**Abstract**

With the emphasis that is currently placed on the development of graduate skills and easing the transition of students from academic study into the workplace, there has never been a greater need to explore undergraduate curricula in the numerate disciplines in terms of their fitness for purpose. This paper examines the case of management accounting and summarises published research that identifies a clear gap between academics’ and practitioners’ views on the importance of management accountant techniques and skills. Somewhat paradoxically, the views of neither academics nor practitioners are found to have changed significantly in recent years yet they seem to be considerably different. This paper suggested how this may influence curriculum design processes and suggests some areas for further research that might help bridge the gap and better align undergraduate curricula with the expectations of practitioners.

**Introduction**

This paper explores undergraduate Management Accounting Education and considers research that has identified a “gap” between the management accounting curriculum taught in higher education institutions and the work of practitioners.

A literature review shows differing opinions between management accounting educators and practitioners on things such as ranking the importance of management accounting techniques and in describing the nature of key of graduate skills.

The reasons for how and why this gap has arisen are not currently fully understood. It is felt through research examined later in this article by Tan et al.(2004), Fowler (2011) and Yazidar et al. (2008), that the gap exists because educators and practitioners have different overall aims. An educator wants to educate and teach a student the skills necessary to be a management accountant, whereas practitioners want graduates who can carry out the management accounting role. Unfortunately the role of the management accountant, and the way in which graduates are expected to carry out their roles in industry, are very different depending on the organisation in which the graduate works. The essence of management accounting is to provide financial and costing data to managing directors. Unlike financial accounting, there are no statutory rules and regulations that have to be abided by so the management accountant prepares management accounts to the managing director’s specific requirements. There are standards and recognised techniques within the field of management accounting but actually while the educators can teach the standards and the techniques they cannot tell a graduate how their manager may want these techniques implemented. This misunderstanding may be adding to the gap in that employers do not fully appreciated that topics cannot be delivered in a way relevant to their individual organisation and this unrealistic expectation is creating part of the gap.

We would argue that another reason for the gap is a further misunderstanding between educators and practitioners as to what is understood by certain “skills and techniques” These are rather subjective terms and different stakeholders may have different interpretations of these terms, this is also addressed later.

The paper is divided into the following sections; first we will look at the evidence in the literature identifying the curriculum gap; then we will look at some implications for curriculum design processes and finally draw some conclusions and suggest how these might impact on further research.

**Identifying the curriculum gap**

The nature of the business environment has changed significantly over the last 30 years so that “it is evident that the nature of accounting has changed considerably, largely because the organisational, economic and technological context in which this type of work is conducted has changed, in many cases beyond recognition” (Gammie, et al. 2002 p.64).

Yet research suggests that despite the changing business environment the role of the management accountant as perceived by practitioners and educators has not changed as might be expected. Furthermore Siegel et al (2010a p.41) “present and synthesize 20 years of evidence that strongly suggest that significant gaps exist between what accounting educators teach and what practising accountants do”. They also state that “the primary focus of the accounting curriculum, at least at undergraduate level is not much different from what it was 10, 20 or even 40 years ago.” (p. 42). This is not to say, however, that the role has not changed at all in recent years and in a follow up article, also in 2010, that focuses on the changing role of the management accountant, it is acknowledged that “New management tools, such as activity-based management (ABM), the balanced scorecard (BSC), target costing, and lean accounting, have emerged.” (Siegel et al. 2010b p.29).

To summarise the views of practitioners and educators over the period 2001 to 2010 Fowler (2011) looks at the emphasis practitioners placed on certain management accounting topics and techniques in 2001 compared to 2010, and found they were in fact very similar, with the top four in 2001 being in the top five in 2010 (the importance of product costing had increased and that of capital budgeting decreased). These results are summarised in Table 1.

*Insert table 1 here*

Fowler (2011) also looks at the opinion of the educators and found the same top four (albeit in a different order) in 2001 and 2010. Again, this research would indicate that in this ten year period the views of educators have not really changed that much.

However Table 1 does show a great divide between what practitioners think is important in management accounting practice and what educators think important in management accounting education, for example with cash flow management being ranked as the most important technique by practitioners in both 2001 and 2010 and ranked 19th in 2001 and 2010 by educators.

To summarise Table 1 we can use the Spearman Rank Correlation Coefficient (denoted as r’) as a non-parametric measure of correlation and we find that for both practitioners and educators the correlation between rankings in 2001 and 2010 is highly significant (p < 0.01) but that rather surprisingly the data for 2010 shows no significant correlation between the rankings of practitioners and educators (r’ = -0.03). To further illustrate the extent to which the views of management accounting techiques diverge the data in Table 1 has been further broken down in Table 2 to show how the top five techniques of practitioners and educators are ranked by each other.

