

VOLUNTEERS: VALUABLE BUT INVISIBLE TO ACCOUNTANTS?

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ABSTRACT

Volunteer input is vital for achieving the organisational objectives of third-sector service-providers, but volunteers are often invisible in these organisations' financial reports. Preparation cost and a lack of robust models have previously limited the valuation of volunteer time, and yet board members and policy-makers benefit when these donations are evaluated. Volunteer invisibility can lead to under-resourcing of third-sector organisations when funders receive incomplete information. This paper acknowledges valuation challenges and assesses models developed by Mook et al. (2003) for usefulness. It analyses volunteer effort in New Zealand early childhood education centres to extrapolate a more informed understanding of the cost of childcare services.

KEYWORDS: Volunteer time; accounting for volunteers

INTRODUCTION

Volunteers, essential in maintaining the social fabric of our society, donate their time in myriad third-sector organisations (TSOs); see, for example, Engelberg et al. 2006. As governments increasingly devolve service delivery to voluntary agencies to renew neighbourhoods, tackle social exclusion and improve public services, the need for effective and committed volunteers continues to rise (National Council for Voluntary Organisations 2004; Leonard et al. 2007). TSOs are often expected to provide cost-effective services alongside private and public sector initiatives – in early childhood education, for example, which is delivered in New Zealand through for-profit organisations and through third-sector kindergartens, Te Kohanga Reo,¹ playcentres, and community-based early childhood education centres.²

While a great majority of these TSOs are small, the information they publish in annual financial statements is nevertheless agglomerated by policy-makers and funders to generate costing models, including those for government subsidies. These financial reports are treated as comparable, robust documents and yet the inputs generating organisational performance may vary widely

and be valued differently. Significant variances occur between organisations when volunteer time inputs are excluded from financial reports.

This paper briefly analyses the arguments for and against the valuation of volunteer time, then considers the practical and conceptual difficulties in such valuations, setting the discussion within its international context. A small number of North American studies (Wolfe et al. 1993; Brown 1999; Mook et al. 2003) have tested volunteer time valuation methods. Those developed by Mook et al. (2003) for economic valuation are assessed in relation to the practical difficulties that may be experienced, using data from a pilot study in the early childhood education sector in New Zealand. Although the study is New Zealand-based, these issues have a wider application in TSO reporting in Anglo-American societies.

WHY VALUE VOLUNTEERS?

On a national scale, heightened awareness of volunteers' donated time has resulted in statistical reports on volunteers' inputs. The findings are context-specific; for example, in England and Wales, Volunteering England (2003) reports that 44% of the population volunteer in organisations, contributing 1.9 billion hours. In the USA, 26% of the population volunteer for a formal organisation, donating a median of 52 hours each (US Department of Labour 2008), and in New Zealand, the Non-Profit Institutions Satellite Account recorded that around 25% of the population volunteer with these institutions (Statistics NZ 2007). The number of Australians volunteering is similar to the number in England and Wales, having increased from 32% of the population in 2001 (Australian Bureau of Statistics 2001) to 41% in 2005 (Lyons 2006).

Volunteer participation is nationally significant, but if governments are not aware of volunteering, this lack of information may lead to inappropriate policy-making. Such invisible economic data is also likely to lead to incorrect assumptions about the relative economic inputs of government and private citizens to social services (Brown 1999) and may lead to flawed decisions. This is further exacerbated if, as suggested by Trigg and Nabangi (1995), TSOs choose to ignore volunteer inputs in order to heighten the perception of relative neediness. Valuation is therefore a decision-aid and an accountability issue.

Benefits of valuing volunteer time extend beyond national economies to organisations. Recently Mook et al. (2005) surveyed accountants involved in the third sector in the USA. Ninety-two per cent of respondents agreed that including volunteer time provided 'a more complete picture of an

organisation's performance story' (Mook et al. 2005: 411), although most omitted to report such time in their TSOs' accounts. Organisations may realise three key benefits from valuation for decision making: (i) establishing the cost of services; (ii) understanding better the inputs required to meet the organisation's objectives, as argued by the International Public Sector Accounting Standards Board (IPSASB) (2006); and (iii) legitimating the organisation's community involvement. Each of these is explained below.

