ACCOUNTING FOR CREDIT IN HIGHER EDUCATION

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ACCOUNTING FOR CREDIT IN HIGHER EDUCATION

Abstract

Accounting figures variously in New Higher Education, as much accounting research shows. Neglected, however, are calculative practices that in their infancy attracted the label *curricular accounting* (Theodossin, 1986). They include credit points, levels of learning, level descriptors, learning outcomes, and related characteristics of student transcripts and diploma supplements, qualification frameworks and credit transfer systems. Their use has expanded internationally over the past two decades. Using New Zealand’s University of Canterbury as a case study, the practices are reviewed and the question of whether they are a form of accounting is discussed. The results beckon further research into curricular accounting’s evolution alongside changes in higher education and its consequences for participants in universities and similar institutions, higher education sectors and governments.

**Keywords** Learning accounts, Qualification frameworks, Credit accumulation and transfer systems, University funding, Accounting information for operations control
INTRODUCTION

Credit is used frequently in higher education to refer to learning that, having been assessed as above specified standards, counts towards a student’s qualification. In recent decades, in Europe and internationally, including in New Zealand and at the University of Canterbury, credit has become accounted for using a collection of calculative practices. Among these practices, the most obvious feature is credit points, which quantify volumes of learning entailed in courses\(^1\) and qualifications. Other features are levels of learning, level descriptors and learning outcomes, including means of measuring and recording them: these indicate qualities of learning. Applications of these features are evident in, among other things, qualification regulations, course catalogues, student transcripts and diploma supplements (for the latter, see European Commission, 2009b), credit transfer systems and qualification frameworks. When they were first being introduced in England, Theodossin (1986) coined for these practices the term *curricular accounting*, notwithstanding that at that juncture they did not include the use of credit points. This is the first appearance of this term in this or any other accounting journal, begging the question discussed in this paper of whether curricular accounting is a form of accounting and worthy of inquiry by accounting researchers.

Curricular accounting may be mundane and unexciting to readers who work with it daily in universities: familiarity can breed contempt. However, that contempt is probably misplaced when one reflects about the conditions of possibility this accounting has created. It is more than coincidence that the extension of curricular accounting to many countries has occurred contemporaneously with several other strategic changes affecting higher education in these countries. Numbers of students have risen significantly and participation rates are several-fold greater than a generation or so ago. Numbers of institutions providing higher education have also risen, and there are far more institutions calling themselves universities, or otherwise having degree-granting powers, or who have been accredited to teach and examine
students for degrees conferred by other degree-granting institutions or bodies. Huge diversification has occurred in disciplines and subjects. Degree and other awards have broadened and have become more modular and accommodating of student choices. This has led to customisation in knowledge and skills coverage. There has been some national and international integration of qualifications, making it more possible for students to gain a qualification through study with more than one institution and in more than one country. Consequently, students have become more mobile and more knowledgeable of the market. Fees levied on domestic students have increased relative to government grants and as a proportion of the revenues of universities and other tertiary institutions; and those fees, the equivalent charged by institutions to international students and significant proportions of grants that institutions receive from governments are linked more closely to an individual student enrolling for a specified course.

Many of these changes stem from higher education activities having become classified increasingly as public services. Consequently, the institutions providing them have been caught up in economic restructuring and reforms to public governance and management (Kelsey, 1997; Pollitt and Bouckaert, 2004), and so come to be part of the New Higher Education (Trowler, 2001). For example, re Colombia, see Restrepo (2008); re New Zealand, see Boston (1988, 1996); re Norway, see Pettersen and Solstad (2007); re United Kingdom, see Deem (2004), and Deem and Brehoney (2005). Potentially, curricular accounting shares with several other variants of accounting the attributes of having been introduced or adapted to reflect these changes to higher education and having helped constitute them. Examples of these other variants reported about higher education institutions in New Zealand include activity-based management and costing (Coy and Goh, 1993; Robb, Shanahan and Lord, 1997), performance measurement (Lord, Robb and Shanahan, 1998), accounting information
as part of governance (Dixon and Coy, 2007), annual reporting (Coy, Dixon, Buchanan and Tower, 1997), and resource allocation and accountability (Coy and Pratt, 1998).

Curricular accounting has so far been a major omission from the list of variants that accounting researchers have studied and not only in New Zealand. This omission indicates there is plenty of scope for researching such matters as whether the changes enumerated above reflect the aims curricular accounting has been intended to achieve, or arise from conditions of possibility curricular accounting has brought about; and whether some of the changes may even have been constituted by curricular accounting. However, it is difficult to delve into these matters without first addressing the more elemental questions of “What does curricular accounting comprise?”, and “Is curricular accounting a form of accounting?” Thus, it is these matters that are addressed in the rest of this paper, first by considering some matters and literature that relate to discussing the second question, and then reviewing Theodossin (1986) and other writers who have used the term curricular accounting or similar. After that, details are provided of the case study that was undertaken and the results that arose. This is followed by a discussion of the questions just posed. The conclusion includes suggestions for further research.