*Insert table 2 here*

Thus while the evidence shows that the separate opinions of practitioners and educators have not changed significantly between 2001 and 2010 in terms of the technical role of the management accountant, there is still considerable disparity between practitioners and educators and this gap shows no sign of diminishing.

The other area to be considered within undergraduate curricula is that of the graduate skills needed by management accountants. A number of researchers have tried to identify the management accounting skills needed by graduates from the perspective of a variety of stakeholders and a summary is provided in Table 3.

*Insert table 3 here*

Reccuring themes within the graduate skills needed can be seen from Table 3 from a number of different stakeholder perspectives over a 10 year period. Although the general nature of the skills listed does not appear to have changed significantly in this period, the list identifies different terminology used for similar skills and clarification will be needed in further research to remove subjectivity. Take the idea of “communication”. The term appears several times in the table but also listed are oral and communication skills, interpersonal skills, verbal skills, speaking, writing, social skills and presentation skills. To agree the graduate skills needed for successful employment will also require agreement on the terminology used in data collection.

**Some implications for curriculum design process**

The issues raised so far in this article seem to indicate some deficiencies in the curriculum design process undertaken by educators. How curriculum design in the field of management accounting should be undertaken can first be approached by looking at curriculum design models to explore which might be most reflective of the needs of the management accounting discipline. From considering research by McKimm, (2003), Kelting-Gibson, (2013) and O'Neill, (2010) two approaches to curriculum development have been identified: - the technical / scientific methodology and the non-technical / non-scientific methodology.

The technical / scientific methodology is a very structured view of curriculum development; the models within this methodology have stages that need to be completed before the next stage can be considered with key decision making points. Within this methodology there are a number of identifiable models:

* Ralph Tyler model: Four basic principles (Tyler, 1949). This is a four-stage rational decision making approach of curriculum development that considers information from the subject area, the students and society. It has a basis in experiential learning and considers the past experiences of prior students.
* Hilda Taba model: Grassroots rationale (Taba, 1962). This is a seven-stage model that follows on from the work by Tyler but introduces the idea that educators should also have a responsibility to course development and should aid the development of courses. It should be an inductive approach by educators within the curriculum.
* Francis Hunkins: Decision-making model (1978) (Ornstein & Hunkins, 2013). This is a two-stage model; the first stage considers deliberation and curriculum development and the second stage the generic programme goals, objectives and implementation. It is set apart from the above two models as it includes a specific stage for deliberation and includes students as stakeholders. It also has a built-in feedback and adjustment loop so as to allow previous decisions to be reviewed within the curriculum development process but after implementation and evaluation.

The non-technical / non-scientific methodology has developed to be more student focused, and allows for the curriculum development cycle to be dynamic and less rigid and even allows for subjectivity. Within this methodology there are a number of identifiable models:

* Ornstein and Hunkins: Deliberation model (2004) (Ornstein & Hunkins, 2013). This model has been developed from the above decision-making model by Francis Hunkins. It is a six-stage model, which allows for extra stages depending on deliberation and review (but before implementation) of the programme. The model recognises that deliberation needs to be undertaken during the initial curriculum development process before implementation and that there will be differing stakeholder opinions. The model recognises that prior knowledge in the deliberation process needs to be considered and that experiential life situations need to be included within the curriculum development process.
* Willis: Post positivist – postmodern (Marsh & Willis, 2007). The idea behind this model is that curriculum emerges from gathering stakeholders together. It is an uncertain process with no clear structure. The curriculum is viewed as an emerging and constantly evolving entity rather than a static body of knowledge to be delivered over a fixed period. Curriculum design is not a process but an experience that can sometimes take the stakeholders and the curriculum in new and unimagined directions.

In this paper the Ralph Tyler model has not been considered as it was superseded by the Hilda Taba Grassroots rational model. Also, the Willis: Post positivist – postmodern model has not been considered as it is felt to be inappropriate due the numerate nature of the Accountancy subject area and the fact that curriculum development needs to be structured due to the subject’s vocational nature and professional driving forces.

It was also noticed that while the Decision-making model falls in the technical / scientific methodology and the Deliberation model is located in the non-technical / non-scientific methodology the models are both derived from work by Francis Hunkins and do build upon each other. The difference between the models is that the former brings in the idea of discussion and improvement after programme implementation, whereas the latter specifically concentrates on deliberation during the programme development stages.

Both Tan, et al., (2004) and Fowler, (2011) clearly show that there is a differing in opinion of what educators and practitioners view as important for the management accounting graduate. We argue that this difference of opinion should have an impact on curriculum development. This gap and the fact that it is felt that educators and practitioners need to have an impact on curriculum development is consistent with the Grassroots rational model, the Decision-making model and the Deliberation model , all of which support the idea of deliberation within curriculum development and the involvement of stakeholders. However, the employer as a stakeholder is not specifically mentioned in any of the curriculum development models identified.