When government purchases services from an autonomous provider the costs are assessed on the basis of financial information. Thus it is important that organisations understand the value of inputs to services they provide. As noted by Millar and Abraham (2004: 10), volunteers are 'cheap, cost effective, can work efficiently and get a lot of work done'. For example, Handy and Srinivason (2004) sampled Canadian hospitals and found that volunteers were used extensively in order to contain cost overruns. However, these volunteers' inputs were not reported in the financial statements. When there is a reducing supply of volunteer resources or a shift in volunteers' priorities – as reported by the US Department of Labour (2008) and, in Australia, by Lyons (2006) – these organisations' abilities to deliver services will reduce, and service costs will be impacted adversely.

While making decisions about the cost of service provision is one reason to value volunteers, another is to highlight management issues. Boards of voluntary organisations are as accountable for volunteers' performance as they are for remunerated staff performance; thus, employing volunteers carries risks that should be acknowledged (Charity Finance Directors' Group 2003). An organisation's board may use information on the number of volunteers, their tasks and the hours they work to manage, train and support voluntary staff (Handy & Srinivasan 2004; Millar & Abraham 2004).

A third benefit of valuing volunteer time for TSOs is that information on volunteers provides evidence of an organisation's community linkages. When that important linkage disappears, communities may disengage from an organisation. Strong community relationships assist TSOs to garner continued support through donations and volunteers, as well as making them attractive for remunerated staff (Handy & Srinivasan 2004). In addition, invisible volunteers may be empowered and made visible by valuation (Millar & Abraham 2004) and the economic effects of beneficiaries' needs will be highlighted (ACCESS 2003). Paid management and employees of TSOs change more rapidly than the communities they serve. Thus, to have relevance, members of the community need to be involved in the organisation.³

Advocates of the benefits stated above include Waring (1988), Mook et al. (2003) and an expert group from the study by Kilcullen et al. (2007) who identified measurement and disclosure of volunteer time (non-reciprocal transfers) as important issues. However, few TSOs have applied these concepts to their financial reports (CFDG 2003)⁴, and the following section presents those arguments.

WHY VOLUNTEERS ARE NOT VALUED

To be valued, financial reporting inputs must be relevant, reliable, comparable and understandable (IASB 2001). National governments find information on voluntary effort to be all of these. The previous section argued that such information could also be relevant to organisations. Further, concealed volunteer inputs might reduce comparability between otherwise similar providers when governments contract out to both for-profit and third-sector service-providers that use varying inputs of volunteer services. Newberry (1995) notes, however, that volunteer time valuation may not be decision-useful. The discussion above has suggested that such valuation does provide inputs to decisions, but also that the reporting of volunteer effort is an element of organisational accountability.

The prime reasons cited for not reporting volunteer time are the cost of measurement and the unreliability of the measures obtained (Quarter et al. 2003). Because more (hard-to-find) volunteers may be needed to help measure contributed services in voluntary agencies, the costs of measuring volunteer effort may exceed the benefits. Further, volunteers may find record-keeping irritating, or may perceive it as a criticism and reduce their involvement accordingly.

Benefit is one issue, but reliability is a second. Information that is reliable should have a representational faithfulness to the transactions it represents and, as noted by the Financial Accounting Standards Board (FASB 1980: x), must be 'verifiable and neutral'. Therefore, in the USA, when the FASB developed a standard for reporting volunteer time, preparers and users expressed concern not only about the costs of gathering the information, but also whether the information would be reliable (Bossio 1991). Bossio (1991: 8) further notes that the FASB 'believes external financial reporting would be most improved if all contributed resources . . . were consistently recognised in financial statements. It believes, however, that such a step is too great to be required at this time' because of constituents' concerns about reliability. Similar concerns are raised with respect to public-sector organisations where, for example, Pendlebury et al. (1994) suggests reliability presents 'the most significant technical problem'.

While it is widely acknowledged that more robust measurement practices are required (ACCESS 2003), emphasising the need for reliability, organisations continue to omit valuing volunteer time. Financial reports are less relevant without all inputs (IPSASB 2006). However, financial reporting standards-setters have differing views on the matter.