ACCOUNTING AND CURRICULAR ACCOUNTING

Obvious reasons for believing that the answer to the second question posed above might be “No” are as follows. Curricular accounting as sketched out above is usually not part of the remit of persons whose daily specialist duties are identified with accounting (e.g., bursars, finance registrars, college or faculty divisional accountants) but is dealt with by other institutional officials (e.g. managers of student administration, and of academic strategy, programmes, policy and quality) and academics. The accounting literature is devoid of the term and subject matter, notwithstanding that the practices of curricular accounting are part of the academic work environment of most contributors to accounting conferences and journals.
However, in discussing the significant extension of accounting in the functioning of modern industrial (and now global) societies, Burchell, Clubb, Hopwood, Hughes and Nahapiet (1980) raise the possibility of new accounting practices emerging during changes to patterns of organisational visibility. These in turn affect organisational participants’ perceptions of the problematic and the possible in wide ranging matters of managerial, organisational and, by inference, service practice, giving rise to changes in these.

A wide variety of research about public bodies points to this extension having been as rampant in public services (for an overview, see Broadbent and Guthrie, 2008) as in any other kinds of organisational activities, leading to social and institutional transformations, including in higher education, and so to the possibility of new accounting practices. Such practices might arise in response to helping the emergence of organisational forms with many interdependencies that make them increasingly complex; allowing operating information to be relayed around the networks that characterise these organisational forms; measuring and evaluating of some classes of people by other people, according to set priorities and expectations in relation to, say, divisional and product performance; and distributing reports and such like, according to legal and regulatory requirements, administrative needs and market expectations (Burchell et al., 1980). Although these responses may be construed into criteria by which to evaluate whether a collection of practices could be regarded as accounting, they are probably not sufficient in themselves.

Turning to other research, it seems that matters of scope, process and consequence of accounting have become more contested. Thus, the boundaries of accounting are being pushed out making it broader in scope and more multifarious in process, and its application wider in consequences, than narrow, conventional definitions. The latter often convey an image of accounting as recording, analysing and reporting financial transactions of businesses (or even nonbusinesses) or, going a bit further, as system-generated information (see Davis,
Menon and Morgan, 1982) to be used, at least potentially, for such purposes as communication and discussion in carrying out planning, control and evaluation (e.g., see Pettersen and Solstad, 2007). For example, in Miller’s work, including with others (e.g., Miller, 1990; Miller and Napier, 1993; Miller and O’Leary, 1990) and work such as Neu (2000) on postcolonial views of colonial times, accounting is seen as encompassing numerous calculative practices and applications. It enables knowledge to be conveyed over great distances, and plays distributive and ideological roles. People involved in interactions from which accounting usages arise, or which these usages cause, derive various meanings from these interactions, ones not limited to rationality as portrayed in neo-classical economic rhetoric. In a different field, Dillard, Brown and Marshall vouch that:

Management and accounting information systems are a particular kind of symbolic representation embodying expertise, facilitating hierarchical controls, and manifested as administrative technology that informs the purposeful action of organizations in the transformation process. These systems can foster sustaining processes, exploitative process [sic], or some combination of both. (2005, p. 81)

Indeed, discussing the situation in 1980, Burchell et al. said that “accounting developments are seen as being increasingly associated not only with the management of financial resources but also with the creation of particular patterns of organizational visibility” (1980, p. 5); and argued that “No longer seen as a mere assembly of calculative routines, [accounting] now functions as a cohesive and influential mechanism for economic and social management” (1980, p. 6). However, regardless of this economic, political, cultural and social breadth, one image that seems ever present is that of calculative practices, and interpreting reality through numbers or criticising ways numbers are used to interpret reality (Davis et al., 1982; Dillard, 1991).
In coining the name *curricular accounting*, Theodossin (1986) was analysing developments in England. He was familiar with modular/credit courses because of their popularity in his American homeland since the second half of the nineteenth century. There, they had been intended as “breaking the stranglehold of the [Oxbridge-inspired] classical curriculum” (1986, p. 5) but had had the significant consequence of a “curricular free-for-all” (1986, p. 5), which was eventually checked by introduction of “a system of ‘concentration and distribution’” (1986, p. 7) involving majors and minors. He noted the emergence starting in the 1960s of courses like these in some English universities and polytechnics, and discussed the credit system as it was developing in Britain in the 1970s and early 1980s. However, it is probably surprising that he used the name *curricular accounting* in 1986 because, although he refers to the Credit Accumulation and Transfer Scheme (CATS) (see 1986, p. 39) as being under development, this scheme was only embryonic compared with CATS that Trowler (1998) reported as being used widely in British higher education. Most significant is that the arithmetic of the system’s credit points did not materialise and gain widespread acceptance until later in the 1980s (Allen, 1995). That arithmetic facilitated each person’s study being recorded by module, as Theodossin discusses. It was in a currency of points and levels that on the surface at least was common within and across higher education institutions. The value of the study each person did over an extended period could be accumulated over several institutions. The potential arose for each person to have what Adam (2001) refers to as “lifelong learning accounts” (p. 302).