The research by Tan, et al., (2004) also clearly shows a differing of opinion of the graduate skills that both educators and practitioners think their graduates need and, as most curricula within the accounting and finance field are driven by professional bodies, it raises the question as to whether the professional bodies are considering graduate skills. Tan et al’s inclusion of practitioners within the curriculum development process particularly supports Hunkin’s Decision-making model as it is reflective after implementation of a programme.

Gammie, et al., (2002) consider the viewpoints of current and post placement students and also business schools. They use discussion forums, interviews, and questionnaires to identify the skills gap as viewed by these different stakeholders and this is therefore supportive of the curriculum development ideas of the Deliberation and Decision-making models.

This research then goes a step further than either Tan, et al., (2004) or Fowler, (2011) by creating a specific module “business enterprise skills” from thirteen identified skills, determined from the current programme and not from external opinion. Five learning outcomes were developed. The way in which the thirteen skills were identified does not support the idea of experiential course design as it doesn’t make changes to skills previously identified. It is also not really carrying out deliberation or reflection.

The idea of creating a new module to bridge the “skills gap”, regardless of the way in which the content was delivered is a method of curriculum evaluation and curriculum maintenance which is very supportive of the Decision-making model by Francis Hunkin. Whether skills should be developed in a separate module or contextually within other academic modules is still a question being debated although we would favour the latter approach.

Pang & Hung, (2012) surveyed business students who were going to undertake an existing personal development skills programme as to its usefulness in skills development. Again this research was carried out after implementation which is particularly supportive of the Decision-making model. The students were then surveyed after the module to decide if they thought they had improved in five identified skills areas.

There is a clear need to include data collection from a variety of stakeholders and deliberation within the curriculum design process. The Deliberation model seems particularly appropriate since it emphasises the practicality of diverse cultures, customs, and values among stakeholders and allows for a conversational approach and a process of discussion over the curriculum and suggested inclusions. It prompts agreed decisions as to what constitutes an effective curriculum.

***Conclusion and impact on further research.***

There are three specific conclusions that we can draw from the research reviewed in this paper.

First, the gap between educators and practitioners has been clearly demonstrated within the work by Tan, et al., (2004) and Fowler, (2011). Their work has identified a starting point for a list of management accounting topics and skills that should form the core of a curriculum however there is a lack of clarity in defining both the management accounting topics and graduate skills that stakeholders have been asked to rank. Furthermore there has been no explanation as to why the gap arose in the first place and what can be done about it.

Second, we contend that curriculum development within Accounting and Finance may be at fault due to its reliance on the requirements of the professional bodies and the Quality Assurance Agency (2007a & 2007b) benchmarking statements for accounting and finance. These are used to drive curriculum development in many institutions and it may be that these are being used at the expense of a more inclusive curriculum development process. We would contend that both the Decision-making model of Francis Hunkins and the Deliberation model of Ornstein and Hunkins are considered very relevant to this particular field and that further refinement of these models may be necessary to include key stakeholders in the deliberative stages. We feel that there is a clear need for the inclusion within the curriculum development process of employers and also that educators should seek out the experience of past students at different stages of their professional career. Stakeholder selection would be important as there would be a need to consider a mix of academic profiles, employer’s background, organisation size, industry etc.

Third, educators will need to explore ways in which the management accounting techniques and the graduate skills are delivered to the students. Whilst it was identified by Gammie, et al., (2002) that “appropriate methods of delivery” and “academic members of staff who are involved in the programme must be carefully selected” it does not go further to address methods of delivery or staff selection and this will need consideration, particularly in the delivery of study skills as it may be necessary to assess the capabilities of academics within an accounting and finance department in terms of the delivery of skills rather than techniques. This also then questions whether the delivery of study skills should be done, as in the work by Gammie, et al., (2002) and Pang & Hung, (2012) separately or whether the skills development should be embedded within the programme.

If management accounting curricula are to be made supportive of students moving into the world of work then these issues will need to be addressed. Further research is needed in a number of areas including finding ways to reduce the gap through more inclusive curriculum design which will include ideas such as discussion forums, interviews and surveys of practitioners, graduates and employers. We also need to consider whether other more direct techniques such as observation would be appropriate. To fully explore the changing role of the management accountant it would be desirable to undertake observational study of the management accountant at work to inform curriculum design and then link this to more innovative delivery of management accounting techniques and skills to make it more relevant to employment, whilst not losing the academic essence of a degree programme.

Finally it may, rather disappointingly, be that the reason for the gap is in the perception of importance held by practitioners and educators since “perhaps the biggest obstacle to change (therefore) is the perception of irrelevance. The communication gap will never be bridged if neither side thinks it worth bridging” (Singlton-Green, 2010).

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