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# Incorporating Financial Literacy into the Secondary School Accounting Curriculum: A New Zealand Perspective

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Although respondents generally agreed that students benefited from accounting as an elective subject at secondary school, all agreed that the development of financial literacy skills was important. Difficulties in introducing a new core subject into an already overcrowded curriculum were acknowledged. However, this difficulty could be overcome by making modifications to the subject "Accounting". As the most widespread, existing "finance" related subject, Accounting would be the most appropriate vehicle through which to teach financial literacy.

## **Keywords**

Accounting, accounting education, financial literacy, New Zealand secondary schools



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Grant Samkin<sup>1</sup>, Mary Low & Jordan Taylor

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**JEL Codes:** M41; I22; M21, H31

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## Introduction

The objective of this paper is to examine whether accounting should continue to be taught as an elective subject in its current form at New Zealand secondary schools, or whether the incorporation of a financial literacy component will increase the subject's relevance to students. Recent changes surrounding professional accountancy education may have implications on whether and how accounting is taught in secondary schools and tertiary institutions. In 2011, the New Zealand Institute of Chartered Accountants (NZICA) announced changes to professional accountancy education (chartered accountants) requirements. These changes included a reduction in academic studies from a four-year to a three-year degree program requirement, with the professional examination changing to include four technical modules.

The continued relevance of the subject "Accounting" in New Zealand secondary schools was highlighted when the Ministry of Education issued the New Zealand Curriculum in 2007. Accounting was a notable omission<sup>2</sup> even though it was expected that the subject would fall under the Social Science "Learning Area".<sup>3</sup> The omission was surprising given the close fit accounting has to the curriculum's five key competencies: thinking; using language, symbols, and texts; managing self; relating to others; and, participating and contributing (Ministry of Education 2007). Despite its omission, the National Certificate of Educational Achievement (NCEA) Level 3<sup>4</sup> statistics show that students still see the subject as relevant as over 3,000 sat NCEA Level 3 "Accounting" in 2009, numbers which compare favourably with other elective subjects (e.g. Economics: 4,414 students; Geography: 5,925, and History: 5,587) (New Zealand Qualifications Authority 2010).

Secondary school level accounting has been the subject of limited academic research. In particular, subject content and the topic's relevance and usefulness to those who chose not to pursue university studies remain under-researched. Research internationally has focussed rather on whether school accounting adequately prepares students for the introductory tertiary level course (Baldwin & Howe 1982; Doran, Bouillon & Smith 1991; Eskew & Faley 1988; Farley & Ramsey 1988; Keef 1988; Keef & Hooper 1991; Lee 1999; Mitchell 1985, 1988; Rhode & Kavanagh 1996; Schroeder 1986; Swanson & Brooks 1984). Jones and Wright (2010, p12) suggest that studies such as these are warranted in that it is useful to establish whether prior exposure to accounting offers an advantage in the form of higher grades in the introductory tertiary course, or a disadvantage "perhaps as a result of students being too self-assured when they are presented with what appears to be a repeat of high-school material".

Although internationally the findings generally suggest that students with prior secondary school accounting are likely to benefit when taking introductory tertiary accounting, the results are conflicting. In a United Kingdom study, Mitchell (1985) found that students who had taken accounting at secondary school may benefit from the experience in their final quantitative exam but this benefit was not apparent in qualitative assessments such

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<sup>2</sup> New Zealand is a small country with a national exam system. A number of university accounting faculty are consulted by the Ministry of Education when the school accounting curriculum for years 11, 12 and 13 is developed or reviewed. Other accounting faculty members act in various capacities for the New Zealand Qualifications Authority, the organisation responsible for setting and administering the National Certificate of Educational Achievement (NCEA) Level 1, Level 2 and Level 3 examinations. These are usually sat at years 11, 12 and 13. There is a close link between accounting at secondary school and introductory tertiary level. This is illustrated through certain New Zealand universities providing exemptions to the first level introductory university accounting course to those secondary school students who achieve a prescribed level of NCEA level 3 credits in accounting.

<sup>3</sup> In this learning area students explore how societies work and how they can participate and take action as critical, informed, and responsible citizens.

<sup>4</sup> NCEA level 3 is year 13.

as essays. In a later study, Mitchell (1988, p283) found that in qualitative assessments students who had studied accounting at high school performed better than students who had not, but the difference “was small and not significant at the 5% level”. In a New Zealand study, Keef and Hooper (1991) found that those students who had studied accounting at school obtained benefits from this prior experience in the first-year accounting course. A more recent Australian study by Rhode and Kavanagh (1996) found that students who had studied accounting at high school have an advantage of one to two grades over students who had not previously studied accounting at school. More recently, a Hong Kong study by Lee (1999) found students who successfully completed secondary accounting achieve higher grades in tertiary accounting courses.

In an early United States study, Baldwin and Howe (1982) found that college students who had previously studied bookkeeping performed no better in university accounting classes than students who have not previously undertaken such a course. They found that as the semester progressed, those with prior, school accounting experience often fell behind other students. In a later study, Eskew and Faley (1988) found that, although the study of accounting at secondary school accounted for a significant portion of the variance in an introductory tertiary level accounting course, other factors including the student’s aptitude and effort explained examination performance. In a New Zealand study, Keef (1988) found that in a first-year accounting course students who had studied accounting at secondary school obtained no advantage over those who had not (see also Doran et al. (1991) for similar findings).

Although the evidence would suggest that school accounting does provide some benefit to those taking the introductory tertiary level course, in recent years there has been an increased call to promote financial literacy in schools. In New Zealand, this includes Miller (2009); Morall (2009a, 2009b); Sheeran (2009), and, internationally, Beal and Delpachitra (2003); Chatzky (2002); Chen and Volpe (1998); Cutler (1997); Huddleston and Danes (1999); Mandell and Klein (2009); Marriott (2007). If these calls were heeded, decisions would need to be taken in terms of whether the financial literacy is provided as an additional subject in an already overcrowded secondary school curriculum, or whether a component should be incorporated into an existing financial-based paper such as accounting. This study contributes to the under-explored subject area and content of accounting at secondary school level.

The paper is structured as follows. First, the literature surrounding financial literacy is reviewed with specific highlighting of New Zealand issues. The method used in this paper is then described. This section includes a description of the survey instrument used and the collection of the quantitative and qualitative data. The findings of the electronically administered survey of secondary school accounting teachers and interviews with secondary school accounting heads of departments, university heads of department, and NZICA members are then discussed. A conclusion rounds out the paper.

## Literature Review

Difficulties have been experienced in defining the precise meaning of the term “financial literacy” (see, for example, Beal & Delpachitra 2003; Buckland 2010; Marriott 2007; Widdowson & Hailwood 2007). For the purposes of this paper, “financial literacy” is defined as practical financial knowledge. That is, the skills individuals should possess to ensure they are able to make informed decisions about managing their personal finances.

Internationally the benefits of a financially literate population have been widely reported (see, for example, Bond 2000; Braunstein & Welch 2002; Brown et al.2006; Buckland 2010; Cutler & Devlin 1996; Financial Services Authority 1998, 1999; Mandell &

Klein 2009). The dire consequences associated with personal financial mismanagement have been succinctly described by Beverly and Burkhalter (2005) as follows:

Poor financial choices can have a number of negative consequences. People may accumulate large credit card debts, making it difficult to obtain mortgages, car loans, and other types of credit. People may overpay for insurance and still not obtain adequate coverage. They may not create adequate emergency funds. They may contribute too little to retirement accounts or make unwise allocation decisions. They may fall prey to scams related to financial aid for college, home equity loans, and small business opportunities (Beverly & Burkhalter 2005, p121).

