Higgins, R., Hartley, P., & Skelton, A. (2001). Getting the message across: The problem of communicating assessment feedback. *Teaching in Higher Education*, 6(2), 269-274.
- Leach, L., Neutze, G., & Zepke, N. (2000). Learners' perceptions of assessment: Tensions between philosophy and practice. *Studies in the Education of Adults*, 32(1), 107-119.
- Lee, A. (1992). Poststructuralism and educational research: Some categories and issues. *Issues in educational research*, 2(1), 1-12.
- Martin, B. (1998). *Tied knowledge: Power in higher education*, Retrieved 2001, from <http://www.uow.edu.au/arts/sts/bmartin/pubs/98tk/,1998>
- McMahon, T. (1999). Using negotiation in summative assessment to encourage critical thinking. *Teaching in Higher Education*, 4(4), 549-554.
- Mok, N., & Lai, P. (2003). Problem design in Problem-based Learning: Evaluating students' learning and self-directed learning practice. *Innovations in Education and Teaching International*, 40(3), 237-244.
- Paxton, M. (2000). A linguistic perspective of multiple choice questioning. *Assessment and Evaluation in Higher Education*, 25(2), 109-119.
- Race, P. (1991). What has assessment done for us - and to us? In P. Knight (Ed.), *Assessment for learning in higher education* (pp. 61-74). London: Kogan Page Limited.
- Ramsden, P. (1992). *Learning to teach in higher education*. London: Routledge.
- Reynolds, M., & Trehan, K. (2000). Assessment: A critical perspective. *Studies in Higher Education*, 25(3), 267-278.
- Savin-Baden, M. (2003). *Facilitating Problem-based Learning: Illuminating Perspectives*. Buckingham: Open University Press.
- Schmitt, R. (1991). Review essay: persons and power. *Social Theory & Practice*, 17(1), 105.
- Sluijsman, D., Moerkerke, G., Merrienboer, J., & Dochy, F. (2001). Peer-assessment in Problem-based Learning. *Studies in Educational Evaluation*, 27, 153-173.
- Swanson, D., Case, S., & Van Der Vleuten, C. (1997). Strategies for student assessment. In D. Boud & G. Felletti (Eds.), *The Challenge of Problem-based Learning*. London: Kogan Page.
- Taras, M. (2001). The use of tutor feedback and student self-assessment in summative assessment tasks: Towards transparency for students and for tutors. *Assessment and Evaluation in Higher Education*, 26(6), 605-614.

Usher, R., & Edwards, R. (1994). *Postmodernism and education*. London: Routledge.

Whitt, J. A. (1979). Towards a class-dialectical model of power: An empirical assessment of three competing models of political power. *American Sociological Review*, 44, 81-100.

Winning, T., Skinner, V., Townsend, G., Drummond, B., & Kieser, J. (2004). Developing Problem-based Learning packages internationally: An evaluation of outcomes. *Innovations in Education and Teaching International*, 41(2), 124-144.