AUTHORITATIVE GUIDANCE ON REPORTING OF VOLUNTEER TIME

In the USA volunteer time is recognised when it is an asset. SFAS 116 *Accounting for Contributions Received and Contributions Made* (FASB 1993) requires recognition of volunteer time when (and only when) the services create or enhance non-financial assets, require specialised skills, and would otherwise need to be purchased. Newberry (1995) argues that it cannot be assumed that volunteer time donated will meet the criteria of an asset (that is, that it will add to the future cashflow of the organisation). Other standard-setters have therefore suggested that donated services have the potential to be recognised as revenue.

Conceptually, the IASB Framework (2001) defines revenues as ‘increases in economic benefits’, implying that these increases could be direct economic inflows or savings in outflows. Thus, donations of volunteer time which save the organisation from purchasing services elsewhere and therefore increase the entity’s monetary position arguably fit the criteria for revenue recognition. The IPSASB (2006) also recommends that these non-exchange transactions (donations of services-in-kind) be recognised, although it provides no advice as to how to value those donations. The UK *Statement of Recommended Practice* (Charity Commission 2005: paragraph 133) notes that donated time should be included at market value as revenue ‘where the benefit to the charity is reasonably quantifiable and measurable’. Yet paragraph 134 excludes volunteers’ contributions because the value cannot be quantified in financial terms. Australian guidance does likewise (Kilcullen et al. 2007).

Conversely, New Zealand’s authoritative guidance for TSOs, the *Not-for-Profit Financial Reporting Guide* (New Zealand Institute of Chartered Accountants 2007) encourages these organisations to include the value of volunteer services in their financial statements. It observes the benefits that result when an organisation provides users with complete information on ‘the resources it has used and that are required to provide its services’ (NZICA 2007: 5.36). These benefits extend to policy-makers; coincidentally to NZICA’s (2007) pronouncement, New Zealand’s policy-makers canvassed a number of options for tax concessions in respect of donations of volunteer time (Cullen & Dunn 2006). If certain of these policy changes ensue, they

will require the tracking and evaluating of volunteers' inputs at organisational level, creating the impetus to explore appropriate measurement methods.

CRITICAL ANALYSIS OF MODELS TO VALUE VOLUNTEER TIME

Mook et al. (2003) suggest four methods to value volunteer time based on two concepts: *opportunity costs* and *replacement costs*. For each concept, values can be obtained for volunteer time at three levels: an individual volunteer, an organisation, and the social/political economy. This section briefly describes and analyses the four methods from Mook et al. (2003) against empirical research and extrapolates the relative cost and reliability of each method.

Table 1 analyses the opportunity cost models. These are: *opportunity costs* (at an individual and organisational level) and *community social return on investment* (at a social and political economy level).

Method of valuation	Individual volunteer	Organisation	Social/political economy
<i>Opportunity cost models</i> assume that volunteers sacrifice personal earning capacity that would otherwise have been spent on goods, services, and a tax contribution.	<i>Opportunity cost:</i> Through interviews with volunteers, calculates what volunteers could have earned in their 'normal' paid job (Wolfe et al. 1993) or volunteers' view as to the donation's worth in terms of lost personal revenue.	<i>Opportunity cost:</i> Interviews as for individual level, but attempts to present organisational perspective by aggregating each individual's opportunity cost.	<i>Community social return on investment:</i> As for organisational level plus a community multiplier to value the added benefit to the community from programmes volunteer is involved in.
Issues	<ul style="list-style-type: none"> • Data highly biased by the collector or assessor and costly to collect. • Skills for volunteering may not correspond with the volunteer's typical paid job. • Work donated during an individual's time off or for retiree is 'value-less'. 	<ul style="list-style-type: none"> • As for individual level. Requires volunteers to disclose sensitive remunerated charge-out rate to organisation. • Brown (1999) addressed disparities in tasks by a multiplier. • Handy and Srinivasan (2004) asked volunteers what their tasks are worth and chose most likely (or lowest) value. 	<ul style="list-style-type: none"> • As organisational level. Volume of data that must be individually assessed makes it highly costly for aggregation (NZFVVO 2006). • Recognises social value returned to community which may increase satisfaction of volunteers.
Cost	Moderately high	Moderately high	High
Reliability	Unlikely to be reliable. Quarter et al. (2003) found it undervalued contribution.	Unlikely to be reliable. Quarter et al. (2003) found it undervalued contribution.	Unlikely to be reliable Quarter et al. (2003) found it undervalued contribution.