Prior research has indicated that an individual's level of financial literacy can have important implications for financial behaviour. Individuals with low levels of financial literacy are less likely to participate in the stock market (van-Rooij, Lusardi & Alessie 2007), are more likely to have higher levels of personal and household debt (Lusardi & Tufano 2009), and are less likely to manage wealth effectively (Stango & Zinman 2007). They choose mutual funds with lower fees (Hastings & Tejeda-Ashton 2008), plan less for retirement (Buckland, 2010; Lusardi & Mitchell 2007a, 2007b, 2009), and suffer health consequences (Joo and Garman, 1998). A further concern is the findings of Brown et al. (2006, p188) who in a UK study of small businesses found many small business people "appeared to be aware of their own lack of financial literacy".

Sound financial decision making is likely to occur when an individual becomes financially literate. This idea suggests that financial literacy education should commence early. As Grumet (2010) explains:

In these unstable economic times, many people feel there is a need for young students to have a foothold in financial education earlier and earlier, and yet at some schools students aren't offered even a basic course on the principles of accounting, much less how to balance a checkbook (Grumet 2010, p7).

In an early study, Chen and Volpe (1998) analysed the personal financial literacy of 924 students at 14 colleges in the USA. Participants were asked to answer 52 questions including 36 multiple-choice questions on personal finance. Chen and Volpe (1998) found the participants' personal financial knowledge was generally poor with a mean correct answer score of 53%. The benefit of introducing financial literacy into United States schools has been examined by Huddleston and Danes (1999). They found that teaching personal finance (financial literacy) in secondary schools increases financial knowledge and has a positive impact on both teenagers' financial behaviour and on their subsequent behaviour as adults. Chatzky (2002) found that the majority of American high school students were not getting financial literacy education and those that were did not appear to retain much content.

In a study of first-year students at the University of Southern Queensland, Australia, Beal and Delpachitra (2003, p18) concluded that students were "not skilled or knowledgeable in financial matters" and added "this lack of financial skill will tend to impact negatively on their future lives through incompetent financial management". In a more recent study that attempted to measure the personal financial awareness of a group of 149 first-year business school students in the United Kingdom, Marriott (2007) found serious gaps in the students' personal financial knowledge, in particular, in their basic understanding of the student loans system and part-time working. Marriott (2007) concluded that these results were perhaps not surprising "as only 21% of students stated that they had received lessons in personal finance prior to attending university" (Marriott 2007, p515). Finally, Lusardi, Mitchell & Curto (2010) identify that key determinants of financial literacy amongst 23 to 28 year-olds in the

United States found widespread shortcomings in the financial literacy of this age group and that there was a strong association between financial literacy and cognitive ability.

The failure to both promote and reinforce financial literacy in schools then has the potential to impact on consumers' ability to make sound financial decisions about present and future personal needs (Davis & Durband 2008). This is consistent with the view from Cutler and Devlin (1996) who concluded that not only was there a need for increased levels of financial literacy, but also that this knowledge should be introduced to individuals earlier.

### *Financial Literacy: The New Zealand Experience*

The level of personal debt in New Zealand is problematic (Blair 2001). Over the past two decades household savings have dropped, while credit card liberalisation and easier access to consumer credit have led to higher borrowing rates for consumption than in other Anglo (Australia, Canada, United Kingdom, and United States) countries (Blair 2001; Skilling & Waldegrave 2004). It is this easy access to lending and credit that is described as fuelling the growing culture of consumption in the young adult market (Penman & McNeill 2008). Furthermore, New Zealand was the only country to have reduced financial wealth, while in other Anglo countries the increase in household debt has been matched by a significant increase in financial assets, including housing assets (Skilling & Waldegrave 2004). Skilling and Waldegrave (2004, p33) go so far as to suggest that “[P]eople seem to be favouring current consumption over saving for future consumption”. In addition, the growing student debt is likely to have significant future social and economic impacts through constraining the ability of individuals to accumulate wealth over their lifetime (Skilling & Waldegrave 2004).

From an economic perspective, New Zealand relies heavily on vibrant and sustainable small businesses.<sup>5</sup> Of concern then are the findings of Brown et al.(2006, p180) who suggest that “worryingly, many small business owners do not have the adequate financial skills—they are not financially literate”. Given the concern expressed with the level of financial literacy, the evidence suggests that a replication study in New Zealand may produce similar results to those already found.

Concern has been expressed with the levels of financial literacy in New Zealand. Reporting on a 30 multiple-choice questionnaire issued to 804 New Zealand secondary school students, Morris (2001, pii) concluded that, “New Zealand secondary school students were not financially knowledgeable and cannot attain a satisfactory grade in a fundamental knowledge-based test”. A later review conducted at the end of 2007 suggested there is active interest and participation in financial literacy education, although provision is patchy (Retirement Commission 2007). A number of initiatives have been introduced to integrate financial literacy into the school curriculum. These include the National Strategy for Financial Literacy introduced in 2008, the creation of unit standards<sup>6</sup> for NCEA Levels 1, 2 and 3 under the title of “Personal Financial Management” (Crossan 2008; New Zealand Qualifications Authority 2008) and the Young Enterprise Trust (2009).

<sup>5</sup> At February 2011, 69% of all enterprises (small businesses) were non-employing while 28 % employed fewer than 20 employees (Statistics New Zealand 2011).

<sup>6</sup> Achievement standards and unit standards differ markedly. Achievement standards are gained from studying traditional curriculum subjects. Students may gain achievement standards with either ‘achieved’, ‘achieved with merit’ or ‘achieved with excellence’. Unit standards can be gained from studying traditional curriculum subjects as well as vocational subject areas (eg tourism or hairdressing). Like achievement standards, unit standards comprise a number of credits. When a student achieves a standard they earn the amount of credits that standard is worth. Generally the only grade available to those who pass a unit standard is ‘Achieved’.

In spite of these initiatives, the financial literacy of New Zealand school leavers remains problematic (Morall 2009a). A study by the Institute of Financial Advisers<sup>7</sup> published to coincide with the launch of the 2009 Financial Awareness Week was disturbing. It found that students were leaving school with what was described as “a less than adequate understanding of basic financial concepts” (McMorran 2009, p1). Four hundred and forty-three school students from 54 New Zealand secondary schools completed a 40-item multi-choice financial knowledge questionnaire on areas of investments, compound interest, Automatic Teller Machine (ATM) cards, risk, third-party car insurance, and KiwiSaver.<sup>8</sup> The study found that only 27.3% of students had received more than 40 hours financial education at school, while 46.6% of students had received less than 5 hours. Of particular concern was that, although more than a quarter of the secondary students surveyed reported receiving more than 40 hours of financial education, no individual was able to achieve a pass mark of 50% or higher on the survey. The findings detailed by McMorran (2009) are consistent with those of earlier studies. The 2005 AC Nielson and Australia and New Zealand Banking Group survey found relatively low rates of financial literacy among New Zealand respondents aged 18 and over (Lusardi & Mitchell 2007b). These results are similar to those in the Financial Knowledge Survey 2009 (Colmar Brunton 2009) which found the level of knowledge of the lowest financial literacy group aged 18 and over had showed no significant improvement since it was last measured in 2006.

## Method

The paper makes use of a combination of quantitative and qualitative research techniques, methods, and approaches (Johnson & Onwuegbuzie 2004). This approach to research is now widely practiced and accepted (Sale, Lohfeld & Brazil 2002). The rationale for this approach is that the strengths of both quantitative and qualitative techniques are combined in a single study to achieve the research objective. While survey instruments are useful to obtain data, these quantitative techniques cannot access additional information—including the 'lived experiences' (Sale et al. 2002)—of respondents, for example teachers, in which the researchers are interested. A further advantage of this “mixed methods” approach to answering research questions is that it enables the research results to be enriched in ways that a single form of data collection does not permit (Brewer & Hunter 1989; Hanson et al. 2005; Tashakkori & Teddlie 1998). In clarifying the benefits, Hanson et al. (2005, p224) explain that using both forms of data “allows researchers to simultaneously generalise results from a sample to a population and to gain a deeper understanding of the phenomenon of interest”. An email survey and in-depth interviews were used to achieve the research objective.

