Skilling Australians: Lessons from World War II national workforce development programs

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Governments are currently mobilising their national workforces to compete effectively in a globalised economy where being export-effective and import-competitive are necessary to secure national economic and social goals. Australia is no exception here. Yet, in this country, as in others, similar mobilisations occurred in earlier times, most noticeably during wartime. This article describes and discusses two particular measures during and after the Second World War: the Commonwealth Technical Training Scheme and the Commonwealth Reconstruction Training Scheme. Beyond providing an historical account of these two national schemes for skilling Australians, the paper identifies the importance of securing a national consensus and the engagement of all parties, and showing sensitivity towards those who participate in such programs. Particularly salient is that although national-focused, the success of these programs was premised on effective localised arrangements, where diligent administrators and educators seemingly worked closely with local employers and unions to realise their effective implementation.

Skilling Australians

Across the last two decades, various programs have been introduced for developing the skills of the national workforce in Australia. These have included the development of national standards and uniformity of vocational education provisions, introducing a training levy to encourage enterprise expenditure on training, and cycles of reforms of the vocational education system, its institutions, governance and operation. Many of these initiatives (e.g. 'Skills for the future' 2006; 'Workforce futures' 2009) were driven by a concern to mobilise the Australian workforce and the national vocational education system to meet more effectively the challenges emerging from a globalised economy where the quality of goods and services is essential to both maintain levels of exports and resist increased levels of imports. A key feature of these processes has been the role of national bodies, such as Skills Australia, established in 2008, which have been charged with reforming workforces and the vocational education system. Yet, far from all of these initiatives have been successful (Billett 2004), so it is useful to understand more about how such initiatives might be organised.

Indeed, the need for Australia to mobilise and develop the skills of its workforce in the face of challenges to national well-being has occurred previously. During and after the Second World War, national programs were implemented for developing the required skills for military purposes and then later to assist the demobilisation of a large proportion of the nation's fighting force at the end of six years of conflict. To address the urgent need for such skills, the Australian Government introduced the Commonwealth Technical Training Scheme (CTTS) and the Commonwealth Reconstruction Training Scheme (CRTS) which it saw as a way of producing qualified tradespeople in a relatively short time. More than 300,000 people went through the two schemes, with the CRTS later described as 'one of the most significant strategies for social change in Australia' (NAA 2009).

It follows, therefore, that this paper documents the development of the CTTS and CRTS to identify their main features and discusses whether any of the experiences of these initiatives can be usefully applied to help address current skills development initiatives in Australia. Most of the information about the history of these Schemes is drawn from government files held in the National Archives, Canberra. While clearly historical, the accounts demonstrate the importance of gaining national consensus, having appropriate infrastructure, and the importance and difficulty of attempting to align needs with demand. Yet, successful implementation of these programs seems to have been very much premised on constructive and collaborative arrangements at the local level.

Early developments

The need for national schemes for skill development emerged in Australia before the outbreak of the Second World War. Like many European counterparts, in 1938 successive provocations by Nazi Germany led the Australian Government to conclude that an outbreak of war was inevitable. The Controller of the Munitions Supply Board, J K Jensen, who had visited Britain 20 years earlier to learn how it had mobilized for munitions production in World War I (Steven 1996), suggested the need to plan for the intensive training of war workers in technical schools and colleges (Department of Labour and National Service (DLNS) c. 1946: 24). At that time, as now, those schools and colleges were the responsibility of the six States, along with the provision of primary and secondary education, with the Commonwealth Government then having responsibilities for the Northern Territory and the Australian Capital Territory. There had been some nascent attempts for national coordination of technical education, including the Australian Education Council, established in 1936 to enable continuous consultation among the relevant State and Federal Ministers. However, this Council met only every two years (Eltham 1953a: 24). So, there were no mechanisms for harnessing the States' technical education systems for the service of the nation.

The first move to institute such a mechanism came in September 1939, some three weeks after the Second World War began. Representatives of interested Commonwealth government departments met to discuss the shortage of skilled tradesworkers for defence purposes and the availability of training facilities (Eltham 1953a: 24). Subsequently, a survey in December that year identified existing and potential technical training facilities. Shortly afterwards, the first conference of State and Federal technical education and industry representatives was convened, leading to the establishment of an Expert Advisory Committee comprising representatives of industry, government and technical education (Eltham 1953a: 24). In many ways, the formation of this committee constitutes a forerunner for subsequent efforts across reform processes to mobilise national institutions to develop further the skills of the national workforce and to organise technical or vocational education for these purposes.