Table 1: Analysis of opportunity cost models for valuing volunteer time (from Quarter et al. 2003)

It can be seen from Table 1 that the *opportunity costs* methods require the time-consuming collection of individualised time and wage data. Empirical research found that the costs of obtaining the information for the methods potentially outweighed the benefits. Further, the reliability of these methods is constrained by the subjectively assessed variables that must be added to the models to compensate for differing personal circumstances. For an organisation seeking to report its volunteer time, the *opportunity cost* model was found to be costly and subjective.

Statisticians have historically addressed opportunity costs of populations by using median weekly earnings, as this multiplier reduces the costs of collating individual wage data. While Waring (1988) confirmed that opportunity costs were the ‘economist’s ideal’, she noted their use is based on the assumption that volunteers make an economically rational decision between voluntary and paid employment, which has not been borne out by prior studies. For example, Millar and Abraham (2004) show that volunteering can be used as a way to build skills to gain employment, and Engelberg et al. (2006) note that, in sporting organisations, volunteering may take place in donors’ discretionary time. These examples show that the base assumption underlying the use of median weekly earnings can be invalid. As not all individuals volunteer instead of working, median weekly earnings are less likely to provide a reliable measure for donated time, or, if they are used, then the drawbacks should be made explicit.

In respect of replacement costs, Table 2 shows that these methods (*replacement costs* and *expanded value added statements*) also require the collection of data on donated time, but market values are applied to the labour data. This is more in line with standards-setters’ guidance on valuation, which makes the assumption that if services were not donated they would have been purchased at the labour market rate. Further, there is a base assumption that the donated time has been spent in ‘work’, as there is a market equivalent and skills are involved (Waring 1988).

Method of Valuation	Individual volunteer	Organisation	Social/Political economy
Replacement cost models: assume that organisation will be able to purchase services from the labour market and treats volunteer as a donation of funds that would have had to be spent	<i>Expanded value-added:</i> As organisational level plus adds a factor for on-the-job training equivalent for volunteers' personal growth and development.	<i>Replacement cost:</i> Valued solely from the non-profit organisation's perspective. This method makes the assumption that if these services were not donated, similar services would have been purchased at the labour market rate.	<i>Replacement cost:</i> As organisational level. Used by many statistical researchers (e.g. Statistics New Zealand, Hamdad, Joyal and van Rompaey 2004; Quarter et al. 2003).
Issues	<ul style="list-style-type: none"> • As for organisational level (<i>Replacement Cost</i>). • Mook et al. (2003) multiplied volunteers' benefits by the cost of a self-development course. • Hard to value volunteers' personal benefits. 	<ul style="list-style-type: none"> • Volunteers' hours need to be tracked and recorded. • Market values for labour must be readily available. • May overvalue if volunteers are not as productive as paid labour (Mook et al. 2003). 	<ul style="list-style-type: none"> • As organisational level.
Cost	Moderate	Moderate	Moderate
Reliability	More reliable	More reliable when verifiable market rates are available	Reliable enough for policy-makers

Table 2: Analysis of replacement cost models for valuing volunteer time (from Quarter et al. 2003)

However, using the *replacement costs* methods shown in Table 2, volunteers' time may still be overvalued (as they may be in *opportunity costs* methods), and the cost of tracking and recording time remains an issue. Notwithstanding that, assessing time at varying rates adds robustness, as shown in the New Zealand Federation of Voluntary Welfare Organisations (2006) survey. The added multiplier to *expanded value-added statements* (as described in Table 2) requires evidence on training effectiveness and can be subjective. However, these methods are less subjective than the *opportunity costs* and *social return on investment* methods because they use market rates for labour, rather than the volunteers' assessments.

