Transfer of Australian Vocational Education and Training knowledge and practice in a global context

A thesis submitted in fulfillment of the requirements for the degree of Master of Arts (International Studies)

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Abstract

Educational services have become Australia's third largest export industry. Onshore delivery of higher education has been a major export for many years, and in recent years offshore delivery of vocational education and training has grown to become a major part of this industry. Different Australian educational institutions are involved in delivery of Australian VET programs in a wide range of cultural and socioeconomic contexts. Because of the strong demand for skills in an increasingly interconnected world, this growing industry, which at an international level encompasses a diverse range of institutions, training delivery methods and management and administrative arrangements, is increasingly directing its attention towards globalising its regulatory and training approaches.

The aim of this research is to investigate the process of adapting Training Packages and the Australian Quality Training Framework, the two main instruments of regulation in the Australian skill formation system, for an international audience. This thesis will examine what process of adaptation is involved when the Australian VET approaches are used as a model to develop skills formation overseas. Factors influencing the forms taken by this regulatory system in a global context will be studied through investigating the international activities of various Australian sectors in implementation of VET approaches in non-Australian systems. Two propositions underpin this key question. First is that the Australian VET system is primarily a regulatory system, which means that the export of these regulations needs to be accounted for. Secondly, the Australian VET system has been designed for Australian industrial and cultural conditions and adjustments are necessary in the regulations themselves, host country regulatory practice, or both for Training Packages to work in these non-Australian cultural contexts.
Declaration

I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; any editorial work, paid or unpaid, carried out by a third party is acknowledged; and, ethics procedures and guidelines have been followed.

Mohammad Ali Rahimi

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Chapter 1.

Introduction

Australia is a prominent exporter of both vocational training and higher education. Asia, the Pacific nations and the Middle East are the largest sources of international onshore and offshore students (DEEWR 2008a). The success of Australia in the international vocational education market in recent years has led these countries and others to characterise Australian VET as a good practice system under continuous improvement. The apparent applicability and mobility of Australian VET demonstrated in different international development projects indicate that Australia has considerable capacity to meet the global need for skill formation programs and services.

Demand for such skills formation programs and services has grown significantly in recent times. For example, Gill, Fluitman and Dar (2000) analysed findings of a joint World Bank-International Labour Organization study of 19 countries and concluded that expansion of training was regarded as the solution to a number of significant problems experienced by those countries. The study identified VET as a strategic activity, noting that VET has been called upon to help unemployed people get jobs, to reduce the burden on higher education, to attract foreign investment, to ensure rapid growth of earnings and employment, to reduce inequality of earnings between the rich and the poor, and so on. The study has clearly demonstrated the significant demand for VET approaches in different countries.

It was this policy and export context that alerted me to the value of research into the nature of Australian international VET activity, and in particular led me to ask whether Australia is developing an approach to VET regulation and delivery that has both the immutability and mobility that would allow it to be applied in different cultural, legislative and industrial relations contexts.

Off-shore delivery of vocational education and training, a major part of the educational services industry, has grown significantly in recent years, with the Department of Education, Science and Training (2005) reporting a 66% increase in the number of students studying offshore with Australian public VET providers in 2005 compared with 2003. A recently published report by Department of Education, Employment and Workplace Relations (DEEWR 2008a) shows further increases both in the number of participants to this group of programs and in the number of Australian providers (see Table 1.1). Between 2003 and 2006, these programs were conducted by a broad range of Australian public and private providers in different developing contexts.

1 Data is not available for offshore activities of private providers.
markets across 42 different countries. This growing industry, which at an international level encompasses a diverse range of institutions, training delivery methods and management, and administrative arrangements, is increasingly directing its attention towards globalising its regulatory and training approaches to accommodate the needs of the many cultural contexts in which it operates.

Table 1.1 Australian VET offshore 2003-2006

<table>
<thead>
<tr>
<th>Summary table</th>
<th>2003</th>
<th>2004</th>
<th>2005(a)</th>
<th>2006</th>
<th>Growth 2005–06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers(b)</td>
<td>38</td>
<td>35</td>
<td>35</td>
<td>34</td>
<td>-2.9</td>
</tr>
<tr>
<td>Countries</td>
<td>24</td>
<td>21</td>
<td>22</td>
<td>32</td>
<td>45.5</td>
</tr>
<tr>
<td>Students</td>
<td>18,302</td>
<td>23,586</td>
<td>27,842</td>
<td>30,968</td>
<td>11.2</td>
</tr>
<tr>
<td>Students based in China</td>
<td>10,235</td>
<td>15,888</td>
<td>20,903</td>
<td>22,012</td>
<td>5.3</td>
</tr>
<tr>
<td>Students based in countries other than China</td>
<td>8,067</td>
<td>7,696</td>
<td>6,939</td>
<td>8,946</td>
<td>28.9</td>
</tr>
<tr>
<td>Students studying award courses (including diploma courses)</td>
<td>16,859</td>
<td>22,723</td>
<td>25,678</td>
<td>27,965</td>
<td>8.9</td>
</tr>
<tr>
<td>Students studying diploma courses</td>
<td>6,757</td>
<td>11,812</td>
<td>13,762</td>
<td>15,180</td>
<td>10.3</td>
</tr>
<tr>
<td>Students studying non-award courses</td>
<td>1,443</td>
<td>863</td>
<td>2,164</td>
<td>2,993</td>
<td>38.3</td>
</tr>
<tr>
<td>Students studying courses taught in English</td>
<td>15,085</td>
<td>15,956</td>
<td>19,244</td>
<td>17,177</td>
<td>-10.7</td>
</tr>
<tr>
<td>Students studying courses also offered in Australia</td>
<td>14,929</td>
<td>21,996</td>
<td>26,333</td>
<td>28,888</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Notes: Base – VET public providers offshore, 2003-06
(a) Data from the 2005 collection have been revised due to the resubmission of data from two providers.
(b) In 2004, providers in South Australia were involved in amalgamations, and in 2006 selected Queensland institutes were involved in amalgamations. These amalgamations should be noted when comparing the number of providers across years.

Source: DEEWR 2008, p.8

A range of different Australian education provider types are involved in the delivery of Australian VET programs offshore, the main providers being TAFE institutes, universities, and other private and industry-based Registered Training Organisations (RTOs) in cooperation with the Australian Government and industries. These providers respond to different cultural and economic challenges in countries ranging from Laos and Papua New Guinea to China, Singapore, Thailand, Vietnam, Malaysia and Indonesia, with growing markets in the United Arab Emirates, Qatar, Bahrain, Kuwait, Saudi Arabia and Jordan (DEEWR 2008a). Australia also has plans to extend training to Latin America and India (AEI 2007). In addition, there are some countries that have adapted the Australian VET approach to their own systems without involving closely any Australian institutions. Jamaica’s revised VET system is an example of this approach (McArdle 2006).

Australian VET providers co-operate with each other and also establish partnerships with non-Australian (host-country) educational providers, and some industries and enterprises in host countries in different combinations. Their activities include training and other workforce development projects, which may take from a few months to some years to complete. For
example, a five-year China-AusAID A$25 million funded project in China involving Australian and Chinese institutions in Chongqing is piloting VET reform across five industries in Chongqing, with the aim of developing a VET model that can be replicated on a national basis in China (AusAID 2007). Australian TAFE institutes have cooperated with foreign governments to establish colleges for delivery of VET programs using Australian approaches. Australian VET overseas providers, such as the Australian College of Kuwait, are the result of projects invested in by these host countries. And under yet another set of arrangements, transnational activities in the mining industry have created a process through which the Australian regulations have been transferred into a non-Australian context. Mining projects conducted by Oxiana Limited\(^2\) in Laos are an example of this approach.

This growth of interest in and application of Australian VET strategies and programs outside Australia underlines the need for specific studies of the globalisation of VET. Moreover, the OECD clearly confirms the achievement of Australia by suggesting that as one of the top three international education providers, it might play an even greater role in the internationalization of higher education in the future (OECD 2003). However, Australian VET international activities have often been seen as just a sub-set of international higher education. Further, their main activity is commonly regarded as the enrolment of overseas students in Australian institutions, which overlooks other, and perhaps more significant, offshore export activities (Kell 2007).

1.1. Globalisation and Skill Formation

This study is framed around two linked phenomena: **globalisation** and the growth of **VET**. Globalisation is a multidimensional process of, on the one hand, breaking down borders and de-spatialisation, and, on the other, compaction and forming new links (Tetzlaff 1998). This unitary process is increasing transnational movement of capital, goods, knowledge and people. Globalisation is transforming the economic system of the world, including nearly all aspects of business processes in different areas. The era of globalisation has brought with it concomitant implications for knowledge, education and learning. Indeed, as Thrift (2005) notes:

> The cultural circuit of capital allows the knowledges of very different situations to circulate much more freely and rapidly and to have a much greater say than previously within a space which is precisely tailored to that circulation, consisting of numerous sites and specialised route ways (Thrift 2005, p.94).

Braithwaite and Drahos (2000) have conceptualised the process of globalization of regulatory frameworks in terms of the relationship between three concepts: **principles**, **mechanisms** and

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\(^2\) In June 2008 Zinifex’s $4.2 billion mining company was merged into the Oxiana Ltd. The merger of these two Australian-based international mining companies was named OZ Minerals Limited in July 2008. However, in this study the term ‘Oxiana’ is used.
actors. *Principals* are defined as the settled broad agreements that stand behind the rules to create a mutual orientation between actors. *Mechanisms* are described as the key processes that increase the linkages and similarities of patterns of regulation in different parts of the world. *Actors* can be various governmental organisations, international organisations, multinational corporations, transnational companies and institutions or different combinations of them (Braithwaite and Drahos 2000, pp.15-26). Braithwaite and Drahos have analysed cases of globalisation and argue that ‘*regulatory globalisation is a process in which different types of actors use various mechanisms to push for or against principles*’ (Braithwaite and Drahos 2000, p.9). They have also concluded that globalisation of regulation never occurs just through a single process or mechanism (Braithwaite and Drahos 2000, p.13). Using Braithwaite and Drahos’ analyses and Thrift’s proposition, I regard the global growth of VET as a prime example of the circulation of regulatory knowledge between very different jurisdictions using the mechanism of projects sponsored by governments, international financial and aid agencies and VET organisations.

There are both considerable commonalities and remarkable differences across the range of Australian VET international activities in which Australian regulatory structures and practices are implicated. On the one hand, a common set of Australian regulations and a common set of Australian qualifications are being implemented by Australian education sectors and non-Australian partners. On the other hand, these common regulations and qualifications are being applied in markedly different geographic areas and cultural conditions with the expectation that the regulations will be capable of working in the longer term regardless of conditions. And at a macro level, while the described goals of each project are different, they all assist to globalise a set of Australian regulatory arrangements through the delivery of Australian VET qualifications offshore and/or by designing the required structures for this purpose.

The most apparent impact of the implementation of new regulatory arrangements is to influence and change relations, practices, and institutional arrangements in the skill formation system of host context. This effect can be found in any non-Australian educational provider, employer or system that hosts Australian VET programs within its own cultural and regulatory context. In other words, such providers, employers and systems are not merely importing Australian *qualifications* (which they can choose to recognise for their own local and/or international purposes). Rather, they are importing an Australian *regulatory system* – which may have consequences that are not immediately apparent.
1.2. Australian VET regulatory artefacts

The quality and efficiency of VET programs depends on a set of flexible yet stringent regulatory agents that govern the quality and consistency of training products, the management and delivery of training, and the policies and arrangements under which training providers operate. These governance functions in the Australian VET system are currently enabled by three key regulatory agents: Training Packages, the Australian Qualification Framework and the Australian Quality Training Framework.

The Australian Quality Training Framework provides VET with dynamic systematic quality assurance processes through a range of possible interactions at the domestic level. Training Packages contain industry competency standards, a set of national qualifications in each one, and assessment guidelines (OECD 2003). Indeed, they specify the combination of competency standards required to achieve a particular qualification. At the domestic level the above-mentioned approaches offer considerable autonomy to the providers at the same time working to maintain the quality of program delivery. Applying Training Packages as an approach to regulation of training through a development process which involves input from stakeholders has befitted the Australian VET system with the ability to deliver flexible and relevant training. This regulatory structure is a uniquely Australian approach to educational governance and one that until recently has passed unremarked as an agent of system development and reform. However, Australian governments are now realizing there is scope for the export of this system. In an effort to develop strategies to extend the Australian regulatory arrangements for education and training delivered in other countries, in 2005 the Australian Government launched a Transnational Quality Strategy (DEST 2005a). This strategy has led to a range of developments designed to improve data collection, quality assurance and promotion of offshore provision in both the higher education and VET sectors.

1.3. Research proposition

The aim of this research is to investigate the process of globalising the Australian VET System through the agency of national industry Training Packages, the Australian Qualifications Framework and the Australian Quality Training Framework as three instruments of system regulation. I am interested in what happens when these agents are used in a non-Australian context through different mechanisms and by a range of actors in order to develop skill formation in a new context. Different aspects and factors that may influence the form taken by the Australian regulatory agents in non-Australian contexts will be studied through investigating the activities of various Australian actors involved in three types of VET activity in foreign jurisdictions: systemic training reform projects; the activities of Australian Registered Training Organisations in offshore locations; and those training activities of an Australian company involved in production in an offshore location.
My study rests on two propositions:

(a) Australian regulatory arrangements are becoming more mobile and these ‘technologies of trust’ are being combined with other mechanisms to create modified regulatory arrangements under different export circumstances; and

(b) The growing range of international Australian VET activities is acting as a catalyst for the globalisation of Australian VET regulations.

I argue that Australian regulatory arrangements are being mobilised as ‘technologies of trust,’ which enable exchanges in settings where outcomes are negotiated rather than given by regulation, and at the same time are being combined with other mechanisms to create modified regulatory arrangements under different export circumstances. This negotiation of Australian ‘technologies of trust’ and local regulatory arrangement occurs across the complex mix of contexts and forms of cooperation in which Australian education providers implement offshore VET activities. The negotiation of different regulatory styles is a key feature of partnership arrangements between Australian institutions and international organisations, multinational corporations, host governments, private institutions and non-governmental organisations.

This thesis is investigated through the following research questions:

(a) What is the process of adaptation involved when the Australian VET approaches are used as a framework to develop skill formation in a new context overseas?

(b) In different models of transfer of VET knowledge what are the relative drivers and constraints in effecting the transfer?

As a framework for this investigation, using the key concepts of regulatory globalisation I have identified three broad models of Australian VET international activities, as outlined in Table 1.2 below. I then describe and analyse one selected case in Models A, two in Model B and one on Model C, focusing on the role of actors, mechanisms, principles and host contexts in each case. I conclude by comparing different activities undertaken in each of the three models according to drivers and constraints, functions and mechanisms.

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3 Smith (2006) uses ‘technology of trust’ to define artefacts which work by making and keeping things evident (ie visible to all users) and by keeping things current (ie useful in the present).
<table>
<thead>
<tr>
<th>Model</th>
<th>Project Names</th>
<th>Main Actor / Actors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model A:</td>
<td>Australia-China Chongqing Vocational Education and Training Project (ACCVETP)</td>
<td>Australian Government in co-operation with Australian providers and government of the host country</td>
</tr>
<tr>
<td>Model B:</td>
<td>(CEC) China Electricity Council project</td>
<td>Chisholm Institute of TAFE</td>
</tr>
<tr>
<td></td>
<td>Australian College of Kuwait</td>
<td>Australian TAFE Institutes and universities working in partnership with local institutions and international investors including Boeing</td>
</tr>
<tr>
<td>Model C:</td>
<td>VET programs in The Sepon Project in Laos</td>
<td>RMIT University (as a Registered Training Organisation) and Oxiana/Oz Minerals.</td>
</tr>
</tbody>
</table>

1.4. Research Method and Structure of the thesis

This research has been conducted in three overlapping phases, which are summarised below and further elaborated in Chapter Three.

Phase one involved developing a conceptual framework and classification of international VET export activities. This framework encompasses two broad theoretical areas and an empirical study. The theoretical areas are: the phenomenon of globalisation, its key drivers and their effects on skill formation; and the concepts, functions and features of transfer of knowledge and globalisation. This theoretical framework was undertaken through a review of the literature and is detailed in Chapter Two. The empirical study is of the development of the contemporary Australian Vocational Education and Training System which emerged in the 1990s through Commonwealth Government reform action. I have included in this study a considerable amount of empirical detail about the system including a discussion of the finer points of the relationships between various agencies and artefacts. The reason for including this detail is to make the point that the Australian VET system is complex and elaborate, and has arisen within a very specific national historical and political context. These characteristics have implications for the export of the system and any of its constituent parts, as inevitably complexity and specificity are inadvertently exported along with the intended components. This study is included in Chapter Four. Chapter Five includes empirical detail about the VET system of China and makes a foundation for Chapter Six: Transfer of Australian VET knowledge via the ‘Chongqing Project’.
Phase two involved the collection of documentary and interview data related to offshore VET case studies. A qualitative interview research design was employed as an appropriate means of obtaining relevant data. A series of interviews were conducted with sources able to inform me about the cases in this study. Details of the approach to data collection are contained in Chapter Three.

Phase three involved the analysis of this data to identify the mechanisms employed by actors in Models A, B and C (Table 1.2 above) using the selected case studies to propose preliminary answers to the research questions. Each of the case studies are described in turn in Chapters Six (Model A), Seven (Model B) and Eight (Model C). In Chapter Nine I have drawn some conclusions about these three models and elaborate the preliminary classification outlined in Table 1.2 to provide a detailed framework which could form the basis of further studies of transnational VET transfer.

Like any study, this one has its limitations and faced some hurdles in accessing data. In particular it proved to be impossible to secure a visa to visit Chongqing. Formal reasons were not provided but my status as an international (non-Australian) student appears to have been a factor. Because I experienced difficulties with the visa to Chongqing I did not persist with a visa to interview Chinese participants in the CEC project. Time constraints also meant that finalising visas to Kuwait and Laos in the time available for data gathering proved difficult and was abandoned. Given that this has been a preliminary study aimed at classifying activities and asking conceptual questions about technology transfer, I decided to concentrate my efforts on interviews with Australian based project participants, backed up by documentary sources. An in-depth study of the cases from the host country perspective is a subject for further research.

Another hurdle in the data collection was the relative scarcity of previous empirical studies of the cases selected here, especially Models A and C.

Due to limitations in the scope of the study and access to documents and participants, not all cases have been studied in equal depth. Nevertheless the case studies do serve their purpose which is to elucidate and illustrate the characteristics of each model and to enable a proposition about the models to be assembled.
Chapter 2.
Literature Review

This research focuses on the transfer of the Australian VET regulatory arrangements into non-Australian contexts and follows the adaptation of Australian regulations when they are used in the skill formation processes in the host systems. The particular focus is on the ‘how’ of the transfer of regulatory arrangements. That is, the research specifically addresses the issue of the mechanisms, strategies and tools employed to enable Australian VET ‘know-how’ to be responsive to host system’s reform needs. In this chapter I review relevant literature and develop a multidisciplinary theoretical framework with which to gather and analyse data and address the main questions of study.

The theoretical framework for this research draws on concepts and approaches from multiple domains and perspectives. First I adopt an historical perspective, on the rise and development of VET systems. In the middle section of this chapter I analyse the development of Twenty-first Century VET systems in a global context, by looking at the principles, activities and sets of regulatory arrangements that have developed within the nations to organise skill formation in individuals and societies. In the final section of the chapter I review the literature on the transfer of knowledge in a global context, as a framework for understanding the mechanisms through which different national governments have borrowed and adapted each others’ policy positions on VET.

2.1. The rise and development of VET systems

Historically, some special events have played a central role in shaping new relations or constituted a turning point to reshape inter-state relations over the world. The Industrial Revolution, undoubtedly, is the event that sparked the general industrialisation of nations and fostered the exchange of technology and knowledge, initially among Western countries and then many others (CEDEFOP 2004, p.17). Industrialisation is defined by Weiss (1988, p.4) as, ‘a process whereby the share of industry in general and of manufacturing in particular, in total economic activity is increased.’ At the macroeconomic level, this remarkable increase in the share of the manufacturing sector is interpreted as a cause for many structural changes in the markets in these countries. These changes transform labour markets into more complicated situations when the countries starts a shift away from ‘light and relatively labour-intensive’ industrial activities towards ‘heavy and more capital-intensive’ ones and away from ‘light consumer goods’ towards ‘industrial intermediates, and more durable capital and consumer goods’ (Weiss 1988, p.9).
The international spread of manufacturing and distributive industries through industrialisation is the most influential factor for the systematisation of vocational education and training. At the most general level, the development of VET policies and practices can be regarded as taking place in two stages. The first stage involves the organisation and systemisation of national VET systems; and the second stage involves major reforms in VET systems in a global context. These stages do not encompass all countries, nor have the stages occurred at the same time in different countries. Not only have VET systems evolved in different ways, there are many nations that have not yet systemised a defined VET sector in their education systems. However, as this study is relevant to transfer of VET regulatory arrangement from a ‘first-world’ economy to developing economies, I focus on the related issues for skill formation in both groups of economies.

2.1.1. The initial spread of skill formation systems in the 20th century

Although the global spread of general education has been studied by different scholars, I have found no studies that follow the development pattern of VET in a global context. Meyer, Ramirez and Soysal (1992) have analysed data for enrolment in general education for over 120 countries during the years 1870-1980 and studied expansion of mass education over the world. They have concluded that the rates of appearance and expansion of mass education initially followed an S-shaped pattern until 1940 and then showed a rapid acceleration after World War II. They also emphasise that the global spread of mass education was parallel with the spread of the Western system.

The development of VET in the national education systems dates back to mid to late Nineteenth Century in the UK, spreading through Europe by the second decade of Twentieth Century. Historically, the West European nations were the first nations to frame VET programs around a regulatory educational framework. Benavot (1983) and Grubb (1985) consider the late nineteenth century as the time of initial expansion of vocational education in the advanced countries, but it was in the 1920s that many European countries, such as England, France, Germany, Belgium, Switzerland and the Netherlands, passed national legislation for the first time to develop technical and vocational education programs with public funds (Gregoire 1967; Benavot 1983). The first federal funding for vocational education in the United States was the result of the Smith-Hughes Act in 1917 (Kantor and Tyack 1982; Benavot 1983). The first government funding for VET in the Australian colonies was in the mid-1800s, though the first federal funding was not until 1974.

The prevailing pattern for the spread of VET in developing countries is unlike that of Western European nations. Not only did the formal introduction of VET programs into the educational systems of developing countries start more than a decade later than that in industrial nations between the World Wars, many developing countries superimposed their own approaches over those initially developed in Western Europe. At the same time, some political leaders such as
Nyerere in Tanzania, Gandhi in India, and Mao Zedong in China promoted their own domestic vocational education programs in opposition to the elite Western style of academic education in order to improve the social status of labour force and encourage people to learn vocational skills (Grubb 1985, p.526).

Adopting a socio-economic perspective, some scholars (Blaug 1968; Machlup 1970) consider the growth of education as a response to industrialisation, which demands a technically proficient labour force in industrialised societies. Supporting this notion, Harbison and Myers (1964) and Benavot (1983) believe that an increase in economic requirements for a skilled labour force promotes more investment in VET, which results in growth of this sector. Benavot also observes the remarkable role that international agencies such as the International Labour Office (ILO) and UNESCO played in the development of vocational education and training in developing countries for two decades after the Second World War. These agencies promoted VET programs as a differentiated system of secondary education through international and regional conferences in different countries from Latin America to East Asia and Middle East. International organisations’ support led international development agencies to invest significantly in VET in developing countries:

For example, in the mid-1960’s, the share of World Bank loans for vocational programs in developing countries was the same as for general ones (over 40 percent of total educational funding). By the late 1970’s, loan allocation had increased to a point where technical vocational programs received over one-half of all funding (53 percent) while general programs received only one-third. Undoubtedly, the support of international agencies helped many countries set up a dual secondary education system with separate tracks of general and vocational education (Benavot 1983, p.65).

Grubb (1985, pp.528-9) questions the justification of vocationalism of secondary education and refers to different forms of the differentiation of post-secondary vocational education in advanced countries as a development parallel to the differentiation of secondary education in the decades after 1960s. He considers the upper-secondary vocational education programs that are delivered after secondary education or after the age of compulsory education but below the college or university level and the programs in different forms of non-university higher education by four-year vocational education institutions as different forms of post-secondary VET. Grubb categorises non-university higher education programs into those delivered by four-year vocational education institutions (most of which were established in the 1960s in Western Europe, North America, Asia and Australia and distributed broadly over the world in 1970s) and those delivered by two-year institutions (such as community colleges in the United States and Canada, polytechnics in the United Kingdom, the university institutes of technology in France, the post-secondary schools (Vise Skole) in Yugoslavia and TAFEs in Australia).
2.2. Globalisation and 21st century VET systems

To discuss the transfer of regulations and approaches for skill formation in a global context, it is helpful to consider the definition of globalisation. In addition, a focus on globalisation phenomena and its key drivers is necessary to understand both the demand for skills in relation to globalisation and the challenges that the supply side of skill development have faced and the approaches that are employed to develop skill formation.

2.2.1. The phenomenon of globalisation

Sharma (2008, p.14) defines globalisation as ‘the process through which an ever expanding free flow of ideas, people, goods, services and capital leads to further integration of economies and societies worldwide.’ Most scholars (including Dicken 2003; Thrieft 2005; Sharma 2008) consider investment flows and cross-border trade and capital as the drivers of globalisation, and the extent of these flows have dramatically broadened over the globe with the growth of technology.

Through a socio-historical perspective, the expansion of regulations in today’s world is initially linked to a kind of rationality produced by the modern Western world. Weber believed in the growing role of ‘formal rationality’ in the modern era as the rules, regulations and larger social structures governing Westerners to make choices in different aspects of life. According to Weber’s theory, people in a modern society act in an organised hierarchical environment, surrounded by bureaucratic boundaries. This bureaucracy, indeed, largely creates the modern Western world (Ritzer 1997, p.220 & 2004, pp.24-33).

An amplified and expanded version of Weber’s rationalisation theory, related to worldwide expansion of principles, is the so-called theory of McDonaldisation. Ritzer (1997, p.220; 2004, p.1) defines McDonaldisation as a developing process that expands a set of fast-food administration principles in order to dominate every social and economic sector of the US and other parts of the world. Ritzer’s McDonaldisation theory is built on the same four dimensions that Weber has used to describe the rationalisation of Western world: efficiency, predictability, calculability and control, mainly by non-human technologies.

Both McDonaldisation and Weber’s rationalisation process are greatly linked to development of Taylor’s ‘scientific management’ thesis. Fredrick Taylor tried to end the traditional production of ‘systematic soldiering’ through making changes in production line manufacture and requiring managers to detail the required tasks of production to their labour. Noble (1998, p.117) describes Taylor’s system of scientific management as the process of ‘transferring skills from the hands of machinists to the handbooks of managers’; indeed, a separation of headwork from handwork. According to Ritzer (2004, pp.112-3), the final goal of all endeavors in
replacing human with non-human technology by the followers of Taylor’s scientific management thesis has been to minimise the dependence of production on human ability and intelligence. The workplace, through this perspective, is a bureaucracy comprising large-scale non-human technologies.

2.2.2. Economy: a key driver of globalisation

Although the ‘McDonaldisation’ theory can never be considered as a synonym for globalisation, it provides a good description for economic functionality of a set of principles and the mechanism for expansion of these principles in a capitalist-dominated world. Ritzer (2004, p.165) argues that economics is the major driving force of McDonaldisation. In Ritzer’s view, the most important step that turned McDonald’s into a national and, later, international business was the combination of franchising and McDonald’s principles by Ray Kroc, the creator of McDonald’s empire in 1954 (Ritzer 2004, p.39). McDonaldisation’s principles would never have become spread out without utilising a proper financial mechanism.

Today’s world content has provided the processes of economic globalisation with much stronger supports than it had at the time when McDonald’s became an international organization. The expansion of international trade has doubled 16 times in the past 50 years (Sharma 2008, p.14). Total amount of foreign direct investment (FDI) and capital flows climbed rapidly from around $160 billion in 1991 up to over $1.1 trillion in 2000 and topped $2 trillion in 2005. Countries’ debt, portfolio equity and direct investment based-financing as cross-border flows of capital grew to around $6 trillion in 2005 (World Bank 2002; 2006). This huge growth of capital’s worldwide flow came into reality when the barriers of time and space were broken by technology in the last quarter of the Twentieth Century.

Through an international business view, world trade has moved far beyond the trade of goods between countries and to also include services and movement of labour and capital, the factors of production (Tabb 2001, p.162). Capital and technology cross national borders easily and quickly via means such as international and transnational corporations in the neoliberal world of capitalism.

2.2.3. The role of technology

The concept of technology is expressed by Winner (1998, pp.28, 30) as ‘all of modern practical artifice and the way of building order in our world.’ Development of electronics and computing gave birth to information technology in the last half of the twentieth century and remarkably affected both manufacturing and trade worldwide. Micro-electronic technology has generally become embedded into manufacturing machinery and equipment and provided the production line with much more efficiency and markedly more control over the quality of output. Information technology and the World Wide Web have brought power to companies and individuals to exchange business and technological information as well as capital from every
point of the world in moments. Sharma (2008, p.14) considers the past three decades as the era in which the world has turned into a smaller place because of the significant development of information technology over the world.

Although a highly remarkable and integrated function of globalisation is facilitating transfer of technology across borders, the world is becoming exposed to different socio-economic consequences of such a quick transfer of money and technology. Technology takes many forms. Some technologies have assumed a near-universal cross-culture position – money is one of them. However, most bring with them a kind of social identity from their origin to the host context. Emergence and development of a system or a technology is inevitably tied up to certain social patterns and related to other systems in its origin, which have been working in that social context for a long period of time. Therefore, every system or technology inherits some characteristics of the legislative and social environment where it has emerged in and grown. Moreover, the new possibilities and changes that are produced by the modernity aspect of technology affect the dominant regulatory arrangement of different sectors of host context, specifically education and training sectors that prepare the individuals who must operate technologies. This notion is emphasised by Tabb (2001, p.169), who has investigated the role of information technology in making changes to social and economic contexts of societies and argues that technology can never be seen as neutral in regard to many current societal issues and challenges of globalisation. Technology generally is both a driver and a synergy factor when it becomes combined with trade in order to develop globalisation processes. Interaction of globalisation's key drivers results in demand for further dynamic flexibility in economic sectors and makes a set of forces for deregulation. An obvious example can be seen through the effect of introduction of new technology to the manufacturing line.