Commonwealth Technical Training Scheme

These developments across 1939 and 1940 culminated in the establishment of the Commonwealth Technical Training Scheme (CTTS) whose focus was to fully utilise existing networks of State technical education facilities. The most urgent need was for skilled engineering tradesmen, and by December 1939, the first course of training, for 100 Royal Australian Air Force (RAAF) fitters, was under way. Arrangements were made to purchase precision tool- and gauge-making machinery from the United States, although when it arrived in Australia much of the equipment was diverted to munitions factories (DLNS c. 1946). Nevertheless, the CTTS quickly expanded, with E.P. Eltham as Director, seconded to the Industrial Training Division of the Commonwealth Department of Labour and National Service from his role as Chief Inspector of Technical Schools in Victoria. The new division's role was to coordinate training for war purposes through the States' administrative and training facilities; with the Commonwealth meeting all costs, including premises,

equipment and teachers. Initially, the CTTS was for those already enlisted in one of the three services, and included a wide range of trades, from armourers to X-ray technicians, electrical mechanics to projectionists. Basic courses ran full-time for periods of four weeks to 20 weeks, and by 1944 almost 100,000 Army, Navy and RAAF trainees had completed CTTS courses (DLNS c. 1946: 24).

Another form of training program within the CTTS was established under the National Security Dilution Regulations, which were introduced in May 1940. This program aimed to provide for the employment of 'suitable adult persons' in work normally undertaken by qualified tradesworkers, following a period of intensive training in engineering work. The relevant trade unions agreed to the relaxation of existing training requirements for tradesworkers to meet the exigencies of the time, with the caveat that qualified tradesworkers' rights would be protected when the wartime need had passed. Applicants for this program were initially selected by committees comprising representatives of employer and employee bodies and technical colleges. However, soon the Australian Council for Educational Research developed aptitude tests to expedite the selection process (DLNS c. 1946: 24). Each trainee was paid the basic wage for the period of their training, which averaged 15 weeks, and signed an agreement that from the date of completion of the course to 'serve if and as required by the Local Dilution Committee in the performance of the duties for which he [sic] is trained during the remaining period of the War' ('Tradesmen's rights' 1946).

Those dropping out of courses or not meeting their service obligations had to pay back the cost of training, up to a maximum amount. In 1943, the scheme was expanded to include women, and by 1946 around 50,000 'diluted' tradespeople had completed courses and almost half of them remained employed as 'added tradesmen' ('Tradesmen's rights' 1946: 3). There were also more specialised and other courses that reflected the breadth of the mobilisation effort.

For example, some 700 selected fitters and turners and first-class machinists undertook courses of 52 hours a week for around three months to become tool and gauge-makers for government munitions and aircraft factories (DLNS c. 1946: 24). Also, the expansion of munitions manufacturing and the increasing employment of workers trained under the 'dilution' scheme led to a demand for more supervisors, so part-time and correspondence courses were introduced to meet that need. The growth of such factories also resulted in training for canteen managers, cooks and bookkeepers. Other courses trained optical munitions craftsmen, engineering draughtsman, industrial chemists and workshop inspectors.

The last trainees were accepted into the CTTS in 1944, by which time more than 23,000 adults had undertaken training in munitions and aircraft production in 60 technical schools and colleges across Australia, in addition to the 100,000 trained within the Services. These institutions were already teaching around 100,000 students annually, and some of them introduced day and night shifts to cater for the increased numbers. It is claimed the percentage of trainees found to be unsuitable when they took up positions in munitions and aircraft factories was 'negligible', and that in two large factories, the percentages of CTTS trained workers was 75% and 94% respectively (DLNS c. 1946: 24). However, while these figures may well reflect a high demand-driven labour market, the take-up rate and presumably high level of satisfaction by employers and supervisors stands in contrast to current circumstances. Yet, it is important to identify factors that led to the seemingly successful implementation of this scheme. One of these was the training of trainers and the development of training institutions.

Training the trainers and training institutions

Initially, teachers in the CTTS came from the State technical education systems, but they were supplemented by hundreds of tradesworkers recruited directly from industry. Each State organised

its own short teacher-training courses for these new recruits, and teaching aids produced specifically for these courses included film strips, wall charts and printed manual and lesson notes in order to minimise the need for note-taking in class. Manuals were also produced for particular subject areas, for example, turning and machining, reading technical drawings and electrical theory. In addition, the sudden increase in student numbers meant existing technical colleges were quickly overstretched, and the Commonwealth Government spent around £250,000 [$500,000] on the construction of 40 new buildings to cope with the demand for the CTTS. Two main conditions for this expenditure were: (i) the buildings had to be designed for flexible use, so they could be adapted for different training purposes, and (ii) they had to be part of the planned development of each State's technical education program.

In sum, the Commonwealth Technical Training Scheme saw the Australian Federal Government become involved in a field of education that previously had been solely a State responsibility. Moreover, this scheme was wholly funded by the Federal government with State governments apparently readily co-operating in its implementation; and the relevant unions agreeing to the fast-track system for trade skill development as long as tradesworkers' rights were protected. In addition, selection was based on aptitude tests; tradesworkers were recruited as teachers; and special training and resources were provided for the new teachers. These urgent war-time measures established a model for the successor to the CTTS, the Commonwealth Reconstruction Training Scheme (CRTS), and indeed many of the initiatives for developing the national skill force in much later times.