In line with the recommendation of NZICA (2007), the following section takes a selection of early childhood education centres in New Zealand to assess the ease and cost-effectiveness of the *replacements costs* and *expanded value statement* methods.

THE NEW ZEALAND EARLY CHILDHOOD EDUCATION SECTOR RESEARCH

In New Zealand, all approved early childcare providers receive a base funding from government, through the Ministry of Education, linked to the number of hours that children attend the centre. The funding is a complex formula that depends on the type of care provided (full-time or sessional), the percentage of qualified teacher-hours compared to the total hours the centre is open, and the age of the child. Government funding covered around 40% of costs, and parents charged the balance at an hourly or sessional rate, enabling centres to deliver quality childcare and to make a surplus to be reinvested in equipment and other centre needs (and a dividend for private sector entities). New funding from July 2007 changed the funding balance for centres that elected to provide increased government-subsidised hours. The policy was not without conflict, as it originally proposed that additional funding be made available solely to third-sector rather than public- or private-sector entities. While this policy was consistent with worldwide patterns of government partnering with TSOs that are flexible, cost effective in social service delivery and are able to build social capital (Anheier & Seibel 1990), the controversy meant that extra funding was subsequently offered to all centres. Subsequent to this research, the per-hour rate of funding initially offered was also increased.

Cleveland and Krashinsky (2005) argue that the services of third-sector early childhood education providers are of a higher quality than those delivered by for-profit providers at similar user charges. Third-sector providers are likely to employ volunteers to augment remunerated staff in delivering programmes, supporting administrators, and maintaining and renovating centres, while for-profit providers do not. However, both third-sector and for-profit providers are required by the Education Act 1989 to provide annual financial reports to funders that are fully compliant with Generally Accepted Accounting Practice. Further, the revised *Statement of Desirable Objectives and Practices* (Ministry of Education 1996) and the goals of the Education Review Office reports (both of which underpin government funding) require centres' board members to use financial management tools to ensure centres' continued viability.

Because parents with young children are more likely to volunteer (Rooney et al. 2004) and the original new funding policy preferred third-sector, community-based early childhood education centres, we believed that it would be useful to review these centres' financial statements to obtain information about volunteer time donations. Further, we intended to interview supervisory staff to assess the value of volunteer donations and

any mismatch between the entity's financial reporting and these gifts. By working with third-sector early childhood education centres, we hoped to understand better the challenges of measuring volunteer time, so that the valuation of these non-reciprocal transfers would enable more informed costing of early childhood education services and better management of volunteers.

Research method

We identified all 35 third-sector early childhood education centres in Wellington from the database held by the Wellington Community Child Care Association. We sent each a letter and brief questionnaire,⁵ after telephoning the centres to establish the name of the head teacher (because we wanted a contact name and we wanted to interview the head teacher initially). We asked each centre for a copy of their financial statements, as well as other information relating to their size and hours of operation. Further, we requested information on the centre's policies about volunteers. We offered a nominal gift voucher to interview respondents to acknowledge their time. The centres included in the interviewing self-selected, as not all who returned financial and survey information agreed to the interview stage of the research project.

Responses from centres

Financial information was received from nine early childcare centres. Eight of these centres were constituted as Incorporated Societies and one was part of a larger (Church) organisation. Five head teachers from those who returned questionnaires agreed to be interviewed. A frequent response to our initial approach to head teachers was that they believed they had no volunteers. Yet, when prompted about those parents who volunteer as board members, for working bees, assisted with IT or renovation, head teachers were enthusiastic about the support that centres received from parents' volunteering. Some of the centres had annual or occasional working bees to cement community spirit and help with spring cleaning inside and outside. In these cases, all parents were encouraged to participate to share the load of running the centre. Overwhelmingly, head teachers stated that their centres would not survive without the assistance of the volunteers, or that having to employ replacements would make it economically difficult to continue. One head teacher confirmed that volunteering was an integral part of the ethos of the centre, which she described as a 'home away from home' (Respondent F1). Indeed, as managers and licensees, parent boards are responsible under the centres' charters for the manner in which the children's 'second home' is run.