In the Australian VET system we can consider Training Packages as a set of regulatory arrangements with two technological identities. Smith (2006) defines the Training Package as ‘a technology of transaction: a device that has been designed to declare and convey sameness on journeys across the training system, moving between a diverse range of settings where it is performed as difference’ (p.279). She considers the Training Package to be:

’a technology of trust whose efficacy is drawn from its capacity to make things evident and keep things current. In contrast to curriculum that acts as an institutional agent in facilitating a warranty of learning outcomes, the Training Package acts as a disembedding mechanism that, like money, is a common currency that transcends institutional boundaries…. the enactment of sameness within a frame of difference works as a strategy to hold the face value of Training Package transactions intact in an open market place’ (Smith 2006, p.279).

In this thesis I will be considering such features of the Australian VET system as technologies for organising skills formation, and assessing the issues involved in their extension across borders.
2.2.4. Global competition and demand for skill

Ashton and Sung (2002, p.14) consider economic globalization, the spread of technology and the intensification of competition in the world markets as the three main factors that have encouraged different industry and service sectors to refocus on work performance improvement through developing staff skills according to major changes in the design of work. The major impact of the growth of a global economy on different states is seen through the pertinent increase in economic interdependence and the need to assure active presence in markets (Bronk 2000). To respond to the intensification of global competition, nations are placed in various positions. Hallak (2000) categorises nations in regard to their roles in a globalised economy into three categories: ‘those who globalise’, ‘those who are globalised’ and ‘those who are left out.’ In such a global context, states utilise a variety of policies to develop their roles in and provide themselves with access to international markets. They have to draw significant attention to the quality and price of the products they produce for international consumers in this highly competitive environment, whilst they must also consider instruments to decline the vulnerability of their economic firms and production units in public and private sectors. While developed nations compete for more influence in a global economy, developing countries try to improve their roles and ensure they are not left out by their competitors. Meanwhile, enterprises in both developed and developing countries face the challenges of competition. These challenges are remarkably transferred to individual firms and constantly affect the demand of firms for the skills in their workforce.

Through a management perspective, firms have constantly been breaking down the dominant bureaucracy of work in the era of progress of globalisation. They have been trying to push further down the production line through giving higher responsibilities to workers, encouraging multi-skilling at work and considering work teams as the source of decision making. With the initial pressures of economic globalisation on markets in the 1980s, Total Quality Management blossomed in the UK and the US, and reengineering techniques were employed in the firms to improve productivity. Anglo-Saxon companies, to maximise short-term returns to shareholders, pushed their managers to reduce costs, which resulted in implementation of policies such as de-layering, downsizing, producing ‘flat hierarchies’, and further intensification of work for the remainder of workforce. US companies such as Womack, Jones and Roos started to use the Japanese model of lean production in 1990. IBM, Cummins Engines and Texas Instruments developed performance management models that draw on organisational psychology to build intensive programs and improve communication (Thomas 1992; Ashton et al. 1999). Many of these managerial changes clearly promote the use of the mind among workers.

Now, technology and economy, the drivers of globalisation, force the modern Taylorised firms to take a strong commitment to go beyond the scientific management of Fredrick Taylor and challenge the dominant Western bureaucracy for more innovation and productivity. The ASTD State of Industry Report in 2000 is evidence for such remarkable changes. The ASTD
considers three groups of practices in the United States for higher performance that are used most broadly as ‘task forces, problem-solving teams or quality circles,’ ‘job rotation or cross training’ and ‘employee access to key business information’ (McMurrer et al. 2000).

Workers in the industrial workplaces over the world are likely to face two scenarios due to the effects of expansion of trade and easy movement of new technologies between countries. One scenario, known as the deskilling hypothesis, states that assembly lines that include a large proportion of workers experience a loss of skills in the process of technology upgrade. The second scenario, contrarily, supports the upskilling hypothesis, which mentions that a higher level of control over each stage of production is created by new technologies, which requires greater skills for each worker to be able to do a series of sophisticated tasks such as machine operation, monitoring, correcting errors and doing some repairs at the same time (Curtain, Krabavac and Stretton 1986; Krabavac and Stretton 1998).

Effects of globalisation on work are not only restricted to production lines, but they encompass a wide range of businesses in different sectors. In recent decades, the world has been manifesting the emergence of growing groups of occupations which are made as a result of the application of different fields of knowledge and occupational skills. Furthermore, major increases have occurred in the proportion of professional, scientific, managerial and technical workers in the workforce of different sectors in both developed and developing economies in the last three decades.

Recent changes in the work design of the hotel industry, in which the quality of service depends strongly on the workers' behavioural skills, provide a good example of new professional modernisation in the service sector. The quality of service in the hotel industry depends heavily on employee behaviour and work design. The context of this industry has broken down the 25-layer vertical model of hotel management authority to a 10-level bands model. The traditional old command and control system of companies in the hotel industry, which used to absorb a low-skilled workforce, has now changed into a well-designed skill-based system that requires employees with higher levels of skills to operate efficiently and show flexibility at work. Employees must become multi-skilled to be interchangeable at each band level and are expected to master all the skills within a band for promotion to a higher level. These new sorts of employees need well-organised training programs to operate in a broad range of functions (Ashton and Sung 2002, pp.38-40). Obviously, these new types of employees who have to operate in a broad range of functions are far different from the Taylorised workforce.

The demand of our globalising world for a highly multi-skilled workforce to be able to work flexibly in a changing environment works against the rationality that is stated by Weber’s principles and the McDonaldisation thesis of Ritzer. This situation, though, does not render enough evidence to conclude that Taylorism has met with failure. In fact, the new conditions
represent a new Taylorism in which the repetitive labour of the production line is far beyond even yesterday’s skilful worker. Though huge numbers of semi-skilled workers are yet working in late nineteenth-century Western manufacturing conditions in populated developing countries, the global economy equipped with modern technology needs a new type of educated workforce that shows high flexibility either in learning new skills or adapting to new working conditions.

The skill demand of globalisation imposes inequality in the world that had become somehow equalised over the world’s dominant bureaucracies. Technology and trade have both been blamed for causing displacement of low-skilled workers and reducing the employment opportunities available to the unskilled. However, Anderton, Brenton and Whalley (2006) have investigated the causes of the decline in the wages and employment of low-skilled workers in different countries. They focus on a number of studies and conclude that it is technology in the form of skilled-biased technical change rather than trade that is responsible for the growing inequality in the labour market. What attracts attention in this conclusion is their emphasis on skill as a key factor regarding the inequality caused by technical changes.

2.2.5. Skill supply in an era of globalisation

The development of policies to reform vocational education and training entered a new era in the past three decades under the shadow of the phenomenon of globalisation. In applying economic theories in order to sustain economic competitiveness and high living standards, many countries have given a high priority to educational reform in their national policy agendas in recent decades. As globalisation impacts on economies and markets, resulting in a continuing structural shift from traditional towards more knowledge-intensive economic activities, nations have recognised the necessity of reshaping their educational and training systems to meet the demand of industries for more complex and higher level worker skills. Indeed, the globalisation phenomenon has either provided the societies and individuals with a broader range of options for skill development or driven nation-states’ skill formation systems towards reform policies. As Bloom (2004, p.71) notes, ‘globalisation, then is increasing the importance of education.’

(a) The Macro-economics of skill formation

The literature on the macro-economics of skill formation illustrates the way in which increasingly direct connections have been drawn between the quality of vocational training and labour productivity and shows that nations have come to rely on regulatory changes in order to achieve higher productivity in their education and training sectors. For example Guthrie and Pierce (1990, p.181) note that when nations seek to enhance their competitive position, globalisation of education reform happens. As labour productivity has a direct effect on the final production costs of goods, a higher comparative advantage can be achieved through, as an increase in labour productivity, through the use of skilled labour. However, conventional
approaches to developing workforce skills have not necessarily realised the promised advantages, and this has led industry leaders to demand reform in order to meet their expectations. And as Dale (1999) argues, in a globalising economy, some policy arenas in education that are directly linked to economic contexts attract more attention from policy makers than others. Dale’s notion suggests that VET will continue to assume a more central position in the educational policy arena than it did in past economic circumstances, as explicit links are drawn between the quality of VET and economic advantage.

It is broadly accepted by economists that investment in technology positively affects human capital, which is considered as a source of new technology. The assimilation and utilisation of new technologies by human capital increases productivity, and consequently, competitiveness of a firm. Guthrie and Pierce (1990) argue that ‘Human capital acts as the conduit which enables technical changes to be translated into added productivity. An educated workforce can deal more effectively with changing technology’ (p.186).

According to Lucas (1988), the productivity of workers depends mainly on the average level of human capital in the economy rather than their own individual human capital. Accordingly higher rates of economic growth and better standards of living can be expected through the operation of industry sectors such as advanced manufacturing, information, advanced technology and specialised services, to a far greater extent than they can through in basic manufacturing. In an economic environment in which there is pressure to become more competitive and where there is a demand for new styles of management as well as ‘a highly skilled, adaptable, and possibly creative work force for an effective use of new technologies’ (Guthrie and Pierce 1990, p.186),

In the terms used by Castells (1997, p.340) there are two kinds of labour: ‘generic’ and ‘self-programmable’. Where generic workers are non-educated and self-programmable workers are those with a high capacity to learn and develop new skills for their tasks and provide themselves with required resources for learning. In the context of these theories of economic development VET policy reform has assumed significance as a means of supporting the development of a new type of educated workforce that shows high flexibility in both learning new skills and coping with new working conditions.

Policy reform in VET has also been driven from another perspective. That is to avoid the economic and social problems, for individuals and society, created by inefficient and ineffective VET systems which do not attract individual workers or employers. In an ineffective VET system individuals are not able to market themselves to industry as qualified labour and are considered to be non-skilled human resources that may face unemployment or a lifetime working for low wages (CEDEFOP 2004, p.21).
(b) **Skill formation and the role of national governments in a global economy**

To address domestic demand for skill and knowledge, some national governments have opted to engage directly in the reform and development of their systems. Researchers (Green 1997; Blackmore 1999; Law 2004) emphasise that nation-states have an important role to play in restructuring educational systems or making reforms in their systems against the pressure of globalisation. As the demand for change has risen during the last two decades, increasing state intervention in VET has been seen in many countries (OECD 1999). In this situation Green (1997) and Law (2004) point to the practice of borrowing and adapting educational policy from other countries as a response to the changes brought by globalisation. Active education policy borrowing encompasses the appropriation of policies of another country and implementation of new regulatory arrangements for administration of the system in host country.

In the overall context of educational policy reform Buechtemann and Verdier (1998) consider the vocational education and training system of a country to be particularly significant. They understand training systems in particular, ‘as having become all the more important in ‘conditioning’, if not determining the ‘competitive advantage of nations’’. Thus the transfer of the regulatory arrangements of a successful education and training system to another context is, indeed, injecting new knowledge into the core of the host country’s innovation system.

The influence of globalisation on educational policy-making processes of nations can also be seen in the role being taken on by international organisations such as the OECD, under whose auspices many member countries have directed their attention towards VET over the past two decades. Hendry *et al.* (1999) studied the role of the OECD as an international organisation, or a ‘globalizing agency’ in mediating globalisation pressures on nation-state educational policies, concluding that the high level of flexibility seen in OECD policies provides a ‘catalyst for reform and change’, but without any direct prescriptive role in terms of education. Taylor and Henry (2000) emphasise the catalyst role of the OECD for educational reforms as the best reflection of its role in educational co-operation, among other descriptions such as an ‘international think-tank;’ a ‘rich man’s club;’ or ‘a club of like-minded countries’ (p.487). Taylor and Henry further argue that:

Educational globalization does not necessarily imply policy homogenization, but rather that there are tensions within globalization processes that serve both to concentrate and to differentiate the policy agenda. Nor is it argued that globalization implies the surrendering of national sovereignty. However, the increasingly polycentric nature of governance and hence of policymaking is recognized (2000, p.488).

Ashton *et al.* (1999) have studied skill formation, economic growth and policy making in Singapore, South Korea, Taiwan, and Hong Kong. They bring evidence from the
developmental model of skill formation of these countries against the neoliberal assumption that ‘the market is the most efficient mechanism for delivery of training’ (Ashton et al. 1999, p.14). They mention a set of similarities found in the political-economic approach of these countries for skill formation such as: their emphasis on education and training policies linked to policy instruments for long-term economic growth, efficient development of technocracy and defining a significant role for socio-political forces in their political structure to draw economic policies. However, their study reveals a significant divergence in each one of these countries and does not support a Four Tigers model of skill formation, instead pointing to local factors such as specific government traditions and policies which create different skill formation circumstances. In particular they point to the ‘states’ palpable influence on employers’ demand for skills through the conduct of its trade and industrial policies; ... range of mechanisms for ensuring an appropriate supply of skills and education and training policies that ‘are linked at the highest and most strategic level with the formation of economic policies’ (Ashton et al. 1999, p.21).

For example the Singapore government which aimed to develop the skills of human resources as a foundation for its main competitive advantage in the global market, was directly involved in a range of strategies such as media campaigns, education system reform and incorporation of the unions into the decision making process to mount a campaign to upgrade the skill of the workforce. This form of government intervention is in contrast to direct adjustment processes, characteristic of a market-driven system which employs a capital-centre policy-making approach (Ashton et al. 1999, p.51). In contrast to Singapore, South Korea has used economic incentives to meet public demands for education and training activities and reach equitable socio-economic outcomes. Skill formation policies in South Korea are mainly affected by the political and economic circumstances generated by global tensions rather than government intervention (Ashton et al. 1999, p.76). South Korea is regarded by Ashton et al. as having implemented a successful pattern of skill formation to achieve socio-economic goals rather than simply responding to a crisis or a predicted crisis.

Similarly, Taiwan’s educational and training policies have been directly formed in the context of its policies for economic development. As in South Korea, there is a high level of commitment to education and training among the people of Taiwan. However, the financial policies of Taiwan for education are completely different from those of South Korea, as Taiwan devotes a high percentage of public expenditure to education and training, whereas South Korea has used the mechanism of economic incentives for industry (Ashton et al. 1999, p.80).

The training system of Hong Kong offers employers a key role in defining the economy’s skill requirements. The government acts as an education and training supplier to meet the skill demand of the labour force. Rapid growth in the private sector due to the process of industrialisation of Hong Kong forced the government to adapt the supply of education and
training to a quickly changing demand. Hong Kong represents a model with proper linkages between skill training supply and demand sides (Ashton et al. 1999, p.122).

When these economies have experienced a fast rate of economic growth, their VET systems have been readjusted from responding to the needs of labour-intensive forms of production to capital-intensive forms. The significant role of government has been to adopt appropriate policies at different stages of economic growth to prepare the required workforce for each stage by anticipating future skill demands.

2.2.6. Borrowing and adapting educational policy

Borrowing educational policies from other countries has increasingly brought global influences into the development of national VET systems. Phillips (1992) argues that borrowing educational policies is more likely when there are similarities between the educational systems involved as well as likelihood in the major political ideologies that promote reform within them. Phillips (1992) and Halpin and Troyna (1995) emphasise political, historical and socio-cultural issues to be considered as the factors that greatly affect formulation and implementation of educational policies and influence the success of development of non-domestic policies in a system.

Some Western European approaches in VET were recommended to a number of different developing countries in the last century. Apprenticeship programs, the prevalent form of VET in many European countries such as Germany, Austria, Switzerland and Italy, were established in some developing countries, including Colombia, Brazil, Chile and Nigeria (ILO 1951; Grant 1969; OECD 1979). Later these policies influenced the systems of more developing countries in Asia and the Middle East.

In contrast to the notions that support borrowing educational policies between nations, some researchers (Heyneman 1990; Watson 1994) believe that many problems within some developing countries are the result of major influences that educational systems of these countries have adopted from those of developed countries in the past. Watson (1994, p.85) argues that irrelevant and costly programs of VET systems in developing countries come from the Western pattern that has been followed in the development of these systems. She believes that the industrial and technological progress of South Korea, Taiwan and Singapore is the result of development of their own indigenous approaches. Watson (1994, p.95) criticises Western countries for ignoring indigenous and distinctive socio-economic and cultural contexts of developing countries. She mentions that many less developed countries may destroy their indigenous education patterns in adopting a Western model, even though their current indigenous systems are quite adapted to their cultural norms and they may maintain technical and vocational components. Usher and Edwards (1994) argue that nation-state would gradually lose control over its education system until its role would finally fade away in such a type of policy making.
There have not yet been detailed analyses of the success or failure of VET imported policies in developing countries. However, because of the heterogeneous structure and circumstances of different contexts, policy makers do suggest that the VET policies and practices of one country may not readily transfer into the circumstances of another culture (OECD 1996, p.236). What is best practice in one context may be of very limited utility when applied in another context, owing to different VET goals, objectives and target groups, and different degrees of importance being accorded to VET in the face of specific challenges (Fretwell 2003, p.178). However, while the popularity of particular positions on how to best implement vocational policies varies from country to country, no nation can ignore the experiences that the others have gained.

2.3. The transnational transfer of knowledge

One of the most significant aspects of globalisation is the international transfer of knowledge alongside the transfer of investments and technology. Several mechanisms operate through inter-organisational co-operative projects in order to facilitate the exchange of information and knowledge between firms, groups and individuals in different jurisdictions. To examine such vertical inter-systemic mechanisms whilst following the flow, conversion and replication of knowledge within the host systems, I employ an approach that encompasses the cross-disciplinary aspects as well. Giving attention to the influencing factor of the ‘educational nature of the systems’ in this study, I use a cross-disciplinary approach.

In the field of educational research a substantial number of publications focus on comparative education. This group of studies focuses on differences among educational systems, and on the transfer of teaching methods and the transfer and mobility of qualifications. However, there is less research addressing the transfer and process of adaptation of VET regulatory arrangements in different contexts.

2.3.1. Conceptualising ‘knowledge’ in globalising capitalism

Considering definitions of knowledge makes a proper further step to enrich the conceptual framework of this study. Alavi and Leidner (2001) state a few short definitions for knowledge from different perspectives as ‘a state of mind, an object, a process, a condition of having access to information, or a capability.’ They emphasise three important points in regard to the management and transfer of knowledge between individuals and groups. As they suggest, firstly the differences among data, information and knowledge must be cleared up and implications of the differences must be identified. Secondly, knowledge must be expressed in such a way that it can be easily interpreted by the receivers. Finally, useful information is information that can be actively processed in the minds of receivers through a process of reflection, enlightenment, or learning. Alavi and Leidner (2001) differentiate between the meanings of knowledge, information and data as ‘knowledge is authenticated information’ whilst ‘data is raw numbers and facts’ and ‘information is defined as processed data.’ Nonaka
(1994) focuses on an aspect of knowledge that relates to human action and defines information as a flow of messages, and knowledge as the very flow of information.

It is important to distinguish between tacit and explicit knowledge (Nonaka 1994; Alavi and Leidner 2001; Kogurt and Zander 2003). Tacit knowledge is the physical and subjective knowledge that comes from experience and is the knowledge of 'here and now'; ability and know-how in a specific, practical context, while the explicit dimension of knowledge is propositional, objective and has its roots in rationality and includes 'there and then'. In other words, an individual's mental models, which include mental maps, beliefs, paradigms and viewpoints, shape the cognitive component of knowledge, while concrete know-how, crafts, and skills that apply to a specific context form the technical element (Nonaka 1994; Alavi and Leidner 2001). Tacit knowledge is the result of action, experience, and involvement in a specific context and is comprised of both cognitive and technical elements (Nonaka 1994). This dimension of knowledge mainly exists in the minds of people as perspectives on, or images of reality (Polanyi 1966).

The methods for transferring explicit knowledge and tacit knowledge are different. Li-Hua (2004, p.29) noted from Lam (1997) that the difficulties in transfer of knowledge arise not simply from the tacit nature of knowledge itself, but from differences in the degree of tacitness of knowledge and the way in which it is formed, structured and utilized in different countries. He also mentions that the transfer of tacit knowledge includes the process of creative problem-solving in the real world and is often more problematic than the transfer of explicit knowledge (Li-Hua 2004, p.20). Nonaka (1994) notes that a continuous dialogue between tacit and explicit knowledge results in the creation of new ideas and concepts and the consequent development of organisational knowledge. He considers internationalisation as the ‘central mode of knowledge conversion.’

However, Glisby and Holden (2003) criticise Nonaka and Takeuchi’s (1995) literature on creation and management of knowledge with lack of transnational aspects and mention that the literature on knowledge management in a cross-cultural context is almost nonexistent. Weir and Hutchings (2005) have argued that some aspects of the suggested model by Nonaka and Takeuchi can be applicable in industrialised countries and emphasised that there are particular similarities with knowledge management in China.

2.3.2. Transfer of knowledge between organisations
Determining the process of adaptation of such a non-domestic type of knowledge as the regulatory arrangements and practices of another country requires both studying the process of gaining access to knowledge as well as understanding the flow of knowledge in different levels of the host system or organisation. Adaptation of a new type of knowledge into an
organisational context is a multilevel phenomenon and demands using a multilevel approach of study. Kostova (1999) emphasises using a multilevel approach to study multilevel phenomena such as transnational transfer of regulations and practices.

As we have entered into a new age in which knowledge is known as the most critical resource, there is a growing interest to study transfer of knowledge via business activities of firms (Bresman, Birkinshaw & Nobel 1999, p.440). A considerable number of studies approach the frameworks built upon institutional perspectives in organisational theory and transnational management. Much research has been conducted on the subject of knowledge transfer in an international setting. This group of studies focuses mainly on the flow of knowledge and transfer of technology in multinational firms and joint ventures, and distinguishes successful corporations that work in an international context with their abilities to effectively transfer knowledge across borders (Bartlett & Ghoshal 1997; Kostova 1999).

Transnational transfer of organisational practices between organisations or even among the units of one firm is not an easy and smooth process. Kogut (1988, p.319) notes that joint ventures could be motivated by an organisational learning imperative and can be used to transfer the embedded knowledge of organisations. He mentions that an organisational vehicle is needed to transfer the embedded organisational knowledge. A number of factors, such as the characteristics of the practices that are being transferred and the cultural, socio-economic and organisational characteristics of both contexts were noted as the elements that might obstruct the successful transfer of knowledge (Kogurt & Zander 2003; Bartlett & Ghoshal 1997; Kostova 1999). However, because knowledge is often ‘sticky’ and ‘difficult to spread’ (Tsai 2001; Subramaniam & Venkatraman 2001), the transnational transfer of knowledge involves a multistage and complex process.

Kogut and Zander (2003) also note that the mode of technology transfer (e.g. within the firm or by licensing to other parties) is related to the characteristics of the firm and its advantages in international context. Through this view, foreign direct investment of an organisation in other countries is seen as the transfer of knowledge to the organisation’s specific advantage. A firm can also be seen as a social community with a comparative advantage that is built upon its productive knowledge (Kogut and Zander 2003, p.516). They suggest that the attributes of knowledge that make the ownership advantage of a firm play a key role in the decision to transfer knowledge of the firm within that firm or into the market (Kogut and Zander 2003, p.520). They consider three dimensions of complexity, codifiability and observability of information and say that information transferred among countries maintains higher degree of tacitness and less explicitness when the information is more complex, less codifiable and more difficult to observe. They include two more factors of ‘the age of technology at time of transfer’ and ‘number of previous transfers’ into the variables to measure tacitness of knowledge in cross-border transfer processes of multinational corporations. According to their notion, older
technologies are less tacit, can be better codified, and are transferred at a lower cost in comparison to a new technology.

Kostova (1999) suggests a theoretical model for factors of the transnational transfer of organisational practices. She mentions three sets of factors at three levels of country, organization, and individual, which reflect important aspects of the context through affecting the ability and motivation of individuals of the host unit. She emphasises, in her model, that transfers are embedded in three types of social, organisational and relational contexts upon the three levels of country, organisation and individual, respectively. Three groups of differences in accordance to country context are considered as ‘institutional characteristics, organizational practices that reflect the institutional environment of their origin’s country context, and finally, the problem of “not fitting” the transnationally transferred practices with a new institutional environment’ (Kostova 1999).

2.3.3. Institutional theory and adaptation of knowledge

Borrowing some concepts from organisation theory is useful to study the process of knowledge transfer and adaptation, due to the influence of environment and individuals in a host context. Tsai (2001) conceptualises an organisation as a network arrangement and investigated access of a unit within an organisation to new knowledge. He analysed the position of the unit in an intra-organisational network that required ‘external knowledge access’ and ‘internal capacity’ as two key factors for innovation development and performance improvement. Tsai (2001) emphasises the role played by network position of a unit in shaping access to new ‘external’ knowledge and notes the importance of ‘internal’ learning capacity of units for application and replication of new knowledge.

Birkinshaw, Nobel and Ridderstråle (2002, p.274), through framing a contingency theory, have examined whether the characteristics of a firm's knowledge base have any significant influence on its choice of organisation structure and concluded that ‘knowledge is a function of the social and physical organisation in which it exists.’ The active and subjective nature of knowledge is affected by some systemic values such as belief and commitment of individuals in an organisation (Nonaka 1994, p.16). Through an institutional perspective, the organisation is seen as a social community system whose productive knowledge defines a comparative advantage and is specialised in the transfer and recombination of knowledge (Kogurt and Zander 2003, p.516).

‘Institutional theory’ can be seen as ‘an approach which integrates an organization’s past actions and the social and environmental pressures on it to explain organizational practices’ (Robbins and Barnwell 2006, p.279). Describing this theory, Robbins and Barnwell (2006, p.279) observe that, ‘Institutional theory poses that organizations are influenced not only by their internal processes but also by the need to adapt to the institutional pressures in the external environment. This need for adaptation leads behaviours being repeated and becoming
institutionalized.' The organisation is considered as a system that processes information based on this theory (Nonaka 1994).

Scott (1995) and Kostova (1999) comment on this theory, arguing that institutional environments are characterised by three types of components: regulatory, cognitive, and normative. The current laws and rules in a particular national environment shape the regulatory component of an institutional environment. The cognitive elements of an institutional environment, as the elements of the social environments that are carried out by individuals ‘constitute the nature of reality and the frames through which meaning is made’ (Scott 1995, p.40), while the normative elements are ‘the values and norms held by the individuals in a given country’ (Kostova 1999, p.314).

One important concept in Kostova’s study (1999) is ‘Country Institutional Profile (CIP)’ as a means for capturing the institutional characteristics of a national environment. This concept has been extracted from institutional theory. The significance of CIP is that it maintains both regulatory elements and cultural aspects, but separated from each other. It includes cognitive and normative components that conceptually both encompass the cultural aspects of an institutional environment and come from the context of the institution's country. It also maintains the regulatory element within institutional environment that is given by and under the control of the organisation.

Kostova (1999, p.311) considers two aspects for the process of knowledge transfer to an organisational unit in a new context; first, ‘the diffusion of new regulations and rules’ and second, ‘the transmission or creation of an “infused-with-value”, meaning of these rules among the employees of the recipient unit.’ She emphasises that the development of a set of formal rules cannot complete the process of knowledge transfer to a new unit and must continue until the imported regulations become embodied to the unit and the routine practices by employees reflect the same value and symbolic meaning as those in the employees from the origin context.

Notwithstanding many institutional and cultural factors that affect the process and success of transfer of knowledge between organisations, individuals in human resources of organisations play a crucial role that could ruin the entire process. The individuals’ role is considered as an error factor for the cases of knowledge transfer in this research.

Using this theoretical framework, I study the process through which a set of imported regulatory arrangements, become new knowledge in a host system, and influences the regulatory components of this host system at multiple levels. As discussed in the first chapter (Table 1.2), a number of actors are involved in transferring the Australian VET regulatory arrangements to other economic and cultural contexts, via different mechanisms. In this study I employ the work of Braithwaite and Drahos (2000) to categorise the actors and mechanisms to
provide a broad framework for analysing these processes through which Australian VET knowledge is being transferred in a global context.

According to the concepts discussed in this chapter, the arrangements for the regulation of Australian skill formation reflect the organisation of the Australian VET system, the political relations of Australian business and industry and Australian economic context, and the way in which these circumstances, beneficiaries and stakeholders have contributed to the development of this system during the past two decades. In the theoretical framework I am using in this research the elements which make up this regulatory system would be expected to undergo change when they are combined with knowledge and practices that are being applied in overseas locations.
Chapter 3.
Research Method

In this chapter I provide details of the methods I have selected for data collection and analysis. The chapter is organised into three sections. In section one I outline the rationale for adopting a qualitative multidisciplinary research approach. Section two outlines a case for focusing on just three case studies of the internationalisation of the Australian Training Package and the AQTF. Here I also discuss the problems I faced in attempting to collect data outside Australia and explain how these difficulties have been addressed. In section three I discuss the collection and analysis of data and demonstrate the instruments I designed to analyse my data.

3.1. Adopting a multidisciplinary research approach

This research brings a multidisciplinary approach to what might appear to be primarily an educational study, but it in fact spills over into multiple domains: the political economy of international aid, globalisation, knowledge management and international trade. The key proposition I make about the internationalisation of the Australian Training Package and the Australian Quality Training Framework is that this phenomenon is an example of the way in which transnational skill formation and knowledge transfer – key drivers of globalisation - are played out.

At the heart of this research is a multidisciplinary conceptual framework, discussed in Chapter Two, which brings together three core strands of investigation:

1. The enactment of globalisation as the transfer of capital and technology
2. The rise and development of national VET systems as sites for both domestic and global skill formation
3. The transnational transfer of knowledge

My purpose in developing this conceptual framework was to enable me to make generalisations about how the Australian VET system, its regulatory agents and forms of training are playing a role in globalisation. I consider several factors that foster or constrain globalisation of Australian VET knowledge through studying cases with different mechanisms. These factors originate from various sources, such as the contexts affected by globalisation, the operation sought by Australian actors in their offshore activities and the nature of Australian arrangements and approaches.
3.1.1. The rationale for a qualitative approach to data collection and analysis

I have adopted a qualitative method for two reasons. Firstly, it is a method that most readily traverses multiple disciplines and fields of investigation. As Silverman points out, the qualitative method is ‘an interdisciplinary, transdisciplinary and sometimes counterdisciplinary field. It crosses the humanities, the social sciences, and the physical sciences’ (Silverman 2006, p.1048). Qualitative research evolved as a form of enquiry, contributing to theory development and providing essential information to give direction for practices in different fields and disciplines. Qualitative methods are appropriate for the study of many areas of education, trade and policy. These methods have over the last decades been expanded from sociology and anthropology out to many various fields of practice and study. Qualitative research enables researchers to focus on the essentially non-quantitative nature of social, political and interpersonal action and interaction. Secondly, qualitative research enables researchers to obtain information about a situation from multiple perspectives, avoiding the imputation of a single truth, and acknowledging that no situation is completely knowable from the particular orientation of individual participants – or that of the researcher. A qualitative method is appropriate for use in studies in which it is not possible to access large, standardised data sets, and where much understanding about the phenomena under investigation is emergent and being drawn from multiple domains of social, economic and cultural activity, and where knowledge construction is drawing on multiple disciplines.