Commonwealth Reconstruction Training Scheme

The high proportion of Australia's population in the war effort and the early return of Australian casualties prompted government interest

in civilian post-war reconstruction. Prime Minister John Curtin, elected in 1941, was keen to prepare troops for a return to civilian life once the war was over (Serle 1993). So, in late 1942, even as Japanese troops edged closer to Australia, Curtin presciently established the Department of Post-War Reconstruction, headed by H.C. (Nugget) Coombs (NAA, Australia's Prime Ministers: Timeline: John Curtin). Curtin's policies on post-war reconstruction, including planning for full employment, assisted immigration and improvements in social security, helped his party secure re-election in 1943 (Serle 1993).

The Government saw training as a key to returning almost one million Australian servicemen and women to civilian life after the war, but held that any training scheme should fit within a national reconstruction framework. It therefore decided that training for returning troops would not be provided as a matter of course (that is, as a 'reward' for war service) but according to whether such training was necessary for a satisfactory return to civilian life, taking into account each individual's qualifications, aptitude and health (CRTC c. Feb. 1944). This assessment process was an underlying principle of the new scheme. From a national perspective, 'a unique opportunity was … available to foster training for employment in under-staffed trades and occupations with good prospects, to avoid encouraging the entry of additional workers into over-crowded fields with less attractive prospects (Report on Commonwealth Reconstruction Training Scheme 1946: 16).

In March 1944, as the Commonwealth Technical Training Scheme was winding down, the Commonwealth Reconstruction Training Scheme (CRTS) was introduced on a small scale. Although its main role would be at the end of the war, it was made available earlier for those members of the armed forces who had been discharged, but needed training to obtain employment in civilian life (Report on CRTS 1946: 16). By October 1945, almost 4,000 former armed services members had begun full-time training and over 9,000 had enrolled in part-time courses.

To prepare for post-war reconstruction, in 1944 the Commonwealth Government had attempted to change the constitution in order to take over some of the States' powers for a period which would end five years after the cessation of hostilities. There were 14 specified elements in the proposal, including employment and unemployment, national works and national health, as well as 'the reinstatement and advancement of those who have been members of the fighting services of the Commonwealth during any war and the advancement of dependants of those members of the armed services who have died or been disabled as a consequence of war (quoted in Gallagher 2003: 13). However, although the relevant act (known as the Evatt Act after the Attorney-General of the time) was passed by the Australian Parliament, the proposed handover of powers was not accepted by Australian voters at the subsequent referendum. Gallagher (2003: 15) suggested this rejection may have been 'a blessing in disguise for the CRTS as, had Evatt's Act become law, at least six of the fourteen matters to be referred to the Federal Parliament would have caused major political and social upheaval in peacetime, and most certainly would have diverted the attention of leaders such as Chifley [who became Prime Minister after Curtin's death in July 1945], Coombs and Dedman [Minister for Post-War Reconstruction].'

Consequently, when Parliament passed another Act, in June 1945, 'to provide for the Re-establishment in Civil Life of Members of the Forces, for facilitating their employment, and for other purposes', it had to rely on the *co-operation* of the States. Under that Act, the general purposes of the CRTS were to provide:

> Full-time training: for those who required training because of incapacity caused by war service, or because their re-enlistment occupation was oversupplied; for those whose training (or commencement of training) had been interrupted by war service; for those in need of a short refresher course; and for those who during their war service 'have shown conspicuous ability and can satisfy the Regional Committee of their suitability for a calling apt to improve their economic status substantially'.

> Part-time training: for those who wished to improve
> their occupational status or their general education
> (Gallagher 2003: 13).

There were three categories of full-time training: i) professional
training—at a university, technical college, teachers' college,
agricultural college leading to a degree, diploma or equivalent; ii)
vocational training—for an established skilled adult vocation, trade
or calling; and iii) rural training—on approved farms or by short
intensive courses in agricultural colleges (CRTS c. mid 1957). It is
noteworthy that this scheme embraced both elements of tertiary
education: vocational education and higher education. It is only in
very recent times that government efforts to increase the skill base of
the Australian population have extended beyond a focus on vocational
education, and into higher education.

Administration

A Central Reconstruction Training Committee was established to
oversee the scheme, with the Chair from the Ministry of Post-War
Reconstruction, and representatives of the Repatriation Commission,
the Universities Commission, the Rural Training Authority, the
Employment Division and Industrial Training Divisions of the
Department of Labour and National Service, employers' and
employees' organisations, and Ex-Services associations. There were
also co-opted members from the Navy, Army, Air Force and Treasury
(CRTS c. mid 1957). E.P. Eltham was appointed Director of Industrial
Training in the Department of Labour and National Service following
his earlier secondment as Director of the CTTS. When the full scheme
became operational in August 1945, Regional Committees were
established at a State level and in the Australian Capital Territory.
These committees were responsible for such matters as selection of
trainees, advice to the Central Committee on occupational training
needs and training quotas, approval of training facilities and
hearing of appeals from disgruntled applicants. Living allowances