As Butler and Hope (2000) clarify, CATS now has many counterparts elsewhere, some based on a similar principle to CATS of purporting to measure quanta of learning (e.g., the European Credit Transfer Scheme (ECTS) – see Adam, 2001; “ECTS user guide”, 2009; European Commission, 2009a); and some, by contrast, based on alternative principles such as measuring quanta of taught classes (e.g., the Student Credithour System used in the USA,
which pre-dates CATS by at least several decades) (see also Bekhradnia, 2004; Theodossin, 1986). This is evidenced by a significant volume of official literature, both at policy level (e.g., Bologna Working Group on Qualifications Frameworks, 2005; New Zealand Qualifications Authority (NZQA), 2008) and organisational level (e.g., Open University, 2005).

Although no other authors have been found to use the name *curricular accounting* as such, several are concerned with how curricular accounting or specific characteristics of it have consequences for higher education and its participants. For example, Raban (1990) implies that Theodossin (1986) saw CATS merely as *bookkeeping* among higher education institutions and then criticises this view. He elaborates on potential ramifications of CATS and schemes like it, and on meanings that they can inspire. He considers issues around valuation as well as accumulation and exchange, and notes that CATS has been “a powerful catalyst for change in higher education [in England]” (p. 26), for example, aiding “the [English] Government’s attack on elitism and restrictive practices of the universities” (p. 26).

Bekhradnia (2004), in also using the word *accounting*, provides further elaboration and discussion. For a review of this and similar work, but in which the word *accounting* is not used, see Restrepo (2008). Other matters in the scholarly literature include sharing experiences and improving method or technique at ground level; and making or implementing policy at national level. For example, Greatorex (2003) is concerned with best practice among educators when it comes to level descriptors; Dillon, Reuben, Coats, and Hodgkinson (2007) relay how learning outcomes have been developed at one of the world’s largest universities, by reference to learning levels, and then linked to teaching and assessment; and Young (2008) draws on various jurisdictions (e.g., New Zealand, Scotland, South Africa) to suggest how to go about devising national qualifications frameworks.
The study was devised following the author’s observations and perceptions during participation in two decision processes between 2007 and 2009 at the University of Canterbury (UC). First, a proposal was debated and eventually resolved by UC’s various academic committees for common course sizes. Following this decision, the credit-point values of the approximately 3,600 courses within the UC credit-point system are being standardised as 15 points or multiples of 15 points. Second, and coincidentally, one UC faculty was resolving a longstanding proposal for the Bachelor of Commerce (BCom.) to have a graduate profile, which is to comprise several learning outcomes. This is expected to lead to a further process of refining (and in many cases compiling for the first time) learning outcomes for each of the 150 or so courses that are populated predominantly by BCom. students.

The processes comprised much debate, informal discussion, manoeuvring, conflict and negotiation, mostly among staff but with representatives of students as well, over credit points, learning outcomes and similar. Many participants expressed or displayed varying degrees of familiarity with these concepts and held various opinions about their meanings and significance. Various educational, financial and other ramifications and consequences attaching to the proposals were revealed, along with some anomalies in the credit-point system. A range of opinions were evoked about the efficacy of writing learning outcomes for courses and awards. Little was said or written to convince one that more than a few participants were cognizant of associations among credit points, levels of learning, learning outcomes, teaching and assessment, despite what appears in official pronouncements (e.g., UC, 2009a) and literature such as Dillon et al. (2007). It was the varying degrees of familiarity, the variety of opinions and the lack of cognition with the said associations that led the author to embark on the study. The idea that curricular accounting was the topic of the
study arose serendipitously. The author stumbled upon the term during a Google Scholar search of the literature. From that point, suggestions of Burchell et al. (1980, see p. 23 especially) were adopted when considering questions on which to focus the lines of inquiry, namely: How does curricular accounting function officially at the University of Canterbury in 2009? How has it emerged and developed and who has been involved and what issues shaped it? How has it become intertwined with other aspects of life; and what consequences have arisen?

Following these lines of inquiry simultaneously, the author delved into the underpinnings of the extant UC points system, tracing its historical development within UC and exploring the influence of systems used elsewhere in the past and presently. The author was a participant-observer at UC and drew on experience of conducting research into university accounting, finance, accountability and governance. Various documentary sources of evidence were consulted, including the Calendars of UC. Specimens of student records held at UC were examined. Other official documentary evidence in the public domain was perused. A staff seminar was held and several UC academic-managers and officials responded to questions and made comments about the analysis the author was writing. Set out in the next section is the descriptive analysis the author composed in response to the first question above.