This is the case in the internationalisation of VET systems and activities, and most particularly in the internationalisation of the Australian VET system through the transfer and adaptation of its regulatory devices – the Training Package and the AQTF. There has been little systematic study of the Training Package and the AQTF as regulatory devices, even in their domestic setting. Most studies of the Training Package system comprise critiques of its educational shortcomings, and those of the AQTF are similarly critiques of audit cultures (TDA 2002; Down 2003; Barrow 2005).

3.2. The rationale for selecting a case study approach

Minichiello et al. (1996, p.3) consider the assumptions inherent in the methodological approach as the definitive factor of the research method. I expounded the research instruments I utilised in the pursuit of my research’s goals and the research methodologies adopted.

Further, the case study approach was essential to this research because of what and how questions associated with the implementation of Australian VET approaches in offshore programs. The case study method emphasises in-depth qualitative analysis and is useful to answer what and how questions. In this study I used two or more methods of data collection suggested by Cohen et al. (2000, p.112) at the study of multi-aspect cases.
A qualitative case study is an appropriate method to explore a procedure or a phenomenon that is bounded by time and able to be described as a particular type of activity. Through the case study method, the researcher would be able to adopt a range of data collection methods to collect information in details about one (or more) cases, which could be a program, event, institution or social group. The case study method is a suitable way of studying a particular procedure or experience by a researcher who observes the case from the outside (Creswell 1994; Mason 1996).

Three types of uses of case study research are recognised by Yin (1994) as: exploratory, descriptive, and explanatory. However, it is difficult to distinguish completely these three types from each other in application. Yin emphasises ‘Exploratory studies as well as descriptions can be theory generating, descriptions may be explanatory and so forth.’ However, this study maintains the characteristics of exploratory research in approach because of its purpose, which is to describe a set of situations or procedures in the actual words of the informants.

In some methodological aspects this study concurs with the statement of Maykut and Morehouse (1994) about exploratory research as the research characterised by a descriptive exploratory focus that tend to provide a deep understanding of the perceptions of the informants.

Gummesson (2000, p.88) points to a lack of statistical reliability for case studies and narrows the use of case studies to generate hypotheses, not to test them. He emphasises the importance of having a good descriptive or analytic language for grasping details and describing a system’s characteristics and the interaction between different parts of a system. He considers deep understanding of structure, processes and driver forces that lead to comprehensive measurements as main conditions that may make it possible to generalise from very few cases or just one single case. Gummesson suggests the researchers who are involved in qualitative researches develop their competence to acquire knowledge of the social interaction processes and institutional knowledge.

The case study method is an appropriate way to describe the relationships that exist in reality in a single system or organisation. Case study research assists the researcher to have a holistic view of a process. This is a great advantage of case study, as the researcher would be able to explore many different aspects of a process within its environment and examine them in relation to each other (Gummesson 2000, p.86).

The structural analysis of the Australian skill formation system encompassed a thematic review of the system with a focus on its different parts and their functions, the knowledge technology and the key stakeholders. This type of analysis in Chapter Four helped me to realise when we use some elements of the Australian system, which parts of the system are directly/indirectly involved and to know under which circumstances and to what extent each element of the system is transferable. Moreover, a major part of this study centered on case studies selected
on the basis of the unique type of transnational VET activities carried out by the Australian actors in each case.

Using the cross-disciplinary framework of this research, I classified the international VET activities by Australian actors and considered the transnational transfer of Australian knowledge of VET as a particular case of a general phenomenon through the reticulation of new principles, mechanisms and actor-types/roles.

To obtain a rich, in-depth experiential account of an event as well as trace the processes and match patterns, a researcher must use a broad range of recourses. Various sources prepared by VET stakeholders and governmental sectors such as project reports, official websites of the governments and institutions, market research reports and documentations prepared by different institutions about the related offshore projects, including published and unpublished reports, were used to provide data for this study.

3.2.1. Limitations and obstacles faced in framing in-country participation observation

Participant observation is also an appropriate approach to give great depth and richness to research. However, in this study some limitations put obstacles against my access to the non-Australian staff of the host institutions. The Olympic 2008 event in Beijing, as a main obstacle of gaining a visa, was a very influential event in this study, and it imposed a change in the methodology of this research by persuading me to abandon in-country fieldwork.

Moreover, probably because of some business strategies, many Australian VET providers do not often welcome researchers with provision of data about their projects. This issue has been noticed in the report of ‘Delivery of VET offshore by public providers’ by DEEWR:

‘In 2001, DEST contracted the National Centre for Vocational Education Research (NCVER) to undertake a study to determine the feasibility of collecting information about VET offshore provision. A key finding of the study was that, generally, public providers would be willing and able to provide data if a more extensive data-collection project were undertaken’ (DEEWR 2008a, p.6).

At an initial stage of data collection for this study, in order to include some institutional practices of transfer of knowledge at a micro-level to this study I made a fruitless attempt to gather detailed information from some TAFE institutes about the number, roles and total working hours of Australian staff working in a couple of their offshore projects. Therefore, I disregarded focusing intensely on practical aspects of transfer of knowledge between Australian and non-Australian staff at an individual level.
3.3. Data Collection and analysis

Two forms of data collection were undertaken. First, annual reports, documentation of the related institutional offshore projects and published reports from a range of sources including VET providers and government agencies were used to provide background data for this thesis. This aspect of the method provided an opportunity not only to contextualise findings but also to explore relevant issues in greater detail.

Secondly I interviewed a range of personal involved in the cases selected for study. Researchers (Patton 1990; Minichiello et al, 1996; Babbie 1998; Lincoln 2000) emphasise interviews as a proper approach for data collection of qualitative researches. Lincoln (2000, p.645) recognises interviewing as one of the most common and powerful methods for gathering information from people. He considers individual, face-to-face verbal interchange as the most common interviewing form, alongside telephone surveys and mailed or self-administrated questionnaires as the less common forms. Through another perspective, interviewing is considered a useful methodological approach in qualitative research, independent from prescriptive requirements of quantitative methodologies (Minichiello et al. 1996, p.10).

A semi-structured interview method of collecting data provides the researcher with the opportunity to ‘probe deeply to uncover new clues, open up new dimensions of a problem and to secure vivid, accurate inclusive accounts’ made upon the experiences of individuals (Burgess 1990, p.22).

In keeping pace with the qualitative tradition, a qualitative interview research design was employed as an appropriate means of obtaining relevant data for this research. Semi-structured interviews were conducted with a number of the key international project managers and experts who have gained experience in VET offshore delivery programs in Australian training institutions. A small number of interviews with project personnel directly involved in two offshore projects in the Oxiana training program in Laos and Chongqing VET Reform project in China were carried out. The focus of the interviews was to encompass either the ‘how’ of making changes into the skill development processes by approaching the Australian VET knowledge in the non-Australian context or the ‘what’ of the implications and the issues that arose in those processes.

The level of relevance of data obtained varied within the conducted interviews based on the knowledge and the degree of involvement of the participants in the offshore projects. The interviews conducted for this study are not intended to carry the same evidential weighting. The purpose was to add depth and richness to information obtained through reports and research findings. The interview questions were progressively modified during the various stages of the
data collection as I refined the focus of the study, while maintaining a focus on the original aims.

### 3.3.1. Selection criteria for interviewees

Data for the research was obtained through interviews with nine individuals: two experts and one project manager from the A-Model projects, two experts and two project managers from the B-Model projects and two project managers from the C-Model projects. The interviews were designed to last about one hour, but some lasted up to three hours.

Four interviewees contributed to this study by providing detailed data about the cases studied in this project. These interviewees who agreed to being identified are named in the relevant chapters and have quotes attributed to them are:

- Antoine Barnaart, former project manager of the Australia-China Chongqing Vocational Education and Training Project (ACCVETP)
- Roger De Zilwa, manager of international projects at Chisholm TAFE
- Graeme Barr, project manager of RMIT-Oxiana project
- Murray Day, former managing director of TAFE International Western Australia

Five interviewees gave general information about and their reflections on the studied cases under the three models in this study. These sources are not cited in the chapters but are listed in the acknowledgements section.

- Former project manager of RMIT Oxiana project
- University International College Director
- TAFE institute international education consultant
- Australian education expert involved in the ACCVETP
- University VET international education consultant

In addition to the formal interviews I met with a number of experts and teachers with offshore experience who provided me with valuable background data and offered their views on issues involved in the transfer of Australian VET offshore.

Five of the interviews were tape recorded and supplemented with notes, two of them were based on written notes only and one interview with a Western Australian source was conducted through email. The length of the face-to-face interviews varied in accordance with the time restrictions and interest of the participants. Involvement in one of the projects from one or more of my three models and having played a key role in the related offshore VET project were the main criteria for selection of the participants.
I provided a research information sheet in plain language to make the interviewees familiar with my research. The information sheet was designed to guide them to draw their focus on main purpose of the study and enable them to answer the questions more directly.

The political, institutional and organisational conditions of the sources of data and people were thoroughly taken into consideration. Some participants were hesitant to provide reports of their offshore projects due to the competitive market and their reputation among clients.

### 3.3.2. Data analysis

Analysis is an essential part that powers data collection (Ely et al. 1991, p.86). The analysis phase of this study included analysing the collected data from interviews, in combination with the information obtained from the governmental documents and the published and unpublished reports of offshore education projects of the Australian VET institutions and other active sectors. I proposed to analyse the mechanism and role of actors mainly in the categories A and C and examine them towards answering the defined questions.

Yin (1994) considers different stages for the analysis process of a qualitative research. They include ‘examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of the study’ (p. 99).

A main step for the analysis stage was transcription of the recorded interview tapes. The transcripts were highlighted and coded by some key themes to ease the identification and selection of relevant information. The themes were related to my questions and included units of information in different formats and sizes such as phrases, sentences, and short segments of transcript texts.

One of the main aims of reviewing policies, documentations and conducting interviews was to collect and identify the information by which I could confirm or reject the different aspects of the mechanisms that are used in different models for the transnational transfer of the Australian VET knowledge.

My analysis encompasses three dimensions of this study:

1. Key structural and functional elements required for the main Australian VET approaches to work.
2. Transferability aspects of the AU-VET approaches
3. The transnational dimension of the transfer mechanism
Chapter 4.
The Australian VET system

In this chapter I start by describing the context for the Australian VET system through an economic perspective. Based on a European typology (CEDEFOP 2004), the Australian education system is regarded as having a strong affinity with the English liberal market economy model, functioning in a socio-economic and cultural context similar to that of its English counterpart. Named as ‘Type A’ in the European typology, the system is described as one in which ‘economy takes priority from a work culture perspective and the training model is regulated primarily by market forces’ (CEDEFOP 2004).

The key role of market forces in shaping the skill development model provides the rationale for considering the characteristics of the economic context as an imperative before developing an outline of the Australian VET system. Focusing on the economy and market is important in this study for two main reasons. In the first place, the labour market is the demand side of the skill formation system and the types of skills that this market demands are influenced by the changing characteristics of this market. Secondly, it is important to understand the connections through which knowledge and information about skills travels from the labour market to the policy-making authorities of the Australian skill formation system. The level and function of the structural units that make the connections between the supply and the demand sides of the Australian VET have been taken into consideration in this discussion in this chapter.

Secondly, on the basis of this typology, I focus on the mechanisms for the regulation of the knowledge system which is Australian VET, to show how I have conceptualised it as a modern demand-oriented system for skill formation. For this purpose, I have tracked the establishment of the current system, described the mechanisms which generate knowledge and regulate processes, and followed the flow of information between agencies in the process of Australian VET knowledge formation. This analysis forms one essential basis for answering my research question about the process of Australian VET knowledge transfer.

This chapter forms the foundation for the following four chapters, which illustrate the transferability of Australian VET regulatory technologies with reference to transnational case studies classified into three models of knowledge transfer.

4.1. The Economic context for the Australian VET system

Australia has been exposed to different aspects of globalisation, such as migration of labour, flows of money, foreign investment and transfer of technology in the last century. As is the case with many high-income countries with open markets, in the past three decades Australia has been subject to many powerful impacts of globalisation. In response to these impacts,
Australia has undertaken three broad rounds of substantial economic reform since the 1970s, including: *liberalising macroeconomic and external trading relationships, microeconomic liberalisation and labour-market deregulation* (Smith & Jonathan 2007, p.32). The aim of these reforms has been to increase the competitiveness of Australian economy by decreasing prices and improving productivity, and they have encompassed a broad range of structural and regulatory areas including: taxation, financial markets, the operation of government business enterprises, international trade and tariffs, enhancement of national competition policies, labour market and corporate governance arrangements (Australian Treasury 1999).

The more highly an economy is integrated into the global economy, the more directly and potentially adversely it is affected by changes in global markets: an important factor for businesses entering the market. As Stokes (2000) argues about the impact of globalisation on the reforms in Australia:

‘Businesses consider, or threaten to set up, their operations in countries where profits are expected to be greatest, e.g. low wage countries, where unions are suppressed and there are low corporate tax rates. Governments and employers use these fears to push for labour market and workplace reforms. This has occurred in Australia with the move to individual contracts and the growing casualisation of the workforce. While some highly skilled workers may benefit from this, the lowly skilled and marginalised workers tend to lose out through poorer working conditions and less job security’ (p.3).

I have described the characteristics of the Australian economic context by using three concepts to indicate the extent to which Australia — as the source of the VET knowledge addressed in this study — is an intrinsic part of the globalised economy. These concepts are: *productivity; GDP (Gross Domestic Production) per capita; and parts of the Global Competitiveness Index* for Australia.

**4.1.1. Productivity**

When we talk about a national system of skill formation, *productivity* is the economic concept, most directly linked to this subject. The main reason for this relation is that productivity is influenced by the average skill level of the labor force. According to the World Economic Forum (2008, p.44) ‘Productivity supports high wages, a strong currency, and attractive returns to capital — and with them a high standard of living.’ Economic figures show that the direct exposure of Australian industries to the global market has resulted in the growth of Australian productivity. Figure 4.1 compares the productivity growth of Australia with that in the United Stated, Japan, the average of Europe and the average of the OECD members in three eras from the 1960s to 2001. The figure shows that Australian productivity growth has exceeded that of the US, Japan, the European average and the OECD average during the 1990s.
According to the Figure 4.1, Australia has experienced a significant growth in labour productivity: about $2.4\%$ in average over the last decade of the twentieth century. Saul Eslake, Chief Economist of ANZ Bank (2003), claims that the highest gains in productivity have been achieved in the economic sectors where reforms have cut deepest.

### 4.1.2. GDP per capita

In this study GDP per capita is used because it is a macroeconomic concept available for every economy globally. It’s link to the skills of individuals means it is the broadest measure of national productivity. The World Economic Forum in The Global Competitiveness Report 2008-2009 emphasises: ‘The focus on productivity reflects our goal of identifying the determinants of sustainable prosperity, whether they operate through inputs such as skills and capital or through the efficiency with which these inputs are employed.’ (World Economic Forum 2008a p.45)

Australia, with a total population of 20.6 million in 2007, has gained US$908.8 billion in Gross Domestic Production, which equals 1.18% of the world total. The Australian GDP per capita in 2007 has been calculated at just below US$40,000. As shown in the Figure 4.2, since 1980 GDP per capita for Australia has nearly followed that of the average of the OECD members.

The dependent variable used in estimating the New GCI model is the level of GDP per capita, adjusted for purchasing power parity (PPP). Source: World Economic Forum 2008a
4.1.3. The Global Competitiveness Index

The Global Competitiveness Index is the main index of The Global Competitiveness Report (GCR), which benchmarks the strengths and weaknesses of every economy in a globally recognised ranking system. The Global Competitiveness Report 2008-2009 encompasses a detailed profile for each one of the 134 countries studied and provides a global ranking of those economies covering over one hundred indicators. This global index includes ‘the determinants of the productivity level that a national economy can sustain, which is the ultimate driver of national prosperity’ (World Economic Forum 2008a, p.44). Australia is ranked eighteenth out of 134 countries over the Global Competitiveness Index calculation.

This index uses twelve ‘pillars’ to track development on a multi-dimensional scale, and is recognised as an appropriate descriptive proxy in this study. Figure 4.3 shows the relative weight of these global competitiveness index pillars for Australian development, and Australia’s rank and score are shown in Table 4.1. Some pillars such as ‘Higher education and training’, ‘Technological readiness’ and ‘Institutions’, are more closely related to this subject than others. However, separate scores and ranks of each individual pillar of the global competitiveness index is an advantage that enables precise comparisons between different economic contexts along all dimensions.

Figure 4.3 Stage of Development for Australia

Source: World Economic Forum 2008b
Table 4.1 Pillars of Development for Australia

<table>
<thead>
<tr>
<th>Rank (out of 134)</th>
<th>Score (1–7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>18</td>
</tr>
<tr>
<td>GC1 2007–2008</td>
<td>19</td>
</tr>
<tr>
<td>GC1 2006–2007</td>
<td>18</td>
</tr>
<tr>
<td>Basic requirements</td>
<td>15</td>
</tr>
<tr>
<td>1st pillar: Institutions</td>
<td>12</td>
</tr>
<tr>
<td>2nd pillar: Infrastructure</td>
<td>21</td>
</tr>
<tr>
<td>3rd pillar: Macroeconomic stability</td>
<td>28</td>
</tr>
<tr>
<td>4th pillar: Health and primary education</td>
<td>15</td>
</tr>
<tr>
<td>Efficiency enhancers</td>
<td>10</td>
</tr>
<tr>
<td>5th pillar: Higher education and training</td>
<td>14</td>
</tr>
<tr>
<td>6th pillar: Goods market efficiency</td>
<td>10</td>
</tr>
<tr>
<td>7th pillar: Labor market efficiency</td>
<td>9</td>
</tr>
<tr>
<td>8th pillar: Financial market sophistication</td>
<td>6</td>
</tr>
<tr>
<td>9th pillar: Technological readiness</td>
<td>19</td>
</tr>
<tr>
<td>10th pillar: Market size</td>
<td>19</td>
</tr>
<tr>
<td>Innovation and sophistication factors</td>
<td>22</td>
</tr>
<tr>
<td>11th pillar: Business sophistication</td>
<td>26</td>
</tr>
<tr>
<td>12th pillar: Innovation</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: World Economic Forum 2008b

According to this index, the Australian economy has now become integrated into the global economy to a high degree. As this process unfolds, Australian industries are competing in a more globalised environment, and are led to achieve higher rates of productivity. Workforce skill development in order to produce more firm-specific capital for achieving greater competitive advantage has come to be regarded as a significant strategy. However, the contribution of skills to economic development includes highly complex relations. Richardson and Teese describe some aspects of this complexity as follows:

The skills of the population only contribute to productivity and equity if they approximately match, in quantity, type and levels, what employers need. Shortages of skills make it harder for firms to produce the quality and quantity of product that they have buyers for. Like shortages of any other essential input, this reduces total production. Surpluses of skills.
present a different problem. They are not noticed by employers, except possibly in the form of a large pool of high-quality applicants for jobs, and low quit rates (2008, p.11).

According to this position, the skill supply sector in a globalised economy needs to be strongly linked to its economic context, in particular to the enterprises which comprise the local market for skills. This enables the skill supply/training sector to maintain a first hand understanding of the current skill demand of the market and to access up to date information about changing demands.

4.2. Origins of the current Australian VET system

The introduction of a national VET system has been promoted at different times in its development as a strategy to achieve Australian social, economic and environmental sustainability. In this section I describe the evolution of this VET system to show how the Australian skill formation system came to be more closely linked to the market, and how market information is communicated from industry to VET policy-makers. I have divided the stages of development of Australian VET into four broad time periods: the time before 1974, between 1974 and 1992, between 1994 and 1997 and after 1997.

4.2.1 VET in Australia before 1974

Vocational education and training has its origins in Australia in the nineteenth century, and developed out of a range of local needs, but most particularly those of young workers for saleable skills, and those of civic leaders for visible signs of middle class advancement within their communities. The first Mechanics Institute established in Tasmania in 1827, and the second was founded in New South Wales in 1833 (Goozee 2001), and these and other Institutes stood in settlements of all sizes as a symbol of the Australian colonies link with similar developments in The British Isles. Smith and Keating (2003, p.7) show that the development of vocational schools across Australia gained impetus with the gold rush in Victoria, where Schools of Mines were established in Victorian gold mining towns including Ballarat and Bendigo, between 1854 and 1870, to provide current and aspiring mine managers, metallurgists and supervisors with skills in demand.

In between periodic recessions, the late nineteenth century was an era of growth in secondary industries and services, especially in Victoria and New South Wales. The rate of economic growth and the response of education and training sectors to this growing labour market was different in each colony (Goozee 2001, p.12), with the common point being the contribution and co-operation of key stakeholders at a local level to meeting the skill needs of their growing markets. Researchers including Robinson (2000), Goozee (2001) and Smith & Keating (2003) identify the foundations of the current Australian VET system in this local cooperation in the mid- to late-Nineteenth Century. Smith & Keating (2003, p.7) attribute the emergence and spread of the first vocational schools to a combination of government, business and community
initiatives and regard industry, the labour movement, governments and communities as the key stakeholders of the first technical schools in Australia. The establishment of local advisory committees created a more formal role for industries in vocational policy making in this era. In Victoria from the time of the formation of the Technological Commission in the 1860s there were various mechanisms for seeking industry input to training, and Goozee identifies the course advisory committees which were established in 1913 in New South Wales as the first source of formal government-sponsored input to the design of training programs (Goozee 2001, p.15). These course advisory committees included representative members of employers associations and unions and worked as a structural interface between the market and the technical education system in NSW until the late twentieth century, when the advisory bodies were restructured following a series of changes to vocational education and training as a result of Commonwealth Government committees of enquiry.

From the time of the first settlement until the 1970s, the Australian states and territories were wholly responsible for the administration and development of their technical education sectors until 1970s. Eight state systems administered eight educational sectors apart from each other. This inconsistent administration of VET in that era has been criticised by researchers, such as Robinson (1990, p.21) who comments as follows:

‘The systems were part of the education departments dominated by the financial needs of compulsory schooling. In 1920, for instance, technical education in New South Wales received seven per cent of the State education budget although its cost per student would have been higher than for primary or secondary students because its essence is small group training using equipment of workplace standard.’

A Commonwealth government report of an investigative mission to Europe known as ‘Australian Tripartite Mission, The training of skilled workers in Europe: Report of the Tripartite Mission’ (Tregellis report), published in 1969, attracted the attention of policy-makers towards the necessity of the establishment of a VET system with management at a national level. This report warned against the government policies to meeting the skill shortage mainly by workforce migration.

4.2.2. Between 1974 and 1992

The Australian vocational education and training systems underwent massive changes during the twentieth century, developing new forms of institutions including senior technical schools and institutes of technology Robinson (2001). The transformation of VET commenced in 1960s and 1970s alongside major industrial and social changes which saw the modernisation of manufacturing and agriculture and the development of a communication and finance industry. These changes were an important early step in a series of reforms in the Australian skill formation system towards developing its responsiveness to the changing demands for skills alongside the changes of the national economy and market. However it is only in the last thirty
years that the vocational education and training system evolved from a set of high particular state/territory arrangements to form a comprehensive national approach.

The ‘Report on Needs in Technical and Further Education’, known as ‘Kangan Report’, is regarded as the watershed report in setting the scene for a Commonwealth role in vocational education and training. Published by Australian Committee on Technical and Further Education (ACOTAFE) in 1974, the Kangan Report saw the sector it named as TAFE to be a source of national growth by ensuring that individuals had access to relevant training. Kangan is also regarded as a turning point in Australian VET because it made recommendations for Commonwealth Government investment in VET for the first time in Australia’s history (Employment and Skills Formation Council 1991, p.10). The Report encouraged the Federal Government to provide for the needs for the development of a modern TAFE sector and invest in a range of TAFE requisites, including: infrastructure, curriculum development, learning resources, assessment of community needs, forward planning and access for disadvantaged groups. It is this policy departure from traditional state-based training systems which set the scene for the period of dramatic reform which came to be known as the National Training Reform Agenda (NTRA) in the period between 1987 and 1994, which provided ‘industry’, as principal clients of the VET system, with greater influence over the process, content and the nature of provision and the outcomes of the training (Deveson 1990; Anderson 1999; Smith & Keating 2003). This was a strategic step towards developing a demand-led VET sector, and one which saw new mechanisms developed to regulate training.

Until the late 1990s, vocational education and training was regulated through the accreditation of curriculum and the certification of educational institutions: the same four-hundred-year-old traditional mode of educational governance that had evolved in European universities. In Australian state vocational systems, the responsibility for curriculum development and accreditation was gradually taken from individual colleges to the state governments, described by Smith as follows:

Technical education [was] reclassified through the actions of a Commonwealth Government commission of inquiry which designated it as Technical and Further Education - or TAFE. What was now ‘TAFE curriculum’ became an agent of direct state control. Rituals and routines that had been enacted by individual teachers in their particular ways in particular classrooms, now prescribed what would be studied, and how learning would be conducted and examined, in all classrooms in the jurisdiction. Curriculum, which had started its life as a method for teachers to use to organize their own teaching programs was, in Australian TAFE, translated into a method for system management known as ‘state-wide accredited curriculum’. It was enactments of this particular curriculum which, for the first time, attracted Commonwealth government funding into state government regulated technical education’ (2008, p.19)
Smith (2008) argues that this was a highly complex process (see Figure 4.4) which took considerable time. In addition this approach made training delivery less flexible by restricting teachers and learners to using the very detailed curricula and content prescriptions.

Figure 4.4 The instructional systems model for curriculum development in the 1980s

The economic change and industry restructuring in the years of the mid and late 1980s meant that this slow process could not keep pace with changes in skill demand and that the stock of state-wide accredited TAFE curriculum continued to lose its relevance to current industry demands. The TAFE sector owes a significant part of its development to the systematic model of curriculum, as the TAFE curriculum became TAFE policy (Rushbrook 1995, p.278 in Smith 2006, p.216). However, the performance of this sector remained under question and criticised for the lack of coordination between the regulation of training and employment opportunities (Smith 2006, p.193).

Throughout the 1980s and into the 1990s a series of Commonwealth Government reforms sought to introduce more flexibility into the regulation of training. These included the Committee of Inquiry into Labour Market Programs, initiated by the Minister for Employment...
and Industrial Relations in 1983, and chaired by Peter Kirby, chairman of the TAFE Board in Victoria. The report, released in January 1985 was a comprehensive assessment of the training needs of the economy and labour market, the cost effectiveness of programs and the training needs of different jobseekers. Kirby report includes a range of recommendations, which led policy-makers to initiate a new form of work-related training – traineeships, which meant that employer groups and unions became directly involved in designing training programs and in promoting the assessment of learning which took place at work. Then, in 1990, the National Training Board (NTB) was established to work with industry in order to prepare a draft of national industry competency standards, known as ‘units of competency’. Second, the Australian Council on TAFE Curriculum (ACTRAC) was organised at a national level to include work-related learning objectives, lesson plans and assessment tasks to the national occupational/industry skill standards, produced by the National Training Board, and translate it into ‘curriculum’. The final production of these agencies was a new form of ‘competency-based’ curriculum.

4.2.3. Between 1992 and 1997

The 1990s was the decade of expansion and consolidation of a national system for VET in Australia. A national VET system, which since the mid-1970s had been governed by the states, and during the 1980s opened up to industry stakeholders, finally happened in the 1990s. Policy makers attitudes toward skill development in the 1990s differed from those in the 1970s and 1980s. In particular as Anderson (1999) notes, the new policies put much greater emphasis on the role of powerful industrial corporate groups in the agenda setting processes for VET. In addition major unions and the Australian Council of Trade Unions played a considerable role in setting an agenda for reform of vocational education and training. It was pressure from these two powerful stakeholders which encouraged the Government to frame a national VET system. The Australian states, territories and the Commonwealth Government put industry at the central point of the Australian VET policy and agreed to cooperate in the formation of a national approach to VET through the establishment of the Australian National Training Authority (ANTA) in 1992.

Innovations and changes in VET accelerated between 1992 and 1997, led by continuing industry (employer association and union) complaints that TAFE was not responsive to labour market needs. A review of VET commissioned by ANTA in 1994 (the ‘Fitzgerald Report’) supported industry criticism and added three important new concepts to the idea of what the VET system should be: ‘best practice’, ‘user choice’, and ‘a stronger and more coherent industry-led structure’ (DEEWR, 2008b). The main problems noted in the Fitzgerald committee’s final report were:

- major shortcomings in the reform of ‘curriculum, delivery and assessment’, the time taken to develop national curriculum; TAFE’s failure to adequately consider enterprise needs;
rigidities in course content; poor take-up rates of national curriculum; and a failure of TAFE to come to terms with the implications of competency-based training for institutional assessment regimes (Allen Consulting Group 1994, p. 46, cited in Smith 2008, p.22).

Maintaining the growing stock of competency-based curriculum required a huge amount of money and human work. Although it spent $A48 million on competency-based curriculum between 1992 and 1996, the Government remained dissatisfied with the relevance and efficiency of VET programs (Smith 2006, p.224), and with the time that the states took to translate this national core curriculum into state accredited curriculum. In order to work out how to implement the Fitzgerald Report’s recommendations, ANTA established three ‘working parties’ and it was the Chair of the Curriculum Working Party who prompted a search for simpler regulatory mechanisms when he posed this question:

‘If you have a robust set of competency standards and a robust set of provider accreditation standards, why do you need to regulate curriculum as well? If we’re moving into a training market in which the how of teaching and assessment and its quality, is increasingly in the hands of individual training providers, what is the value of a nationally regulated curriculum?’ (cited in Smith 2008, p.22).

Over the next three years ANTA working parties and system reviewers responded to this question with the creation of three sets of standards: the Australian Standards Framework (ASF), the National Framework for the Recognition of Training (NFROT) and the Australian Qualification Framework (AQF) to replace the over-regulated curriculum process (Figure 4.5). Figure 4.6 shows the reforms recommended by Taylor which effectively removed curriculum from the chain of regulation and handed responsibility for curriculum development back to individual colleges, using national competency standards as the framework for this process.

Figure 4.5 National VET Regulation in 1996

4.2.4. 1997 and beyond

It was this proposal which led ANTA to focus on standards development rather than curriculum and which set the scene for the ‘Training Package’ in 1997, which was to become the primary regulatory mechanism in the Australian VET system.

Smith describes the conditions leading to the emergence and embedding of the Training Package into the VET system in the following terms:

Since 1997 the consolidation of a Commonwealth/industry training power base has been played out through a radical departure from the way training programs had long been authorised – in the form of accredited courses. The new direction was pursued through an innovative technology called the Training Package, and a new authorisation process, called endorsement, that set out to replace state and territory government accreditation, in addition bringing industry into a prominent role in training as the designers of Training Packages. This meant that training programs financed by government, or otherwise seeking national recognition, whether conducted in colleges or workplaces, would, if covered by an endorsed Training Package, operate under the auspice of national industry competency standards’ (2006, p.20).