### *Survey Instrument*

The survey instrument was designed specifically for New Zealand teachers and contained educational terms with which they should be familiar. To ensure consistent understanding among respondents, the definition of financial literacy used in this paper (detailed earlier) was provided at the commencement of the questionnaire. The questionnaire contained a mix

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<sup>7</sup> The study was commissioned by the Young Enterprise Trust and was a follow-up to one conducted in 2001. The Young Enterprise Trust is a charitable trust with a vision is to grow a more prosperous New Zealand through enterprise. The trust aims to inspire, educate and transform students through enterprise experience (Young Enterprise Trust 2009).

<sup>8</sup> KiwiSaver is a voluntary, work-based savings initiative designed to help New Zealanders save for their retirement. Contributions to an individual’s account are made through deductions from salaries and wages.



of tick-box, Likert-type, and open-ended questions. As the questionnaire was aimed at secondary school teachers, it was felt that they would be in a position to provide further clarification on their responses. The data was collected anonymously. Demographic data collected included information on: gender, age, region of the country the respondent was from, position in school (for example, teacher or head of department), primary teaching responsibility, and place where he or she had studied accounting. Questions were developed in response to the Ministry of Education 2007 decision to exclude the subject “Accounting” from the New Zealand Curriculum and, therefore, sought the views of teachers on the current state of accounting in secondary schools. Questions on the skills an individual should possess in order to be considered financially literate and how, where, and when they should be taught were derived from the extant literature.

### *Data Collection*

#### ELECTRONICALLY ADMINISTERED SURVEY

Secondary school commerce departmental heads and accounting teachers were surveyed by email. The email survey was designed using the Waikato Management School’s online questionnaire development program—“Qualtrics”. Email addresses for those teachers who had previously attended teacher Professional Development training days held by the Department of Accounting at the University of Waikato were available. Individuals who attended these professional development days usually came from schools in the central North Island. These individuals were all included in the survey. Faced with the difficulty of identifying the individual or individuals at secondary schools responsible for teaching accounting at schools in the remainder of the country, and to ensure that the views of teachers from the whole country were considered, the researchers decided that the New Zealand Commerce and Economic Teachers Association (NZCETA) should be approached with a request to use of its membership database.

A number of factors conspired to ensure that the calculation of a response rate would not be possible. First, due to differing interpretations surrounding New Zealand privacy legislation and the use of membership databases, NZCETA did not provide its database to the researchers but agreed to forward a link to the electronically administered survey to its members. No indication was provided of the number of members to whom the link was forwarded. Second, NZCETA members comprised both accounting and economics teachers. Consequently, even if NZCETA had provided the researchers with an indication of the number of its members, failing to provide a split between accounting and economics teachers would still have ensured that an accurate response rate could not be calculated.

When discussing their research methods, authors are generally able to justify low response rates to electronically administered questionnaires (see, for example, Grandon & Pearson 2004; Lowe & Locke 2005; Peng et al. 2007). These low response rates generally do not prevent the publication of findings, although the results are often treated with caution. Precedence also exists in the literature for not calculating response rates. In their study, Lau and Gregoire (1998) used questionnaires only from those patients willing to complete them. They, therefore, found no need to report a questionnaire response rate. Furthermore, in this study it was felt that the number of completed questionnaires compared favourably to the 149 responses to the 1,314 emails sent to members of accounting and finance departments in Britain in an early use of electronically administered surveys undertaken by Lowe and Locke (2005).

Respondents were not required to answer all questions as it was felt that in certain situations respondents might not be completely familiar with an issue raised. A total of 81

teachers responded to the electronically administered survey. Only those questionnaires that were substantially completed were analysed and included in the results. A total of 71 questionnaires were considered to have a dataset sufficiently complete for analysis purposes. That is the questionnaire was essentially complete. The demographic characteristics of the respondents are detailed in Table 1.

**Table 1**  
Demographic Characteristics of Respondents

	<b>Characteristic</b>	<b>Frequency (%)</b>
<b>Sex</b>	Male	32.4
	Female	67.6
<b>Age</b>	20-29	2.8
	30-39	18.3
	40-49	39.4
	50-59	29.6
	60-69	9.9
<b>Region of respondent</b>	Northland	7.1
	Auckland	40.8
	Waikato	11.3
	Bay of Plenty	8.5
	Gisborne	0.0
	Hawkes Bay	4.2
	Taranaki	0.0
	Manawatu-Wanganui	1.4
	Wellington	2.8
	Tasman	0.0
	Nelson	1.4
	Malborough	0.0
	West Coast	0.0
	Canterbury	12.7
	Otago	4.2
Southland	4.2	
Other	1.4	
<b>Position</b>	Teacher	56.3
	Head of Department	43.7
<b>Primary teaching responsibility</b>	Accounting	76.1
	Other*	23.9
<b>Where did you study accounting</b>	University	83.1
	Other certified institution	12.7
	Not studied accounting	1.4
	Other	2.8

\* These other subjects included economics, digital technology, business studies and mathematics

The majority of respondents are from Auckland, as it is the area of the country with the largest population. However, responses were received from most regions of the country. The primary teaching responsibilities of the majority of respondents is accounting, with 81.9% of respondents having studied accounting at university.

## SEMI-STRUCTURED INTERVIEWS

In addition to the survey instrument described above, and to provide a richness to the data gathered, a number of semi-structured interviews were conducted with the following: five of the eight departmental heads of accounting from New Zealand universities; six secondary school departmental heads of accounting; and three members of the New Zealand Institute of Chartered Accountants. The individuals were selected on the basis of their familiarity with secondary school accounting, its integration with the introductory tertiary paper, progression on to the profession, as well as their willingness to participate in the study. The interviews were conducted face-to-face, or, where this was not possible due to the distances involved, telephonically. The interview commenced by asking the interviewees whether they thought students benefited from taking accounting at secondary school. The views of interviewees were also sought on whether students should be taught financial literacy skills in secondary school and whether financial literacy should be a core subject. The interviews ranged between 15 minutes and 30 minutes in length. They were taped and transcribed.

## Results and Discussion

This section of the paper describes and discusses the findings from the electronically administered survey and the perspectives of six secondary school departmental heads of accounting (DHAs), five university heads of department (HODs) of accounting, and three NZICA members. A number of themes will be used to discuss the results of the electronically administered survey.

### *Electronically Administered Survey Findings: Secondary School Accounting Teachers*

## THE NEW ZEALAND CURRICULUM

In light of the Ministry of Education 2007 decision to exclude the subject “Accounting” from the New Zealand Curriculum, teachers were asked to rate—on a Likert-type scale of 0 to 5 where 0 depicts “does not fit” and 5 “fits well”—how the subject taught at secondary school met each of the Curriculum’s five key competencies. The mean responses to this question are detailed in Table 2.

**Table 2**  
Meeting the New Zealand Curriculum’s Five Key Competencies

	Mean	Standard deviation
<b>Thinking</b>	4.52	0.73
<b>Using language, symbols and texts</b>	4.44	0.71
<b>Managing self</b>	4.24	0.90
<b>Relating to Others</b>	3.28	1.28
<b>Participating and contributing</b>	3.59	1.21

The relatively high mean for each of the curriculum’s five key competencies suggests that those secondary school teachers who responded believe that the subject “Accounting” aligns with the New Zealand Curriculum. One teacher explained the difficulty experienced with accounting’s exclusion from the Curriculum as follows:

I have a real concern that there is no commerce/business/financial literacy strand in the NZ curriculum as this makes it much harder to argue for inclusion of accounting and financial admin courses when school is organised based on NZ

curriculum faculties. Business, accounting, economics etc. get split into small, insignificant (and often ignored) parts of larger faculties. (Respondent No. 22)

## SATISFACTION WITH THE ACCOUNTING SUBJECT CURRICULUM

Although respondents believe “Accounting” aligns with the New Zealand Curriculum’s 5 key competencies, the subject was not included in the 2007 Curriculum. In addition, a number of initiatives have been introduced to integrate financial literacy into the school curriculum. It was, therefore, felt that it would be useful to ask teachers how satisfied they were with the current status of the NCEA “Accounting” Level 1, Level 2 and Level 3 subject curriculum.<sup>9</sup> There was a mixed response to these questions. In response to the question on satisfaction with Level 1, 5.6% very satisfied and 52.1% were satisfied. Only 7% of teachers were very satisfied and 33.8% were satisfied with the Level 2 subject curriculum, while at Level 3, 4.2% of respondents were very satisfied and 49.1% satisfied with the subject curriculum. This position is reinforced through the comments of respondents to the last open ended question to the questionnaire. Dissatisfaction was expressed with the standard being perceived as too high and too academic, making it irrelevant to students. The following comments by questionnaire respondents illustrate their position.