ANALYSIS: CURRICULAR ACCOUNTING AT UC 2009

The purpose of this analysis is to provide a specific example of curricular accounting in action. Use of UC as an example is intended to clarify features of curricular accounting and how they are linked, affording the opportunity for readers to compare and contrast one version of curricular accounting with versions they might be accustomed to as academics or similar. The UC version is believed to have much in common with those used in other New Zealand institutions and bear some similarities to versions adhering to CATS and, less so, ECTS.
How curricular accounting functions at UC in 2009 is bound up with an abundance of possible programmes of study being available for its 19,000+ students. These programmes lead to approximately 120 different degrees and other qualifications, many of which are divided into endorsements, majors, etc. Each qualification has a set of regulations in which a relationship between the award, programmes of study and courses is specified, including in quantitative terms, sometimes referred to as “the credit requirements of the qualification” (NZQA, 2007, p. 5). An example is the award of a BCom. with an endorsement in Accounting. The 2009 regulations reflect the 360 point degree system, which came into operation at UC in 2006. The standard full-time duration of this award is three years, although a significant minority of students take longer, studying in part-time mode. To attain the award, a student must complete successfully a minimum of 360 credit points. At least 216 points must be from courses above 100-level and at least 84 points must comprise 300-level courses. The arithmetic is such that a student must acquire a minimum of 132 points at 200-level and 144 points at 100-level. If the number of points acquired at 200- or 300-level exceeds the minimum for that level, the excess can be substituted for points at a lower level.

Furthermore, as it is a commerce degree, at least 254 credit points must be from a schedule of specified commerce degree courses. And, because of the accounting endorsement, four 100-level accounting courses (total points value = 72) and three 200-level accounting courses (66 points) are specified as having to be completed; and the students must choose 56 points of 300-level courses from a list of (seven) 300-level accounting courses (i.e. four courses, as each is valued at 14 points) (UC, 2008a).

Other provisions include that students who have studied elsewhere may be granted up to a maximum of 120 credit points towards the BCom. degree based on the content of a qualification completed successfully, and up to a maximum of 224 credit points based on study that did not result in a completed qualification. Students who have completed courses
towards certain other UC degrees may have the credit points of those courses transferred to
their BCom. degree (UC, 2008a).

Other popular degrees at UC are the Bachelor of Arts (BA) and Bachelor of Science (BSc.).
These also have a standard full-time duration of three years and they require the same
numbers and distributions of points; and are subject to similar provisions as regards
endorsements and credit transfer. Other undergraduate degrees and qualifications vary in their
standard full-time duration. The numbers of points they require also vary but basically 120
points are required for each academic year’s duration (UC, 2008a). Postgraduate
qualifications have not usually been designated in points, but in equivalent full-time students
(EFTSs), as explained below.

As per note 1, *courses* in the above explanation have the particular meaning of the units for
which UC awards credit. Thus, each undergraduate course has, among other things, a credit-
point value, such as 11, 14, 18, 22 and 28 credit points; and a level of learning, such as 100-
level to 300-level at bachelor qualification level. A further metric attached officially to every
course is its value expressed in a decimal of EFTS, such as 0.0917, 0.1167, 0.1500, 0.1833
and 0.2333. This is referred to in some official documents and on student records as the
course weight, and since the present points system was introduced, the course weight has
been calculated from a course’s credit point value: course weight = credit-point value ÷ 120
points. It is attached invariably to postgraduate courses as well as to undergraduate ones,
whereas the situation of points for postgraduate courses is in transition in 2009, as explained
next. One reason for adopting the proposal to standardise course point values as 15 points or
multiples of 15 points was to reduce convolution arising from the present variety of points
and course weights. The change is expected to be complete by 2011 and entails changes to
the numbers of points at each level of bachelor degrees (e.g. the required points at 300-level
rises from 84 to 90) but does not alter the total for such a degree being 360 points (if it is a three-year full-time degree).

Postgraduate courses have now been assigned credit-point values in the student records system but these are not expected to be published in the Calendar until the 2011 version is published (in spring 2010). Postgraduate courses are also differentiated by levels of learning, but how courses at each level are coded is not as schematic as it is for undergraduate courses.

PhD thesis courses are sometimes referred to as being at doctorate level and are usually coded from 700 to 799. Masterate level thesis courses, usually of one year’s duration and done in the second year of a full-time master degree, are usually coded from 600 to 699. Taught courses done in the first year of a full-time master degree (which can also be used to attain a one-year, postgraduate-level bachelor [sic] degree with honours) are sometimes referred to as masterate level but more often as honours level, and are coded in some subjects from 400 to 499 but in other subjects from 600 to 699. Codes between 500 and 599 are also used but for various purposes and not necessarily to denote postgraduate study, but this complexity need not be gone into here.