The rationale for the introduction of the Training Package was to enable the design and delivery of VET programs at a national level, and to offer a greater role to industry sectors in determining that the outcomes of training should be. Training Packages operate as a technology for the transfer of knowledge between industry, VET organisations and other stakeholders. This technology enables the system to define the competencies that ought to be
covered in training programs at different levels in each industry. This technology specifies the required skills and knowledge for high-performance work at the workplace.

The move from the regulation of training through the accreditation of curriculum by the eight states to regulation through national endorsement of industry standards and ‘packaging rules’ was a major new direction. First the Training Package technology based on standards determined by industry according to market conditions brought the VET system into direct contact with the market. Second the use of Training Packages shortened the bureaucratic distance between the voices of industry and those of training providers, by having both groups using standards – on the one hand to define competency, and on the other to benchmark assessment. Thirdly, the formal structure and rules for producing Training Packages enabled industry agencies to be regarded by government as a trusted source of advice on skill needs. Fourthly, and on the provider side, Training Packages gave control of curriculum development which had been a state function, back to teachers, and offered both learners and teachers a choice of learning content and assessment method. The combination of all of these important changes shifted the focus of vocational education and training from concern with individual learner outcomes in a carefully regulated system of delivery to a highly dynamic market oriented system working in an even faster globalising economy.

Along with the Training Package, ANTA continued to introduce new regulatory mechanisms within what it named the National Training Framework (NTF), and to launch new ways of spreading VET into new markets including VET in schools and the New Apprenticeship System, all of which steered VET towards an industry-led system. An OECD review in 1997 pointed to a consensus among the Australian VET stakeholders around five fundamental policies:

- Developing a national framework for Australian training system
- Fostering a competency-based training system, not a time-based curricular system
- Shifting from a supply-driven to a demand-driven VET
- A VET system with multiple pathways and flexible delivery
- High commitment of VET to foster access and equity (Schwartz et al. 1997)

**Critiques of the Australian National Training Packages**

In an ANTA commissioned report named *High Level Review of Training Packages: Current Realities of Training Packages*, Leary (2003) argues that there are tensions among the stakeholders around the flexibility of the system, and expresses some concerns that increasing flexibility may result in a loss in the quality of training.
‘There are tensions between calls for more flexibility on the one hand and, on the other, fears of over generalised competencies too narrow to provide the required industry skills and knowledge or support higher AQF qualification outcomes…Demands for greater flexibility must be balanced with the need for portable, transferable skills and national consistency, as well as the need to provide adequate safeguards to ensure the quality, integrity and industry relevance of qualifications’ (Leary 2003, p9).

Leary argues that a CBT system may not be able to address the needs of all industries in the Australian market and emphasise using various modes of delivery in VET.

Significant critiques of Training Packages are carried out by Schofield and McDonald in an ANTA generated report titled the High Level Review of Training Packages. The authors of the review were asked to investigate the operation of Training Packages in more than half of decade of their emergence in the Australian VET system and to propose suggestions for increasing the applicability of Training Packages to meet the future demand of the society for training.

Schofield and McDonald summarise the key concerns of the Training Packages’ users and stakeholders around these issues:

- ‘clarity about their purposes, and their role within the VET system
- clarity of the roles of the key stakeholders and users
- quality of design and levels of specification and detail
- development and review processes
- content, and the capacity for it to evolve to meet changing needs
- quality of delivery’ (Schofield & McDonald 2004, p.3).

They note that:

‘we see a need to acknowledge that Training Packages will continue to have both an enabling and regulatory function, and that the relative importance of each will vary between industries, between client groups and between occupational levels, depending on the dynamics of the labour market and social and cultural factors’ (Schofield & McDonald 2004, p.15).

They suggest that policy-makers and VET stakeholders need a deeper understanding of the functions of and the expectations possible in a CBT system and argue:

‘The system has also over-claimed on the benefits of a competency-based training (CBT) approach and this has led to unrealistic expectations…for example, detailed specification of outcomes cannot produce standardisation and uniformity either in what is learnt or in how it is learnt, nor can it produce the same outcome in different contexts, or automatically ensure the
transferability of competence. Indeed, one might ask who ever thought they could, and what alternative system could? Yet this assumption appears to be the basis for some design aspects of Training Packages’ (Schofield & McDonald 2004, p.15).

These criticisms over CBT by Leary (2003) and Schofield and McDonald (2004) were not acknowledged by the DEST. In 2005, DEST upheld the Competency-Based VET system in their publication titled Skilling Australia. DEST emphasised the need to maintain a competency based approach in the national training system to avoid limiting the flexibility of training in response to demand for skills (DEST 2005b).

On 22nd October 2004, the Australian National Training Authority (ANTA) was abolished and since June 2005, the responsibilities and functions of the Australian National Training Authority (ANTA) have shifted to the Department of Education, Science and Training (DEST, later known as The Department of Education, Employment and Workplace Relations (DEEWR) (DEEWR 2008b). The major milestones which led to the current Australian VET system are summarised in Table 4.2.
Table 4.2 Milestones in the History of VET in Australia

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early 1800s</td>
<td>The ‘transportation’ of the craft-based apprenticeship system from England</td>
</tr>
<tr>
<td>Early 1800s to 1960s</td>
<td>- the gradual expansion of apprenticeships across different craft areas/occupations, but in a different way in different colonies or states and territories&lt;br&gt; - the gradual establishment of ‘mechanics institutes’, technical colleges, technical secondary schools and other technical, vocational education and training institutions in different ways in different jurisdictions (with little national government funding)</td>
</tr>
<tr>
<td>1970s</td>
<td>the establishment of the modern VET system through:&lt;br&gt; - the establishment of a national system of publicly funded Technical and Further Education (TAFE) institutes and the introduction of significant national Government financial support for TAFE following the release of the Kangan Report (Kangan, 1975)&lt;br&gt; - the introduction of national Government subsides for apprenticeships</td>
</tr>
<tr>
<td>Early 1960s</td>
<td>the National Centre for Vocational Education Research (NCVER) is established</td>
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<tr>
<td>Mid 1980s</td>
<td>- the establishment of the traineeship system to complement apprenticeships&lt;br&gt; - Adoption of a national system of classification of TAFE courses and nationally consistent nomenclature for TAFE awards. Responsibility for assessment and accreditation remained with the states.&lt;br&gt; - <em>Australia Reconstructed</em>, the report of a fact-finding mission to Europe by the Australian Council of Trade Unions, highlighted the need for Australia to address its deficient national skills base in order to be internationally competitive.</td>
</tr>
<tr>
<td>Late 1980s</td>
<td>- Federal Government Report <em>Skills for Australia</em> linked education and training to economic imperatives, calling for increased access to education and training including to disadvantaged groups, improved quality, increased investment in training by the private sector and increased productivity of education and training resources.&lt;br&gt; - the decision to implement competency-based training</td>
</tr>
<tr>
<td>1990</td>
<td>the number of apprentices reaches a yet-to-be broken record of just over 160,000 (but traineeships are still less than 12,000 at this time)</td>
</tr>
<tr>
<td>1992</td>
<td>- the Australian National Training Authority (ANTA) is established&lt;br&gt; - the total number of VET students in Australia reaches 1 million for the first time</td>
</tr>
<tr>
<td>1995</td>
<td>the Australian Qualifications Framework (AQF) is established to bring all post compulsory education and training qualifications into the one national system of qualifications</td>
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<tr>
<td>Early 1990s</td>
<td>competition to TAFE’s monopoly on VET provision is gradually introduced through some tendering of publicly funded VET to private training providers</td>
</tr>
<tr>
<td>Mid 1990s</td>
<td>the decision is taken to start developing National Training Packages to be introduced across a wide range of industries and occupations</td>
</tr>
<tr>
<td>1998</td>
<td>- the New Apprenticeship system commences, encompassing the former apprentice and traineeship systems, including the commencement of user choice&lt;br&gt; - the Australian Recognition Framework (ARF) is established&lt;br&gt; - the number of VET students in Australia reaches a record 1.5 million</td>
</tr>
<tr>
<td>1999</td>
<td>the number of New Apprentices (i.e. apprentices and trainees) reaches 250,000</td>
</tr>
<tr>
<td>2001</td>
<td>The Australian Quality Training Framework replaces the Australian Recognition Framework and outlines standards for Registered Training Organisations and Standards for State/Territory Registering/Course Accrediting Bodies. ‘Mutual recognition’ is replaced by ‘national effect’</td>
</tr>
<tr>
<td>2004</td>
<td>Federal Government announced a raft of changes in TVET, including a new Minister for Technical and Vocational Education and Training; the abolition of the Australian National Training Authority and its absorption into the Department of Education Science and Training; the introduction of 24 Australian Technical Colleges at year 11/12 level; and the establishment of the National Institute for Trade Skills Excellence.</td>
</tr>
<tr>
<td>2005</td>
<td>With the abolition of the Australian National Training Authority, the three key tenets of Australian National Training Framework have been maintained, namely: the Australian Qualifications Framework, the Australian Quality Training Framework and Training Packages.</td>
</tr>
<tr>
<td>2006</td>
<td>New national structure of TVET formed.</td>
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</table>


The last thirty years has seen the organisation and regulation of the Australian VET system. In regard to its overall orientation, the system has experienced an important revolutionary stage
with the emergence of the technology, known as the ‘Training Package’, which enables the system to translate the skill demand of industries into the competency units that are being used as the key elements of training programs.

It is a big challenge in this study to describe the components of the system in order to demonstrate how and to what extent the knowledge elements and the technology of this system are transferable. I have found I need to describe all of the components in detail so that it is clear to readers exactly what was being transferred in the case studies in the three models I analyse in this thesis.

The first step for this purpose is to describe the current organisation and functions of the Australian VET in this chapter.

4.3. Key characteristics of the current Australian VET system

The current Australian VET system is considered one of the most sophisticated in the world and its three characteristics of being *industry-led, national* and *client-focused* have been commented on by international reviewers including the OECD. This system is seen to be ‘industry-led’ because the delineation of training outcomes is undertaken by representatives of industries. It is a ‘national’ system as its management is a cooperative agreement between state, territory and Commonwealth governments, in partnership with industry and training providers. And finally, it is considered as a ‘client-focused’ system because this system employs different approaches to respond flexibly to the needs of the employers and individuals who use it or intend to use it (DEEWR 2008c).

This system is made up of different sets of regulatory arrangements, training approaches and networks which I have divided into three groups: national frameworks, key VET stakeholders; and the technologies which drive and regulate the system.

4.3.1. Two national frameworks

This system aims to achieve high efficiency from two related sets of rules and standards. The first is through a national qualification framework known as the *Australian Qualifications Framework* (AQF), which covers all formal educational and training activities nationwide. The second is the *Australian Quality Training Framework* (AQTF), which provides the VET with ‘a set of nationally agreed standards to ensure quality of vocational education and training services’ (DEEWR 2008d) by means of Standards for Registered Training Organisations.

(a) The *Australian Qualifications Framework*

In the past two decades, the development of national Qualifications Frameworks has been considered as a major part of national policy agendas of different education systems. CEDEFOP (2006) reports that 31 out of 33 European countries have either developed, are developing, aim to develop, or are taking into account the establishment and development of
National Qualification Frameworks. Australia was an early adopter of a national qualification framework.

The Australian Qualifications Framework (AQF), established in 1995 and fully implemented in 1999, defines all nationally recognised qualifications. The Framework sets out and links all nationally recognised qualifications from Senior Secondary Certification to PhD. The Australian Qualifications Framework has the responsibility for ensuring the quality, consistency and portability of training outcomes across Australia. There are fifteen national qualifications within the framework, including eight vocational education and training qualifications. The qualifications that are issued within the VET sector include eight vocational education and training qualifications out of fifteen national qualifications within the framework. ‘Under this qualification framework, the achievement of a group of competencies leads to the attainment of a VET qualification’ (AQFAB 2008). The qualifications in the AQF are:

- Certificate I
- Certificate II
- Certificate III
- Certificate IV
- Diploma
- Advanced Diploma
- Vocational Graduate Certificate
- Vocational Graduate Diploma

(b) The Australian Quality Training Framework

According to DEST (2007a), The Australian Quality Training Framework (AQTF) is ‘the set of nationally agreed quality assurance arrangements for training and assessment services delivered by training organisations. It assures the quality and consistency of training outcomes.’

The Australian Quality Training Framework consists of two sets of nationally agreed standards and one set of criteria. Its components include:

- AQTF 2007 Essential Standards for Registration
- AQTF 2007 Standards for State and Territory Registering Bodies
- The Voluntary Excellence Criteria

The RTO registration standards require providers to have a commitment to access and equity, quality and external monitoring and audit; and to have sound financial and enrolment records management systems, ethical marketing and advertising, and provide support services to clients. The key components of the AQTF are described in Table 4.3.
Table 4.3 Key components of AQTF

<table>
<thead>
<tr>
<th>Name</th>
<th>Definition</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Essential Standards for</td>
<td>The standards for training organisations in order to deliver and assess nationally recognised training and issue nationally recognised qualifications. An organisation wishing to become an RTO must demonstrate its ability to comply with the Essential Standards for Registering.</td>
<td>three standards a requirement for registered training organisations to gather information on their performance against three quality indicators, nine conditions of registration.</td>
</tr>
<tr>
<td>Registration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards for State and Territory</td>
<td>State and Territory registering bodies are responsible for registering training organisations and for quality assuring the training and assessment services they provide, in accordance with the AQTF 2007 and relevant legislation within each jurisdiction.</td>
<td>Different sets of standards and supporting guidelines providing a national operating framework.</td>
</tr>
<tr>
<td>Registering Bodies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The voluntary Excellence Criteria</td>
<td>Focus on encouraging and recognising overall high performance in training providers.</td>
<td>many of the aspects of the Essential Standards for Registration, including: high-quality learning and assessment client focus, engagement of industry and communities.</td>
</tr>
</tbody>
</table>

Extracted from DEST 2007a

The first version of the AQTF, introduced in 2001, was a revised version of the original Australian Recognition Framework (1997) and in order to emphasise quality in the national VET system, ministers renamed the framework. In 2007 the Ministerial Council for Vocational and Technical Education (MCVTE) introduced a reformed version of the AQTF. The key features of the AQTF 2007 are shown in Table 4.4.
Table 4.4 Key features of the AQTF 2007

<table>
<thead>
<tr>
<th>Feature</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcomes-focused</td>
<td>Focuses on the quality of services and outcomes being achieved rather than the inputs used to get there.</td>
</tr>
<tr>
<td>Nationally consistent</td>
<td>State and territory registering bodies have worked together to develop and publish national guidelines to ensure consistent interpretation and implementation of AQTF 2007.</td>
</tr>
<tr>
<td>Streamlined</td>
<td>The standards for RTOs have been simplified and streamlined to focus on outcomes.</td>
</tr>
<tr>
<td>Transparent</td>
<td>National guidelines and handbooks are readily accessible.</td>
</tr>
</tbody>
</table>

Extracted from: DEST 2007a

The above-mentioned frameworks offer considerable autonomy to training providers, and the flexibility that these frameworks provide for students to move easily between different levels as well as between different education and training providers is an important advantage of the Australian education and training system. Management of this quality system involves a complex regulatory relationship between different stakeholders with the AQTF which is shown in Table 4.5.
Table 4.5 Relationship of Different stakeholders with AQTF

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Type</th>
<th>Relation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered training organisations</td>
<td>Public / Private Training Provider</td>
<td>Training organisations must meet AQTF 2007 standards to become registered. Only registered training organisations (RTOs) can issue AQF qualifications and deliver accredited training and assessment.</td>
</tr>
<tr>
<td>State and territory registering authorities</td>
<td>Governmental Authorities</td>
<td>Registering authorities in each state and territory are responsible for registering and monitoring training organisations and ensuring they comply with AQTF standards. They also accredit vocational education and training (VET) courses and approve training organisations’ delivery of VET to overseas students.</td>
</tr>
<tr>
<td>National Audit and Registration Agency (NARA)</td>
<td>National Governmental Audit Agency</td>
<td>The National Audit and Registration Agency (NARA) will provide audit and registration services for RTOs that operate in more than one Australian State or Territory. These are known as multi-jurisdictional RTOs. NARA will conduct audit and registration functions under delegations from all Australian States and Territories.</td>
</tr>
<tr>
<td>National Recognition by a range of organisations including: the Department of Education, Employment and Workplace Relations (DEEWR, formerly DEST), State and Territory Training Authorities (STAs), Industry Skills Councils (ISCs) and Registered training organisations (RTOs).</td>
<td>Public / Governmental Agencies</td>
<td>National recognition is the cornerstone of the Australian Quality Training Framework. All states and territories must recognise RTOs registered by other states and territories and all RTOs must recognise AQF qualifications and statements of attainment issued by other RTOs. This national recognition of RTOs and qualifications enhances mobility in the labour market.</td>
</tr>
</tbody>
</table>

Extracted and expanded from: DEEWR 2008e

4.3.2. The Training Package: The Primary Knowledge Technology of the VET System

A skill formation system can never hope to meet the demands for skill with a static system. What is needed is a mechanism or technology to constantly identify and transfer changing skill requirements into the skill supply system. As outlined in the previous system, there is no time to constantly redesign and re-accredit new training programs, and there is no need to do so if there is a simpler regulatory mechanism. This is why the Australian VET system opted for a standards-based approach and how a knowledge transfer technology which was named as the ‘Training Package’ came into existence.

The Training Package is officially described by the national VET system as ‘a set of nationally endorsed competency standards, assessment guidelines and Australian Qualifications Framework qualifications for recognising and assessing people’s skills in a specific industry, industry sector or enterprise’ (DEEWR 2008f). Training Packages are developed by industry and endorsed by the National Quality Council, a Committee of the Ministerial Council for Vocational and Technical Education (MCVTE). According to DEEWR (2008g) there are currently 75 nationally endorsed Training Packages (72 industry Packages, 3 enterprise) the
competencies contained in which cover 80% of the skills needs of the workforce across all industries.

(a) Components of Training Packages

According to DEEWR (2008h) Training Packages contain industry competency standards, a set of national qualifications in each one, and assessment guidelines. Indeed, they specify the combination of competency standards required to achieve a particular qualification. Training Packages include two sets of core and optional components (Figure 4.7).

Figure 4.7 Training Package components

1. Core Components (Endorsed components)

The core components of each Training Package maintain a set of components endorsed by the National Quality Council as the representative of industry, unions and the Australian Government and State/Territory governments. Core components include three types of ingredients as:

Competency standards: Competency standards are consistent set of components for training, recognising and assessing people’s skills in order to define the skills and knowledge to operate effectively in employment and guidelines to state how the components are to be applied. According to a definition by DEEWR (2008i),

‘Each unit of competency identifies a discrete workplace requirement and includes the knowledge and skills that underpin competency as well as language, literacy and numeracy; and occupational health and safety requirements. The units of competency must be adhered to in assessment to ensure consistency of outcomes. Units of competency are the
smallest component of achievement which can be nationally recognised: it is the unit of competency as a whole, not individual elements or performance criteria, which are recognised’ (DEEWR 2008i).

**Qualifications:** The range of qualifications in Training Packages includes from Certificate I to Vocational Graduate Diploma. Each qualification includes a group of competency standards and is awarded through direct assessment of workplace competencies. A Training Package usually encompasses more than one AQF qualification (DEEWR 2008i).

**Assessment guidelines:** Assessment guidelines are the assessment approaches suggested by industries that encompass the qualifications required by assessors, the design of assessment processes and how assessments should be conducted (DEEWR 2008i).

2. **Optional components:**

Optional components are found in some Training Packages and include collections of support materials, including some support learning and assessment resources, strategies and materials (DEEWR 2008i).

(b) **Development of individual industry Training Packages**

Industries are responsible to develop Training Packages through National Industry Skills Councils. A Training Package can only receive national endorsement from the National Quality Council when the developers provide evidence to prove that they have conducted sufficient consultation with the related industry sectors. The endorsed Training Packages are placed on the National Training Information Service website for public access. As well as industry-wide coverage, Training Packages have been developed by some national enterprises, such as Woolworths, to address the skill demands of the workers employed in those firms (DEEWR 2008i).

(c) **Maintenance and review of Training Packages**

The first maintenance phase of each Training Package by the National Industry Skills Councils generally starts 18 months after a Training Package is endorsed. This monitoring and review process is performed in two phases. Phase one includes collecting feedback from stakeholders in six months, and phase two encompasses making changes and additions upon the results of the first phase to the components of the Training Package. These processes ensure stakeholders that Training Packages are up-to-date and they can meet industry needs.

After changes are made to Training Packages, the Industry Skills Council notifies the State and Territory Training Authorities and DEEWR of the upgrades, and the State and Territory Training Authorities announce these changes to their Registered Training Organisations (DEEWR 2008j).
The quality assurance process for the development and endorsement of Training Packages has been continually revised and a new approach was introduced in 2008 in order to provide better responsiveness to the demand of industry for new and updated skills. The roles of different stakeholders in this complex process are clearly shown in Figure 4.8. According to DEEWR, ‘the ISC Quality Assurance Panel is an expert resource for ISCs to assist in the development of Training Packages. The Panel will add value to quality assurance across development and, in particular, on matters relating to equity and editing. The paper Industry Skills Council Quality Assurance Panel: Operations, Professional Development and Moderation provides detail on the role and operations of the Panel’ (DEEWR 2008k).

**Figure 4.8 Process for Development and Endorsement of Training Packages 2008**

Source: DEEWR 2008k

The policy and rules for development, maintenance and endorsement of Training Packages include comprehensive regulations which involve a range of related agencies and stakeholders. I have named below the main areas of Training Package development which are covered by these policies and rules to illustrate the amount of regulatory development and bureaucratic work incurred in the process of Training Package development:

- Access and Equity
- Categories of Change during the Training Package Endorsement Period
- Changes to Training Packages
- Coding and Titling of Training Packages
- Continuous Improvement
- Development and Endorsement Process (implemented throughout 2008)
- Endorsement Date
- Transition to revised Training Packages
- Introductory Training Package-specific text
- Language, Literacy and Numeracy (LLN)
- Mandatory Text
- Mapping to Previous Version of Training Package
- Ministerial Approval Date
- National Training Information Service (NTIS)
- Publication—Preliminary Information
- Publication—Training Package Copyright
- Recording Training Package Modifications
- Release Date
- Review Date
- Versioning of Training Packages (DEEWR 2008l).
Establishment of Industry Skills Council Quality Assurance Panel:

The National Quality Council, in the new Training Package development and endorsement process, made some changes in requirements of Industry Skills Councils in designing Training Packages. The council required the establishment of a mechanism called the *Industry Skills Council Quality Assurance Panel*, in order to streamline the quality procedure. Formerly, the development of Training Packages was supported by three different panels of the *Equity Evaluators Panel, Editorial Panel*, and *Employability Skills Panel* till 2008. They have recently been replaced by the new Skills Council Quality Assurance Panel, which works under administration of the Department of Education, Employment and Workplace Relations on behalf of the national vocational education and training sector (DEEWR 2008l). The Panel provides the Industry Skill Councils with the services described in Table 4.6.

Table 4.6 Services of the Industry Skills Council Quality Assurance Panel

<table>
<thead>
<tr>
<th>Service</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Holistic Training Package quality assurance</strong></td>
<td>Holistic quality assurance Panel members may undertake mandatory quality assurance of a draft Training Package (or part thereof) against the Training Package Quality Principles. They may also provide general quality assurance assistance and capacity building.</td>
</tr>
<tr>
<td><strong>Equity expertise</strong></td>
<td>Equity Panel members may provide equity advice to confirm that a draft Training Package (or part thereof) meets the equity requirements of the Training Package Quality Principles. They may also provide general quality assurance assistance and capacity building in respect of equity to ISCs.</td>
</tr>
<tr>
<td><strong>Editorial expertise</strong></td>
<td>Editorial Panel members may provide editorial advice to confirm that a draft Training Package (or part thereof) meets the editorial requirements of the new online Training Package Development Handbook. They may also provide general quality assurance assistance and capacity building in respect of editing to ISCs.</td>
</tr>
</tbody>
</table>

Extracted from: DEEWR 2008l

One of the key responsibilities of this panel is to conduct ‘holistic’ Training Package quality assurance of a draft Training Package against the Training Package Quality Principles in order to guarantee the related Training Package adheres to these quality principles.

(d) Implementation of Training Packages

Implementation of Training Packages has changed the traditional roles of training provider organisations, teachers, trainers and assessors in the last decade. In contrast to curriculum-based learning, Training Packages do not specify delivery methods (Wheelahan and Carter 2001), and do not contain any prescriptive content on how to train an individual. Teachers and trainers develop learning strategies — the ‘how’ — depending on learners’ needs, abilities and circumstances.
Competency-based training delivery by using Training Packages decreases the formality of the relationships between teachers and trainers. Teachers must play their teaching roles as ‘facilitators of learning’ and ‘from in front of, rather than behind, the desk’. This change may require new skills for a teacher in order to be able to teach on a one-to-one or a small group basis to students and encourages students to learn in a self-pacing situation. Students may resist the new styles as they have to learn actively and practically. Their skills would be assessed by measuring their practical achievements against specified standards related to industry and, consequently, a teacher has a high responsibility for the outcomes of students (Smith and Keating 2003, pp.231-2). As illustrated in the Figure 4.9, whereas the teacher had been the focus of regulation under a training curriculum regime by simply carrying out the rules for lessons and assessment, the focus of regulation in the Australian competency-based system is the Training Package which provides the framework for RTOs to work out how to deliver training. Teachers are expected to work together in teams to develop a local curriculum and to consult with their students about how learning and assessment will take place.

Figure 4.9 Shifting the focus from curriculum to Training Package

Source: Smith 2006, p.341

The use of Training Packages to design training programs has changed teachers’ work and added new responsibilities to their role. To create a technology maintaining the important factor of ‘flexibility’ in VET, they have had to cope with a greater degree of complexity. Findings of a number of research projects (Harris et al. 2001; Harris & Simons 2003; Harris et al. 2005) on changing teacher roles show that Training Packages are considered by TAFE teachers as the most influential factor in changing their work roles and responsibilities in the past five years. Now that Training Packages cover the majority of nationally recognised training, teachers have had to learn new ways of planning and delivering training. NCVER data (Tables 4.7 and 4.8)
showed that by 2005 the Australian system had almost completely transferred to a competency-based system around the axis of the Training Package.

Table 4.7 Enrolments in training package with 10,000 or more students by qualification level, Australia, 2005 (%)

<table>
<thead>
<tr>
<th>Training package (TP) with 10,000 or more enrolments</th>
<th>Adv diploma</th>
<th>Diploma</th>
<th>Certificate IV</th>
<th>Certificate III</th>
<th>Certificate II</th>
<th>Certificate I</th>
<th>Total 000 enrolments</th>
<th>% of total TP enrolments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business services</td>
<td>2.3</td>
<td>16.6</td>
<td>26.6</td>
<td>33.0</td>
<td>17.0</td>
<td>4.5</td>
<td>123.3</td>
<td>14.4</td>
</tr>
<tr>
<td>Community services</td>
<td>1.1</td>
<td>22.9</td>
<td>18.1</td>
<td>52.6</td>
<td>5.2</td>
<td>0.1</td>
<td>84.4</td>
<td>9.9</td>
</tr>
<tr>
<td>Hospitality</td>
<td>3.8</td>
<td>6.8</td>
<td>5.2</td>
<td>43.8</td>
<td>36.6</td>
<td>3.7</td>
<td>75.9</td>
<td>8.9</td>
</tr>
<tr>
<td>Information technology</td>
<td>0.3</td>
<td>15.7</td>
<td>15.2</td>
<td>15.5</td>
<td>36.1</td>
<td>17.2</td>
<td>40.2</td>
<td>5.8</td>
</tr>
<tr>
<td>Metal and engineering industry</td>
<td>0.0</td>
<td>1.2</td>
<td>13.6</td>
<td>60.2</td>
<td>17.3</td>
<td>7.7</td>
<td>40.0</td>
<td>4.7</td>
</tr>
<tr>
<td>Retail</td>
<td>0.0</td>
<td>0.6</td>
<td>2.2</td>
<td>38.7</td>
<td>57.2</td>
<td>1.3</td>
<td>37.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Auto industry, retail, serv. &amp; repair</td>
<td>0.0</td>
<td>0.2</td>
<td>0.4</td>
<td>71.6</td>
<td>16.8</td>
<td>10.9</td>
<td>35.9</td>
<td>4.2</td>
</tr>
<tr>
<td>General construction</td>
<td>0.2</td>
<td>1.4</td>
<td>0.0</td>
<td>88.4</td>
<td>4.2</td>
<td>5.6</td>
<td>32.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Financial services</td>
<td>20.1</td>
<td>20.9</td>
<td>24.1</td>
<td>34.8</td>
<td>0.1</td>
<td>0.0</td>
<td>30.6</td>
<td>3.6</td>
</tr>
<tr>
<td>Transport and distribution</td>
<td>0.2</td>
<td>1.1</td>
<td>3.1</td>
<td>60.2</td>
<td>28.5</td>
<td>6.9</td>
<td>29.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Electrotechnology industry</td>
<td>10.5</td>
<td>0.4</td>
<td>2.3</td>
<td>76.9</td>
<td>2.6</td>
<td>7.2</td>
<td>26.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Assessment and workplace training</td>
<td>0.0</td>
<td>2.1</td>
<td>97.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>22.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Amenities and Horticulture</td>
<td>0.1</td>
<td>4.7</td>
<td>4.5</td>
<td>39.1</td>
<td>44.4</td>
<td>7.2</td>
<td>18.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Rural production</td>
<td>0.7</td>
<td>11.9</td>
<td>10.3</td>
<td>36.8</td>
<td>38.5</td>
<td>1.8</td>
<td>16.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Hardness</td>
<td>0.0</td>
<td>0.5</td>
<td>0.9</td>
<td>74.6</td>
<td>24.0</td>
<td>0.0</td>
<td>15.1</td>
<td>1.8</td>
</tr>
<tr>
<td>Food processing industry</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>55.0</td>
<td>26.2</td>
<td>18.7</td>
<td>14.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Tourism</td>
<td>5.9</td>
<td>29.0</td>
<td>8.3</td>
<td>39.9</td>
<td>15.2</td>
<td>1.3</td>
<td>15.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Australian meat industry</td>
<td>0.0</td>
<td>1.0</td>
<td>3.7</td>
<td>30.2</td>
<td>63.8</td>
<td>1.4</td>
<td>12.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Health</td>
<td>3.3</td>
<td>18.6</td>
<td>14.3</td>
<td>46.7</td>
<td>23.1</td>
<td>0.0</td>
<td>11.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1.1</td>
<td>0.8</td>
<td>13.0</td>
<td>73.3</td>
<td>11.7</td>
<td>0.0</td>
<td>10.0</td>
<td>1.2</td>
</tr>
<tr>
<td>TP with &lt;10,000 enrolments</td>
<td>1.3</td>
<td>9.9</td>
<td>18.6</td>
<td>42.5</td>
<td>25.2</td>
<td>2.5</td>
<td>154.8</td>
<td>18.1</td>
</tr>
<tr>
<td>All TP enrolments</td>
<td>2.3</td>
<td>10.0</td>
<td>15.6</td>
<td>45.3</td>
<td>22.3</td>
<td>4.5</td>
<td>$53.7</td>
<td>10.0</td>
</tr>
<tr>
<td>Non-TP enrolments</td>
<td>2.8</td>
<td>5.8</td>
<td>6.1</td>
<td>6.5</td>
<td>7.0</td>
<td>6.7</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>All enrolments</td>
<td>2.5</td>
<td>8.1</td>
<td>11.1</td>
<td>27.2</td>
<td>15.2</td>
<td>5.5</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>All TP enrolments (000)</td>
<td>19.3</td>
<td>85.8</td>
<td>132.8</td>
<td>386.7</td>
<td>190.3</td>
<td>38.7</td>
<td>853.7</td>
<td></td>
</tr>
<tr>
<td>Non-TP enrolments (000)</td>
<td>21.1</td>
<td>43.4</td>
<td>45.2</td>
<td>48.4</td>
<td>53.1</td>
<td>49.9</td>
<td>260.1</td>
<td></td>
</tr>
<tr>
<td>All enrolments (000)</td>
<td>40.4</td>
<td>129.2</td>
<td>178.1</td>
<td>433.1</td>
<td>242.4</td>
<td>88.6</td>
<td>1,113.7</td>
<td></td>
</tr>
</tbody>
</table>