What hope do these young, totally inexperienced kids have of applying (let alone understanding first hand) what they are taught in NCEA. I feel the standards are exceedingly high and expectations too high for ones without the ability to correlate theory with practical knowledge. The curriculum appears heavily driven by the Institute of CA’s, with their own, selfish goals in clear focus, without any thought as to how to pass on real, practical life skills to more and more students who are all going to get the opportunity, in one way or another, to practice first-hand what they learn/learned at school. (Respondent No. 7)

The financial statements section is far too academic for level 3 as the students are expected to be familiar with the financial reporting standards in many cases are not relevant to students who learn accounting for general financial literacy. Besides, it is difficult for students to comprehend the content of the Framework and financial reporting standards as they have no working experience. (Respondent No. 24)

A number of respondents also expressed dissatisfaction with the curriculum content. This included teaching of partnerships at NCEA Level 3, sub-systems at Level 2, and the emphasis placed on theory. This position was succinctly described by a respondent as follows:

There should be a greater emphasis on double entry in level one and two. T-accounts should be taught and NOT three-column ledger accounts. Partnerships should be taught at Level 2 and companies only, at Level 3. Level 3, in addition to companies should have more management accounting than is at present. (Respondent No. 32)

These findings suggest that a number of accounting teachers have concerns with teaching the subject’s curriculum. This discontent could have serious implications. Students

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<sup>9</sup> At the time of writing a realignment of the material covered in the subject ‘Accounting’ NCEA Level 1, Level 2 and Level 3 curriculum was being considered. The unit and achievement standards in place at the time of undergoing the study can be found at <http://www.nzqa.govt.nz/qualifications-standards/qualifications/ncea/subjects/accounting/levels/>. Teachers can select a combination of the standards.

could develop misguided perceptions of accounting career pathways and of the accounting profession itself. To inspire students, teachers should be content with subject curriculum.

#### LEVEL OF FINANCIAL LITERACY SKILLS

A number of New Zealand reports and studies highlight problems with the financial literacy skills of secondary school students (Lusardi & Mitchell 2007b; McMorran 2009; Morall 2009a; Morris 2001). As teachers spend a significant amount of time with students, it was considered instructive to obtain teachers' views of the average secondary school students' financial literacy skills to establish whether the teachers' viewpoints were similar to the research findings.

Teachers were asked to rate their perception of the average New Zealand secondary student's financial literacy skills on an 11-point Likert-type scale where zero (0) depicts none, while ten (10) depicts excellent financial literacy skills. The lowest score awarded by respondents was 1 and the highest 7. The mean score for this question was 3.65 (SD 1.64) suggesting that secondary school accounting teachers believe that students' financial literacy skills are below average.

Studies internationally and in New Zealand have identified and detailed what skills are necessary for an individual to be considered financially literate (see, for example, Bowen 2002; Fox, Bartholomae & Lee 2005; Lusardi et al. 2010; McMorran 2009; Morris 2001; Widdowson & Hailwood 2007). Having identified the skills necessary for an individual to be considered financially literate, teachers were asked to indicate a level of agreement on a 5-point Likert-type scale (1 strongly disagree and 5 strongly agree) whether the following areas should be taught to students at secondary school level. The findings are summarised in Table 3 below.

**Table 3**  
Financial Literacy and Forms of Practical Knowledge

	Min value	Max value	Mean	Variance	Standard deviation	Total responses
<b>Personal budgeting</b>	1	5	4.61	0.41	0.64	71
<b>Credit card skills</b>	3	5	4.41	0.39	0.62	71
<b>Effectively manage a mortgage</b>	3	5	3.79	0.94	0.97	71
<b>Interest rate implications on such things as mortgages, term deposits and credit cards</b>	2	5	4.28	0.41	0.64	71
<b>Basic tax knowledge</b>	2	5	4.14	0.41	0.64	71
<b>Various insurance policies available</b>	2	5	3.68	0.59	0.77	71
<b>Interpret and verify the accuracy of financial documents e.g. payslip, credit card statement, cash register receipt</b>	3	5	4.44	0.39	0.63	71

From Table 3, the mean response to all but two of the statements exceeded 4. The only exception related to the skill areas of insurance (3.68), and learning about mortgages (3.79). This finding shows that accounting teachers recognise the need for these financial literacy skills to be taught at secondary school.

## HOW, WHERE AND WHEN SHOULD FINANCIAL LITERACY BE TAUGHT?

Beal and Delpachitra (2003), Chen and Volpe (1998) and Marriott (2007) have expressed concern over the level of financial literacy skills of university students. Similar concerns have been expressed about secondary school students (see, for example, Bowen 2002; Huddleston & Danes 1999; McMorran 2009). To overcome these perceived shortcomings, Cutler and Devlin (1996) believe that financial education should commence as early as possible, while Chatzky (2002) and Crossan (2008) suggest that initiatives be put in place to integrate financial literacy into the school curriculum.

In order to answer the question about “where” financial literacy skills should be taught, teachers were offered the following alternatives: home; primary school; intermediate school; secondary school; tertiary; external organisations, for example, the Retirement Commission; and other. Respondents could select all the options they thought applicable. The results are detailed in Table 4. Of the 71 respondents to the survey, 68 believed financial literacy skills should be taught at secondary school level, while 55 believed they should be taught at home. There was also strong support for teaching financial literacy skills at primary and intermediate school. Interestingly, 56 of the 71 respondents selected home and secondary school, while 30 of the 71 respondents selected home, primary school, intermediate school, and secondary school as the most appropriate forums for teaching financial literacy. These findings suggest that respondents believe that financial literacy is a skill that starts in the home and that it should continue to be reinforced throughout a student’s education. External organisations such as the Retirement Commission teaching financial literacy was supported by only 12 respondents (16.9%).

**Table 4**  
Most Appropriate Forum for Teaching Financial Literacy Skills

	<b>Number of responses</b>	<b>%</b>
<b>Home</b>	55	77.5
<b>Primary school</b>	33	46.5
<b>Intermediate school</b>	45	63.4
<b>Secondary school</b>	68	95.8
<b>Tertiary</b>	24	33.8
<b>External organisation: e.g. Retirement Commission</b>	12	16.9
<b>Other, please specify</b>	1	1.4

Teachers were then asked to rank a list of options with regard to “how” they thought financial literacy skills should be taught at secondary school. Of the 65 teachers that responded to this question, 28.2% thought that the most appropriate way was incorporating these skills into the accounting curriculum; 23.9 % of the teachers thought that the teaching of these skills deserved a new curriculum area. Only 14.1% of teachers thought unit standards in accounting were the best way. Financial literacy in New Zealand is most commonly taught through external organisations such as the website [sorted.org.nz](http://sorted.org.nz) which is operated by the Retirement Commission. This form of education was ranked the eighth best option by 69.0% of respondents. Unit and achievement standards across a variety of subjects were generally not favoured by teachers.