The most typical donation of volunteer time was through the centres' management boards. The collective skills of those serving on the boards were strong and varied, and head teachers were impressed with boards' energy, commitment and accomplishments. Often the chairperson was in constant contact with the head teacher. Meetings beyond the regular board or committee meetings were informal moments at the centre or over the phone.

Further, parents who were plumbers or builders or had general maintenance experience assisted with the upkeep of centres. Others offered knowledge and experience of legislation relating to childcare, occupational health and safety and resource consents, helping the head teacher's policymaking and planning. Volunteers with human resources skills and training assisted with staff appointments, privacy issues and the resolution of any conflict between staff, between staff and parents, and occasionally between children.

From the interviews with head teachers, an assessment of volunteer time donated to community early childhood education centres was made (see Table 3). One centre ran occasional outings, for which the adult-child ratio was required to be half that for in-centre activities. These outings reflect a need for high-quality care that is provided by giving children many different experiences. Parents were invited to be volunteers and the response was so enthusiastic that parents often outnumbered children, suggesting high perceived personal benefits. However, rather than counting all these parents' contributions, we included the number of hours for staff the organisation would have had to employ to reduce the adult-child ratio to the required level for outings. The tasks in Table 3 are assigned across three broad groups to reflect the donations of different skill sets: board members, in-centre assistance and unskilled/semi-skilled labour.

Centre	A	B	C	D	E
Number of centre families	30	60	36	30	13*
Volunteer hours – board (\$30/hour)	Meetings 75 hours; Other 50 hours	Meetings 90 hours; Other 192 hours	Meetings & Other 384 hours (includes all parents quarterly)	Meetings 336 hours; re-writing employment contracts 10 hours; IT support 50 hours	Meetings 108 hours; Other 124 hours
Volunteer hours – centre-based (\$12/hour)	960 hours	1000 hours	None	None (but three whole-centre trips per year, which require parent support)	None
Volunteer hours – other (\$9/hour)	Minimal	None	Working bee 300 hours; fundraising 150 hours	Working bees 160 hours; repainting 15 hours; shopping & maintenance 20 hours; outings (adult:child ratio reduction) 75 hours	Laundry and lawns 182
Total hours	1085	1192	834	666	414

Table 3: Assessment of volunteer time donated at community-based early childhood education centres

* Unusually, this centre has fewer families than children, as a number of siblings concurrently attend.

Table 3 shows considerable variance in donated time, from a total of 414 hours in Centre E to 1192 in Centre B. The breadth of tasks undertaken on a voluntary basis also fluctuated across centres. In each centre, boards and head teachers sought parents to fulfil tasks before using services from the marketplace. Recognising donated volunteer time, therefore, would assist boards to manage tasks, staffing and costs, especially in times of reducing volunteer supply. For example, a number of the centres now employed professionals for accounting tasks, owing to a reduced supply of volunteer treasurers and to high compliance requirements.

To assess the value of donations calculated in Table 3, the sector's collective staff agreement was used as the basis to value hours donated for a range of teacher-related tasks, published rates from agencies that provide contractors to undertake management and accounting tasks in early childhood education, and a generic rate to recognise other tasks for which few skills are required.

These rates were:

- \$30 an hour for time donated by management board members, as the amount the early childhood education centre would otherwise pay to the local community childcare association for management services;
- \$12 an hour for centre-based volunteer time, as the rate for unqualified staff in the sectors' collective agreement (on the assumption that volunteers are unlikely to be qualified teachers); and
- \$9 an hour for 'other' hours, as the minimum wage rate in New Zealand (at the time of the study).

Valuation of time donated

The time donated, as outlined in Table 3, was multiplied by the above rates to obtain a *replacement cost* method. We were unable to assess the *opportunity cost* of volunteers; this was due to the diversity of volunteers involved, to reticence to compare volunteering with volunteers' 'normal' jobs, and to the fact that they hadn't divulged their wage rates to the head teacher. Table 4 provides the valuation of the volunteer time from Table 3, using the *replacement cost*. It can be observed that the benefits to the early childcare centre ranged from \$2.17 a day per child in Centre E to \$3.98 per child per session in Centre A. Centre E had fewer families from which to draw volunteers and therefore had lower donated hours, while Centre A was the smallest centre in the study but had significant volunteer input due to its enrolment policy. The mean value added under the *replacement costs* model as shown in Table 3 was \$3.03 per child per day/session.