As to how credit values are formally allotted to courses in the 360 point degree system, a full-time study year for a student, commonly referred to as an EFTS, is nominally 1,200 hours, and is said to derive from the tenet that 40 hours of study per week is a full-time load, and that study proceeds for 30 weeks in each year. An EFTS or 1,200 hours is represented in credit terms as 120 credit points, or as UC (2008b) expresses it “Nominally 1 point = 10 hours study or total learning hours”. Thus, students taking a course that is expected to engage each of them in a total of 180 hours of activities over the period of the course can expect to gain 18 points for completing it successfully, as measured by examinations, tests, assignments and other forms of assessment. The course weight of the course in question would be 18 points ÷ 120 points = 0.1500 EFTS.
The levels at which courses are placed (e.g., 100-level, 200-level, doctorate level) correspond to a progression in complexity to be achieved by students as they move from courses at one level to the next. These levels are used at UC and in university qualifications generally throughout New Zealand. As elaborated in UC (2007), they bear a close relationship to levels that comprise a qualifications framework used in classifying qualifications on the New Zealand Register of Quality Assured Qualifications. Known as the New Zealand National Qualifications Framework, this allows comparison of learning at different types of institutions and in different types of courses in order to assess equivalence (or difference). The framework was devised in the NZQA, which is also guardian of the Register. As part of the framework, a series of level descriptors have been issued to distinguish the knowledge, skills and applications expected from students completing courses at a particular level, independent of the subject or content (see NZQA, 2009). As shown in Figure 1, the levels in the framework are designated 1 to 10. At UC, bachelor degree courses at the 100-level, 200-level and 300-level have some correspondence to framework levels 5, 6 and 7. Postgraduate courses that count towards the first and second year of a two-year full-time master degree correspond to the framework levels 8 and 9; and PhD thesis courses correspond to level 10 in the framework.

[INSERT FIGURE 1 ABOUT HERE]

There are several further circumstances that are relevant, and so enumerated in this and subsequent paragraphs. The system through which students enrol in courses brings together routinely several aspects, including student records, course records and student fee accounts. For each student, enrolment information is captured on an individual computerised record, on which accumulates a list of courses that the student enrolled in by year of enrolment; and for each individual course, its level (derived from the courses code), credit-point value and, after the course is concluded, the grade (i.e. A+ to E, WD or X) the student attained. The number
of credit points currently being studied and the number accumulated from successful course completions also appear on these individual records. A further set of data they include relate to grade point averages (GPAs) overall, by year, and by level. Other information on these individual records include any credit the student has been granted by virtue of study at other institutions, and any award whose requirements the student has completed, including if the student has graduated.

On graduating, the student is issued with a qualification certificate, which presently does not incorporate a diploma supplement. However, if they request one, students are issued with a transcript, comprising a copy of their individual record. This shows details of courses successfully completed and that have counted towards a particular qualification (including credit transferred from other institutions), together with details of all other courses enrolled for at UC and not withdrawn from in time to obtain a fee refund, and all other transferred credit. A further document they can obtain on request is a statement showing GPA data. The qualification certificate and, if obtained, the other documents, can be shown by the student to interested parties, including other education institutions, employers and parents/family/whānau.

The student records are maintained at UC indefinitely. They date back to 1873, when the first students enrolled at what was then Canterbury College. Until the 1910s, the records comprised volumes resembling accounting ledgers of the day. A sort of double entry was used, such that each student appears among the folios of student names and among the folios for courses of lectures in each subject in each term, with suitable cross referencing achieved using three digit codes. This is resembled in today’s records, as in tandem with the student records just described, course records are kept, which among other things allow lists of students enrolled in each course cohort to be generated.
Students pay fees to UC to study each course. UC calculates the fees for a course using the course weight, as calculated from the credit-point value, the discipline involved and its qualification level (i.e. undergraduate and postgraduate) and whether the student is domestic (i.e. a New Zealand citizen or permanent resident) or international. The Tertiary Education Commission (TEC) on behalf of the New Zealand Government makes an annual grant to UC. A significant part of the grant comprises the student achievement component: dollar rates are specified annually for each EFTS in a range of funding categories into which every course has been allocated by discipline and by qualification level. The grant is the sum of the products of the number of domestic EFTSs that the TEC has agreed to fund in each funding category and the applicable dollar rates (see Funding Category Review Project Group, 2005; TEC, 2009a, b). In contrast, international students pay fees at the international rates, which are much higher, reflecting the absence of a corresponding grant from governments outside New Zealand, but are in proportion to course weights.