A supplementary question asked teachers to rate, on a Likert-type scale of 0 to 10 (where 0 is not important and 10 highly important), how important the teaching of financial literacy skills at different levels of education is—the “when” question. The results are detailed in Table 5.

**Table 5**  
Importance of Teaching Financial Literacy Skills at Different Levels of Education

	<b>Number of responses</b>	<b>Mean</b>	<b>Standard deviation</b>
<b>Primary school</b>	69	5.00	2.53
<b>Intermediate School</b>	71	6.38	1.94
<b>Secondary School</b>	71	8.93	1.31
<b>University</b>	66	7.75	2.57

This supplementary question would appear to confirm the results of the previous question. The results would suggest that respondents believe financial literacy to be important at every level of schooling, but think emphasis should be placed at the secondary school and university levels where the implications of mismanaging finances would be better appreciated and understood. The university response in Table 5 is somewhat inconsistent with the results in Table 4. This inconsistency could perhaps be explained in part by teachers' recognition that financial literacy education is currently not emphasised at secondary school level (see, for example, Beal & Delpachitra 2003). Furthermore, teachers recognise that the first major financial decision that is likely to have long-term consequences for secondary students is how they fund and service university debt (Cull & Whitton 2011; Marriott 2007).

#### BENEFITS OF SECONDARY SCHOOL ACCOUNTING EDUCATION

A perception currently exists among certain stakeholders, including university academics, that there is no necessity for accounting to be taught at secondary school (see also Baldwin & Howe 1982; Keef 1988). The rationale for this position is that students wishing to pursue accounting as a career can study the subject at tertiary level. However, the benefits from offering a subject at secondary school level should extend beyond providing students with an advantage in introductory-level tertiary courses. The questionnaire asked teachers what benefits they thought accrue to students who study accounting at secondary school. Teachers could select from as many of the following as they wished: Helps a student start their own business; Prepares students for the university study of accounting; Aids a student's understanding of the business world; Makes students confident about conducting everyday financial activities; Students know how to analyse and interpret company records; and Other. The results are detailed in Table 6.

**Table 6**  
Benefits Accruing to Secondary School Students who Study Accounting

	<b>Number of responses</b>	<b>%</b>
<b>Helps a student start their own business</b>	43	60.6
<b>Prepares students for the university study of accounting</b>	66	93.0
<b>Aids a student's understanding of the business world</b>	63	88.7
<b>Makes students confident about conducting everyday financial activities</b>	49	69.0
<b>Students know how to analyse and interpret company records</b>	48	67.6
<b>Other</b>	8	11.3

As indicated in this table, teachers believe that benefits do accrue to those students who study accounting at secondary school level. They see accounting as being helpful to those who intend to study the subject at university and as useful in aiding students' understanding of the business environment.

A supplementary question then asked teachers whether they thought the current school accounting curriculum prepares students for university study or everyday life. On an 11-point Likert-type scale on whether the curriculum prepared students for university study (ranked 0) or everyday life (ranked 10), the mean score from the 69 respondents was 4.9 (Mode 5, SD 2.19). This result suggests that teachers believe the subject prepares students equally for these two scenarios. However, it was the written responses to the accompanying open ended question that were instructive and illustrated the depth of feelings some teachers had on the subject in its current form. Those respondents who believed that accounting in its current form failed to equip students for everyday life supported their position as follows:

A lot is not relevant to everyday life. (Respondent No. 1)

It is viewed and treated as more of an academic option rather than a practical life skills option, hence severely limiting the number of students eligible to receive the life-long learning benefits from accounting because of its perception as more of a university entry subject for those going on to study business and finance only at university. (Respondent No. 7)

More of an academic focus, day to day practical skills are not really covered in any depth. (Respondent No. 5)

Most students do not need the theory in everyday life. (Respondent No. 13)

Accounting does not include financial literacy, which I perceive to better prepare students for everyday life—financial literacy needs to be taught to everyone though, not just accounting students. (Respondent No. 23)

Even those respondents who believed school accounting prepared students for university study appeared to have had varied views.

Senior accounting is a good preparation for university but contains only small amounts of financial literacy for everyday life. (Respondent No. 15)

If students take up to year 13, then it does prepare them for university. But if they just did level 1 and 2 then it does prepare them for life. (Respondent No. 31)

While it may help those who want to study accounting at university, the aim is to equip students with the ability to understand accounting in everyday life, in particular to provide them with important skills for whatever job or business they end up doing or owning. So, for example, if they become a plumber or a lawnmower, a doctor or a lawyer they have an understanding of the financial management of business as well as personal financial management. They, particularly those who end up as tradespeople, often do not receive this education and their small businesses fail because they lack understanding of basic accounting. (Respondent No. 51)

The penultimate question asked respondents to rank whether the current accounting curriculum should (1) Stay the same, (2) Alter the content, (3) Change it into a financial literacy paper, or (4) Remove accounting and financial literacy altogether. It was understandable that teachers ranked the first two options highly, where 47.6% of respondents ranked “altering the accounting course” first and 45.2% ranking “it should remain the same” most highly, while 7.1% of respondents favoured changing the accounting curriculum to one



with a financial literacy focus. One respondent's passion for a paper with a financial literacy focus is illustrative:

I am bringing more Level 1 Business Studies achievement standards into my teaching plan from 2011, and will probably increase this to Level 2 and 3 as Business Studies becomes introduced at the higher levels. This is because pure, vanilla accounting, on its own, is both unattractive to the vast majority of students, especially those more cut out to go on to a practical trade or start up and run their own business, who more than anyone need financial literacy skills to get ahead in life. The heavy emphasis on academic accounting is not only a deterrent to picking up these lifelong skills, it also doesn't equip those who take it with enough practical, every day value to manage their personal finances or run their own business. (Respondent No. 7)

### *Interviews with Secondary School Departmental Heads of Accounting*

Responses by DHAs to the introductory interview question "What do you see as the greatest benefits for students taking accounting in its current form at secondary schools?" were varied. The response of a number of interviewees provides comments consistent with the findings of Mitchell (1985; 1988), Keef and Hooper (1991), and Rhode and Kavanagh (1996) that secondary school accounting would make the introductory tertiary accounting course easier to manage, while other DHAs saw it as providing students with necessary life skills.

All DHAs saw the lack of financial literacy education at secondary schools as problematic. As with Cutler and Devlin (1996), Huddleston and Danes (1999), Chatzky (2002), and the Retirement Commission (2007), the majority of DHAs interviewed felt that financial literacy needed to be a core subject within the secondary school curriculum. This subject they explained would increase young people's knowledge and lead them to make better financial decisions. The language associated with the subject area would be understood, leading to an appreciation of financial news and activities. One DHA gave an example of how some students do not understand the language associated with accounting, business or financial literacy:

I had my year 11<sup>10</sup> accounting class yesterday and one of the things we are doing is club accounting and we talked about subscriptions and then this girl must have been switched off and says, 'Isn't subscriptions something a doctor gives you?' (DHA Interview 1)

One school where a financial literacy course had been offered as an elective had it removed due to a lack of interest on the part of students. As the DHA explained, "If you keep it optional then the students don't really think it's something that they should be doing" (DHA Interview 2).

As with previous findings by Morris (2001) and McMorran (2009), one DHA identified students' inability to comprehend the basics of budgeting, credit cards, compound interest and insurance as an area of concern. The following practical example provided by the DHA of her son's trouble in this area is instructive:

When my son left school he went out and got offered an overdraft straight away and then he got offered a credit card and then his car got broken into and the insurance didn't pay for it and he had all these financial literacy type scenarios in his first year outside school and had no idea how to deal with them (DHA Interview 3).

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<sup>10</sup> Year 11 are 15/16 year olds.