Module only enrolments, non-award and miscellaneous education courses and a small number enrolled in Degree courses are excluded from the table. In 2005, they represented 65.1 per cent of the 745,000 non-training package enrolments.
Scope: persons aged 15–64 years.
Source: Unpublished NCVER data, reported by Shah and Burke 2006.
Table 4.8 Reported completions of Training Package qualifications with 3,000 or more completions by qualification level, Australia, 2005 (%)

<table>
<thead>
<tr>
<th>Training package (TP) with 3,000 or more completions</th>
<th>Diploma IV</th>
<th>Certificate IV</th>
<th>Certificate III</th>
<th>Certificate II</th>
<th>Certificate I</th>
<th>Total '000 completions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business services</td>
<td>4.0</td>
<td>18.0</td>
<td>26.3</td>
<td>34.3</td>
<td>15.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Community services</td>
<td>0.6</td>
<td>15.3</td>
<td>17.1</td>
<td>64.3</td>
<td>2.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Hospitality</td>
<td>4.1</td>
<td>61.0</td>
<td>5.8</td>
<td>37.9</td>
<td>41.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Retail</td>
<td>0.0</td>
<td>0.7</td>
<td>2.5</td>
<td>36.6</td>
<td>57.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Assessment and workplace training</td>
<td>0.0</td>
<td>1.6</td>
<td>98.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Information technology</td>
<td>0.5</td>
<td>19.8</td>
<td>17.3</td>
<td>15.7</td>
<td>24.7</td>
<td>11.7</td>
</tr>
<tr>
<td>Transport and distribution</td>
<td>0.4</td>
<td>18.6</td>
<td>6.9</td>
<td>68.2</td>
<td>20.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Auto industry, retail, serv &amp; repair</td>
<td>0.0</td>
<td>0.4</td>
<td>0.1</td>
<td>45.4</td>
<td>37.6</td>
<td>16.4</td>
</tr>
<tr>
<td>Financial services</td>
<td>0.0</td>
<td>18.3</td>
<td>18.6</td>
<td>43.7</td>
<td>6.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Metal and engineering industry</td>
<td>0.0</td>
<td>0.4</td>
<td>3.7</td>
<td>60.0</td>
<td>23.5</td>
<td>11.6</td>
</tr>
<tr>
<td>General construction</td>
<td>0.2</td>
<td>0.2</td>
<td>0.0</td>
<td>85.5</td>
<td>4.8</td>
<td>9.4</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.9</td>
<td>12.0</td>
<td>14.7</td>
<td>73.3</td>
<td>10.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Tourism</td>
<td>6.2</td>
<td>25.1</td>
<td>10.6</td>
<td>44.6</td>
<td>13.5</td>
<td>0.3</td>
</tr>
<tr>
<td>Health</td>
<td>1.8</td>
<td>14.4</td>
<td>17.6</td>
<td>30.1</td>
<td>16.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Electrotechnology industry</td>
<td>8.8</td>
<td>0.3</td>
<td>4.1</td>
<td>61.9</td>
<td>10.3</td>
<td>14.5</td>
</tr>
<tr>
<td>Food processing industry</td>
<td>0.0</td>
<td>0.0</td>
<td>0.3</td>
<td>59.2</td>
<td>26.7</td>
<td>14.1</td>
</tr>
<tr>
<td>Asset maintenance</td>
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<td>0.0</td>
<td>1.6</td>
<td>76.8</td>
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<td>Asset security</td>
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<td>1.0</td>
<td>1.6</td>
<td>65.3</td>
<td>29.9</td>
<td>1.9</td>
</tr>
<tr>
<td>TP with &lt;3,000 completions</td>
<td>1.4</td>
<td>9.2</td>
<td>18.1</td>
<td>38.8</td>
<td>28.5</td>
<td>4.3</td>
</tr>
<tr>
<td>All TP completions</td>
<td>2.3</td>
<td>9.6</td>
<td>19.3</td>
<td>43.0</td>
<td>21.4</td>
<td>4.5</td>
</tr>
<tr>
<td>Non-TP completions</td>
<td>7.7</td>
<td>14.8</td>
<td>20.8</td>
<td>21.4</td>
<td>21.3</td>
<td>13.9</td>
</tr>
<tr>
<td>All completions</td>
<td>3.3</td>
<td>10.6</td>
<td>19.6</td>
<td>38.6</td>
<td>21.4</td>
<td>6.4</td>
</tr>
</tbody>
</table>

Scope: persons aged 15–64 years.
Source: Unpublished NCVER data, reported by Shah and Burke 2006.

In order to cope with the level of complexity of implementation of Training Packages, and to upgrade the ‘knowledge capital’ of its human resources as well as the system’s ‘structural capital’, the VET system has produced a series of new knowledge tools and manuals. For example, Training Package Development Guidelines and the AQTF Users Handbook which provide registered training organisations, teachers, trainers and assessors with the additional general and state-specific information for delivering training and doing assessment.

(e) Educational criticisms regarding the operation of Training Packages

Training Packages have to be responsive to a diverse range of client needs. ‘This diverse client base has very different needs and expectations which, at times, are contradictory or conflicting, leading inevitably to tensions in various efforts to meet their needs. These tensions are apparent at many points in the VET system, including within the Training Packages model, and need to be explicitly managed’ (Schofield & McDonald 2004, p.10).

Schofield and McDonald (2004) question the operational capacity of many RTOs and their teachers to restate Units of Competence into an effective form of curricula. They carry out critics over different aspects of conceptualisation, development, and implementation of Training Packages and necessitate structural change to their design and implementation.

‘the language associated with Training Packages should shift from discussion about “rules” to discussion around “design” and more emphasis should be placed on working to design criteria
and improving the design of Training Packages than adjusting the rules. This is not a sleight of words but an attempt to balance the regulatory function of Training Packages with their enabling function’ (Schofield & McDonald 2004, p.10).

Smith states her concern about the difficulty of using Training Packages by teachers.

‘Where TAFE teachers move to enact Training Package qualifications in a frame of difference, they find themselves at odds with the cadastral accounting systems that work by smoothing away difference within a frame of sameness’ (Smith 2006, p.368).

Grace (2004, 2005) carries a similar criticism over Training Packages. According to Grace (2004) VET teachers face a hard task to realise how to read and interpret a Training Package. Grace (2005) also studies the effects of implementing CBT under the AQTF and mentions that the bureaucratic nature of CBT is a big challenge for VET teachers.

(f) Knowledge Transfer through the Training Package technology

As discussed in chapter two, in accordance with the concept of information as being processed data (Alavi and Leidner 2001), the Industry Skill Councils are expected to maintain industry information about required vocational knowledge and skills by conducting three key actions:

1. To collect information on the demand for skills by assessing the needs and gathering raw data in the form of facts about areas of skill demand and numbers of skilled workers needed;

2. To process this data into a format usable by the training sector as Training Package qualifications and units of competency; and

3. To consult with stakeholders to authenticate and update this information and ensure that these can be delivered to individuals undertaking training.

This means there are three key points of intervention, each with its own embedded processes, which operate with different sections of the training system in order to create the Australian Training Package as a technology that can operate to guide and regulate training. I have used these three tasks of the Industry Skills Councils to construct a schema in which these elements of knowledge transfer are presented as key system functions. I later use this schema as the framework for analysing the process of Australian VET knowledge transfer in non-Australian settings in the cases studies in each of my three transfer models.

These functions are described in Table 4.9, and illustrated diagrammatically in Figure 4.10 on the following page.
### Table 4.9 Transfer of knowledge through the Training Package

<table>
<thead>
<tr>
<th>Function</th>
<th>Action</th>
<th>Location</th>
<th>Key Effective Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifying skills in demand in particular industries and collecting information</td>
<td>Assessment of skill demand and documenting these demands to industry and the training system</td>
<td>Industry-Market interaction</td>
</tr>
<tr>
<td>2</td>
<td>Processing information to create a set of knowledge artifacts in the form of units of competency which are packaged as qualifications, and bound by rules of operation.</td>
<td>Interpretation of the skills in demand in the form of units of competency; Formatting these units as qualifications in an Industry Training Package</td>
<td>VET system</td>
</tr>
<tr>
<td>3</td>
<td>Embedding these knowledge artifacts in the training system and making them available to RTOs and individuals as assessment and training.</td>
<td>Delivery of assessment and training</td>
<td>Training provider &amp; industry</td>
</tr>
</tbody>
</table>

### Figure 4.10 Australian Training Package: A knowledge transfer technology

[Diagram showing the flow of information from Industry Bodies to Training Providers, with Function 1, Function 2, and Function 3 highlighted.]

1. **Function 1**: Statement of skill demand (Information)
2. **Function 2**: Units of Competency (Processed Information)
3. **Function 3**: Embedding knowledge in a workforce (Skill training)
4.3.3. The key stakeholders of the Australian VET system

The organizational structure of the VET system is implemented through the cooperation of key organisational stakeholders which include the following government and industry organisations and groups:

- Department of Education, Employment and Workplace Relations (DEEWR)
- Ministerial Council for Vocational and Technical Education (MCVTE)
- National Quality Council (NQC)
- Industry Skills Councils (ISCs)
- State and Territory Training Authorities (STAs)
- Registered Training Organisations (RTOs)
- Industry representatives and organisations

Figure 4.11 shows the structure of the national authority for governance of the Australian VET system.

Figure 4.11 The national administrative structure of current Australian VET

[Diagram showing MCVTE, NISC, NQC, Senior Officials Committee, Action Groups, ISCs]

Extracted from: DEEWR 2008n

As shown on this chart, there are three key committees that support this council whose roles are:

- National Industry Skills Committee (NISC) – to provide MCVTE with high-level advice on workforce planning, future training and priorities and other critical issues facing the sector
- National Quality Council (NQC) – to oversee quality assurance and ensure national consistency in the application of the Australian Quality Training Framework (AQTF) standards and the audit and registration of training providers.
• National Senior Officials Committee (NSOC) - to operate as the administrative arm of MCVTE, NSOC is responsible for supporting the MCVTE, implementing its decisions, driving national collaboration on training matters and monitoring effectiveness of the system.

In addition are a number of Action Groups which are established by NSOC where agreed by the MCVTE on a needs basis and for a fixed period (DEEWR 2008n). The roles of some of these key groups are outlined in the following section.

1. National Quality Council (NQC)

As a part of the new national training arrangements in December 2005, the National Quality Council was established to take the responsibilities that were being done by the former National Training Quality Council. The National Quality Council is a committee of the Ministerial Council for Vocational and Technical Education with a policy-making authority for the endorsement of Training Packages and other aspects of quality assurance in regard to the national consistency in the application of Australian Quality Training Framework standards (DEEWR 2008o).

According to DEEWR (2008o), 'the NQC has a key role in bringing together the major players in the VET sector – industry, unions, governments, equity groups and practitioners – to oversee and support the current and future quality of VET across Australia. It is also critical to ensuring the successful operation of the National Skills Framework. Accountability requirements for the NQC include provision of an annual report on its operations to the Ministerial Council' (DEEWR 2008o).

2. Industry Skills Councils

The Industry Skills Council is a key part of the Australian VET system, which operates to transfer information from the demand side into the training system. As the Australian national training system is an industry demand-driven system, this element must come from industry – the market for training and the source of intelligence about what skills this market requires for its human resources to work productively. The ISC sector also contributes to the regulation of VET and to its structural integrity by interpreting information it has collected about skill demand, and marketing this in a standardised form – that is units of competency packaged for delivery as qualifications. The key functions and the variables present in the operation of Industry Skill Councils are summarised in Table 4.10. As this table shows, the majority of the variables that contribute to the effective functioning of the ISCs belong in the industry sector. This fact helps to explain how and why the implementation of Training Packages as the framework for delivery of training and assessment has caused considerable change in the functioning of training providers and in the work of teachers/trainers and assessors.
Industry Skills Councils evolved from the former National Industry Training Advisory Bodies (ITABs). Ten Industry Skills Councils have now been established, which have replaced twenty-nine bodies in the national industry advisory arrangements since 2004. The key responsibility of Industry Skills Councils (ISCs) is the development and maintenance of Training Packages. Industry Skills Councils also collect information on industry trends and future skill training needs from employers, unions and professional industry associations and give advice to the Australian, state and territory governments on spending public funds within each industry. DEEWR (2008p) describes the key purpose of Industry Skills Councils to be ‘to ensure the Australian vocational education and training (VET) system remains industry-led, client-focused, flexible and responsive’.

The Commonwealth Government explains the benefits of Industry Skills Councils as:

Increasing the flexibility and responsiveness of the training system by developing more flexible qualifications, which can be customised to deliver the skills required by employers and individuals without compromising quality or national consistency...They have provided a way for industry needs to be identified, communicated and serviced, and they have had primary responsibility for developing and maintaining Training Packages (DEST 2007b).

The roles and priorities of Industry Skills Councils are described in Table 4.11.

<table>
<thead>
<tr>
<th>Function</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception about skill demand</td>
<td>Productivity factors including macro- and microeconomic factors, ownership of the industry, workers’ wages, technology, inter-sector relations in the industry organisations, human resources at the management level of industries Perception of individual firms about their demand for skills</td>
</tr>
<tr>
<td>Transfer of information</td>
<td>The behavioral pattern of the industries in the government-industry relationship, existence of industrial bodies or organisations, the nature of industry sector Reforming two elements: rules in the government sector and human resources at the management level of industries that affects the human capital of the industry organisations</td>
</tr>
<tr>
<td>Statement of skill demand in the form of competency units</td>
<td>Regulatory arrangements of VET sector, existence of appropriate procedures in the VET sector, human capital and knowledge capital of VET</td>
</tr>
</tbody>
</table>
Table 4.11 the roles and priorities of Industry Skills Councils

<table>
<thead>
<tr>
<th>Primary responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing and maintaining Training Packages and support materials</td>
</tr>
<tr>
<td>Providing strategic advice to the vocational education and training sector on the current and future skills needs of its industries.</td>
</tr>
<tr>
<td>Demonstrating the progress in the Training Package priority areas, particularly the rationalisation of the number of Training Packages, the incorporation of employability skills and skill sets, and the development of cross-industry competencies</td>
</tr>
<tr>
<td>Making strong engagement with small, medium and large enterprises and state advisory bodies where these exist</td>
</tr>
<tr>
<td>Developing formal consultative mechanisms with training providers and equity groups through Industry Skills Council membership or other methods of engagement’</td>
</tr>
<tr>
<td>Providing effective support mechanisms for registered training organisations seeking to deliver and contextualise training packages.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other key benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying generic and emerging skills that support the employability of individuals and provide for local community development</td>
</tr>
<tr>
<td>Stimulating greater cooperation across industries</td>
</tr>
<tr>
<td>Addressing skills shortages before they become a problem</td>
</tr>
<tr>
<td>Supporting more flexible mixes of skills</td>
</tr>
<tr>
<td>Reaching large and small enterprises and influence them to engage with training and skills development</td>
</tr>
<tr>
<td>Providing a better framework for supporting innovation in industry.</td>
</tr>
</tbody>
</table>

Extracted from: DEST 2007b

3. Registered Training Organisations

Across Australia there are several types of organisations and associations that are nationally recognised to deliver and assess vocational skills. They are known as Registered Training organisations (RTOs) and are those training organisations that have met the Australian Quality Training Framework 2007 (AQTF 2007) standards and are authorised to issue Australian vocational qualifications. Only RTOs can issue nationally recognised qualifications related to their scope of registration as noted in the National Training Information Service (NTIS) database. Table 4.12 shows the range of different types of organisations that can potentially be registered as RTOs. Each RTO must renew its registration with the relevant state or territory registering authority at least every five years. RTOs might be audited by the related registering authority at any time during its period of registration (DEEWR 2008p).
4. Industry

Keating (2008, p.6) considers three main sets of actors in a market: employers, current and future workers, and government and its agencies. Using Keating’s classification, I have considered industry as a stakeholder that contains two major elements of the market within itself – employers and workers. Co-operation of industry with the government-led structure of a skill formation system creates a three-way cooperation that includes the involvement of all of the three major actors of market as the demand side in the skill supply system. The Commonwealth Government identifies the cooperation of a broad range of stakeholders as representing different industries to the VET system. They include ‘employers and employees from different small, medium and large sized firms in various regions of Australia, peak industry groups and associations, unions, various professional industry associations and bodies’ (DEEWR 2008p).

4.3.4. Structural knowledge and information channels

What we see in the current Australian skill formation system is that the interfaces that provide for channels of information and knowledge between the demand and supply sides of the system have developed along a number of different dimensions. The structure of and the technology applied in this system have enabled industry to provide at least two major channels of information from the demand side to the supply side of the Australian skill formation system through co-operation with the government sector.

The first channel transfers the information and knowledge that is to be used by Training Package developers for defining the units of competency and qualifications (Table 4.13). I prefer to call this ‘technical information’ rather than ‘technical knowledge’, in regard to the definition of information and knowledge and according to the pre-processed nature of the information that comes from industry into the skill formation system. This channel constitutes a direct means of contact between industry and VET. The teachers who deliver training programs use Training Packages which are a processed form of industry information to address the needs of industries. This type of delivery include a series of consultation procedures that makes a channel between delivery sector and demand side and a prominent quality control process for the consistency of Training Packages.

Table 4.12 Types of RTOs

<table>
<thead>
<tr>
<th>TAFE colleges and institutes</th>
<th>Community organisations</th>
<th>Commercial and enterprise training providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult and community education providers</td>
<td>Schools</td>
<td>Industry bodies</td>
</tr>
<tr>
<td>Private providers</td>
<td>Higher education institutions</td>
<td>other organisations that meet registration requirements</td>
</tr>
</tbody>
</table>

Extracted from: DEEWR 2008p
The second information channel is created when an industry shares its knowledge through industry councils and panels with governmental authorities and agencies. I classify this as the ‘regulatory knowledge’, using the word ‘knowledge’ because what the industry shares here is processed information.

### Table 4.13 The Main Channels and Institutions for Transfer of Knowledge for Skill Formation

<table>
<thead>
<tr>
<th>Information/Knowledge Channel</th>
<th>Interface</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Information</td>
<td>ICS</td>
<td>Training Packages</td>
</tr>
<tr>
<td>Regulatory Knowledge</td>
<td>ICS and Panel</td>
<td>AQTF</td>
</tr>
</tbody>
</table>

#### 4.3.5. Quality assurance in the Australian VET system

The above-mentioned comments about the structure and the agencies of the Australian skill formation system reflect a collection of functionalities as the result of different sets of complicated cooperation among various agencies and sectors. Articulating comprehensive agreements among different active bodies and organisations to this extent requires a remarkable capacity of the system for change and constant reforms undertaken on the basis of feedback from clients to each new implementation. Moreover, it is made more complicated because Australia is a federal structure which involves state and territory training and industry sectors to respond to a national framework. In such circumstances development and assurance of quality is a serious concern and a complex task and has resulted in the establishment of an elaborate system of quality assurance mechanisms.

The quality assurance of training qualifications delivered and certified by the Australian VET system is not the function of a single unit. Rather, quality is ensured by the mechanisms created through the co-operation among institutions and upon different sets of frameworks. A range of different mechanisms by various agencies are put to work in an attempt to ensure a high level of quality for the training provided. To summarise this complexity I present Figure 4.12 to show the related agencies, institutions and regulatory frameworks which aim to assure high-quality, flexible, nationally consistent vocational education and training.
4.4. Concluding remarks

As I indicated in the introduction to this overview of the Australian VET system, I had a purpose in including all of the details I have covered. This was to show it as a complex and sophisticated system which relies on the cooperation of many actors and agencies and make the point that the transfer of this system to another, non-Australian jurisdiction is not an easy task. Even taking individual components of the system such as the Training Package, or an individual qualification off-shore involves complexity, because each component carries with it its regulatory relationship with other components. It is with this complex system and its very Australian form of regulation in mind that I turn to the cases that represent the three models of transfer of the Australian VET system.
Chapter 5.
VET in China

In this chapter I review the process of VET\(^4\) reform in China. I start with an overview of the development of VET in China in the modern era and review the current Chinese VET system as the supplier of skills. I argue that changes in China’s economic context played a major role in promoting reforms in skill formation. Using the term coined by Gill et al. (2000), I name the factors that put pressure on the skill formation system of China as the ‘roots of reforms’. This chapter provides a foundation for Chapter Six which focuses on the Chongqing Sino-AusAID project.

5.1. Chinese VET

5.1.1. Terminology and culture

‘Technical and Vocational Education’ is used by UNESCO as a term that includes the educational and training programs to prepare students by undertaking the required knowledge and practical skills of occupations in various sectors of economic and social life.

Misko et al. commenting on the scope of Chinese VET mention that ‘in terms of preparing individuals for jobs, China’s vocational education includes before-job (commencement) education, after-job (commencement) education and change-of-job education. It also includes academic credentials education and non-academic credentials education’ Misko et al. (2002, p.15).

The terminology of education and training has specific cultural and behavioral connotations in the Chinese language. Using an etymological and semantic method, Schulte (2003) has analysed the words Vocation, Education, and Work in the Chinese language. According to Schulte (2003, pp.217-20), the Chinese use the term jiaoyu 教育 for education. This word includes a hierarchical order consisted of two characters that were compiled in the Han dynasty (206 B.C.-220 A.D.) era. The first character means imitation of a higher person by a lower one and is considered as an equal word for learning and teaching. The second character that symbolises a child or a son upside down represents growing (up), raising and nurturing. This character initially had a meaning of giving birth in the ancient China.

The word vocation or zhiye 职业 also include two characters with the meanings of the duty or office of the (mostly Confucian) official for the first and the hierarchically ordered categories of education.

\(^4\) Vocational Education and Training; abbreviated hereafter simply as VET is used as an equivalent for TVET, VTE, TVT and TVTE.
scholars, peasants, craftsmen, and merchants for the second character. This word maintains a hierarchical position quite different from the word of laodong 劳动 for work, which reflects the opposition of intellectual and non-intellectual. The profound socio-cultural implications of these words in the Chinese language, as outlined in Schulte’s work, demonstrates conceptual differences between the cultural weight of each word in the Chinese and the Anglo-Saxon societies.

According to Little et al. (1973) in the Shorter Oxford English Dictionary on Historical Principles, Education in English language equals to éducation in French and educatio Latin, with the historical meanings of ‘the process of nourishing or rearing’, ‘the process of bringing up’ and ‘the systematic instruction’ (Little et al. 1973, p.630). Vocation in English language equals to vocation in French and vocatio in Latin, with different old meanings of ‘the action of God in calling a person to exercise some special (esp. spiritual) function, or to fill a certain position; divine influence or guidance towards a definite (esp. religious) career; the fact of being so called or directed towards a special work in life; natural tendency to or fitness for such work’ (Little et al. 1973, p.2486). Training in English is considered as ‘the action of train’, as the word train has a Latin root meaning ‘to lead, conduct, bring’ (Little et al. 1973, p.2342).

The vast differences found between the meanings of the key terms for VET in the Chinese and the English languages reflect a considerable dissimilarity in the socio-cultural contexts of the Australian and Chinese VET.

5.1.2. Formation of VET in China

In the following section I briefly review formation of VET in China from the mid-nineteenth to the early Twenty-first Century. Different milestones in Chinese VET formation mentioned in Table 5.1 are divided into five sections of (a) to (e) reflecting the major changes in policy during this period.
### Table 5.1(a) Milestones in Chinese VET formation:

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1860s</td>
<td>Late Qing Dynasty. Earliest Technical and Vocational Education (TVET) in China, traced back to education to support industrialisation, mostly based on Western technology and training manpower with practical skills</td>
</tr>
<tr>
<td>1902</td>
<td>The <em>Schooling System</em> laid down a set of regulations for TVET</td>
</tr>
<tr>
<td>1917</td>
<td>Chinese TVET Society established</td>
</tr>
<tr>
<td>1949</td>
<td>Founding year of the People's Republic of China. 77,000 students enrolled in 561 secondary technical schools; 2,700 students enrolled in 3 skilled worker schools</td>
</tr>
<tr>
<td>1950s</td>
<td>Thousands of specialised secondary schools and skilled worker schools established to support economic expansion and nationalisation of the economy</td>
</tr>
<tr>
<td></td>
<td>In 1958 Mao Zedong determined education must be combined with productive labour. Decentralisation of administration and power in education in the same year opened the way for industry to be involved in the delivery of education and training.</td>
</tr>
</tbody>
</table>

A form of vocational education emerged in China for the first time in the 1860s and was known as the *industrial education*. This initial form of vocational education included a study of Western technology and practical skills (China Education and Research Network 2008a). Gradually in a couple of decades, the proportion of vocational education grew in the Chinese education system. This progress is described by the China Education and Research Network as follows:

The ‘Schooling System of 1902’ laid down a set of systematic regulations for vocational education, while the ‘Chinese Vocational Education Society’, which was established in 1917, set the precedence of joint provision of vocational education by the education sector and the industrial sector in China. However, the slow economic progress and backward industry hampered the development of vocational education in China before 1949. At that time, there were only 561 secondary technical schools with an enrolment of 77,000 students and 3 schools for training skill workers with an enrolment of 2700 students’ (China Education and Research Network 2008a). Indeed, according to Xiao (2003), during the nineteenth and twentieth centuries due to the Chinese political circumstance vocational education and training was used as means for the deployment of labour on a mass scale rather than a means of personal development for individuals. Between the late 1910s and 1940s, Chinese intellectuals in both main socio-political groups of communists and national republicans supported and organised different vocational training programs to recruit workers and peasants to their opposing political and economic agendas, and after 1949 education and training was

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5The tables 5.1(a) - 5.1(e) have been extracted and modified from: Simmons, V. and Polgar, S. 2005, TVET in China: Australian Consultant’s Case Studies: Report to the International Finance Corporation. Chisholm TAFE, Melbourne Adapted from:
- Fernandez, J. and Underwood, L., 2006, China CEO: Voices of Experience from 20 International Business Leaders, John Wiley and Sons, USA
unambiguously used by the leaders of socialist China as a means for integrating workers and peasants into the socialist construction (China Education and Research Network 2008a).

**Table 5.1 (b) Milestones in Chinese VET formations: the Cultural Revolution and aftermath**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event/Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966-1970</td>
<td>While TVET expanded, the advent of the Cultural Revolution slowed development required to meet trained manpower needs. Linkages between TVET and industry were virtually eliminated.</td>
</tr>
<tr>
<td>1971</td>
<td>Specialised schools could once again be established.</td>
</tr>
<tr>
<td>1976</td>
<td>September: Mao Zedong died. October: The Gang of Four was arrested</td>
</tr>
<tr>
<td>1978</td>
<td>China opened up and focused on economic development. TVET was restored, secondary education restructured, secondary specialised education strengthened, vocational senior high schools expanded, and pilot studies of TVET initiated. The new Government operations motto was: <em>forget the past; concentrate on the future</em></td>
</tr>
<tr>
<td>1980</td>
<td>The special economic zone system was launched, opening up the cities of Shenzhen, Zhuhai, Shantou and Xiamen to foreign direct investment. The <em>Report on the Structural Reform of Secondary Education</em> highlighted the need for TVET schools to be developed.</td>
</tr>
</tbody>
</table>

A remarkable surge in the development of VET in China came with the foundation of the People's Republic of China in 1949. In the next ten years thousands of specialised secondary schools and skilled worker schools were set up to meet the demand for skill created by the expansion of the economy in the 1950s. In the 1960s agricultural secondary schools and other vocational schools were also established; however, the advent of the Culture Revolution in the second half of that decade caused the development of Chinese VET to grind to a halt (Fernandez and Underwood 2006). Although some specialised schools reopened in the early 1970s, the Culture Revolution severed the co-operative links between VET schools and industry in program delivery for at least one decade.

**Table 5.1(c) Milestones in Chinese VET formation: structural reform**

<table>
<thead>
<tr>
<th>Year</th>
<th>Event/Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>The Chinese Communist Party Central Committee promulgated the <em>Decision on the Structural Reform of Education</em>, which highlighted the need for a TVET system of junior and senior schools linked to industry sectors.</td>
</tr>
<tr>
<td>1986</td>
<td>The Commissions for National Education, Planning and Economy issued a joint document recommending inclusion of training plans for existing workers in all new medium and large projects to ensure the progress of economic development and human resources training.</td>
</tr>
<tr>
<td>1988</td>
<td>The Enterprise Law was passed, limiting the scope of the Chinese Communist Party involvement in state-owned enterprises and creating a division between the roles of the party and the management of State Owned Enterprises (SOEs).</td>
</tr>
<tr>
<td>1993</td>
<td>The Chinese Communist Party adopted the document <em>Establishment of a Market Socialist Economic System</em>. The <em>Outline of Reform and Development of Education in China</em> required governments at various levels to increase emphasis on TVET, to develop it and to collaborate with industry to run vocational schools. Many rural communities established vocational training centres aimed at developing junior and intermediate-level skilled workers for the agricultural sector.</td>
</tr>
</tbody>
</table>
The Labour Law provided guidelines for the promotion of TVET to improve employment and improve the skills of the workforce.

The Education Law, consistent with the Labour Law, prescribed improvement of TVET provision.