for full-time trainees were paid by the Department of Labour and National Service (DLNS), which also paid subsidies to employers with trainees under the scheme. The Ministry of Post-War Reconstruction issued all requisites, including books and tools of trade, for full-time professional and vocational students. Eligibility for full-time training was based on 14 criteria for professional training and 15 for vocational training; suitability factors included previous qualifications and aptitude, and employment prospects in the particular occupation. The DLNS identified skills shortages in conjunction with employer and employee organisations. Here again is a prescient initiative—that is, an early effort to align the demand for vocational education with the supply of graduates. As indicated below, efforts to identify alignments between supply and demand were taken seriously, to assist the preferences of those engaging in these programs to most likely lead to employable outcomes.

Industry requirements

Out of a population of about seven million, close to one million Australians enlisted or were conscripted into the military forces in World War II, with a maximum strength of the armed forces peaking at 700,000 men and 40,000 women in June 1943. Although in 1939 the male unemployment rate was 11% and the female rate was 6.5%, most of those in the armed services were drawn from civilian jobs, including 48% of the pre-war strength of the building and construction industry, 31% from primary industries and 30% from commerce; 28% of those who had been engaged in mining also saw war service (Report on CRTS 1946: 16). There had also been a large increase in women's participation in industry—the wartime figure of 800,000 was 150,000 higher than in 1939. It was estimated that at the end of the war about 1.5 million adults would need to be re-employed in civilian occupations, and half a million more jobs would be required than in 1939 (Report on CRTS 1946: 16). This meant:

> Training was urgently required over a wide field of trades
> and professions on an unprecedented scale to meet industrial
> and professional requirements. In some callings, such as the
> building trades, grave shortages of qualified tradesmen were
> evident. In others, enormously expanded during the war, there
> were considerable surpluses, and little or no openings for secure
> employment existed for discharged Servicemen (Report on
> CRTS 1946: 16).

This task was made even more demanding by the unexpectedly quick
end to the war following Japan's surrender after nuclear weapons
were used against its cities.

Start-up problems

Although the CRTS had been in preparation for two years or so,
the unexpectedly quick end of the war in August 1945 caught the
government and the military by surprise. Suddenly, Australian
servicemen and women were returning home and the Scheme was
not yet in full operation. Demobilisation accelerated from 6,000 a
week in October 1945 to 16,000 a week by the end of November,
and peaked at 19,000 a week in January 1946 (Report on CRTS
1946: 16). Between October 1945 and April 1946, almost 400,000
servicemen and women were discharged, and 30% of them expected,
not unreasonably, that the CRTS would help them re-settle into the
civilian workforce (Report on CRTS 1946: 16).

Those expectations had been developed by the promotion of the
scheme throughout the armed services from early 1944 onwards,
mainly through service publications, and then through the
newly established Regional Committees. However, it appears
early information was sketchy, and only at the end of 1944 were
comprehensive booklets on the CRTS published and distributed: 'it
is evident that many details of the Training Scheme were not clearly
conveyed to the troops by those concerned nor were the implications
of the Scheme properly understood' (Report on CRTS 1946: 15).

Furthermore, Regional Committees sometimes ignored national directives of the Central Reconstruction Training Committee with which they disagreed. The result was often confusion, particularly among the applicants, especially about the distinction between being declared 'eligible' for training under the scheme, and the next step, being deemed 'suitable'. Also, in the vocational training category, many applicants, having been advised about being 'suitable' for particular (and popular) trades, were then told there were insufficient training places in those trades, and in some cases future vacancies were unlikely.

Responding to a 1946 inquiry into the delays, those behind the scheme claimed it was always intended to spread training over a period of up to two and a half years, with regular intakes of trainees, annually for professional training and six-monthly for vocational training, 'so as to give industry time to adapt itself fully from a war to a peacetime economy' (Eltham 1953b: 2). Estimates of the likely take-up of the scheme were based on a census undertaken within each Service, showing that some 7.5%, or about 70,000, of the 940,000 men and women enlisted or called up as at September 1944 expressed a desire to undertake post-war training (Eltham 1953b: 1). Simultaneously, the Ministry of Post-War Reconstruction estimated the number required to be trained full-time to meet industry requirements after the war was 60,000 to 70,000, which coincided with the census estimate of availability (Eltham 1953b: 2). On the assumption that initial trade training would take six months on average before the trainees were assigned to employers, planning was based on a peak training load of 20,000 at any one time. However, not only did the demobilised troops have expectations of taking immediate advantage of the scheme, Regional Committees were also apparently unaware of the plan to spread the training and the industry take-up over two years or so (Report on CRTS 1946: 61). In the seven months from October 1945, there were 104,000 applications, of which only around 40,000 were accepted for training

during that period. The main delays included the handling of initial applications and keeping the former members of the forces informed of the progress of their applications. Understandably, applicants forced to wait for training opportunities were aggrieved, and had to seek hard-to-come-by, short-term employment while they waited (Report on CRTS 1946: 64).