DHAs were asked whether they had noticed any changes since the National Strategy for Financial Literacy was launched in 2008. The general consensus was that very little had changed. There had been the introduction of the personal financial management unit standards which some schools had adopted. But these were only unit standards, which led to students not seeing the point in taking the course. One DHA said:

For university entrance you need 14 credits in one subject and 14 credits in another subject which is university approved so why would we in accounting, for instance, take away some of the accounting which comes in the accounting domain and put in another subject which won't get them university entrance?  
(DHA Interview 4)

#### *Interviews with University Heads of Department*

When the same opening question was asked to HODs, 4 of the 5 interviewed did not see any significant benefits accruing to students who study accounting at school. Consistent with the views of Cutler and Devlin (1996), Huddleston and Danes (1999), Chatzky (2002), and the Retirement Commission (2007), all HODs supported financial literacy as a core secondary school subject. As there are difficulties in fitting new subjects into an already overcrowded secondary school curriculum, HODs were asked whether accounting or financial literacy would be more beneficial for students. Financial literacy received overwhelming support.

HODs disagreed about when financial literacy should be taught, with some supporting its introduction at primary school. However, if there had to be a compromise, it was seen as essential that the subject be taught at or before year 11. The reason for this choice is that a significant number of students leave school at the end of that year to face real-life, financial decisions.

On the question of what skills should be taught, HODs believed that these should be in areas where the average New Zealander does not have a sound understanding. Consistent with extant literature (Bowen 2002; Fox et al. 2005; McMorran 2009; Morris 2001; Lusardi et al. 2010; Widdowson & Hailwood 2007), HODs identified these as including: understanding the relationship between risk and return, the time value of money, credit card, mortgage, hire purchase, student loan management, as well the various saving schemes that are available.

The HODs were also asked whether they thought the personal financial management unit standards offered by external organisations such as the Retirement Commission were useful. They all confirmed that these were a step in the right direction, noting however that, as these were offered as unit standards and did not count towards university entrance, there was no incentive for students to take them. The only way to motivate secondary students to take financial literacy was to offer the subject as achievement standards.

#### *Interviews with NZICA Members*

When answering the introductory interview question, all NZICA members saw the greatest benefit for students taking accounting at secondary school as being the variety of potential career opportunities they were exposed to. However, a mixed response was obtained in answer to the question of whether students should be taught financial literacy skills at secondary school. One interviewee questioned the relevance of the subject to young students. Consistent with Marriott (2007), he did, however, believe that secondary school students had to be aware of the implications of the student loan scheme:

It's very important that when they do enter secondary schools they get information about student loans because the system has been abused over the years, and still we find cases of people not understanding what student loans are and that's the fault of the system because they tend to give away money without knowing consequences. (NZICA Interview 1)

The other NZICA members interviewed supported the teaching of financial literacy skills. As one interviewee explained, "it seems to be a skill that not everybody coming out of school or even out of university has" (NZICA Interview 2). Support for financial literacy to be made compulsory was also evident. However, one interviewee felt that it should not be taught within the subject "Accounting" as doing so would exclude the majority of students, especially those in year 11 who leave school and progress to a trade (NZICA Interview 3). Making the subject compulsory would avoid the current position where, although access to financial literacy courses such as those developed by the Retirement Commission is provided, students fail to see the benefit of these because achievement standard credits cannot be obtained. Further evidence to support teaching financial literacy at secondary school was provided by an interviewee who explained that these are skills that sometimes adults do not possess. She said:

I have had 10 years in practice and even other adults don't understand debt. They have money in saving ... with a net return of 2%, yet they are paying out interest at 10% [on their debt]. (NZICA Interview 3)

## Conclusion

This paper explored the perceptions of three key groups of stakeholders to establish whether accounting should continue to be taught as an elective subject in its current form or whether the incorporation of a financial literacy component will increase the subject's relevance to students. With the exception of university HODs, all other stakeholders generally agreed that students did benefit from accounting being offered as an elective subject at secondary school, although they did not necessarily agree on the nature or extent of the benefits. Teachers were more likely to agree that this benefit would occur in the introductory tertiary accounting course, while NZICA members saw the exposure to potential career opportunities as being most useful.

Respondents to the electronically administered survey and semi-structured interviews all agreed on the skills an individual should possess to be considered financially literate. Respondents generally all agreed that New Zealand students generally have poor financial literacy skills. Developing financial literacy skills was, therefore, seen as important and there was agreement that these should be introduced at school. However, agreement was not obtained on the level at which the subject should be first introduced. Almost half of the respondents thought that teaching financial literacy should begin in primary school with increased coverage of the relevant knowledge and skills as students moved through the education system to intermediate and then secondary school.

The initiatives that currently exist to develop financial literacy by external bodies such as the Retirement Commission were acknowledged but were considered inadequate. Offering financial literacy in the form of unit standards by an external body was criticised on the grounds that this approach does not necessarily translate into students learning these skills. Rather, it only means that schools have the opportunity to teach the unit standards, but are unlikely to, based on an already overcrowded curriculum. In addition, offering the subject in this form was not popular with students who are likely to attend university as they saw this

option as potentially impacting negatively on their university entrance. To convince students of the importance of financial literacy and encourage those likely to be impacted by student loan debt to take the subject, it needed to be offered as achievement standards.

Incorporating a new core subject—financial literacy—into an already overcrowded school curriculum was acknowledged as being problematic. However, this problem could be overcome by making modifications to the curriculum of an existing subject to facilitate the introduction of financial literacy. As the subject “Accounting” is the most widespread existing “finance” related subject, “Accounting” would appear the most logical vehicle through which to teach financial literacy skills. This is the option generally supported by the respondents to the electronically administered survey. A number of suggestions were made as to how this modification could be achieved. These included deemphasising the theoretical aspects of accounting, removing certain areas such as partnerships, or changing NCEA Level 1 to focus primarily on financial literacy to capture those students who leave school at the end of year 11. Changing the content of the subject “Accounting” is the responsibility of the New Zealand Ministry of Education. It would need to engage widely with all stakeholders before any curriculum changes could be made. From the results of this study it is clear that stakeholders are prepared to embrace changes. However on a cautionary note, a potential downside to incorporating financial literacy into the accounting curriculum may be that the number of school students exposed to the changed subject could be limited.

From a tertiary perspective, any changes made to the school accounting curriculum may impact introductory offerings. A number of New Zealand universities (for example, the University of Waikato) provide exemptions to the first level university accounting course to those secondary school students who achieve a prescribed level of NCEA level 3 credits in accounting. Any changes made to secondary school accounting syllabuses would need to be considered in the reviews of first year tertiary offerings. However a benefit would be the enhanced financial literacy of students enrolling in university programmes. This could address some of the issues identified by Beal and Delpachitra (2003) and Marriott (2007).

The limitations associated with this study need to be acknowledged. While the view of stakeholders including New Zealand Institute of Chartered Accountants members, heads of university department of accounting and secondary school departmental heads of accounting were sought, the viewpoints of other key stakeholders including parents, high school principals, teachers from other subject areas, education policy setters, high school students and tertiary students reflecting back on their high school education could be a potential avenue for future research.

## References

- Baldwin, BA & Howe, KR 1982, ‘Secondary-level study of accounting and subsequent performance in the first college course’, *The Accounting Review*, vol.57, no.3, pp619-626.
- Beal DJ & Delpachitra, SB 2003, ‘Financial literacy among Australian university students’, *Economic Papers: A Journal of Applied Economics and Policy*, vol.22, no.1, pp65-78.
- Beverly, SG & Burkhalter, EK 2005, ‘Improving the financial literacy and practices of youths’, *Children & Schools*, vol.27, no.2, pp121-124.
- Blair, C 2001, ‘Kids need to know about money’, *Enterprise Networkz*, vol.2, no.2, pp10-11.
- Bond, M 2000, ‘Understanding the benefits/wages connection: financial literacy for citizenship in a risk society’, *Studies in the Education of Adults*, vol.32, no.1, pp63-77.