Domestic full-time students obtain loans and allowances towards course fees, living costs and other expenses from the New Zealand Government through the Ministry of Social Development’s StudyLink service (see StudyLink, 2009). They are classed as full-time provided the sum of the course weights of their courses exceeds the “fulltime load” threshold of 0.8000 EFTS in a calendar year. The same threshold is used for other purposes, including the granting of student visas to foreigners. Domestic part-time students are also eligible for assistance towards course fees and incidentals through StudyLink provided the sum of the course weights of their courses exceeds the threshold of 0.2500 EFTS in a calendar year. UC staff (there are nearly 700 academics in 2009) designing and staging courses are encouraged in collegial-type ways to achieve some internal consistency among a course’s learning objectives, student learning outcomes, size in terms of teaching, learning and assessment activities, and credit-point value and associated available learning time. They are
also encouraged to mix the formal (or class contact) and informal (or independent) learning that they design into courses in order to foster capability among students to be independent. The proportion of informal learning included in designs of courses of the same credit-points values is expected to increase through the levels: a greater volume of independent learning should exist in, for example, a 15-point 300-level course than in a 15-point 100-level course. This is in keeping with the notion that a student who has progressed to a higher level is more capable of studying than a student at a lower level, and so needs less direct guidance to make effective use of learning resources. An important aspect course designers are urged to consider is how much assessment is included in courses and how much time various assessments might take, compared with the learning time available and the period over which a course is studied (UC, 2009a). Limits are advised for the number of major tests\(^\text{11}\) during a course (as distinct from a final examination or similar end-of-course assessment) according to a course’s credit-point value. For example, advice is given that the number of major tests in a 100-level course of between 13 and 24 credit points should not exceed two (UC, 2008b). In considering the teacher workloads of courses at different levels, they are encouraged to assume these workloads will be relatively similar, even if actual contact hours of teachers reduce at higher levels. This is because it takes more time to provide guidance and disseminate resources for students’ independent study at higher levels, and so reductions in formal teaching at these levels is counterbalanced by this less-formal effort (UC, 2008b).

When UC staff make proposals for new and revised courses and awards, these have to pass through approval processes involving their academic peers, within UC and outside, including formal committees (e.g., faculty boards, UC’s Academic Administration Committee, the Committee on University Academic Programmes (CUAP) of NZVCC). Whether a proposal can be decided within UC or has to be approved by CUAP varies according to whether a single course is involved or an entire programme or qualification, and whether the proposal is
for a new item or for a significant or minor revision to an existing one. These criteria also
determine what information has to be provided in the documents that form part of the process.

For example, the information supplied to propose a new course normally includes a
prescription, most of which allude briefly to course content but may also mention learning
outcomes and method; credit-point value and, derived from that, course weight; level (e.g.,
100-level); relationship to other courses, including pre-requisite study, co-requisite study and
restricted study; predicted student numbers; names of teacher(s), formal hours of student-
teacher contact, teaching/delivery method and availability of other resources; assessment
provisions; plans for monitoring quality; and learning outcomes. In practice, some portions of
this information are of better quality and seem to be taken more seriously than other portions.
For example, learning outcomes are often not in “good form”. It is also possible to provide an
analysis in hours of student activities to match the number of credit points but up to 2009 this
has been rare, although at least one faculty has decided that this should be done in the next
round of approvals, which will be in 2010, including many arising from standardising the
points values of courses to 15.

DISCUSSION

The question of how curricular accounting functions at UC has been addressed in the
previous section by providing an outline of the 360 point degree system and inferring various
associations. The answer offered might be said to constitute a representational logic or
scheme (Dillard et al., 2005). Encompassed in it are specifying and awarding qualifications,
designing and controlling learning and teaching, providing order and control among students
and academics, and regulating policy and financial relations between UC (and similar
institutions) and external governmental agencies. This is notwithstanding doubts that may
have been raised about how serious the associations inferred are in practice.
Wider interest arises in this answer than participants at UC because of the resemblance among the UC system and other 360-point systems used in New Zealand, Scotland, England and elsewhere. The general approach of specifying course values based on learning hours resembles ECTS, which has been adopted widely elsewhere in Europe, often having replaced national schemes. Incidentally, the present UC system superseded an earlier points-based system, which had been in place since 1975 and also used in some other New Zealand universities. Thus, the concept of using numbers to represent courses in New Zealand preceded the development of same in CATS. As to other similarities to CATS at UC, in approving the standard course size of 15 points or multiple of 15 points, the quantity of 300-level points required for bachelor degrees will increase to 90 (from 84) for students commencing in 2010. Probably by coincidence as much as design, this accords with guidance published recently by the Quality Assurance Agency for Higher Education (2008) about the minimum credits at 300-level for qualifications that in England are designated bachelor degrees with honours. As to proposals under consideration about a graduate profile for the BCom., a wide range of sources from English-speaking countries about forms of learning outcomes, level descriptors, etc. have been referred to during discussions so far. The point to be appreciated is that staff of institutions and national bodies are drawing from experiences of their counterparts elsewhere as they grapple with the issues surrounding curricular accounting and related technologies.