By late 1946, when a committee of inquiry reported on initial problems with the scheme, the administrative problems were gradually being overcome, helped in part no doubt by the withdrawal of around 14,000 applicants who decided to pursue other options (Report on CRTS 1946: 120). Of the 193,000 applications received (almost 20% of gross enlistments in the armed forces), between the inception of the scheme in March 1944 and July 1946, 79,000 were for full-time training and 114,000 were for part-time courses. Only some three percent of those applications were rejected on grounds of ineligibility or unsuitability (Report on CRTS 1946: 120). This low percentage indicates that there was a real need to provide skill development opportunities that were within their educational capacity for the vast majority of these applicants. This is perhaps hardly surprising as many had been in military service close to six years, and had enlisted before they had the opportunity to develop occupational skills. Yet, there is also a lesson about the difficulties of aligning the aspirations and needs of applicants, the provision of vocational education and training, and opportunities within the labour market. These three inter-related factors are always going to be difficult to effectively align. Such misalignments occur and continue to this day, hence expectations about them need to be carefully managed.

Vocational training

For all three categories of training—professional, vocational and rural—the minimum eligibility requirement was six months' service in the armed forces, unless incapacity from war service in a shorter

period precluded return to their previous occupations. The other
main requirement, with some exceptions, was enlistment before
their 21st birthday (which meant a person who had enlisted at the
outbreak of war in 1939 would be under 27 years of age at the time of
demobilisation). Some 275,000 members of the forces were in that
age cohort. Table 1 shows four key categories of those eligible for
vocational training.

Table 1:   *Selected categories of eligibility for CRTS vocational
            training (CRTS c. mid 1957: 7)*

As well as having enlisted before their 21st birthday, had 'no definite vocational skills'

Demonstrated the ability and will to undertake intensive courses to enable
vocational skills acquired earlier 'to be converted satisfactorily to new vocational
skills which have come to be in demand'

Had been self-employed before enlistment but were unable to resume their former
employment and who could be re-established in a skilled or semi-skilled calling for
which there was a demand

Needed short refresher courses in a particular vocation or specialisation because
they had been away from it for too long

In addition, those enlisted before their 25th birthday and not eligible
under any other categories, could be considered for training in
selected occupations, that is, those where vacancies 'may exist from
time to time' (Report on CRTS 1946: 120). Full-time trainees were
paid a living allowance and, if necessary, a living-away-from-home
allowance for the duration of their training. Initial training mainly
through technical colleges and other approved industrial institutions
(for example, private colleges), was intended to develop learners to
be 40% competent in their chosen trade—or, as the regulations, put
it, at 40% earning capacity. Then, they were allocated to an employer
and continued their training, often with concurrent part-time training
in a technical college, until they were adjudged to have reached 100%
proficiency or earning capacity. During this period, the government

subsidised the employer on a sliding scale for each 'tradesman-in-training' until they were fully competent. This model was based on a similar arrangement after World War I, when around 44,000 ex-Servicemen received training under the Commonwealth Vocational Training Scheme (Gallagher 2003: 24).

Training facilities

The Industrial Training Division of the Department of Post-War Reconstruction, which had overseen the establishment of the CTTS, took overall responsibility for arranging vocational (technical-type) training under the CRTS. In each State, the Superintendent of Technical Education also acted on behalf of the Commonwealth as Regional Director of Industrial Training; separate Regional Directors were appointed in the Australian Capital Territory, and also in Papua New Guinea, where certain indigenous people who had helped Australian troops block the Japanese advance could apply for the CRTS (Gallagher 2003: 116). As part of the preparation for the introduction of the CRTS, a survey was carried out to ascertain the extent of the training facilities available and what additional facilities the Commonwealth would need to fund. The estimated cost of the provision of additional permanent buildings was £1.1 million [$2.2 million] (Eltham 1953b: 5). Table 2 indicates the extent of the planning undertaken. It included estimates of the number of full-time equivalents of training places, requirements for buildings and the number of buildings to be completed, the prospects of securing temporary or leased accommodation for vocational training related activities. All of this likely constitutes a first instance of a strategic planning process to respond to the skilling needs of the Australian population, albeit building upon processes trialled at the end of the First World War.

Table 2:   Summary of building requirements for CRTS (CRTS c. mid 1957: 4)

Estimated number for whom facilities for full-time training required at one time	20,000 (peak load)
Estimated capacity of accommodation available in existing technical schools for those trades and callings in demand for training	6,300
Estimated capacity of accommodation of workshop units erected by the Commonwealth for war-time training	2,300
Estimated capacity of accommodation of temporary & leased buildings	3,000
Estimated capacity of accommodation to be supplied by implementing those parts of the States' permanent building programmes for technical training, which were selected for Commonwealth needs	6,200
Total estimated capacity	17,800

To meet the shortfall between the identified capacity and the estimated demand, as shown in Table 2, surplus Army huts were planned to be used as training facilities. When the CRTS ended in 1952, 130 additional training centres had been established ('CRTS with particular reference' n.d.).