- Bowen, CF 2002, 'Financial knowledge of teens and their parents', *Financial Counseling and Planning*, vol.13, no.2, pp93-101.
- Braunstein, S & Welch, C 2002, 'Financial literacy: an overview of practice, research and policy', *Federal Reserve Bulletin*, vol.88, no.11, pp445-457.
- Brewer, J & Hunter, A 1989, *Multimethod Research: A Synthesis of Styles*, Sage, Newbury Park, NJ.
- Brown, RB, Saunders, MNK, & Beresford, R 2006, 'You owe it to yourself: the financially literate manager', *Accounting Forum*, vol.30, no. 2, pp179-191.
- Buckland, J, 2010, 'Are low-income Canadians financially literate? Placing financial literacy in the context of personal and structural constraints', *Adult Education Quarterly*, vol.60, no.4, pp357-376.
- Chatzky, J 2002, 'Teach our children well', *Money*, vol.31, no.7, p128.
- Chen, H, & Volpe, RP 1998, 'An analysis of personal financial literacy among college students', *Financial Services Review*, vol.7, no.2, pp107-128.
- Colmar Brunton 2009, *2009 Financial Knowledge Survey*, Colmar Brunton, Auckland and Wellington, New Zealand.
- Crossan D 2008, *National Strategy for Financial Literacy*. Retirement Commissioner, Commission for Financial Literacy and Retirement Income, Wellington, New Zealand.
- Cull, M & Whitton, D 2011, 'University students' financial literacy levels: obstacles and aids', *The Economic and Labour Relations Review*, vol.22, no.1, pp99-114.
- Cutler, NE 1997, 'The false alarms and blaring sirens of financial literacy: middle-agers' knowledge of retirement income, health finance and long-term care', *Generations*, vol.21, no.2, pp34-41.
- Cutler, NE & Devlin, SJ 1996, 'Financial literacy 2000', *Journal of the American Society of Chartered Life Underwriters and Chartered Financial Consultants*, vol.50, no.4, pp32-37.
- Davis, K & Durband, DB 2008, 'Valuing the implementation of financial literacy education', *Financial Counseling and Planning*, vol.19, no.1, pp20-30.
- Doran, BM, Bouillon, ML & Smith, CG 1991, 'Determinants of student performance in accounting principles 1 & 2', *Issues in Accounting Education*, vol.6, no.1, pp74-84.
- Eskew, RK & Faley, RH 1988, 'Some determinants of student performance in the first college-level financial accounting course', *The Accounting Review*, vol.63, no.1, pp137-147.
- Farley, AA & Ramsay, AL 1988, 'Student performance in first year tertiary accounting courses and its relationship to secondary school accounting education', *Accounting and Finance*, vol.28, no.1, pp29-44.
- Financial Services Authority 1998, *Promoting Public Understanding of Financial Services: A Strategy for Consumer Education*, (November, Consultation Paper 15), Financial Services Authority, London.
- Financial Services Authority 1999, *Consumer Education: A Strategy for Promoting Public Understanding of the Financial System*, Financial Services Authority, London.
- Fox, J, Bartholomae, S & Lee, J 2005, 'Building the case for financial education', *The Journal of Consumer Affairs*, vol.39, no.1, pp195-214.

- Grandon, EE & Pearson, JM 2004, 'Electronic commerce adoption: an empirical study of small and medium US businesses', *Information & Management*, vol.42, no.1, pp197-216.
- Grumet, L 2010, 'High-school accounting needs broader scope', *The CPA Journal*, vol.80, no.1, p7.
- Hanson, WE, Creswell, JW, Clark, VLP, Petska, KS & Creswell, JD 2005, 'Mixed methods research designs in counseling psychology', *Journal of Counseling Psychology*, vol.52, no.2, pp224-235.
- Hastings, J & Tejada-Ashton, L 2008, 'Financial literacy, information, and demand elasticity: survey and experimental evidence from Mexico', National Bureau of Economic Research 14538, Working Paper Series, Accessed 26 July 2012, <http://www.nber.org/papers/w14538>.
- Huddleston, CA & Danes SM 1999, 'Impact evaluation of a financial literacy program: evidence for needed educational policy changes', *Consumer Interests Annual*, vol. 45, pp109-115.
- Johnson, RB & Onwuegbuzie, AJ 2004, 'Mixed methods research: a research paradigm whose time has come', *Educational Researcher*, vol.33, no.7, pp14-26.
- Jones, SH & Wright, M 2010, 'Effect of cognitive style on performance in introductory financial accounting and the decision to major in accounting', *Global Perspectives on Accounting Education*, vol.7, pp7-26.
- Joo, S & Garman, E 1998, 'Workers want more than retirement education at their workplace: a report of research findings', *Personal Finances and Worker Productivity*, vol.2, no.2, pp156-161.
- Keef, SP 1988, 'Preparation for a first level university accounting course: the experience in New Zealand', *Journal of Accounting Education*, vol.6, no.2, pp293-307.
- Keef, SP & Hooper, KC 1991, 'Prior Accounting Education and Performance in a First-Level University Course in New Zealand', *Accounting and Finance*, vol.31, no.1, pp85-91.
- Lau, C & Gregoire, MB 1998, 'Quality ratings of a hospital foodservice department by inpatients and postdischarge patients', *Journal of the American Dietetic Association*, vol.98, no.11, pp1303-1307.
- Lee, DS 1999, 'Strength of high school accounting qualification and student performance in university-level introductory accounting courses in Hong Kong', *The Journal of Education for Business*, vol.74, no.5, pp301-306.
- Lowe, A & Locke, J 2005, 'Perceptions of journal quality and research paradigm: results of a web-based survey of British accounting academics', *Accounting, Organizations and Society*, vol.30, no.1, pp81-98.
- Lusardi, A & Mitchell, OS 2007a, 'Baby boomer retirement security: the role of planning, financial literacy, and housing wealth', *Journal of Monetary Economics*, vol.54, no.1, pp205-224.
- Lusardi, A & Mitchell OS 2007b, 'Financial literacy and retirement preparedness: evidence and implications for financial education', *Business Economics*, vol.42, no.1, pp35-44.
- Lusardi, A & Mitchell OS 2009, 'How ordinary people make complex economics decisions: financial literacy and retirement readiness', National Bureau of Economic Research,

- Working Paper Series 15350, Accessed 26 July 2012  
<http://www.nber.org/papers/w15350>
- Lusardi, A, Mitchell, O & Curto, V 2010, 'Financial literacy among the young', *Journal of Consumer Affairs*, vol.44, no.2, pp358-380.
- Lusardi, A & Tufano, P 2009, 'Debt literacy, financial experiences, and overindebtedness', National Bureau of Economic Research, Working Paper Series 14808, Accessed 26 July 2012 14808, Accessed 26 July 2012 <http://www.nber.org/tmp/19952-w14808.pdf>
- Mandell, L & Klein, LS 2009, 'The Impact of Financial Literacy Education on Subsequent Financial Behavior', *Journal of Financial Counseling and Planning*, vol.20, no.1, pp15-24.
- Marriott, P 2007, 'An analysis of first experience students' financial awareness and attitude to debt in a post-1992 UK university', *Higher Education Quarterly*, vol.61, no.4, pp498-519.
- McMorran, L 2009, *Secondary Students Leaving School Financially Illiterate*, New Zealand, Institute of Financial Advisers, Wellington, New Zealand.
- Miller, G 2009, 'Financial literacy push at schools', *Manawatu Standard*, 7 September, p1.
- Ministry of Education. 2007. *The New Zealand Curriculum: For English-medium Teaching in Years 1-13*, New Zealand, Learning Media Ltd, Wellington, New Zealand.
- Mitchell, F 1985, 'School accounting qualifications and student performance in first level university accounting examinations', *Accounting and Business Research*, vol.15, no.58, pp81-86.
- Mitchell, F 1988, 'High school accounting and student performance in the first level university accounting course: a UK study', *Journal of Accounting Education*, vol.6, no.2, pp279-291.
- Morall, A 2009a, 'Money knowledge survey', *The Press*, 7 September, p3.
- Morall, A 2009b, 'Learning common cents'. *The Press*, 10 September, p4.
- Morris, L 2001, *An Investigation into the Financial Knowledge Levels of New Zealand Senior Secondary School Students*, Enterprise New Zealand Trust, Wellington, New Zealand, Accessed 26 July 2012  
<http://www.financialliteracy.org.nz/sites/default/files/webfm/Research/Library/r-fl-levels-200112.pdf>
- New Zealand Qualifications Authority 2008, *Review of Family, Community and Society Studies and Self-Management Unit Standards and Development of Personal Financial Management Unit Standards* Retrieved from [www.nzqa.govt.nz/nqfdocs/summaries/2008/jun08/revsumjun08-25.doc](http://www.nzqa.govt.nz/nqfdocs/summaries/2008/jun08/revsumjun08-25.doc)
- New Zealand Qualifications Authority 2010, *Annual Report on NCEA & New Zealand Scholarship Data & Statistics (2009)*, Retrieved from <http://www.nzqa.govt.nz/assets/Studying-in-NZ/Secondary-school-and-NCEA/ncea-annualreport-2010.pdf>
- Penman, S & McNeill, LS 2008, 'Spending their way to adulthood: consumption outside the nest', *Young Consumers: Insight and Ideas for Responsible Marketers*, vol.9, no.3, pp155-169.