An example of this grappling arises in the previous section and can be discussed briefly here. It was reported that in practice, some portions of the information supplied to propose a new course at UC are of better quality and seem to be taken more seriously than other portions of it. Some of these shortcomings may be attributed to lack of knowledge on the part of the staff making proposals of what is wanted, and to lack of inclination on the part of staff considering proposals to question shortcomings in proposal documentation. However, it does appear that
at least as significant are the following circumstances, which studies elsewhere also report. Many ambiguities and difficulties arise in trying to compose level descriptors and learning outcomes (see Greatorex, 2003). Behaviour among many participants derives from intent to preserve or extend the boundaries within which they operate as teachers and in other roles. Many participants do not accept (and some even resist) on principle the managerialist ideas of education, knowledge and learning that underlie UC’s course and qualification proposal document templates (see Trowler, 2001, for evidence elsewhere). It seems quite common for writers of proposals at UC, and at the author’s previous university, to enter words in some boxes on this standard document merely to comply with completing the documents (see Trowler, 1998, for further evidence). It also seems quite common for readers of the completed documents not to pay as much attention to these words as they do to others while considering the proposals, other than to note that the words in these boxes do enough in their experience to comply with the proposal process.

On the question of “Is curricular accounting a form of accounting?”, this requires a consideration of how wide ranging accounting has become in scope and process. In the previous section, one can induce that the involvement of accounting specialists in curricular accounting is peripheral at most. However, that accountants are not more heavily involved does not disqualify it as a form of accounting (Arrington and Francis, 1993). As was demonstrated, quite deliberately, in the previous section, curricular accounting involves numbers and calculative practices. These help make sense of situations in what by previous standards is a growing and increasingly complex higher education setting, which is now more closely networked with similar settings around the globe. Thus, it qualifies as accounting on that score, as is consistent with Davis et al. (1982) (see also Miller, 1990; Neu, 2000). Referring to criteria discussed earlier, drawn from Burchell et al. (1980), curricular accounting, as a vital element in UC’s enrolment and student records system, allows
operating information to be relayed around the networks that characterise UC and other institutions, and the bodies with which they deal. These dealings include, for example, matters of credit transfer and programme and course approvals. It facilitates measuring and evaluating of students, academics and others by academics, students and others, according to set priorities and expectations, for example in relation to academic achievement and course effectiveness. It allows reports and similar to be distributed, in order to meet, for example, administrative needs, regulatory requirements and employment-recruiters’ expectations. It helps to sustain UC, including its qualifications, and to maintain the credibility of people who over the past 50 years have gained those qualifications (and people before then who obtained University of New Zealand qualifications following study and assessment at Canterbury University College).

If there is doubt about curricular accounting being a form of accounting, it is in the matters of accounting usually entailing measurement using money units and usually concerning questions, issues, decisions, etc. that are economic. The quote from Dillard et al. (2005) presented earlier typifies much research that has exposed and illuminated accounting as political and social, and often presenting an economic façade as much as being entirely made up of economics. Moreover, qualifications have an economic as well as socio-cultural value to their holders, with economic consequences to employers, society, etc., and result from nonbusiness activities of economic value added to academics and everyone else employed in higher education. If qualifications did not, then would they and the universities and other tertiary education institutions associated with them have grown to their present size and importance? As to the use of money metrics, first, Simon, Guetzkow, Kozmetsky and Tyndall (1954) and, then, Bruns and McKinnon (1993) find that these are much less relevant than data expressed in metrics induced from actual operations. They are much less used among persons managing the operations than financial data are. In contrast, financial data are of
more significance to medium- and longer-term control, and to persons managing at some organisational structural and, possibly, geographical distance from the actual operations. As these latter findings accord with findings of Pettersen and Solstad (2007) regarding higher education, perhaps if their study was replicated but with curricular accounting taken into consideration, further valuable findings would ensue? In any event, it does seem that even though curricular accounting is being done in metrics induced from learning and teaching and that derive from organisations whose joint primary objective is education as knowledge dissemination (and not metrics induced from organisations whose primary objectives are to distribute cash dividends and allow capital gains to be realised), then the case for it being accepted as a form of accounting is not unproven. To go further would need further research and further acceptance into the accounting literature.

CONCLUSION

This paper addresses the elemental questions of “What does curricular accounting comprise?”, and “Is curricular accounting a form of accounting?” The author drew on participation-observation and a variety of official and research literature to provide an example from UC that helps to answer the first question. There is scope for other examples being researched in other jurisdictions to clarify concepts, compare and contrast their applications, and arrive at a synthesis and evaluation. This would be useful academically and to higher education practitioners.