With the death of Mao Zedong in 1976 and the subsequent demise of the Gang of Four, the development of adult education and job-related training for working adults regained some ground and the focus of its development shifted (Xiao 2003, p.488). During the Cultural Revolution, reforms in the Chinese VET system were primarily a vehicle for pursuing political and ideological changes, rather than extending vocational knowledge and skills. Xiao (2003) identifies two main features in the majority of vocational education programs for adults in the time before 1980s: ‘First, they were part of a broader strategy for realizing a political ideology aimed at building China into a modern country in the face of foreign military and economic threats. Second, they were contingent strategies designed to compensate for the inadequate schooling of the population and to remedy the inability of contemporary school systems, which historically excluded the masses from formal education’ (Xiao 2003, p.490).

Table 5.1(d) Milestones in Chinese VET formation: legislation and regulation

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>The first Vocational and Technical Education Law in China was promulgated, outlining a comprehensive strategy for the improvement of TVET in China.</td>
</tr>
<tr>
<td>1998</td>
<td>Reform of State Council Ministries with responsibility for industry made it difficult to implement the Vocational and Technical Education Law.</td>
</tr>
<tr>
<td>1999</td>
<td>The State Council's Deepening Educational Reform and Promoting Quality Education, highlighted the importance of TVET.</td>
</tr>
<tr>
<td>2000</td>
<td>Ministry of Labour and Social Security issued the Regulation for the Recruitment of Employees in Technical Trades stipulating qualifications as a pre-requisite for employment. Teachers and students were to be engaged in the development of innovative technologies and promotion of these in the wider community.</td>
</tr>
</tbody>
</table>

A major shift in ideology came with the ascent of Deng Xiaoping to the position of Communist Party leadership. In his famous speech made in March 1978 Deng effectively repudiated the ‘better Red than expert’ position of the revolutionary period by arguing that ‘science and technology are productive forces’. His notion, based on his interpretation of the Marxist theory of science and education, emphasised that ‘science and technology are productive forces’.

This interpretation is in contrast to the previous nationally accepted view that considered science and education to be parts of the superstructure – hence ideological rather than productive (Henze 1984, p.117). A significant step in VET development started when Liu Xiyao, the Minister of Education, in his report at the National Educational Work Conference (April 1978) emphasised upskilling the Chinese workforce through vocational education and training as a high-priority educational policy (Henze 1984, p.117). The new policies restored the co-operative relationship between VET and industry and supported the development of the VET schools under industrial administration. According to Misko et al. (2005), since the second half
of the 1980s, the involvement of industry in VET incrementally progressed from local participation in delivery to a role in determining VET directions at the national level.

Through these new policies and industry relationships skill development became an important part of the central government agenda, however severe constraints remained. Henze (1984) summarises these constraints on the capacity of VET to address the economic needs of the late 1970s as:

1...the shortage of funds for restructuring or establishing vocational schools and running them with suitably qualified teachers and proper teaching aids.

2...the limited availability of specialised teachers, caused by a restricted output of qualified graduates at general or specialised teacher training institutions.

3...administrative disagreements at lower administrative echelons are a brake on central intentions.

4...in some regions the problem of proper job assignment for graduates seems likely to become more important during the coming years. This is mainly caused by a lack of regional and inter-regional economic and social planning, as well as by the fact that a number of vocational-technical schools offer specialities which do not fit into a region's manpower need (Henze 1984, p.136).

<table>
<thead>
<tr>
<th>Year</th>
<th>Milestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>China entered the World Trade Organisation. Under the accession terms, China committed to enacting or revising hundreds of laws to open its markets to foreign investment. Most laws were to be implemented by December 2005, virtually all by December 2007.</td>
</tr>
<tr>
<td>2002</td>
<td>Establishment of the China National Association for Private Education Staff reflected growth in the private education sector.</td>
</tr>
<tr>
<td>2003</td>
<td>China Regulations on Chinese-Foreign Cooperation in Running Schools (Decree No.372 of the State Council) was introduced</td>
</tr>
<tr>
<td>2004</td>
<td>Implementation Measures for Decree 372 were announced as Decree No. 20 of the Ministry of Education.</td>
</tr>
<tr>
<td></td>
<td>Meeting held of 6 key Ministries/Offices to discuss the advancement of TVET in China (Education, Labour &amp; Social Security, Finance, Human Resources, Agriculture and Office of Poverty Support).</td>
</tr>
<tr>
<td>2005</td>
<td>Release of the State Council Decision on Vigorously Developing Vocational Education, a comprehensive statement on the future directions for TVET In China</td>
</tr>
<tr>
<td>2006</td>
<td>The 11th Five-Year Plan was announced. There is a focus on improving quality and China achieving international levels of participation in education and TVET. Emphasis is also being placed on being responsive to the needs of the labour market, preparing students for occupations and employment and combining workplace practice and production with study.</td>
</tr>
</tbody>
</table>

Wang (2003) examined the Chinese education system in post-Mao China from 1976 to the present in her book ‘Education in China Since 1976.’ She emphasises the multi-level and multi-sector structure of vocational education and training in China, which reflects the complexity of
restructuring the Chinese VET. In fact, China does not have a unified VET ‘sector’ or ‘system’ under administration of one department or ministry (Simmons & Polgar 2005).

Figure 5.1 Administration of the Chinese VET System

The Chinese VET system consists of two separate sectors: the Ministry of Education and the Ministry of Labour and Social Security. Each one of these two ministries has its own provincial and country bureaus and commissions. The Ministry of Education is responsible for formal educational programs of technical and vocational education at national level. The Ministry of Labour and Social Security administers non-formal vocational training programs via its certificate-based system. Different ministries whose work is mainly related to industries cooperate with the Ministry of Education and the Ministry of Labour and Social Security under the State Council in the government to implement the national development plan of vocation education. Local authorities, industry departments and business enterprises cooperate with both the Ministry of Education and the Ministry of Labour and Social Security in administration of vocational education and training. A broad range of training programs are conducted in different training colleges of some major industries, such as the power generation and distribution industry, separated from two main national education and training systems.

Local governments take medium- and long-term development plans for vocational and technical educations in order to follow the policies and principles of the national development plan. In addition to the administration of schools, local governments decide on the location of new vocational schools, types of curricula and the number of students to be enrolled in their localities. They are responsible for running post-secondary vocational and technical institutions in each city (see Figure 5.1)
Table 5.2 VET providers in China

<table>
<thead>
<tr>
<th>VET providers at the secondary level and below</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary vocational schools</td>
<td></td>
</tr>
<tr>
<td>Secondary specialised schools</td>
<td></td>
</tr>
<tr>
<td>Secondary schools for training skilled workers</td>
<td></td>
</tr>
<tr>
<td>Vocational high-schools</td>
<td></td>
</tr>
<tr>
<td>Vocational training centres</td>
<td></td>
</tr>
<tr>
<td>Technical training schools for adults</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VET providers at the post-secondary level</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polytechnics</td>
<td></td>
</tr>
<tr>
<td>Short-term vocational and technical colleges</td>
<td></td>
</tr>
<tr>
<td>Regular vocational colleges</td>
<td></td>
</tr>
<tr>
<td>Adult vocational colleges</td>
<td></td>
</tr>
<tr>
<td>Five-year vocational universities</td>
<td></td>
</tr>
</tbody>
</table>

Extracted from: Wang 2003, p.188

VET sectors in different countries supply training programs through various forms and at different levels, including secondary and postsecondary vocational and technical education, pre-employment vocational training, and in-service or on-the-job training (Gill, Fluitman and Dar 2000). Vocational education and training in China is being delivered at primary, secondary and post-secondary levels by a broad range of providers. VET providers at different levels are summarised in Table 5.2.

Misko et al. (2002) make the point that three types of secondary VET providers have different teaching administration systems and that there is a lack of any unified curriculum standards: ‘..there is no central agency to co-ordinate curriculum administration for programs aiming to link secondary VET and higher VET pathways. In addition, the orientation of higher VET institutions is not clear and there are no standardized curricula. There are also no established linkage structures between secondary VET and higher VET in terms of training goals, standards for qualified personnel, teaching methods, characteristics of teaching...’ (Misko et al. 2002, p.46).

The mission of the Chinese post-secondary VET has been defined by the government as providing skills and practical knowledge to students for employment purposes. The programs at this level are categorised in two groups due to their lengths. A group of programs that last up to two to three years are designed for the students coming from senior secondary schools. A second group of post-secondary programs are delivered to the students coming from junior secondary schools in five years. Pathways to further study and employment in the Chinese education and training system are shown in Figure 5.2.
Reform policies of the government to improve post-secondary vocational education at a macro-level include three key measures: gradually standardizing vocational and technical colleges, recognizing educational institutes and upgrading a few high-quality secondary vocational schools to post-secondary level (Wang 2003, p.192). Moreover, encouraging private sector and foreign investors to invest in VET at the post-secondary level is emphasised by the government in its VET reform agenda. However, Wang (2003, p.192) claims that the Chinese VET at the post-secondary level has not yet developed to function at a level beyond the regular secondary school education and secondary vocational and technical school education.
Simmons and Polgar (2005, p.20) referencing Chapter 28 of the 11th Five-Year Plan⁶, mention that the government tends to employ these high-priority policies for VET development:

- Increase student number
- Reform teaching methods
- Update teaching content
- Promote the links between work and study and between schools and enterprises
- Promote flexible learning
- Achieve a better balance between academic and TVET graduates
- Improve school management (Simmons and Polgar 2005, p.20).

5.1.3. Industry-VET linkages in China

Keating et al. (2002) describe the linkages between VET and job market in China as:
‘Vocational education and training is strongly linked to jobs, particularly within the secondary technical schools and skilled workers’ schools owned by technical ministries and enterprises. Although the central assignment to jobs of graduates from higher education, specialized secondary schools, and skilled workers’ schools is being abolished, students sponsored by enterprises and by provincial and local governments are guaranteed employment under the terms of the agreements between the school and the enterprise or local government. Nevertheless, there are reported to be increasing opportunities for employers to select among graduates and for graduates to choose employers’ (p.80).

Industries are mainly connected to the VET sector via industrial departments (Wang 2003, p.193) (Table 5.3: the role of industries in the administration of VET schools in China).

<table>
<thead>
<tr>
<th>Provider Type</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior vocational schools</td>
<td>Local education departments in cooperation with industrial departments and enterprises</td>
</tr>
<tr>
<td>Most of the specialised secondary schools</td>
<td>Mainly by industrial departments in charge and a few by enterprises or educational departments</td>
</tr>
<tr>
<td>Skilled workers’ schools</td>
<td>Separately run by industry departments, labour departments or enterprises, with the labour departments taking the responsibilities of overall administration</td>
</tr>
</tbody>
</table>

Table 5.3 Role of industries in the administration of VET Schools in China

Extracted from: Wang 2003, p.193

Scholars such as Misko et al. 2005 and Comyn 2007 point to several differences in the way China and Australia have conceptualised VET, and in the way collaborative models and industry-VET linkages have evolved.

In identifying various collaborative activities between industry and VET schools in China, Misko et al. (2005, p.9) point out that the participation of industry in administration of schools and evaluation of teachers is a very different model of industry-VET cooperation than that which

⁶ As reported in translated form by the China Education Daily, 17th March, 2006 No. 6110
exists in Australia. They also note that a reduced availability of jobs, surplus of job applicants, and the ability of enterprises to recruit directly from the labour markets as the factors that diminish the necessity of maintaining close linkages with the VET sector for industry.

The evolution of a market economy and its associated expansion of enterprise ownership created an environment where it was difficult to maintain the traditional boundaries between administrative government departments and other social agencies. Nevertheless, the institution of 33 industry–VE supervision committees confirmed the government's commitment to encouraging industry–VE linkages. These events culminated in the passing of the Vocational Education Law in 1996, which urged VE institutions to maintain close ties with enterprises so that trainees could acquire necessary practical skills. However, concurrent reforms of state council ministries responsible for industry weakened the ability of these ministries to enforce industry cooperation with VE (Misko et al. 2005, p.7).

Comyn (2007) also identifies the very different conceptions of industry involvement in VET in China and West. He claims:

Chinese industry comprises a more diverse collection of organisations than what might typically exist in a Western market economy. Indeed, what constitutes industry in China is blurred by the complex relationships between private and public capital that exist in a planned economy in transition to a market economy. Industry in China includes SOEs, local government ‘collective enterprises’, township and village enterprises, and private Chinese, foreign or joint-owned ventures. Chinese industry also comprises industry organisations and associations which are managed to varying degrees by the Ministries & Commissions of the State Council (Comyn 2007, p.3).

Misko et al. consider the Australian industry associations and organisations as the free agents that cooperate with the government though different networks ‘with influential bodies to ensure that their industry voice is heard’ (Misko et al. 2005, p.8). Notwithstanding the effect of the transitional economic reforms in liberalising the Chinese context, we still observe the government as a strong stakeholder whose voice neutralises the voices of others, especially the former SOEs and the newly independent ones.

5.1.4. The Chinese vocational qualification certificate system

China initiated a vocational qualification certificate system in 1994. In 1999 all industry sectors made a commitment to consider school diplomas and vocational qualification certificates in determining wage rates. In 2000, the government set up a standard framework, relating vocational qualifications to employment classifications for its vocational qualification training system, which includes five levels affirmed by the MOLSS, including:

- Junior National Professional Certificate – Grade 5
- Middle National Professional Certificate – Grade 4
5.2. Roots of VET reform in China

In this section I discuss six factors that created the need for reform in the skill formation sectors of the Chinese context in five groups. The effect of each of these factors differs from one region to another; however, together they constitute the key factors driving a period of sustained change in the Chinese skill formation system, particularly in the rapidly growing industrial provinces such as Chongqing.

5.2.1. Economic reforms and high economic growth

Since 1978, the socialist market economy of China has directed its focus towards increasing the market orientation of the economy and opening the Chinese economy to the influence of domestic and international market forces through economic reforms on Chinese State-Owned Enterprises (Adler 2005).

The roots of the current crises of skill demand in today’s China becomes clear if we step back just thirty years, to when there were no Chinese universities offering courses in management, electronic engineering, and other key Twenty-first Century technical and entrepreneurial areas. When the new stage of economic reforms began in 1980s, many Chinese firms found themselves exposed to challenges resulting from privatisation policies, introduction of new technologies and the necessity of preparation to compete in an ever-globalising market. On-the-job training programs were considered as a strategic choice for the firms, surprised by new conditions, to overcome their skill shortage crises (Xiao 2003, p.498).

Chinese efforts to develop a market system began in earnest in 1992. In that time, the authorities began to open up the economy through policy initiatives, which included: liberalisation of enterprise ownership and governance, operation of an independent monetary policy by the central bank, development of financial system, reforms in the foreign exchange allocation policies, and change the tax system for a higher rationalisation (Fallon and Hunting 2000, p.161). All of these economic reforms influenced the demand for skills in the market by different degrees. In the view of Gill, Fluitman and Dar (2000), China is an emerging market country of East Asia with a strong labour force and employment growth and low unemployment. They claim that transfer and adoption of modern technologies by multinational and local firms since the 1990s has resulted in a dramatic growth in employment and consequently demand for skilled workers, which has been the driver for many efforts to reform the Chinese skill formation system.
On December 11, 2001 China joined the World Trade Organisation. Membership of the WTO placed new demands on the Chinese government. According to the General Agreement on Trade in Services under WTO, education is considered among the twelve major services. Under these new global circumstances, the Chinese education system must facilitate the incorporation of educational outcomes into a global marketplace and enable appropriate interactions with other WTO participants. Now, China is a member of the group of 'Emerging Markets', the group of countries that are currently between developed and developing countries, by the classification suggested by the World Bank (2001). The output of the economies of the eleven Emerging Markets countries provides only half of the world's output, while their consumption is high, because around five-sixths of the world's population lives in these countries. Countries categorised in this group are characterised by having rapidly growing economies, which provides tremendous opportunities for the companies and firms that focus on developing activities in an international context. These trends by Chinese industries to compete in a global free market raise concerns about the competitive advantage of their products and consequently the productivity of their workforce. Further, steady increase in the purchasing power in the recent decade in many countries of this group has resulted in a considerable growth in trade between developed and developing countries, twice as much as trade between the countries within the group (Cullen and Parboteeah 2008, p.9).

5.2.2. The problem of inequity in development

According to the Global Competitiveness Index Report (World Economic Forum 2008), China is ranked eighty-fifth among one hundred and thirty-four countries on the Competitiveness Index. As shown in the Figure 5.3, the dimensions of the market pillar in this index have distorted the uniformity of development of the Chinese economy when compared with the average pattern for in-transition economies. On the other hand, the institutions, technological readiness, labour market efficiency and higher education and training pillars are making for a bottleneck for development, with the figures for China showing consistency with other economies in transition from stage 1 to 2 in the model.
Over 450 million Chinese have achieved a measure of financial security since 1979. This significant progress in poverty reduction is crucially linked to China’s rapid economic growth between 1985 and 2001 (Lin 2003). However, China is facing serious problems due to equity and access to each of the developmental pillars in different regions and provinces. Scholars (Liu and Volkoff 2007; Tsang 2002) say there continue to be obvious inequality and apparent gaps between urban and rural, eastern and western regions and between male and female education. Liu and Volkoff (2007), using the Human Development Index (HDI), describe the extension of developmental inequality in China in the following terms:

In the eastern parts of China, Shanghai has an HDI higher than Singapore and Portugal, an OECD country. Beijing’s HDI falls below Portugal’s but ahead of Argentina’s, and Guandong province ranks ahead of Malaysia and Russia. Towards the central west of the country, the province of Sichuan with an HDI close to China’s mean ranks just below Azerbaijan, while its southern neighbour province of Guizhou has an HDI that is barely higher than that of Namibia. Tibet, with the lowest HDI in China, ranks just above Cambodia (Liu and Volkoff 2007, p.3).

Moreover, the Chinese model for vocational education is still at the initial stage and can potentially be problematic to its economic development in the future. Such disparities require
the use of economic indices for an individual province in the cases, like the case of this study, where the scope of study is restricted to just one province.

Economic reforms on the one hand have created jobs for tens of millions of Chinese, but on the other hand, they have created one of the world's fastest increases in income inequality (Khan and Riskin 2001). At this stage, provision of high-quality skill training programs can be a strategic approach for the government in order to address the new demand. For example, Gao (2002) examined the effect of labour's quality on the location of foreign direct investment (FDI) in Chinese provinces and found that the quality of labour plays a significant and positive role in attracting FDI specifically from more developed countries, such as Japan and the USA.

5.2.3. Foreign Direct Investment (FDI)

Foreign Direct Investment (FDI) provides the host country with the opportunity to import new technology, knowledge and skills through foreign firms. It can require local industries to increase their productivity either by an increase in the competitiveness of business or through making possible interactions with the new firm. Multinational and international auto manufacturers that are interested in producing in China have to establish their production plants where a Chinese firm is located. This is because making a joint venture with an existing Chinese car manufacturer is the only available choice for FDI in car assembly by foreign manufacturers (Dicken 2003, p.397). It may create a new challenge for the skills and human resources of the firm that has been involved into a joint venture. For example, Ford, one of the major transnational car producers, has established almost two-thirds of its passenger car plants overseas, with the first non-USA based plant established in Canada in 1904. Ford expanded its manufacturing firms to Mexico and Brazil in Latin America and then across Europe during the twentieth century (Dicken 2003, p.378). This pattern extended to China through an agreement on a joint venture with the Chongqing Chang’an Automotive Group in 2001. Figure 5.4 indicates the FDI inflows to the mainland of China between 1979 and 2006.

Figure 5.4. Mainland China’s FDI Inflows (USD bn)

![Mainland China’s FDI Inflows](image)

5.2.4. Innovative model of technology transfer

An important factor driving the need for China to furnish its workers with high-quality skill formation programs is the current model of technology transfer from developed countries to developing countries including China. Up until the late decades of the twentieth century, developing countries such as Korea preferred to wait for technologies to be mature at their origin companies and then import them. The post-import innovation on the imported technology was not extended and integrated in that traditional model (Liu 2005).

The need for high quality skilled workforce increases when technology developers seek to transfer their Research and Development departments to the developing countries. For example a large number of Chinese companies became involved both in technology development and manufacturing process of mobile handsets in China (Liu 2005). In order to play a role in both production and technology development, Chinese companies need a workforce with higher skills in comparison to the workforce that they needed in the past just for production line work. The trend of foreign companies to conduct R&D at China affects the demand for skills at higher standard levels.

5.2.5. Skills deepening as an expression of Skills Demand

‘Skills deepening’ is defined as ‘the percentage increase in the number of workers in an occupation with qualifications after allowing for employment growth’ (Shah and Burke 2006, p.3). Shah and Burke (2006, pp.3-4) noting from DEET (1995) summarise several reasons that may result in ‘skills deepening’. These reasons are: ‘a structural shift in industries, a shift in the occupational structure within industries, a shift to part-time work requiring more workers to be trained for a given amount of work, and an overall rise in the level of skill and qualification requirements within occupations.’

Shah and Burke (2006) claim that the effect of ‘skills deepening’ on raising the demand for skills is much greater than the effect of ‘employment growth’. For instance, based on the ABS Education and work survey data in Australia, Shah and Burke (2006) compare the amount of 19.7 per cent increase in employment from 1995 to 2005 with a 44.7 per cent increase in the number of employed people with qualifications. According to Shah and Burke (2006), between 1995 and 2005, the demand for skill development among the Australian workers increased mainly because of ‘skills deepening’ rather than simple ‘employment growth’.

5.2.6. Workforce Supply

With about 1.2 billion population, China is the most populated country in the world. The Chinese demography and the issues of inequality in geographic distribution of industries have created conditions in which the migration of rural workers have become the key source of labour for developing industries of the past two decades. Eyferth (2006) mentions that the Chinese employment structure represents China as a workers’ country. He divides the
transformation of China from a pre-industrial to an industrial society into three historical phases. According to Eyferth (2006, p.2), the emergence of modern industry for the first time goes back to the early twentieth century, when the very initial waves of modern industrialisation to China formed a small nascent working class in population. After the mid-twentieth century, as a result of transition to socialism, the population of wage earners rose up and shaped a large socialist workforce that worked in state-owned work units. It was a significant growth of wage earners, who mainly settled in urban areas. Later, in the 1980s, the Chinese government applied a set of reform policies, which resulted in considerable return of the population to self-employment in the form of peasant households, mainly in rural areas.

However, since 2001, major reforms in Chinese labour laws have resulted in an increasing mobility of workers in the labour market as well as a rise in the number of job opportunities created in the labour market (Ross and Song 2006, p.150). Juwei (2007, p.48) points to an annual increase in rural migrant workers of about 4 percent since 1997, and claims that some regions may face serious shortages in skilled workers because of the current decline in the annual growth rate of the population of working-age labour along with the creation of more jobs because of rapid economic growth in some areas and a weak supply of skills.7

Currently China’s rural-urban migration represents the most rapid process of urbanisation in the world with a rate of 1.4% between 1995 and 2002 (Juwei 2007, p.48). In 2006, this rate suggests the addition of about sixteen million working-age people to the urban labour force and provides a relatively stable source of labour supply for the developing industry and service sectors. The Asian Development Bank (2006) claims that ‘only about 33% of all urban employed are skilled labor, with highly skilled workers/technicians accounting for less than 4%’ (ADB 2006).

Although the Chinese growth sectors have adequate access to a sufficient number of workers, many of these sectors have expressed concern about the number of qualified workers. The majority of the rural migrant workers are young men with no experience of work in industries. They have never participated in any technical or vocational training programs related to the jobs that they tend to get in non-agricultural sectors in urban areas.

5.3. International VET co-operative projects in China

The milestones in Chinese VET formation summarised in Tables 5.1(a) to (e) indicate that international cooperation has long been seen by the Chinese government as an important approach to VET reform. Since the mid-twentieth century, China has been engaged in international cooperation and exchanges in the field of vocational education. In 1988, Noah and Middleton described vocational and technical education as a part of education with the

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7 However, the current global downturn would temporarily change this through reduction in export, which may create a pool of unemployed workers.
Weakest link in the Chinese system after the Cultural Revolution. After comparing China's policy of 'training before service' to the VET programs at secondary level in the Soviet Union, Great Britain, France, Japan, and the Federal Republic of Germany, Noah and Middleton (1988) suggested two models of West Germany's dual system of apprenticeship and Japan's model of in-service training as two options for applying to the Chinese system.

According to Wagner (2003, p.100), Sino-German co-operation in VET dates back to the early 1980s: just a few years after Chinese economic reforms of 1978. The cooperative relationship started with the establishment of training projects in Chinese industrial cities such as Tianjin, Beijing and Harbin, with the aim of preparing workers for industrial jobs through the application of German Dual system model of training. Sino-German VET co-operation gradually extended from the training of skilled metal and electrical workers to related VET developmental activities, such as delivery of training programs for VET teachers and schools' staff; providing support and consultation services for the establishment of a nationwide examination and certification system; and later the establishment of a number of VET research institutes and an information system to be used by both central and local governments. In 1990 the German government agreed to provide the required fund to establish the Central Vocational Education Research Institute and two local research institutes in Shanghai and Liaoning. Between the 1980s and 2008, over thirty Sino-German VET co-operative projects have been implemented. In the same period China has also imported elements of the Canadian model of education and training for educational reform purposes (China Education and Research Network 2008b).

The cooperation of China with the world has undergone a remarkable acceleration in the past twenty years: a trend that has been underpinned by Chinese Ministry of Education delegations to over countries and districts where vocational education is well-developed; by receiving many foreign vocational education delegations, inviting foreign experts to give lectures in China, jointly providing education with foreign vocational education institutions, bilateral cooperation and contact with the UNESCO, UNDP, World Labor Organization, UNPF, APEC and other international organisations. In 1990 an agreement with the World bank known as 'The Agreement on the Loan for Vocational Education Project in China' brought US$80 million from the World Bank and US$100 million from the Chinese government to be allocated for development of the Chinese VET system, with a particular focus on teacher training.
Chapter 6.
Transfer of Australian VET knowledge: the 'Chongqing Project'

In this chapter I narrow my focus to the selected case of Chongqing and provide a brief history of the Sino-Australian component of the Chongqing project. In this section I cover the stages of project implementation, challenges faced by the project team when implementing some aspects of the project reforms, and discuss the forces in China which slowed the adoption of some of these reforms.

My aim in this chapter is to show how an Australian regulatory VET knowledge and practice, which originated in a liberal economic context, is affected by multiple aspects of the context into which it is being transferred: that is, the educational and economic factors that affect the acceptance, transfer and absorption of this Australian VET regulatory knowledge.

6.1. Objectives

The Chongqing project, which commenced in 2002, aimed to develop the VET system to address the changing skill needs of industries to contribute to the economic development of Chongqing and more widely in China (AusAid 2007). Chongqing is a large province with more than 32 million people, located in a central position with access to the Chinese and Asian markets, with good transport and other infrastructure that attracts the attention of many multinational companies for investment.

As I have explained in my methodology chapter, access to documentation of the Chongqing project is extremely limited. The summary of project implementation presented here is based on the only published final report of this project by Antoine Barnaart, the Australian Team Leader of the project since March 2004. My analysis of the multiple aspects of the project and the many issues and challenges faced in the transfer of the Australian VET knowledge into the context of China through this project has been greatly enhanced by the additional information and reflections provided by the author in an interview conducted in December 2008.

6.2. Implementation

Australia-China Chongqing Vocational Education and Training Project (ACCVETP) started in early 2002 as a pilot project in the municipality of Chongqing and lasted until 2007. Both the Australian Government and the government of People’s Republic of China contributed funding for the ACCVETP, with the Australian contribution A$19.9 million out of the total budget of A$25 million (Barnaart 2007; AusAid 2007).
The project included two main phases and a ‘vertical slice approach’ as main features of its design. Hassall and Associates International (HAI) in association with Royal Melbourne Institute of Technology (RMIT) implemented this project (Barnaart 2007; AusAid 2007).

6.2.1. ACCVETP Phase One

The first phase, implemented in the period of February 2002 to February 2005, included initiatives at different levels of School-Based, Municipal (Chongqing-Based) and National-Based Initiatives. Table 6.1 indicates the components of phase one and the objectives and activities implemented at this phase.

**Table 6.1 ACCVETP Phase One**

<table>
<thead>
<tr>
<th>Component</th>
<th>Objective</th>
<th>Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-based initiatives</td>
<td>Strengthening the capacity of the selected schools and providing outcomes that could be replicated as part of MOE’s national VET reform program.</td>
<td>School-based planning, developing and piloting competency-based curriculum, teaching and learning material development, professional development of school staff and equipment procurement to assist pilot activities.</td>
</tr>
<tr>
<td></td>
<td>Three secondary VET schools and two tertiary VET colleges were selected as the pilot schools representing automotive, business services, electronics, hospitality and tourism, and construction industry sectors.</td>
<td></td>
</tr>
<tr>
<td>Municipal initiatives</td>
<td>Facilitating participation of the selected industries in preparing training standards and curriculum and delivery of programs through Industry Coordination Committees.</td>
<td>Establishment of five Industry Coordination Committees (ICCs) in the automotive, business services, electronics, hospitality and tourism, and construction industries, being modelled on Australia’s Industry Skills Councils (ISCs). They were originally established within the pilot schools with the respective Australian school-based adviser providing executive support for their early development. These ICCs were relocated, both physically and operationally, to the relevant municipal ministries at the end of phase one.</td>
</tr>
<tr>
<td></td>
<td>VET teacher reform.</td>
<td>The Chongqing Normal University (CQNU) was chosen as the lead institution because of its status as one of China’s fifty National Key Vocational Education Teacher Training Centres.</td>
</tr>
<tr>
<td></td>
<td>Flexible delivery of VET and student centred learning.</td>
<td>CQNU teacher-trainers worked with the project advisers to develop skills and knowledge in VET pedagogy and train the trainer programs.</td>
</tr>
<tr>
<td>National-based initiatives</td>
<td>Enabling the MOE and the Central Institute of Vocational and Technical Education (CIVTE) to observe and review municipal school-based activities; to choose those outcomes that would assist China to better incorporate industry participation in VET; and to be more innovative in the design of VET policy.</td>
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Extracted from: Barnaart 2007
6.2.2. ACCVETP Phase Two

In March 2004 the second phase started. An additional international component added to the project’s initiatives at this phase. Based on a vertical slice project design, this phase aimed to replicate the successful achievements of phase one and work on the development of four key components. This phase took two and a half years and finished in August 2007 (Barnaart 2007). Four main components of this phase with the objective and the key activities of each component are summarised in Table 6.2.
### Table 6.2 ACCVETP Phase Two

<table>
<thead>
<tr>
<th>Component</th>
<th>Objective</th>
<th>Key Activities</th>
</tr>
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</table>
| **School component** | replicating phase one outcomes:  
  - within and between each of the five pilot schools,  
  - between the pilot schools and thirty-seven VET partner schools/colleges (twenty-four secondary VET schools and thirteen tertiary VET institutions). | Competency-based courses developed in the industry areas during phase one were expanded from five to twenty-one, and now range from entry-level certificate to diploma programs.  
Establishing a number of linkages between schools and some of key Chongqing industry enterprises. |
| **Municipal component** | Establishment of three additional municipal ICCs, representing the agriculture and health industries, rural migrant training associated with the Three Gorges area. | All of the eight municipal ICCs led the development and review of new competency standards, which were approved before the successful development of the new competency-based courses by the project schools. |
| **Expansion of VET teacher reform activities** | VET teacher reform activities are being expanded by CQNU in partnership with the Chongqing University of Arts and Science (CUAS).  
Twenty-five ACCVETP participants completed training for the Australian Certificate IV in Training and Assessment, which was delivered by a full-time teacher development adviser engaged through Holmesglen TAFE in Victoria. |                                                                                                                                                                                                   |
| **National component** | Strengthening the basis from which MOE can implement national policy improvement and innovation of VET in China. | Establishment of a national ICC made up of national ministry representatives from the agriculture, health, automotive, information technology, e-business, hospitality and tourism, and building construction industries.  
This national ICC is working with the eight municipal ICCs, observing and reviewing the reforms they are putting in place. It is also focusing on the role of national industry standards in a reformed VET sector.  
Development of draft national VET teacher competency standards and an associated quality framework. |
| **International component** | Establishing and strengthening international VET linkages between China and Australia and ensuring there are sustainable, ongoing VET links between the two countries when the ACCVETP concludes in August 2007.  
To make the conditions for the Chinese principals to learn from Australia's holistic approach to managing a large quality-assured DTD in a reformed VET environment. DOE and CDDEC are now studying the outcomes of this activity and will develop a framework for the replication of model TAFE colleges in other parts of China. | Linking Chongqing schools to Australian Registered Training Organisations (RTOs) in each state by establishing a Sino Australia VET Network in 2005 and expansion of this network to include linkages between ISCs in Australia and Chongqing ICCs.  
Swan TAFE in Western Australia was linked with the automotive tertiary pilot college, and the Illawarra TAFE Institute in New South Wales was linked with the electronics tertiary pilot college as two Sino Australia Cooperative Model TAFE colleges.  
College principals travelled to Australia for a two-week mentoring program with their respective TAFE director colleagues. A return visit was then made by the TAFE directors to Chongqing. |

Extracted from: Barnaart 2007
6.3. Analysing the transfer of Australian VET knowledge via Australia-China Chongqing Vocational Education and Training Project

Green (1997) and Law (2004) consider the borrowing educational policy from other countries as one response to the changes brought by globalisation, alongside other mechanisms including structural reform, changes in the modes of financing and administration of education and training; and curricular reform. The objectives of a policy transfer project define the varieties of sectors, sets of regulatory arrangement and groups of people that become involved in a specific project. All of these aspects affect the issues faced in implementation and the success of a project in relation to its final objectives.