Centre	A	B	C	D	E
Cost of over two-year-old in centre for one day (D) or session (S)	\$25 (S)	\$57.50 (D)	\$47 (D)	\$40 (D)	\$42 (D)
Potential gross revenue from fees*	96,000	431,250	258,500	250,000	181,440
Addition of volunteer time:					
<i>Replacement costs</i>	15,270	20,460	15,570	14,310	9408
New cost of over two-year-old day/session	\$28.98 (S)	\$60.22 (D)	\$49.53 (D)	\$43.84 (D)	\$44.17 (D)
Volunteers save per session (S) or day (D)	\$3.98 (S)	\$2.73 (D)	\$2.53 (D)	\$3.76 (D)	\$2.17 (D)

Table 4: Valuation of volunteer time donated at community-based early childhood education centres, based on replacement cost

* Fees worked as number of child spaces multiplied by number of days in week open by number of weeks in the year the centre is open.

The time donated, as outlined in Table 3, was also used in an attempt to extract an *expanded value-added statement* by assessing value returned to the volunteer through up-skilling. We found little evidence of training for early childhood centre volunteers; thus, the private benefits were unable to be measured at an individual level. We did find that organisational benefits may be generated when volunteers work with the head teacher of an early childhood education centre to improve the head teacher’s management skills. Sessions to develop policies and procedures that enhance the centre may be equivalent to the head teacher’s attendance at a professional course. The head teachers we interviewed pointed out that the skills brought by these volunteers were not taught in early childhood educator training and that they would have to pay around \$350 per day for similar training on management skills and the numerous Acts with which centres must comply.⁶ Benefits accrued to the centre, as one head teacher said in talking about donated time of board members: ‘But more than that is the expertise I gain from these people. It’s more than I can say’ (Respondent T2). However, before this became an objective measure, the head teacher in community-based centres would need to be able to demonstrate that they had obtained and updated relevant knowledge from their volunteer board contacts. Table 5 shows the replacement cost model extended by including benefits to the head teacher, in an *expanded value-added statement* framework.

Centre	A	B	C	D	E
Volunteers save per session (S) or day (D) under <i>replacement cost</i> method:	\$3.98 (S)	\$2.73 (D)	\$2.53 (D)	\$3.76 (D)	\$2.17 (D)
<i>Expanded value</i> addition for training	nil	nil	700	350	350
New cost of over two-year-old day/session	\$28.98 (S)	\$60.22 (D)	\$49.66 (D)	\$43.90 (D)	\$44.25 (D)
Volunteers save per session (S) or day (D)	\$3.98 (S)	\$2.73 (D)	\$2.66 (D)	\$3.90 (D)	\$2.25 (D)

Table 5: Valuation of volunteer time donated at community-based early childhood education centres, based on expanded value added

The benefits of volunteers to Centres C, D and E increased slightly due to training assessed, but those in Centres A and B did not. However, it was found that the benefits to the head teacher under the *expanded value-added statement* method were hard to verify. These benefits were minimal, and verifying the benefits could be more costly than any benefits obtained.

The average volunteer contribution to the early childhood education centres was estimated at \$3.10 per day per child attending, with (under the *expanded value-added statement*) the range of volunteer contribution to these centres being from \$2.25 to \$3.98. This cost was originally borne by volunteering parents alone, rather than being shared by government. It is interesting to note that, subsequent to this research, government funding was increased by \$3 an hour, which will assist in taking into account the voluntary aspect of quality early childhood education provision.

DISCUSSION AND CONCLUSION

In line with recent standard setting (IPSASB 2006; NZICA 2007) and supported by the IASB Framework (2001), it was the objective of this study to assess whether donated time could be reliably estimated to quantify the cost of providing early childhood education. The study found that readily available costs in this sector make the *replacement cost* method more reliable and less costly than the *opportunity costs* methods. The *expanded value-added statement* also provided the opportunity to value the additional benefits to early childhood education centres when volunteers act as teachers to centre staff, but it was difficult to verify whether this benefit was the equivalent of a development course, and verifiable data would not be cost-effective to obtain.