The second question is more controversial, as the reader may find having read the latter part of the discussion section. This makes it very attractive as an area for further research. Even if the proposition the question implies is rejected, this research could take the ideas and practices featured in the UC example and expose them to greater scrutiny as to efficacy and consequences, building on related work in other literatures (e.g., Restrepo, 2008; Trowler, 2001). It could also add to the debate about what is accounting in the present era, in which
some people are surmising that knowledge is replacing financial capital (and before that labour with only basic skills) as the primary production resource (e.g., see United Nations Educational, Scientific and Cultural Organization, 2005).

As to suggestions about the form of further research, addressing the two questions that were referred to in relating the study method; “how curricular accounting has emerged and developed?” and “what consequences have arisen?” could provide a fuller picture of its economic, social and political functioning. This would also illuminate what might have shaped it (e.g., educational standards and equivalence, growth and size of higher education, developments in higher education funding, and public sector reform ideas). It could show how curricular accounting has affected higher education participants’ perceptions of the problematic and the possible in wide ranging matters of managerial, organisational and service practice, and the consequent changes in these. It could add to the existing literature, stimulated to some extent by Burchell et al. (1980) about how accounting has figured in the emergence of organisational forms that have many interdependencies and so are increasingly complex. Thus, there seem many possibilities for functional, interpretative and critical studies.

Notes
1 The word courses is used throughout to refer to units or modules into which study at a higher education institution is formally organised and the smallest piece of learning for which credit is formally awarded.

2 The CATS acronym is also used to indicate credit accumulation and transfer system but the words system and scheme do not seem to mean different things.

3 Calendars are recognised as the authoritative source of course regulations at New Zealand universities.

4 The naming officially of undergraduate levels in this fashion at UC and elsewhere in New Zealand is relatively recent. Unofficial usage of this naming scheme dates from the mid-1970s and derives from computerisation of the course catalogue and student records. At that juncture, courses at Stage I or First Year
were assigned alphanumeric codes that included numbers between 100 and 199; courses at Stage II or Second Year were assigned codes between 200 and 299; and courses at Stage III or Third Year were assigned codes between 300 and 399. Not only has this coding scheme endured but it changed official terminology.

5 The credit points and hours of study seem to have arisen through several New Zealand universities cooperating informally in the early 2000s in order to arrive at systems suited to each one’s needs and that were compatible. The systems in use then included one at Auckland University of Technology that had been adopted when it was still known as Auckland Institute of Technology (AIT) and classified as a polytechnic. As such, AIT was much more under the influence of NZQA than it is now, and the system in question was adopted at AIT because it was being championed by the NZQA. The thinking on this and related issues at NZQA seems to have been much influenced by work by the Scottish Vocational Education Council and then the Scottish Qualifications Authority (e.g., see Higher Education Quality Council, 1995) (personal communication from Angela Werren, Manager, Academic Policy, New Zealand Vice-Chancellors’ Committee (NZVCC), September 2008).

6 The activities in question would vary according to discipline and level but could include such items as formal teaching contact, informal contact, Web-based learning, practicals, lab-work, placements and tutorials, research, teacher-directed and self-directed study and assessment, including time taken for examinations (UC, 2008b).

7 The notion of 1 point representing 10 study hours was contentious when the system was introduced in 2006 and is still not incorporated anywhere in official UC policies (see UC, 2009b), although it is widely implied in various discourses around UC, and between UC and education regulatory bodies with which it deals.

8 The wording of this sentence reflects a view among many at UC that universities are independent of the New Zealand Government; and their courses and qualifications are not formally part of this national, government agency-devised framework. This view is shared apparently by staff at other New Zealand universities and is reflected in NZVCC’s somewhat equivocal position as regards the fit among university degrees, the register and the national framework (personal communication from Angela Werren, Manager, Academic Policy, NZVCC, September 2008).

9 Note 8 also applies to this sentence.
10 The way that the full-time and part-time thresholds are calculated can lead to anomalies. An example may help the reader understand the significance of credit points. In the case of a part-time student studying three courses of 10 points each, that student would fall below the threshold for assistance with course fees because the course weight of each course is .0833 EFTS and $3 \times .0833 = 0.2499$ EFTS. Compare this with a student studying two courses of 15 points each. The course weight of each course is .1250 EFTS and $2 \times .1250 = 0.2500$ EFTS. Notice that both students are studying a total of 30 points.

11 A major test is defined as a test that counts for greater than 20% of the final mark for a course.
References


—— (2008a), *Calendar 09* (University of Canterbury, Christchurch).


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Figure 1 New Zealand National Qualifications Framework (Source: NZQA, 2007; UC, 2007)