As noted, it had been assumed there would be a time lag in achieving the maximum training rate, so the provision of training facilities was based initially on a proportion of the total target. In the case of the construction industry, the allocations were predicated on a large increase in the number of houses built: from 40,000 a year in 1939 to 60,000 a year for the next ten years (Eltham 1953b: 4). This required a consequent estimated increase in the skilled labour force from 95,000 to 130,000. The total CRTS training target for the construction industry was set at close to 33,000, spread across six trades, with an initial target of a quarter of that number

(approx. 8,000) for each six month period over the two years. The floor areas required for training, along with the equipment and tools required for each trade, were calculated on groups of 15–20 trainees. Sufficient equipment and tools were then ordered through the (Commonwealth) Directorate of Machine Tools and Gauges to cater for the number of trainees in each trade, based on the estimated maximum training rate. The maximum training capacities eventually available at the various facilities was close to the target of just over 8,000, but the actual peak at any one time was around 7,000, mainly due to fluctuations in employment opportunities and sometimes because of materials shortages at the end of the war. The supply of small tools was a constant problem; particularly those not made in Australia, and these were sometimes thinly spread across facilities, with a consequent loss in training efficiency. Indeed, a senior officer in the Industrial Training Division suggested that the lack of sufficient tools and equipment was the main limiting factor in expanding the CRTS (Maher 1965).

Training followed the normal trade training curriculum, but with adaptations for the intensive training required under the scheme and taking account of the learners as adults. When the CRTS finished in 1952, some 22,000 ex-servicemen and women had been trained in construction trades through the scheme. Table 3 presents the breakdown by trade and by State. A further 1,500 who had received training in the armed forces were regarded as 40% competent and were sent straight to employers. So, there were significant numbers of individuals moving into this industry. It is also evident from this table that it was a nationally implemented strategy with significant numbers of trainees completing construction training across every State and Territory in all trades except tiling and slating.

Table 3:   *No. of trainees who completed CRTS construction training (Eltham 1953b: 5)*

Trade	NSW	Vic	Qld	SA	WA	Tas	ACT	TOTAL
Bricklaying	1509	597	326	353	191	99	48	3123
Painting	1628	865	318	341	179	69	63	3463
Plumbing	461	234	283	101	123	62	38	1302
Carpentry & Joinery	3878	3223	2478	633	673	445	86	11416
Plastering	640	420	125	282	357	89	31	1944
Tiling & Slating	136	77	15	13	8			131
TOTAL	**8252**	**5416**	**3545**	**1723**	**1531**	**764**	**266**	**21,497**

As noted above, the skilled education provisions went beyond much of what has comprised provision in more recent initiatives, and included correspondence courses.

Correspondence courses

Under the CRTS, part-time and correspondence training was provided for eligible ex-service men and women already in employment yet who wanted to improve their level of training or otherwise to improve their 'cultural knowledge' ('CRTS with particular reference' n.d.: 3). Such provisions had been initiated earlier in the war by the Australian Army Education Service (AAES), whose role it was to keep servicemen and women informed and occupied when 'off-duty', initially within Australia and then in Papua New Guinea and the south-west Pacific (Dymock 1995). In addition to an on-site program of lectures and educational activities, the AAES developed a range of correspondence courses in conjunction with technical colleges and universities. Enrolments in correspondence courses rose remarkably from around 4,000 at the end of 1942 to some 46,000 at the end of 1944, although it seems there was understandably a

high dropout rate in these courses (Dymock 1995: 46). However, the CRTS gave a new emphasis to vocational training, and from 1944, the Education Service was directed to restrict vocational training to reconstruction requirements, and new proposals for correspondence courses were first referred to the CRT Committee.

Although there are some slight discrepancies in various CRTS figures produced by different parts of the system, the Director of Industrial Training said that 165,000 former members of the armed forces took advantage of the part-time training provision post-war, of whom around 72,000 (43%) enrolled in correspondence courses in technical training (Eltham 1953b). Pedagogically, the significance of the development of technical education by correspondence in the ten years after the end of the war can be gauged from the following account:

> Experience in the process has led to improved techniques in compiling, presenting, illustrating and reproducing courses; in interesting, motivating and progressively instructing the trainee; in more closely linking theory with practice; in developing effective study habits and closer written expression; and in supplementing the regular instruction by such diverse associated services as circulating libraries, mobile workshops, supervised study groups, periodic practical sessions, school publications, itinerant teacher assistance, and employer co-operation (DLNS 1954: 2).

The author of that paper, probably Eltham, noted the advances in practical training, such as the mobile workshops and intensive practical sessions of several weeks for trainees at the nearest technical college. He was also complimentary about 'perhaps the most significant development': the involvement of employers in on-the-job training of young trainees: 'Where the employer conscientiously endeavours to give him progressive practical instruction and experience which complements his correspondence instruction, and insists on high standards of performance, excellent results can be achieved' (DLNS 1954: 2).