- Peng, TCM, Bartholomae, S, Fox, JJ & Cravener, G 2007, 'The impact of personal finance education delivered in high school and college courses', *Journal of Family and Economic Issues*, vol.28, no.2, pp265-284.
- Retirement Commission 2007. *2007 Review of Retirement Income Policy*, Retirement Commission, Wellington, New Zealand.
- Rhode, FH & Kavanagh, M 1996, 'Performance in first year university accounting: quantifying the advantage of secondary school accounting', *Accounting and Finance*, vol.36, no.2, pp275-285.
- Sale, JEM, Lohfeld, LH & Brazil, K 2002, 'Revisiting the quantitative-qualitative debate: implications for mixed-methods research', *Quantity & Quality*, vol.36, no.1, pp43-53.
- Schroeder, NW 1986, 'Previous accounting education and college-level accounting exam performance', *Issues in Accounting Education*, vol. 1, no. 1, pp37-47.
- Sheeran, G 2009, 'Students get savvy with basic cash tips', *Sunday Star Times*, 30 August, p5.
- Skilling, D & Waldegrave, AM 2004, *The Wealth of a Nation: The Level of Distribution of Wealth in New Zealand*, Discussion Paper 2004/1, The New Zealand Institute Auckland, New Zealand.
- Stango, V & Zinman, J 2007 *Fuzzy Math and Red Ink: When the Opportunity Cost of Consumption Is Not What It Seems*, Mimeo, Dartmouth College.
- Statistics New Zealand 2011, *New Zealand Business Demographic Statistics*, Wellington, New Zealand.
- Swanson, GA & Brooks, L 1984, 'High school bookkeeping/accounting and success in college accounting', *Balance Sheet*, vol.66, pp4-7.
- Tashakkori, A & Teddlie, C 1998 *Mixed Methodology: Combining Qualitative and Quantitative Approaches* Sage, Thousand Oaks, CA.
- van-Rooij, M, Lusardi, A & Alessie, R 2007, *Financial Literacy and Stock Market Participation*. National Bureau of Economic Research Working Paper No. 13565, Cambridge, MA: NEBR.
- Widdowson D & Hailwood, K 2007, 'Financial literacy and its role in promoting a sound financial system', *Reserve Bank of New Zealand: Bulletin*, vol.70, no.2, pp37-47.
- Young Enterprise Trust 2009, *About Young Enterprise Trust*, November. Available at: <http://www.yetrust.co.nz/Corporate/About.YE.Trust/about.html>



## APPENDIX 1

### Questionnaire

For the purpose of this questionnaire, financial literacy refers to practical financial knowledge. Having practical financial knowledge means an individual is able to make informed decisions about managing their personal finances.

1.

Gender

- Male
- Female

Age

- |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 20-29                 | 30-39                 | 40-49                 | 50-59                 | 60-69                 | 70-79                 |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Which region are you from?

- Northland
- Auckland
- Waikato
- Bay of Plenty
- Gisborne
- Hawkes Bay
- Taranaki
- Manawatu-Wanganui
- Wellington
- Tasman
- Nelson
- Marlborough
- West Coast
- Canterbury
- Otago
- Southland
- Other

Position (i.e. HOD, assistant teacher)

Is Accounting your primary teaching responsibility? If not what is your primary teaching responsibility?

Where did you study Accounting?

- University
- Other certified institution
- I haven't studied Accounting
- Other, please specify

2. Out of 5, how well does the Accounting subject at secondary schools fit with the following five competencies which the New Zealand curriculum is based upon?

	Does not fit	0	1	2	3	4	Fits well	5
Thinking								
Using language, symbols and texts								
Managing self								
Relating to others								
Participating and contributing								

3. How would you rate the average secondary school students' financial literacy skills?

	Poor	0	1	2	3	4	5	6	7	8	9	10	Excellent
Your rating													

4. Where do you think financial literacy skills should be taught?

- Home
- Primary School
- Intermediate School
- Secondary School
- Tertiary
- External organisation e.g the Retirement Commission
- Other, please specify

5. Indicate a level of agreement about whether the following areas should be taught

a. Secondary students should be taught about personal budgeting

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

b. Secondary students should learn credit card skills

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

c. Secondary school students should learn how to effectively manage a mortgage

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

d. Secondary school students should learn the interest rates implicit on things such as mortgages, term deposits and credit cards

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

e. Secondary school students should learn basic tax knowledge

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

f. Secondary school students should learn about various insurance policies available

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

g. Secondary school students should be taught how to interpret and verify the accuracy of financial documents e.g. payslip, credit card statement, cash register receipt

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. If the topics you agreed or strongly agreed to earlier were to be taught in secondary school, rank in order how these topics should be taught

Unit standards in Accounting	
Achievement standards in Accounting	
A combination of unit and achievement standards in Accounting	
Unit standards across various subjects	
Achievement standards across various subjects	
A whole new course devoted to these topics	
Through an external organisation outside school hours	
Other, please specify	

7. To what extent are you satisfied with the status of the NCEA Accounting curriculum?

a. NCEA Level 1

Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

b. NCEA Level 2

Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

c. NCEA Level 3

Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. How would you rate Accounting in its current curriculum form, develops students' financial literacy?

	Not at all										Very well
	0	1	2	3	4	5	6	7	8	9	10
Your rating											

9. How important is it to teach financial literacy skills in the following levels of schooling?

	Not important		Moderately Important						Highly Important		
	0	1	2	3	4	5	6	7	8	9	10
Primary school											
Intermediate											
Secondary School											
University											

10. In its current curriculum form, what are the benefits that students receive by taking Accounting at secondary school? (Tick all that apply)

- Helps a student start their own business
- Prepares students for the university study of accounting
- Aids a student’s understanding of the business world
- Makes students confident about conducting everyday financial activities
- Students know how to analyse and interpret company reports
- Other, please specify

11a. On the scale below indicate what you think Accounting in secondary schools is preparing students for

	University			Equally				Everyday life			
	0	1	2	3	4	5	6	7	8	9	10
Your rating											

b. Explain your answer to 12a above

12a. Do you think Accounting in its current curriculum form should be taught at secondary schools? Rank in order what you think should happen

Yes-stay the same	
Yes-But alter the content	
No-Change it into a financial literacy paper	
No-No accountancy or financial literacy papers	

b. If you chose ‘Yes – But alter the content’ above, briefly explain what you think should be altered

13. Any other comments that you would like to add in regard to the importance of teaching Accounting at secondary schools?