Third-sector early childhood education centres are professionally run entities. Further, although parents are responsible for the management of the centres as employers and license-holders under centre charters, they receive no remuneration for this responsibility. No centres in this research sample acknowledged the many hundreds of hours of volunteer time on their financial statements, and this information was not requested by the government funders and policy-makers. Despite the invisibility of donated services, the head teachers believed volunteers were ‘absolutely essential’ to the survival of their centres.

Head teachers recognised that they need to attract volunteers to their centres to ensure the continued viability of their operations. Further, volunteers had to be managed well to ensure the organisation met its goals. At a time when the availability of volunteers is reducing (Handy & Srinivasan 2004; Lyons 2006), valuing those volunteers potentially assists boards to manage volunteers and assess the cost of providing services. The impact of valuation of volunteer time on the volunteers themselves is, however, unknown and a topic for future research.

It was of concern that the financial accounts reviewed in this study did not recognise volunteer inflows to organisational services. Not only does this oversight make it more difficult for centres to manage fluctuations in volunteer availability (Millar & Abraham 2004), but it makes volunteers invisible to users of financial statements. It is suggested that preparers and auditors may be hiding behind a perceived need for reliability at the expense of relevant, comparable information that would recognise the importance of volunteer services in TSOs. If accounting professionals are to follow recent pronouncements from standards-setters, they must use new tools to address valuation challenges. From this study, we suggest that the *replacement cost* method can be used to estimate volunteers' inputs and encourage further research in this area.

Notes

1. Te Kohanga Reo is a total immersion *te reo Māori* (Māori language) *whānau* (family) programme for *mokopuna* (young children) from birth to six years of age raised within their *whānau Māori*, and in which the language of communication is Māori.
2. The Correspondence School is the only public-sector early childcare provider, and its enrolments represent only 1% of total children enrolled in early childcare education centres.
3. For example, over many years we have observed the parent community of a local kindergarten working consistently on the grounds and building. Consequently, the parents and children remember the places as 'theirs' for many years afterwards.
4. Mook et al. (2005) found that, whilst 37% of their sample of non-profit organisations recorded donations of volunteer time, a mere 3% recognised that time in their financial statements.
5. See a synopsis in Appendix 1.
6. Compliance is required with the Building Act 2004, the Education Act 1989, Education (Early Childhood Centres) Regulations 1998, Education (Registration of Early Childhood Services Teachers) Regulations 2004, Employment Relations Act 2000, Fire Safety and Evacuation of Buildings Regulations 1992, Health (Immunisation) Regulations 1995, Health and Safety in Employment Act 1992, Health and Safety in Employment Regulations 1995, Human Rights Act 1993, New Zealand Teachers Council (Making Rules and Complaints) Rules 2004, Public Finance Act 1989, Privacy Act 1993, Protected Disclosures Act 2000, Resource Management Act 1991 and the Smoke-Free Environments Act 1990.

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APPENDIX 1: THE INITIAL APPROACH TO EARLY CHILDHOOD EDUCATION CENTRES TO PARTICIPATE IN THE RESEARCH

The participants in this research were solicited by a letter and questionnaire sent to 35 community-based early childhood education centres. The letter notified potential participants that the intention of the research was to analyse the extent and value of volunteer time at community-based early childhood education centres. It encouraged centres to participate, even if they did not have volunteers involved in the centre. A nominal book voucher was offered for those who chose to participate in the interview research to recognise their time. The initial questionnaire asked for details about the centre's size, staffing and use of volunteers.

The outline of the semi-structured questionnaire for interviews with *head teachers* was as follows:

1. What functions do volunteers serve at your centre?
.....
2. Could you put a percentage on the number of hours worked by volunteers at the centre?
.....
3. In what way do volunteers contribute to the centre, for example as board members, teachers, support people, etc?
.....
4. If you had to pay these people, how much might it cost?
.....
5. How important to the continuation of the centre are volunteers?
(Circle one.)

<i>Absolutely Essential</i>	<i>Very important</i>	<i>Reasonably important</i>	<i>Not very important</i>	<i>Irrelevant</i>
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