Nevertheless, there are hints of initial difficulties with articulation from correspondence to classroom studies, and also with the transfer of applications from one State to another, and with the interchange of courses between States (DLNS 1954: 2). It was claimed, however, that as the Scheme progressed the coordination improved, and that over the nine years from its inception achievements in technical training by correspondence under the CRTS included an expansion of the number of technical correspondence schools from two (in Melbourne and Sydney) to six, a permanent one in each State; an increase in the number of courses from 200 to 1,600; and a total enrolment of 88,000 before discharge and 73,000 post-discharge (DLNS 1954: 3). These figures are from official reports, and there is no indication of dropout rates, although the AAES had found them to be high in wartime. Nevertheless, by any measure given the size of the Australian population, this was a significant educational undertaking. The realisation of these schemes was very much premised upon the efforts of individuals at the local level who administered, taught in and developed resources for these programs.

As with the CTTS, those teachers initially came from the State technical colleges, and were supplemented by temporary instructors who undertook a 12-week training course for the purpose ('CRTS with particular reference' n.d.: 4). The preparation and distribution of training aids (mainly films, film strips and wall charts) begun by the Industrial Training Division for the CTTS continued with the CRTS after the war. A textbook allowance was provided for full- and part-time trainees, but textbooks were in short supply at the end of the war, and, as might be expected, it took some time to build up sufficient supplies of books for post-war training purposes (Betheras 1946).

Finale

The government set the final application date for the CRTS at 30 June 1950; those enrolled at that date could continue with their

courses, and eligibility was based on enlistment prior to 30 June, 1947 and discharge on or before 30 June 1949 (CRTS n.d.). Under the Menzies government, elected in 1949, responsibility for administering the scheme passed from the Department of Post-War Reconstruction to the Repatriation Department; the CRTC arrangements basically remained unchanged. The Scheme was officially rescinded on 31 December 1952, although a small similar scheme was apparently established around this time for troops who had served with the Australian army in Korea and Malaya (Gallagher 2003: 19).

Although the emphasis in the discussion above has been on the vocational education provisions, it is worth noting that 15,000 ex-service men and women completed diploma and degree studies and 1,500 undertook rural training (Gallagher 2003: 118). The departmental files and reports about enrolments are sometimes discrepant, but the most credible appears to be a one-page printed (but undated) version from the Department of Labour and National Service titled 'Commonwealth Reconstruction Training Scheme: Final statistics' which includes the summary reproduced in Table 4.

Table 4:   *Final statistics—CRTS trainees*
        (CRTS: Final statistics n.d.)

	Commenced	**Completed**	**Terminated or withdrawn**	**Transferred to another course**
Full-time	63,707	52,801	8,497	2,409
Part-time	176,097	56,046	114,076	5,975
TOTAL	**239,804**	**108,847**	**122,573**	**8,384**

The figures in Table 4 appear valid because the high withdrawal and termination rate (65%) for part-time courses, which includes correspondence courses, reflects other reported experiences. Hence, there is evidence of problems which advocates may well have been reluctant to publicise. The experience of the Army Education Service

with correspondence education during the war, more recent research findings generally about dropout rates in distance education, and the fact that many of the part-time trainees were re-establishing themselves both at work and in family life post-war, all suggest that such a figure is likely to be realistic. Although the completion numbers are below the numbers reported in some other official documents, Table 4 shows only a small (13%) withdrawal and termination rate in the full-time courses, indicating both persistence by the trainees and an effective training approach. Much of the success of the CRTS was claimed to be due to high levels of co-operation between the Commonwealth and the States, from employers and ex-servicemen's organisations, and among the Commonwealth Government Departments concerned. ('Technical training under the CRTS' n.d.: 3). A report by an Inter-Departmental Committee noted that 'The CRTS administration, though seemingly complex on first observation, has successfully provided training for some 270,000 people, without any administrative difficulties or industrial troubles' ('Report of the Inter-departmental Committee', n.d.: 2).

Discussion

From the available reports, there was significant cooperation between the Commonwealth and the States, perhaps not surprisingly, given that this initiative was all about rebuilding the nation after a long war. When the Re-Establishment and Employment Bill was debated in 1945, just before the war ended, the Federal Opposition was strongly supportive, as Opposition member Dame Enid Lyons noted:

> Even when the criticism has been strongest there has been very little questioning from either side of the House of the motive behind the bill, and I believe the Government has made an honest attempt … to solve a problem of very great complexity— the problem of restoring hundreds of thousands of men and women to normal living conditions, which have been disturbed in a way hitherto unknown in our history (Hansard 1945, quoted in Gallagher 203: 10).