The focus of this section is to analyse what happened in the Chongqing project, asking questions about the process of adaptation of elements of the Australian VET regulatory system to achieve new skill formation arrangements. A key question posed here is to what extent, and in what form Australian VET knowledge has been transferred into the Chinese context. I compare the characteristics of the Australian VET regulatory system as they formed in their original context with conditions in Chongqing and identify factors affecting the take-up of this knowledge in the host context. The methods and approaches used in the transfer process are discussed with reference to documentary data and interviews conducted with key Chongqing project responsible persons.

6.3.1. The extension of change

First, it needs to be said that the Chinese VET, with 217,143 vocational schools, 6,179,903 students and 514,534 teachers (2004 statistics in: All Countries 2008), is the largest VET system globally, and Australia is one of the smallest. Given these differences in scale, not to mention the significant historical and economic differences discussed in preceding chapters; the ACCVETP, involving a little more than fifty schools (Barnaart, personal interview, 20 December 2008) cannot be considered a major reform project in the Chinese context. On the other hand, because the ACCVETP was involved in a vertical slice through the Chongqing system, the project does provide a comprehensive picture of impact in multiple layers of the Chinese VET system.

Secondly, it is important to note that the project did not propose to transplant the entire Australian VET model into the Chongqing component of the Chinese VET system. According to Barnaart (personal interview, 20 December 2008), the option of incorporating all three pillars of the Australian VET regulatory system, of the Australian Qualifications Framework, the AQTF and Training Packages, was rejected by the Chinese side of the ACCVETP at the initial stages. Accordingly, development and trialling of a unified national qualifications system through the ACCVETP was eliminated from its scope almost from the outset.
This question of transferring qualifications frameworks as a reform strategy in developing countries has been discussed by Johanson and Adams (2004) for some VET reform projects. While they consider the implementation of a national qualifications framework in education reforms as important, they do maintain ‘One of the newest innovations, national qualifications frameworks (NQF), is proving difficult to implement for countries that have limited capacity. More limited competency-based systems appear effective and more feasible’ (Johanson and Adams 2004, p.5). Although the capacity of the Chinese education and training system can be considered as more advanced than that of other developing countries, factors such as the size of the country, historical conditions, political considerations, split administration of VET across two ministries and a high level of complexity faced in unifying the huge multi-sectoral frameworks of the present Chinese education system are clearly major constraints on the Chinese capacity to implement a national qualifications framework through an individual AusAid-funded VET project.

Having decided not to proceed with a major pillar of Australian VET regulation, the two other pillars of Training Package and AQTF were taken into consideration, but the level of consideration given to the AQTF was very minor.

6.3.2. The transfer of the Australian National Industry Training Package

As discussed in Chapter Four, Training Packages work as a technology of knowledge transfer in the Australian VET system. Effective deployment of this technology requires the collaboration of stakeholders and units from inside and outside and at different levels of the VET system.

In the Australian system a critical part of Training Package technology is located outside of the core VET system of providers and training authorities – that is, in the industry sector. As discussed in Chapter Four, industry bodies and organisations play an important part in preparation and implementation of Training Packages. Using the Australian system for securing industry input to Training Packages, I comment on the Industry Coordination Committees’ (ICCs) approach initiated through ACCVETP and discuss the extent to which the required functions for operation of Training Packages have been incorporated into the project. The changes created by the implementation of Training Packages in the training provider organisation procedures, and the work of teachers, trainers and assessors at the delivery level are also discussed.

The components, objectives and activities of the ACCVETP project include a complete set of elements that are required for enabling the implementation of a competency-based system based on Training Package technology. As indicated in Table 4.9, the majority of the factors that affect the functions of ICCs belong in the industry sector. For example, for the function of perception about skill demand depend on a number of factors including macro- and micro-economic factors, ownership of the industry, workers’ wages, the advancement level of
technology and inter-sector relations in the industry organisations. None of these factors are clearly and directly related to VET.

(a) Role of industry in the transfer of Training Packages

The ACCVETP team established eight municipal ICCs and a national ICC during the life of the project. As ACCVETP is a VET project that is mainly being implemented by the education and training departments, a majority of the factors and conditions for an appropriate operation of the industry councils cannot be managed and manipulated in the VET side.

In the following section of this chapter I identify and discuss the variables that contributed to or impeded the transfer of the Australian National Industry Training Package as a regulatory device and as a guide to the delivery of assessment and training. This discussion draws on the analysis in Chapter Four of the conditions required for the effective functioning of industry training councils, using the Australian Industry Skills Councils as a model. As Table 4.10 illustrates, the core functions carried out by industry skill councils are not easily interchangeable with those of training managers or government policy makers. For example, in a situation in which both training and industry bodies are most willing to cooperate, it is nevertheless important that each performs its own functions – on the part of industry of identifying and presenting information about industry need; and on the part of the training provider of interpreting this information as assessment and training activities. Three key sets of variables are discussed:

1. The poor knowledge capital of Chinese industry sectors and VET agencies
2. The nature of industry-government relations
3. The orientation of government

1. The poor knowledge capital of Chinese industry sectors and VET agencies

To illustrate the capability of Chinese industries to operate in the role of skill formation-related councils, I describe the characteristics of industry-VET cooperation in China using information supplied by the ACCVETP manager in this regard.

In reflecting on the implementation of the ACCVETP, Antoine Barnaart points out the lack of theoretical and underpinning knowledge of human resources in Chinese industries and in the Chinese VET sector, arguing that this presents an obstacle for implementation of a competency-based training system. He identifies a similar problem within the ranks of industry managers, saying that:

‘If many of those highly successful company directors, most of them are of very humble beginnings. I guarantee none of them would have any formal TVET training. So how do you engage them in training? Sometimes they don’t have any open mind to it. So you will find that industry is being led by people that have come through the school of hard knocks. Because they have a lack of formal TVET training themselves it can be more difficult for
them to understand the process of TVET training and particularly the importance of underpinning knowledge, because many times they don’t have that theoretical base… Of course this is also the case in some industries in Australia.

If you set up a TVET system that separates underpinning knowledge or even removes the critical underpinning knowledge to practical tasks, you are going to have a problem… One of the problems with Australia’s current competency-based training and national Training Packages is that sometimes the critical underpinning knowledge has not been clearly identified …. in the teaching you need to make sure you build in the necessary underpinning knowledge and theory and link it to the practical school training’ (Barnaart, personal interview, 20 December 2008).

In comparing the functions of different ICCs, Barnaart states:

‘The one that was the most active was the Municipal Construction ICC in Chongqing, and that’s because they understood the tasks required and had some experience in some of the required functions.. So, yes, they need the skills. That is an important that a part of a industry-led system is that industry has got to have a capacity and skills to be an active partner in the training sense. They need to understand the TVET side of it…. Construction was well-connected with the construction industry and the national Ministry responsible for construction. The Business ICC was more difficult because business was not that well organised. The other industries, such as construction, the high-end tourism and hospitality, can be more clearly identified as enterprises we would consider as the private sector but when you get into business sector it is a bit murky, so it is hard to engage them in the training reform process because of their own level of formal training and the sophistication of their sector’ (Barnaart, personal interview, 20 December 2008).

Therefore, involved industrial firms have had various levels of readiness to play a proper role as expected in the project due to the knowledge of their managers. Ensuring the required capacity among industrial managers to play proper roles in VET would be a highly time-consuming, and the issue is out of the control of a VET reform project. This issue can be considered as a key variable in the very initial studies of a transnational reform project.

2. The nature of industry-government relations

Barnaart’s answer to my question of whether the Chinese government currently relies on industry in educational policy making was:

‘No, my judgment would be if they want to get a group of people together to develop or endorse the competency standards, you would find the majority of that group be government and/or educational officials’ (Barnaart, personal interview, 20 December 2008).
The first five industry coordinating committees were established at schools in the first phase. Answering my question ‘Who did appoint the ICC members in Chongqing?’ Barnaart claims:

‘The Chongqing government appointed the membership, the central Chongqing Education Commission, and it was government people from the industry ministries or the schools that actually ran them… So it is very much school-driven. But as you know in Australia, the Industry Coordinating Committee has been divorced from the delivery. It was not incorrect to set them up at the schools, first they had to create them… The infrastructure was in the school. The next bit of reform that I implemented was to move them from the school at least to the industry ministry, which is the intermediate step, because eventually they need to move out of the government ministry and be semiautonomous and be run by private industry, really. Unless it is a public sector skills council’ (Barnaart, personal interview, 20 December 2008).

Barnaart describes the lack of sustainability in the general circumstances of VET-industry cooperation required for a CBT system as:

‘A part of the reforms in our projects that was the least successful, in our terms, was that they all established insustainability, in probably the area that wasn’t sustainable’
(Barnaart, personal interview, 20 December 2008).

3. The orientation of government

Access to financial resources and will of policy makers are two main general conditions for ICCs to operate. Based on the Australian experience, the Industry Skills Councils need financial support from the government until they become self-sufficient.

Barnaart finds the issue of lacking any special financial allocation for ICCs as a big issue in the Chongqing project and states:

‘If I was recommending reform and developing industry skills councils in countries, I would say to governments that, you have to give some of them some government money to establish things. At first it was difficult to get the Education Commission to consider this, but in the end they allocated some resources to the respective ICCs to support their operations…’(Barnaart, personal interview, 20 December 2008).

According to Barnaart, a fellowship was organised to Australia by representatives of the Chinese national and municipal leaders to make them familiar with the operational aspects of the Australian ISCs.

‘This was a very useful exercise for them to see the diversity of approaches in ISC funding and management. It was interesting for them to observe that the ISCs that served some of the high-value industries in Australia relied on the most Government funding’ (Barnaart, personal interview, 20 December 2008).
Barnaart’s view, based on his long TVET experience in Australia, is that

‘ISCs need to focus on the development and maintenance of competency standards for their respective industries as their core function, which should be properly funded by Government through a service level agreement. If ISCs are always searching for diverse and sustainable levels of funding to survive, it naturally becomes the central focus of their regular work and can distract them from their critical and real core task. After the task of competency standard development and maintenance is well done then they can diversify and seek other income strands and activities to value-add their role in support of their industries’ (Barnaart, personal interview, 20 December 2008).

However, no regulation was provided by the Chinese government to support the stability of the cooperation of people from industries to endorse curricula in China via ICCs. Barnaart considers it as:

‘That was the toughest part and the part that I think is too premature, because the Chinese industry isn’t clearly organised and clearly separated from government, as it is in Western economies’ (Barnaart, personal interview, 20 December 2008).

(b) The transfer of Training Package changes at the level of assessment and training delivery

In this section I discuss the implementation of Training Packages in the training providers involved in the ACCVETP, drawing upon the theories of institutions and knowledge transfer discussed in Chapter Two. In particular I consider the reforms enacted within training providers, and the impact of these reforms on three aspects of provider operation, including: institutional structures, teachers and managers.

The key point here is that the structural and cultural differences are profound. Differences in the institutional structures at policy-making and provider levels between two Australian and Chinese VET systems complicate the project. In addition, it is to be expected that transfer of Training Packages at the level of assessment and delivery in the training provider institution will be a different process.

1. Structural Differences

Embedding Training Packages as a training technology into a new training system means imposing changes on the regulatory, cognitive, and normative components of an institution – components that are considered by Scott (1995) and Kostova (1999) as the three main aspects of an institutional environment. In other words, to introduce the Australian Training Package to a Chinese VET training provider means that the entire operating environment of the provider is affected. First, the implementation of the Training Package affects the regulatory component of a training institution by changing the current rules of program delivery as the main activity of a training institution. Secondly, the Training Package alters the cognitive component of the
training institution by considering the role of teacher as a facilitator of learning ‘from in front of, rather than behind, the desk’. Thirdly, the new roles taken on by teachers and the fact that units of competency rather than the previous courses become the focal points of interaction between students and teachers has the potential to alter the formal relationship between teachers and trainers, and also to affect the norms and values of the traditional teaching environment.

With all of these multilateral changes expected at the host institution within the transfer of Training Package technology and in order to decrease the level of complexity, designers of the transnational VET project could pay higher attention to the institutional similarities between the Australian and the Chinese VET institutions.

Three secondary VET schools and two tertiary VET institutions were selected as the pilot schools in Phase One. Barnaart reflects on this selection for strengthening the multi-sector aspect of the project, which resulted in more complexity in its implementation. He states:

‘Because our TAFE colleges are more classically aligned with the Chinese tertiary VET colleges, and in hindsight if I was designing Phase One, then I would have spread the counterpart management of the project across both tertiary VET division and the secondary VET division of the Chongqing Education Commission. This could have avoided 24 of the 25 Phase Two partner institutions being secondary VET schools and brought more tertiary VET colleges into the project sooner. As an outcome the two strongest institutions of our reform are the two tertiary VET colleges’ (Bernaart, personal interview, 20 December 2008).

Institutional differences at the macro-level of VET policy-making have affected implementation of the ACCVETP. As discussed in Chapter Four, we can find a national structure for VET policy-making in Australia. The split administration of the Chinese VET at the high level slowed down the comprehensive reform. For example, an Australian educational expert at the ACCVETP points out the difficulty of a multi-sectoral reform project and states:

‘MOE and MOLSS have some struggles at national level. But in Chongqing they were cooperating well with each other’ (Australian educational expert at the ACCVETP, personal interview, 14 Nov. 2008).

Comyn and Comyn (2006) point out some differences in implementation of the programs by MOE and MOLSS as the obstacles against the formation of a coherent qualification system. They mention:

‘Whilst the industry relevance of VET is a challenge for many countries, the dual qualification systems of MOE and MOLSS further compromises the relevance of VET to industry in China. Furthermore, many MOE VET school graduates do not obtain MOLSS certificates, even though they have studied at a higher level, as MOLSS requires payment
for the separate examinations. However, both the key agencies have acknowledged the issues surrounding dual assessment, with MOE recommending that linkages between the content of relevant curriculum and occupational standards needs to be enhanced" (Comyn and Comyn 2006, p.8).

Misko et al. (2002) have made a comprehensive comparison between the VET systems of the People’s Republic of China and Australia in terms of a couple of major features, such as: administrative structure at the macro level, funding, vocational pathways, the linkages between lower and higher VET and system of qualifications. The summarised result of their study is indicated in Table 6.3.
2. Teachers and the ACCVETP reform

The ACCVETP has a significant emphasis on teacher reform. As shown in the tables 6.1 and 6.2, the VET teacher reform activities are included in the both phases of the project in cooperation with local universities. The difference in the knowledge and experience of teachers...
is considered as a constraining factor on the successful implementation of Training Packages in the Chinese system of training delivery.

For teachers to deliver training and assessment in the Australian VET sector, they must have ‘vocational competency’ in the industry area in which they train and assess, which means that they must have relevant industrial experience. Misko et al. (2005) describe the options for secondary and post-secondary vocational teachers for meeting this requirement as follows:

‘Teachers in the secondary school sector in Australia who already have their teaching qualifications must acquire some workplace experience to enable them to conduct some VET courses. For teachers in the post-school sector, the situation is reversed. The systems in all states have concentrated on hiring teachers with industry-specific qualifications and experience to teach courses (especially the case in traditional trade areas). During the last decade such teachers have been expected to undertake teacher-related qualifications and programs’ (Misko et al. 2005, p.9).

In contrast, Chinese teachers are not required to have industrial work experience to teach in a VET sector. Instead, they have to complete secondary or university programs for teaching. In the view of the ACCVETP manager, this is a considerable challenge (Barnaart, personal interview, 20 December 2008). Barnaart illustrates this challenge with an example:

‘...(as a teacher) you [may] never work in a commercial automotive workshop, which means you will be more comfortable to teach automotive that is predominately theory-based, because the staff have no confidence, [and] they have no practical experience...’ (Barnaart, personal interview, 20 December 2008).

Twenty-five Chinese ACCVETP participants took the Australian Certificate IV in Training and Assessment in China. Barnaart admires the work of these teachers and emphasises the importance of removal of cultural and environmental boundaries.

‘We got them to do training against the Certificate IV TAA and that helped them understand the whole methodology and the rationale behind it. And some of those teachers, could come to Australia and teach a TAA in Australia... Some teach the TAA in China to Chinese teachers requiring the TAA for transnational delivery of Australian TVET courses in China...’ (Barnaart, personal interview, 20 December 2008).

To my question ‘Have any group of the Chinese teachers taken the chance to observe an Australian classroom?’ Barnaart answers:

‘Yes, we brought them on fellowships, about 100 in groups of 30 at a time. And sometimes that’s the bit that changes. They get taught the reforms and in their own country they practice in doing under the mentoring of an expat-trainer, but it can actually click together when they see it happens in Australia. This really motivates them to really embrace the
reforms with passion. This really helped to promote sustainability by seeing it happening in another country’ (Barnaart, personal interview, 20 December 2008).

In addition to training, mentoring and visits to programs to promote teacher reform through the ACCVETP, Barnaart illustrates a practical impact on teacher training in Tourism and Hospitality as outlined in the following mini case study

**Chongqing case study #1**

An example of impact on teacher training: Tourism and Hospitality Training Reform

The key role of teachers in enabling the changes required through the ACCVETP is illustrated by the following story told by Barnaart:

‘We had a cookery teacher from William Angelis and he is very skilled in cookery and also a highly skilled teacher so we ran short courses in the 5 star hotels for the hotel chefs to broaden their repertoire of cuisines. We also had our project teachers join the class so half of the class were hotel chefs and other half were our teachers. They learned new skills, side by side with the industry specialists collectively in one class so we built connections between the industries. The students were put into hotels for work experience. They always did that but it was never structured with clear competency outcomes and that wasn’t a good, rich learning experience. So they would go in the hotels and our school teachers would go with them. The hotel specialists would come to schools. This was a reform that they never would have considered. We set up an apprenticeship with one of our schools with Holiday Inn in Chongqing that took the students for two days a week from the beginning of the course and for the full 3 years. They spent two days in the hotel and three days in the school. Teachers went in the hotels and worked and talked with them and the senior manager of hotel came to the school and talked to the classes’ (Barnaart, personal interview, 20 December 2008).

3. The impact on the Managers’ role

Kostova (1999) considers two aspects for the process of transfer: ‘(1) the diffusion of a set of rules and (2) the transmission or creation of an “infused-with-value” meaning of these rules among the employees of the recipient unit’ (Kostova 1999, p.311). As the key drivers of a training institution are administration staff, including managers and teachers, their mindset about the reform and their readiness for change play a key role in easing the changes in the reform process.

In Barnaart’s view,

‘the critical reform is on the teachers but you can not reform teachers without their managers’. The managers’ role became critical when the number of schools increased with the start of the second phase. Barnaart states ‘What I needed in Phase Two, were people who could authorize change in the school at a high level. In Phase One we mostly
engaged with teachers. In Phase Two we extended our active engagement with principals and deputy principals. The content specialists were already trained in Phase One; they were the Chinese, what I needed were TVET managers that were good at managing change, Head of department or centre manager level people’ (Barnaart, personal interview, 20 December 2008).

His emphasis is on having a ‘mindset of change’ for every policy maker or local VET manager who participates in the reform as a key condition to reach sustainable conditions. He mentions:

‘The schools that made the least out of the reforms are the schools where the reform wasn’t in the mind of their principal’ (Barnaart, personal interview, 20 December 2008).

However, some changes at a principal level can cause the reforms to slow or stop the reforms. Barnaart details this problem as he explains the obstacles against a sustainable reform:

‘Senior managers in schools and ministries change on a frequent basis. This presents a major need for retraining and needs to be factored into any reform project. If there is a change of principal and that principal is not committed or does not understand the reforms, then, the reforms will not be sustainable…’ (Barnaart, personal interview, 20 December 2008).

4. Cultural and political constraints working against the transfer of the Training Package
The education sector and its agencies are regarded as parts of the cultural fabric of a nation, playing a strategic role in reproducing cultural values and developing and maintaining normative behaviours. In view of this role, education systems are of strategic importance for governments. In considering the transfer of Training Packages into the Chinese VET system as a mode of regulation and guidance of assessment and training, we need to be aware of the profoundly different political and historical context into which the Training Package is being imported.

China is a socialist country governed by the Chinese Communist Party. As discussed in Chapter Five in the section of ‘Roots of the VET Reforms’, the political culture and institutions of China have experienced significant changes during the twentieth century. China has been promoting a ‘socialist democracy’ political model since the middle of the twentieth century. The ‘socialist democracy’ model, which reflects a high compatibility with the history and the traditional culture of China, has its focus remarkably on equality rather than freedom, economic and social rights rather than civil and political rights and a powerful state rather than a limited state (Ogden 2002, p.78). Ogden argues that current political concepts maintain different meaning and values in Western and Chinese traditional cultures. He mentions that Chinese traditional culture emphasises the purpose rather than the form of government, meritocracy rather than democracy, the rule of virtue instead of the rule of law, and social harmony instead of individual rights and freedoms (2002, p.19).
Loyalty of the Chinese to traditional bureaucracy and centralisation of decision making in vertical work relationships (Cullen and Parboteeah 2008, p.35) is indicated in the Barnaart’s perception of staff’s institutional behavior. He says:

‘Our counterparts were very quick to understand the reforms we were sharing; however, traditionally they are not proactive in suggesting change within a system. Change and instructions comes from the top down. Introducing more student-centred teaching meant that teachers themselves become more independent thinkers. After several years, teachers, school management and ministry staff became more proactive about adopting new ideas. It was rewarding to see this change, but it was also useful for us to learn many good things about the Chinese management system and protocols’ (Barnaart, personal interview, 20 December 2008).

In addition, through a cultural perspective, the longest extent of continuing homogeneous development in the world has belonged to the Han people of China (Child 1994; Brown and MacBean 2005). Chinese current culture is made up of countless elements, taken from here and there. It has fundamentally been built on Confucian philosophy whilst being affected from Taoist, Buddhist, folklore and some other sources and shaped over centuries. Respect for age and hierarchy, group orientation, preservation of ‘face’ and the importance interpersonal relationships are mentioned as the main four cultural values of Confucian tradition (Child 1994; Hoon-Halbauer 1999; Brown and MacBean 2005; Cullen and Parboteeah 2008).

The concept of the ‘Training Package’ as an approach to the regulation and delivery of vocational training and assessment brings with it a strong cultural and value dimension. This is in contrast with the rigidity that comes from the cultural history that has made the conceptual framework of the Chinese system. Bearing in mind the emphasis on ordering and hierarchy within the concepts of the Chinese terms jiaoyu for education or zhiye for vocation, I note that Barnaart found a positive value effect of Training Packages in the experience of a group of Chinese teachers in the Australian context. Barnaart states:

‘They are more passionate and developed a deep understanding of the new reforms, it was like they captured more freedom than they ever had and that made them even more excited and motivated than some Australian trainers. They valued the freedom to develop their own assessment tools rather than rely on someone in the ministry who has little industry experience or no connection to the classroom writing a national exam. It was like a revolution for them’ (Barnaart, personal interview, 20 December 2008).

Implementation of Training Packages promotes the individualist cultural values originated from a Western socio-economic context among students. In regard to the theories of learning, Training Package technology is specifically rich with the elements of humanist learning theory. Importing a rich-with-value educational technology to a new cultural and educational system brings up tensions at different levels.
There is no comprehensive comparison between the Australian and Chinese cultures in the literature in the field. However, there are studies of the differences between British and Chinese cultures; and the broad similarities between Australian and the British cultures can assist us to imagine how cultural differences between the Chinese and the Australian contexts may be played out. For example, a survey by Trompenaars and Hampden-Turner (1997) characterised the mainland Chinese culture as being collectivist (communitarian) in comparison with the individualist British culture. They note that Chinese society is maintaining a diffuse culture, which defines the Chinese people relating to each other based on multiple rules, whereas British culture is specific and people relate to others based on specific roles or areas of life. Trompenaars and Hampden-Turner (1997) and Brown and MacBean (2005) mention that the particularistic culture of China assigns greater weight to particular situations and people than the universalist British culture, which suggests a common set of principles to be applied in all situations. Based on their findings, a few factors such as kinship, gender, age, social connections or educational record defines the status of individuals in Chinese culture, while in British culture a person’s personal achievements is the defining factor of an individual’s status.

Kai-Ming et al. (1999, p.129) describe two diverse roles for the Chinese culture in regard to education. The positive role of culture is that the Chinese society is always motivated to learn and participate in different forms of education. The fact that this culture highly respects and values education plays a positive role in educational reforms. The negative role of culture emerges when the reforms ignore the cultural values. For example, culture resists against the educational reforms when the individual needs are located at the focal point of lifelong learning programs and the traditional aims of education such as social mobility and collectivist objectives are disregarded by the new policies.

The political and cultural differences between the two countries are both significant and important. However, the extent to which these constraints hindered the implementation of Australian approaches within the Chinese context is hard to assess from outside the system on the basis of the information available in the public domain. To make conclusive judgments will require further research work with access to in-country project documentation and personnel, which turned out to be well beyond the scope of the present study, for the reasons outlined in Chapter Three. What can be said at this stage, on the basis of the analysis conducted using the limited sources that could be accessed in the time available is that embedding a knowledge transfer tool similar to the Australian Training Package in the Chinese VET requires deregulation of a highly bureaucratic process of curricula and content-making process, which is implemented by a communist government with a high degree of content control, and replacing the curriculum with the elements suggested by market sectors. Furthermore, affirmation of any Training Package product includes an endorsement task to be done by a high-level panel similar to the ISC Quality Assurance Panel in Australia. A combination of different changes can
politically be interpreted as surrendering the authority of the government in a part of education sector.

5. Institutional constraints

As shown in tables 4.9 and 4.10 in Chapter Four, both functions of perception about and statement of skill demand and playing an effective role in processing information to create units of competency are highly dependent on a broad range of factors within the industries as well as their relationship to the government. In this section, I only point out two descriptive sub-indices of the Institutional environment pillar calculated for Australian and Chinese firms by World Economic Forum published in the Financial Development Report 2008. To keep this discussion brief I just limited my comparison to two selected out of tens of sub-indices (Table 6.4).

Table 6.4 A comparison between two sample sub-indices of institutional environment for Australian and Chinese firms

<table>
<thead>
<tr>
<th>Sub-index</th>
<th>Definition</th>
<th>Country</th>
<th>Score</th>
<th>World Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical behaviour of firms</td>
<td>The corporate ethics (ethical behavior in interactions with public officials, politicians, and other enterprises) of firms in the country are (1 = among the world’s worst, 7 = among the best in the world)</td>
<td>Australia</td>
<td>6.08</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>3.71</td>
<td>46</td>
</tr>
<tr>
<td>Willingness to delegate</td>
<td>Willingness to delegate authority to subordinates is (1 = low—top management controls all important decisions, 7 = high—authority is mostly delegated to business unit heads and other lower-level managers)</td>
<td>Australia</td>
<td>5.13</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>China</td>
<td>3.78</td>
<td>42</td>
</tr>
</tbody>
</table>

Extracted from: World Economic Forum 2008d

As shown in the Table 6.4, a comparison between the scores and ranks of these two sample sub-indices for Australian and Chinese institutions reveals vast differences in terms of institutional cultures. I underline that the process of changing institutional environments and behaviours of industries to participate appropriately in an industry-led VET is dependent on many cultural and socio-economic factors out of hands of the reformers at VET sector. So, logically the first function of Training Packages was not included in the scope of ACCVETP.

6.3.3. The limited transfer of the AQTF

As explained in Chapter Four, the Australian Quality Training Framework spells out the national quality assurance arrangements for training and assessment services developed by the National Quality Council on behalf of Australian VET stakeholders. There are several factors that have enabled these standards to form an effective national framework in Australia, most notably: the small size of the VET system; a long-standing pattern of relationships
between government, industry and training providers; and the well-established forms of interaction between these key stakeholders by way of reciprocal membership arrangements on associations and contractual arrangements. Consistent with Stone and Maxwell’s notion that ‘networks are a social technology to propel knowledge into policy deliberation’ (Stone and Maxwell 2005, p.93), the interactions between and within the related networks in the Australian context have generated a climate in which a broad consensus about acceptable forms of regulation could be translated into a formal set of arrangements and an agreement that adherence to these arrangements could be monitored through audit processes.