This sentiment seems to have carried over to the States, whose co-operation was no doubt bolstered by the Commonwealth funding the Scheme, and the States getting substantial new training facilities, tools and equipment. However, despite the rhetoric of the Inter-departmental committee, there were administrative problems with the CRTS, particularly at the beginning of the Scheme, necessitating an inquiry, and one departmental source suggested it was not until around 1948 that things ran smoothly. Even then, issues with the supply of tools for training purposes persisted, with intrastate administration, and with securing sufficient textbooks, especially just after the war. On the industrial front, there was considerable co-operation from the unions, although perhaps not as universal as the Inter-departmental report suggests. In one instance, it was stated that because a particular union in southern States had agreed to support the initiative there was no reason to suggest that the same union in Queensland would support it. Nevertheless, overall the Commonwealth Reconstruction Training Scheme fulfilled its objectives. As shown earlier in this paper, towards the end of the war, the estimate of Australia's industry needs was 60,000 to 70,000, taking what seem conservative figures. Moreover, as summarised in Table 4, the number who *completed* training under the Scheme was around 109,000, comprising some 47,000 who trained full-time in trades to at least 40% proficiency, 5,500 who undertook full-time professional studies, and a further aggregated number of 56,000 who completed part-time studies, the majority of whom would have been in vocational training.

An advantage for the CRTS was that it drew on experiences of the CTTS, and some of the arrangements under the early scheme continued under the new one. Like its predecessor, the success of the CRTS was built on extensive cooperation between the Commonwealth and the States; full funding of the Scheme by the Commonwealth, including capital works; training of additional teachers in short intensive courses; and union support. Selection of participants in both

schemes was based on abilities and aptitude, but also restricted by employment opportunities, and those opportunities fluctuated over the period of the scheme. This, at times, complicated the selection process and sometimes frustrated those seeking training in particular trades. Another post-war innovation was the establishment of Regional Committees that spread the load of the Central Committee and also linked ex-service personnel to their home State, but causing occasional problems between the regions and the centre. The CRTS also had extensive provision for part-time studies, including correspondence education, leading to the development of a dedicated college in each State, and allowance for 'cultural studies'.

Over its nine year operation, educators took the opportunity to develop and enhance their teaching approaches, particularly with correspondence education, and to develop appropriate resources and, in general, to try to align the objectives of the scheme with the needs of adult students. Given the relatively low level of attrition in full-time training, it seems there were high levels of satisfaction with the provision of education and the experience provided by teachers and others.

Conclusion

These two schemes can be seen as forerunners of more recent efforts to mobilise the Australian workforce and vocational education system for national workforce purposes. They represented the first instances that the Commonwealth took responsibility for educational initiatives, that otherwise had been a State responsibility, in this instance in vocational education, a rehearsal for later interventions. Also, they represented early instances of strategic planning processes, which have become far more common. While not as urgent or extreme as in the war period, many recent initiatives have sought to replicate the kinds of federal and State arrangements, and those with employers and unions, particularly under federal Labor governments.

Emerging through the account above is an abiding need for strong consensus across national institutions: the States and Territories and also key agencies of employers and employees. There was a willingness to make concessions to realise important national goals. State governments were willing to accept federal leadership, in return for financial resources. Unions were willing to be flexible about worker status to address urgent needs and with assurances that their members' interests would be protected in the long run. It also seems, without evidence to the contrary, that employers were also willing to participate. Although likely not as straightforward and benign as these documents suggest, the first lesson from these arrangements is the importance of gaining consensus and in ways that engages the representatives of the parties involved, which likely led to tolerance of problems with these schemes. In recent initiatives, the provision of national administration and leadership has progressed national imperatives, but without the same level of consensus and engagement.

The second lesson is evident in information provided through archive documents, and stands to be imputed from other evidence; that is, although the implementation of this initiative was managed centrally at both Federal and State levels, its success was premised on local factors, such as collaboration between stakeholders. The teachers, administrators, employers and union officials who implemented the scheme locally must have engaged positively and productively, otherwise the levels of completion, the success of the programs and the absence of extensive complaints would not have been as strong. Initiatives that are centrally mandated will likely only ever be successful when those working as teachers or administrators who implement them and representatives of labour and employers are engaged and work to support them. All too often, since this time and particularly in the period of reform since the 1990s, not all of these players are engaged, consulted and assisted in their development to provide effective vocational education provisions.

The third lesson is both the importance of and the difficulty in attempting to align labour market demands with the provision of vocational education. Simple means-ends analysis may fail to account for the kinds of aspirations of deserving Australians. Premising a provision of vocational education wholly on an estimate of labour demands at a future point in time, and failing to account for the range of individual aspirations and unanticipated fluctuations in these demands (such as a quick cessation of hostilities, or a global financial crisis), can lead to over-prescription and under-engagement.

In other words, the *breadth of engagement* of the Commonwealth Reconstruction Training Scheme and its predecessor may well have been ahead of similar initiatives that were enacted in subsequent decades. It seems that these early mobilisations were premised on collaboration at the national, State and local levels. That is, bi-lateral and multi-lateral, rather than unilateral, actions were at the heart of their success.

Acknowledgement

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