In answer to my question about the accreditation of RTOs in China through the ACCVETP, and whether any changes were made to the pre-existing Chinese accreditation arrangements. Barnaart briefly points out to establishment of an experts’ panel approached by the project to develop some standards among the pilot schools. He replies:

‘They had their own mechanism, a bit like Australia, a set of criteria to be established. Again I have an experts’ panel that review the schools, so they have an inspectorial and quite routine and quite well-done within the context of their design’ (Barnaart, personal interview, 20 December 2008).

Barnaart emphasises the difficulty of quality control in a very large system dispersed across a huge country. He states:

‘For example, China suffers with the problem of low-quality food. It means that the national regulation might be strong, but they have less control over how it is applied at a provincial level or a county level. They start to lose control, and it is difficult...another example, China has national regulations relating to transnational programs with certain obligations on the foreign providers. When that is actually implemented in such a big country, it can be implemented in different ways in different provinces and municipalities so when international providers are delivering in different provinces in China, the interpretation and implementation of a national policy might be very different’ (Barnaart, personal interview, 20 December 2008).

6.4. Conclusion: sustaining the VET reforms

Generally, if a government wants to initiate reform in the regulatory, institutional and training context of its skill formation, there are many changes that have to be made. It is to be expected that there would be many factors restricting any transnational knowledge transfer at all levels of delivery and policy-making. Moreover, because profound changes have been made in the regulatory context of the host system, the broader peripheral area is involved in the process and more constraints may arise, while we have no control on the stakeholders outside the VET.
The ACCVETP aimed to pilot reform in a vertical slice of the Chinese VET system by transferring Australian VET regulatory knowledge to the Chinese context. This project involved a significant number of stakeholders, including: three secondary VET schools and two tertiary VET institutions in the first phase, expanding to about fifty schools in the second phase; and a number of universities, industry groups including automotive, business services, electronics, hospitality and tourism, and construction industries and the Ministry of Education and the Ministry of Labour and Social Security at the local, municipal and national levels. More than 410 individual units of competency were developed by June 2006 (Comyn 2007) through this project, and components of the Australian Training Packages were used to produce curriculum, and the competency-based assessment used in Australian units of competency changed into a style suitable for the Chinese conditions (Australian educational expert involved in ACCVETP, personal interview, 14 Nov. 2008). However, national exams administered at the end of the Chinese VET programs are still required by the Chinese system in order for qualifications to be nationally accredited (Australian educational expert involved in ACCVETP, personal interview, 14 Nov. 2008).

In terms of knowledge transfer, we cannot consider the transfer of Australian VET approaches to Chongqing through the ACCVETP as having resulted in any long-term adoption of Australian modes of training regulation in the Chinese system. The above expert source suggests:

‘the main proportion of transfer must be in relation to the technical knowledge included in the units of competency of the selected Training Packages that got selected and translated and used in the Chinese Curricula’ (Australian educational expert involved in ACCVETP, personal interview, 2008).

So while the regulatory arrangements of the Australian system were used as a reform template, now, at the end of the project, the big issue is the sustainability of the changes made through the introduction of Australian VET regulatory technologies into the VET system in Chongqing.

Politically, reform in the regulatory knowledge of Chinese VET means re-balancing the relative authority of the various Chinese VET stakeholders in order to enable them to respond appropriately to market change. The process of adaptation and adoption of new arrangements implies compelling changes in the relationship between Chinese VET stakeholders, including relations between training institutions, industries and other organisations; thus altering the degree of involvement of each stakeholder and individual in teaching and assessment when compared with traditional Chinese arrangements.

In the Chongqing project, the reforms began in a VET context with a short history of free market co-operation using imported regulatory knowledge that originated in a liberal context where each of the main stakeholder groups has a strong voice and independent authority. The regulatory arrangements produced via cooperation between market sectors and the
government in a liberal context undoubtedly carries the polycentric nature of its policy making into the host environment, where different traditions and expectations will act as constraints.

In Australia, ‘industry’, as a collective of enterprises and associations outside the control of government, has been given authority to determine learning outcomes and is able through its power as a stakeholder to influence policy and funding decisions. In China this is not the case. Considering a post-reform situation, an optimum result would be that different stakeholders reach new agreements about changes in the relations of authorisation at the expense of the government. This can be achieved gradually and always relatively. However, if optimum intra-sectoral agreements are achieved, the sustainability of the reforms would still depend on the ability of each stakeholder to play its role under new relations of authorisation. The role played by Australian industry (both employer associations and unions) in the reform of an industry-led system at different points in the evolution of VET in Australia provides evidence of the importance to the regulation of a training system along Australian lines of the ability of industry to articulate its skill needs, reach agreement at a macro-level, and have this agreement recognised as the basis for the standards which form the foundation of the regulation, as industry standards which are created independently of government. Reaching this situation is still a long way off in China both because the industry sector is still developing its capacity to act in this regard, and the Chinese government has not yet released the reins of central power and authority over all aspects of the economy.

What we are seeing in the case of the Chongqing project is a transfer of some subsets of the regulatory arrangements which came into the Province through the reform project. The result is some reforms such as changes in training administration, delivery and inter-sectoral cooperation. However, we will not find a similarity between the functions of the reformed training sector in Chongqing and those of the Australian VET stakeholders because a VET reform project such as the ACCVETP is able to make reform manoeuvres for a limited time in a situation which exhibits only a minority of the required key factors of an industry-led VET. The most optimistic reform result is that the central and the local governments both try to maintain and develop the outcomes of the project, and that the market sectors continue to grow their demand for skilled workers and that they hold to their commitment to cooperate in a reformed skill formation system.
Chapter 7.
Transfer of Australian VET knowledge via business partnership arrangements

In this chapter I discuss examples of offshore VET activities classified under Model B. VET activities included within this model involve Australian public providers of VET (including Institutes of Technical and Further Education - TAFE - and higher education providers involved in VET, known as ‘dual-sector providers’) in delivering VET programs outside of Australia in the context of contracts with business interests, including industry associations and corporations. DEEWR data show that between 2003 and 2006 forty-two countries hosted thirty-four Australian public providers and a number of private providers\(^8\) (DEEWR 2008a), and the variation between the activities of different offshore providers included in this model is high. It is beyond the scope of this thesis to describe and analyse the full extent of these business arrangements, so I have selected two sample cases that exemplify the most common aspects of this model as a means of illustrating the characteristics of this model and differentiating it from models A and C.

7.1. Business arrangements in offshore operations of Australian providers

Australian public providers working under Model B arrangements delivered nationally recognised VET programs to a total of 100,688 students between 2003 and 2006: 18,302 offshore students in 2003, 23,586 in 2004, 27,842 in 2005 and 30,958 in 2006 (DEEWR 2008a). DEEWR considers this group of VET activities as one of four modes of supply of services identified through ‘the General Agreement on Trade in Services’ (GATS):

This is supply through ‘commercial presence’ of a provider from one country in the territory of another country. This involves direct investment in the export market through the establishment of a business there for the purpose of supplying a service. An example is when a provider sets up or uses facilities overseas to provide educational services to offshore students (for example, the establishment of an overseas campus by an Australian provider, or some ‘twinning’ arrangement for the provision of Australian educational programs by an overseas agency). In this mode the relative responsibilities of the Australian provider and any overseas ‘partner’ can vary, and range across a wide spectrum of

\(^8\) Data is not available for offshore activities of private providers.
services, including curriculum development, teaching, assessment, quality assurance (accreditation), and provision of the award and marketing (DEEWR 2008a, p.40).

In Chapter Five I referred to China’s membership in the World Trade Organisation (WTO) as a factor that fosters educational interactions with other members and expands transnational education activities in that country. Similarly, other countries use their membership of the WTO to facilitate transnational VET activities in the context of international trade operating under global arrangements.

According to DEEWR (2008a, p.43), Australian public providers operate offshore training business through four general sets of arrangements, which are: Partnership, Twinning, Franchising and Stand alone. The concepts and definitions for these different arrangements formally agreed by the NCVER and DEST in 2006 are described in Table 7.1.

**Table 7.1 Different arrangements for offshore businesses of Australian public providers**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Agreed definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnership</td>
<td>A partnership is a relationship between organisations who agree to share responsibility for achieving a specific goal related to offshore VET activity. For example, it may be a joint venture between an Australian VET provider and a foreign education provider whereby the foreign provider delivers particular elements of an Australian Quality Training Framework (AQTF) course offshore or even just an arrangement between Australian VET providers to share the administrative requirements for offshore students.</td>
</tr>
<tr>
<td>Twinning</td>
<td>A twinning arrangement is a pathway program or arrangement whereby offshore students commence VET studies outside Australia on a program designed to lead to the completion of an agreed course in Australia with an Australian educational provider.</td>
</tr>
<tr>
<td>Franchising</td>
<td>Franchising is a continuing relationship in which the franchisor (e.g. an Australian education provider) provides a licensed privilege to the franchisee to do business and offers assistance in organizing, training, merchandising, marketing, and managing in return for a consideration in the offshore market.</td>
</tr>
<tr>
<td>Stand alone</td>
<td>The delivery of VET offshore where there is no involvement of partnerships, franchising or twinning arrangements.</td>
</tr>
</tbody>
</table>

Source: DEEWR 2008a, p.43

Table 7.2 shows the business arrangements entered into by Australian public providers offshore in 2006. As this table shows, ‘Partnership arrangements’ was the most popular method sought, and 88.2% of providers involved in the delivery of VET offshore in 2006 used this method (DEEWR 2008a, p.14).
7.2. Campus and facilities in Model B

The first aspect of the offshore arrangements characteristic of this model involves the establishment of training facilities in the offshore setting. As McBurnie and Ziguras (2007) observe in evaluating what is required to establish an international campus:

An international branch campus is a very expensive endeavor, and every multinational enterprise knows the financial and reputational risks that are involved in international expansion. The cost of establishing a high-quality branch campus may necessitate funding from a range of sources, including the parent university, host government and international development agencies (McBurnie and Ziguras 2007, p.154).

To explore this challenge further, I have selected two sample cases and have interviewed personnel involved in aspects of the exercise to collect data on particular dimensions of the process.

7.2.1. The China Electricity Council (CEC) Project

The first sample is the China Electricity Council (CEC) Project. ‘The CEC Project’ is the name given to an offshore VET project involving an agreement between Chisholm Institute of TAFE with the China Electricity Council and thirteen partner Electrical Vocational Colleges. The project involves the joint delivery of English Language Intensive Course for Overseas Students (ELICOS) and nationally recognised Advanced Diplomas in Electrical Engineering and Accounting. A description of this project follows in Case Study #1.
Model B Case Study #1. Key characteristics of the CEC project

The CEC project commenced in 2002, and its specific objectives have been to:

- Work in partnership with English language departments of each participating institute to develop the English language levels of prospective students to meet the prescribed entrance requirements for Australian accredited VET courses. This is a one-year program.

- Jointly offer a two-year Advanced Diploma in Electrical Engineering and Accounting.

Presently there are 572 Chinese students enrolled with Chisholm Institute undertaking the three-year program described above.

Chisholm Institute has achieved ISO 9001:2000 certification and has RTO status. Within Chisholm Institute’s Quality Management System specific procedures have been developed to enable designated Institute staff to design, implement and monitor procedures that enable the project to comply with the Institute’s certification.

The CEC project was established after AQTF standards were made obligatory, which enabled the Institute to design the project to be compliant. A key feature of the CEC project is that it is an industry-driven program with full endorsement from the China Electricity Council and the power companies in each province where the courses are being conducted.

Source: Burchell et al. 2006, p.8

Roger De Zilwa, manager of international projects in Chisholm Institute of TAFE and project manager of CEC, explains about the ownership of the partner colleges in that project as follows:

‘In Zheng Zhou, Zheng Zhou Electrical Power College (ZEPC) is owned by the Zheng Zhou Electricity provider. And that’s why these institutions are usually well-funded, and they have got facilities and equipment that match ours and in some cases actually exceeds ours. They are really well-funded institutes’ (De Zilwa, personal interview, 11 Nov. 2008).

According to De Zilwa, the ownership of the colleges is:

‘Absolutely Chinese… in VET programs we are not allowed to establish campuses overseas. I am not sure whether we are not allowed to, but certainly we are not encouraged [to do that]… As far as Chisholm is concerned we have never embarked with the project where we have set up a campus. So, all of fifteen institutes in India and Vietnam are their institutes. They conduct a whole range of other courses, with electrical power institutes not too many… We have got another project with the Suzhou Vocational University, Suzhou is about an hour drive from Shanghai, and we run an Advanced Diploma in Electronics Engineering [under the] same model. It is totally a Chinese university, and we don’t even have a sector in that university. We just run our courses at their campuses’ (De Zilwa, personal interview, 11 Nov. 2008).
7.2.2. The Australian College of Kuwait

The second case is that of The Australian College of Kuwait, which has been sponsored by an Arab consortium, which established a partnership with the Boeing Company to invest in the establishment of this college in Kuwait in 2004. A consortium of Arab and Australian partners manage this college. A number of Australian universities and VET providers, including University of Tasmania, the Institute of Technical and Further Education in Tasmania (TAFE Tasmania), The Western Australian Central Technical and Further Education Institute in Western Australia and the Kangan Batman Institute of Technical and Further Education in Victoria, contribute to deliver Australian accredited programs through co-operation with Australian and local instructors in Kuwaiti and international students. The Australian College of Kuwait, which is described in more detail below (see Case study # 2), represents the extension of co-operation of different types of actors with various nationalities for investment, administration and program delivery in an offshore VET institute in the globalisation era.

Model B Case study # 2 The Australian College of Kuwait

The Australian College of Kuwait

ACK is a Kuwaiti-owned business that uses a consortium of Arab and Australian management and Australian instructors and operates in partnership with a number of Australian universities and institutes to provide world-class vocational education for the first time in Kuwait. The Australian College of Kuwait has active partnerships with the University of Tasmania, the Institute of Technical and Further Education in Tasmania (TAFE Tasmania), The Western Australian Central Technical and Further Education Institute in Western Australia (WA-Central TAFE) and the Kangan Batman Institute of Technical and Further Education in Victoria. The College operates from its purpose-built campus in West Mishref, Kuwait, which has been continually expanded and renewed since the first students enrolled in October 2004. It now offers a state-of-the-art training facility from which to deliver a wide range of education and training programs. Some of the specialised equipment available to students at ACK includes a ground-based Boeing 737-200 aircraft, aviation test benches and other sophisticated engineering equipment, a 57-foot boat, a state-of-the-art marine simulator and computer laboratories with the latest software. ACK curricula target courses in business and engineering, with maritime programs also under consideration. It currently offers two-year full-time diplomas together with degrees based on a further two years of full-time study. A Foundation program focusing on English language proficiency is available for students who need to build basic English skills prior to entering the diploma course. In addition, a Foundation Year in Business or Engineering is available to prospective students who have completed their 11th year in the British educational system in Kuwait and who need to build mathematics, writing and science skills, as well as learn valuable study skills to ensure their entry and success in their chosen diploma or degree program (ACK 2008).
7.3. What is the nature of the VET transfer in Model B and what factors are significant?

7.3.1. Language

The crucial role of language in transnational education is emphasised by McBurnie and Ziguras (2007):

In practice there are four components: the language of the curriculum (the printed or electronic learning materials), the language of instruction (used by lecturer, if one is present), the language of explanation (used by teacher/facilitator in tutorial sessions or in consultations with students seeking specific guidance or clarification) and the language of assessment (in which assignments and exams must be submitted). In transnational courses there is often more than one language in use across the mix of these components (p.115).

Using IELTS as a prerequisite for entrance to offshore programs is common among the Institutions engaged in Model B activities. De Zilwa explains the CEC project process for addressing language problems, based on the use of IELTS and Chinese teacher-training:

‘Firstly there is a language problem in China, so we have to make sure that the students of these institutes achieve IELTS at a minimum level of five before they can undertake our courses. So what we do is again work in partnership with their English language departments and each of these institutes has an English language department. We train their English language teachers and then the students do a full year of English before they commence their professional course… We have got another project in Shandon with a college called the Shandon Women Academy… it’s a partner institute of the Beijing Women’s Academy, exceedingly well-set up and exceedingly efficient… We run currently a Diploma of Accounting there, the same model, one-third import and so on. With the prerequisite of 5.0 IELTS to be in our diploma course’ (De Zilwa, personal interview, 11 Nov. 2008).

The offshore VET activities by Australian providers are fostering the learning of English language in a broad range of contexts for the considerable number of the students participating in these programs. Increasing the number of students with English language skills could ease the development of offshore programs, considering that a number of current students may participate in other Australian VET or university programs in the future.

7.3.2. How the Training Package system operates in Model B

This is the key focus of this study was the way in which the primary regulatory mechanism of the Australian VET system crosses jurisdictional borders to play a role in the transfer of knowledge from the Australian VET system into a foreign jurisdiction. According to DEEWR (2008a), 349 qualifications in 2006 and 325 qualifications in 2005 were delivered in foreign jurisdictions by Australian public providers. ‘In 2006, 90.3% of students were enrolled in courses that led to a qualification recognised under the Australian Qualifications Framework
Local teachers, rather than Australian expatriates, taught 76.8% of the qualifications in the country of delivery. This means 268 Training Package qualifications of a total of 349 were delivered by local VET teachers. DEEWR (2008a) also reports that in 2006 ‘the predominant mode for the delivery of courses offshore was via the classroom, with 88.0% of all courses and 98.4% of all students engaged in tuition in this mode. This follows the trend of previous years’ (DEEWR 2008a, p.13).

In other words, while the Training Package is formally the basis for design and delivery of VET programs in offshore institutions, in fact, the operation of the Training Package in Model B occurs primarily in institutions, that is via classroom delivery. Two questions are relevant here: The first is about the extent of industry engagement in the process of training delivery. The second is about whether the teachers in question are qualified according to the required standards of the AQTF.

The following example of teacher practice in a Model B implementation, the CEC case, provides some interesting evidence in regard to qualifications.

‘[Apart from English training], we train their professional teachers as well. They do a Certificate IV in Training and Assessment. Sometimes we can’t train all the teachers, so we have key teachers who have the qualification, they supervise the other teachers and we give them our curricula, our training resources and by Chinese law we have to provide a minimum of one-third of delivery…. There is some online support and there is online moderation and assessment and that basically constitutes one-third of delivery… It is the model for all of our projects, even in Vietnam we use the same model, and in Kolkata in India we run a Diploma of Accounting, actually an Advanced Diploma of Accounting, we use the same basic model. Some times that criteria being different, for example the Chinese CEC colleges, they are post-secondary colleges, in China they have got higher education systems like we have and then have got vocational education institutes which offer diploma level themselves. The students get the both of Chinese diploma and our diploma. And we have got pathways to Australian universities’ (De Zilwa, personal interview, 11 Nov. 2008).

I asked Murray Day, ex-managing director of TAFE International Western Australia, who has experience working in different offshore VET projects in China, Philippines and Iran, about the proportion of local teachers teaching in Australian offshore programs who would have a Certificate IV in Training and Assessment (Cert. IV TAA). His answer is:

‘Central TAFE and Challenger TAFE would go to their respective overseas colleges and teach the overseas teachers only the Assessment component of the Certificate IV in Training and Assessment to start with. The full-time overseas Australian teachers would have the full Certificate IV in Training and Assessment, and this is OK under AQTF rules, they could confirm local teachers’ assessments. For other non-full-time overseas courses, Central TAFE visitor teachers would undertake the checking of the Assessments with the
local teacher. This is OK under the AQTF rules at that time also. I do not know now’ (Day, interview, 27 Feb. 2009).

In answering my query about teachers, Murray Day summarises his observation as:

‘Some overseas teachers had the full Certificate IV in Training and Assessment, some had only a component of the Certificate IV in Training and Assessment which would allow them to work locally by themselves under the rules of being managed by an Australian Certificate IV in Training and Assessment holder. Some courses are non AQTF, and they would not need any Certificate IV qualifications. I do know for instance that some Melbourne TAFEs were not bothering at all in China with any AQTF as the Victorian system was not very interested in enforcing AQTF and they never did audits. Things may have changed by now. In summary, I think fewer than 20% would hold full Certificate IV [in Training and Assessment] qualifications’ (Day, interview, 27 Feb. 2009).

Avoiding the AQTF as a solution that providers may seek in some offshore programs is predicted by Moran and Ryan ‘for RTOs, one attractive solution is to avoid offering Training Package qualifications in their offshore operations and concentrate on non-award or State-accredited AQF programs. In the absence of a comprehensive survey of offshore VET activity, we can only speculate that this is, in fact, a preferred strategy’ (Moran and Ryan 2004, p.56).

Further, due to teachers’ qualifications, I found the Australian College of Kuwait as a unique case classified under Model B. According to Murray Day,

‘at the Australian College of Kuwait they agreed that all of their teachers would qualify with the Certificate IV in Training and Assessment and all staff were made to complete’ (Murray Day, interview, 27 Feb. 2009).

As shown in the Figure 7.1, in this model the cultural, structural and physical links of Australian VET stakeholders with training institutions are at minimum level. The norms, values and concepts that create the cultural environment of an Australian training institute are diluted in a host institute that shares some facilities with its Australian partner. Therefore, teachers as the key actors of Training Package implementation play the key role for transfer of technical knowledge. I discuss further on this subject in last chapter.
7.4. Assessment and Accreditation Issues in Model B

No one of the interviewees were aware of any offshore program in Model B in which the host country has accredited the VET qualifications issued by an Australian provider without requiring students to take another local/national exam. For example, I mention the statement of Murray Day:

‘I do not know of any. Our qualifications in one Chinese University meant that the students had to do our course and the Chinese course simultaneously as the Chinese industry and other universities would not accept the Aussie qualifications by itself’ (Day, interview, 27 Feb. 2009).

Countries and institutions may react differently from each other in this regard.

7.5. The curious role of Training Packages in offshore programs

In the Australian context, the practical benefits to employers and workers of the use of Training Packages as the basis for the design and delivery of training have been noted by researchers. Chappell, Hawke and Schofield (2002) and Schofield and MacDonald (2004) note that the Australian VET reforms in the last two decades have resulted in a move from a provider-led and educationally focused system to an industry-led labour market-focused system, which aims to directly address changing skill demands through work-based training. Accordingly,
training providers have been encouraged to deliver their programs in workplaces and in community settings, and to use Training Packages creatively to build close relationship with industries.

The rationale of the Training Package is to provide training providers with sets of standards that are matched specifically with individual job requirements within an industry sector and enterprise. This relationship is spelled out clearly in all Training Packages, and it is underlined in the evidence guides within units of competency. For example,

‘all of the units within the Training Package of Automotive would be related to basic functions of maintenance, servicing and repair. So in many ways actually in this VET sector, a kind of universal relevance is insured just by the varying nature of the activity of designing a Training Package’ (De Zilwa, personal interview, 11 Nov. 2008)

However, addressing the skill requirements of industries in non- Australian contexts by using Australian programs is an issue for sponsors and training providers of offshore programs. The approach taken to the development of regulatory standards in the Australian VET system has been entirely focused on meeting domestic skill demand. In the view of De Zilwa,

‘..the idea within that Training Package notion is that those competencies that are there nearly need to be adapted to particular job environment. If you look at business and accounting, perhaps the Australian Training Package would be premised on using certain software... We run a Diploma of Accounting in Kolkata, and an Advanced Diploma in which just about one entire semester is to do with Australian taxation law. Now, people will be asking in Kolkata why do people here have to do Australian taxation law? … Purely in terms of relevance, accounting is a good example where there is no cultural affinity. Whereas in engineering areas for example, like welding, there is Oxy welding, MIG welding. The key professional units would be the same because they are designed based on the industrial standards, but some general units like occupational safety may vary in different places’ (De Zilwa, personal interview, 11 Nov. 2008).

One rationale for the delivery of Australian regulatory standards (e.g. taxation law) is that a proportion of the students who enrol in Australian offshore programs may do so with the goal of immigration, as De Zilwa observes

‘The only logic is that those people want to move to Australia. It’s an unwritten immigration policy that we have got. Get these people come study in Australia, pay for their education, pay for their living costs, get culturally acclimatised, get themselves a job and then they can stay here’ (De Zilwa, personal interview, 11 Nov. 2008).
7.6. Discussion

If training programs are to be relevant in non-Australian economic and cultural contexts, there is a need for the Training Packages on which they are based to be adapted to meet local conditions, or for the concept of the Training Package to be used as the framework for the design of a local system – as has occurred in Singapore. This issue has been addressed in several research reports in recent years. Bateman and Giles (2007) argue that Training Packages need contextualisation to address offshore industry contexts and that the needs of offshore clients may not be addressed without this contextualisation. The tension in offshore programs between competency-based training and assessment and the related requirements of Training Packages on one hand, and the different traditions and cultural practices on which host education systems are based on the other hand has also been noted in a synthesis of offshore VET delivery by Australian Education International and the Australian Department of Education, Science and Training (2007). This report observes that Training Package-based training has been perceived, in some offshore VET projects, as an approach specific to the Australian workplace context. This observation led the authors of the report to conclude that Australian VET qualifications may not be appropriate for many offshore international students.

Moran and Ryan (2003) argue that despite the introduction of the Australian VET approaches as best practice models in foreign jurisdictions by international organisations such as the World Bank and OECD, little attention has been paid to the revision of the standards and regulations to address the needs of the global training market. Moran and Ryan further suggest that a new type of Training Package should be produced to meet offshore requirements with a higher level of contextual relevance.

Woodley (2006) points out a lack of any systematically international representation on the national Industry Skills Councils, which are responsible for the design of Training Packages, and on industry agencies that provide high-end advice to the VET system on industry needs. Woodley suggests that the Australian VET system reconsider the use of highly Australian-centric Training Packages in offshore programs and argues for the importance of assuring comparability between on- and offshore programs through better moderation and internationalisation of curricula. She also notes the need for reforming the AQTF rules related to the use of Training Packages in international markets.

The use of the Training Package in Model B offshore training forms a bridge between Australian industry as the sources of technical information about skill formation and the training institutions operating in a broad range of offshore contexts. Business development is the key promoter of the activities in this model, conducted by Australian public providers such as universities, TAFE institutes. While there is a strong connection between Australian industries via the Training Package, there were no recognised, formal channels of information between the Australian training providers and local industry bodies. While the Training Package
technology is being used by teaching staff as the basis for design of training programs and for delivery and assessment of training, it is not being used explicitly as a source of standards relevant to local conditions. In other words, it is the Australian teaching and administration staff who are the key actors in fostering utilisation of Training Packages at institutional and individual levels in the host context, rather than local industry.
Chapter 8.
The transfer of Australian VET knowledge via outward Foreign Direct Investment

In this chapter I review the co-operation of an Australian company with an Australian training provider to deliver VET programs in a non-Australian setting. A model of transnational transfer of VET knowledge is formed to explain how an Australian firm extends its activities across national borders through initiating a business or production activity and using the Australian VET system as a framework to train recruited local workers.

I start this chapter with a short description of the selected case. I then review the macro characteristics of the context in which the overseas VET activity is being conducted. I describe how VET programs are being delivered in this model based on the information gathered from published company reports and interviews with two key people involved in the selected project. I also discuss the extent to which the Training Package technology is being used and illustrate the model through which Australian technical knowledge is being transferred. In addition, a few factors such as nature of the activity, characteristics of the contexts and key issues involved with delivery of training through this model are discussed in this chapter.

8.1. The company
The subject of this chapter is the training activities in a mining project conducted by the Australian mining and exploration company Oxiana Limited in the Sepon district in Central Laos. Oxiana Ltd. is a relatively young but fast-growing mining company in Australia. In addition to several projects in Australia, Oxiana is carrying out a number of mining projects in other countries, including: Laos, Thailand, Cambodia, China and Indonesia. Among the major concerns of Oxiana is the skill of the local workers whom this company recruits in its international projects. The transnational activities of Oxiana in 2008 are shown in Figure 8.1.

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9 In June 2008 Zinifex's $4.2 billion mining company was merged into the Oxiana Ltd. The merger of these two Australian-based international mining companies was named OZ Minerals Limited in July 2008. However, in this study the term ‘Oxiana’ is used.
Oxiana acquired Sepon gold and copper mines in the Lao PDR through its Laos subsidiary company, Lane Xang Mineral (LXML), in 2000. The Sepon mine project, known as the largest Foreign Direct Investment (FDI) project in Laos to date, created a considerable number of employment opportunities mainly for local workers. For example, in 2006, a total of 3,372 full-time and casual employees worked at the Sepon mine site (Matzdorf 2007, pp.16,17).

As a key strategy, Oxiana has opted to train and recruit local workers in its projects: ‘Oxiana provides ongoing training at all sites including assistance with further study in relevant courses and preparation for career transitions... A particular focus of training and development initiatives is building the skills and qualifications of local people (both actual and potential employees)’ (Oxiana Limited 2006, p.17). As shown in the Figure 8.2, Lao workers constituted 91 percent of total workforce of Sepon project in 2006.

**Figure 8.2 Breakdown of total workforce by origin at Sepon operations**

Source: Oxiana Limited 2006, p.14
In 2004, Oxiana started vocational training programs to train the local workers who were involved in the Sepon mining project. Later, in July 2006 RMIT University became involved in the design and delivery of the VET training programs in this project. Lao workers at the Sepon mine were the target group of these training programs.

Program delivery in this project presented specific challenges, which were quite different from many other offshore Australian VET activities. To set the scene for this discussion I will first describe the characteristics of the Lao context, the differences between Laos and Australia, where Oxiana originated, where its technical skill base has been consolidated, and the difficulties faced by this established enterprise from a developed country in accessing skilled industrial workers in a developing economy.

8.2. The Laotian context

Laos is a low-income Asian country with a population estimated about 5.9 million in 2007 (UNDATA 2009), located in the South-Asian region near China, Myanmar, Thailand, Vietnam and Cambodia. GDP per capita of the Lao was US$599 in 2006 (UNDATA 2009). Thayer (2003) describes Laos as ‘one of the world's least-developed countries and one of the last remaining socialist states in Asia’ (Thayer 2003, p.121).

In order to bridge its economic gap with the developing world, Laos has made some efforts through conducting economic reform programs in the last thirty years. However, economic turbulence due to the 1997-98 Asian financial crisis and associated political insecurity had negative effects on the economic development of Laos. The crises continued until 2002, when the one-party elected Lao regime made new political adjustments to cease the internal crises and rebuild a reliable environment for foreign donors and investors (Thayer 2003, p.121).

The Lao government’s attempts in the last years have resulted in some fruitful achievements. Phonephet Boupha, deputy-director general of the Department of Higher, Technical and Vocational Education at Ministry of Education of Lao PDR (2007) claims Laos has experienced rapid economic growth in the five-year period 2001-2005:

The share of agriculture in GDP decreased from 51.9 percent in 2000 to 45.4 percent in 2005 (as compared to the Plan’s target of 47 percent). The share of industry and construction sectors increased continuously from 22.4 percent in 2000 to 28.2 percent in 2005 (against the Plan’s target of 26 percent). The share of services increased from 25.7 percent in 2000 to 26.4 percent in 2005 (versus the Plan’s target of 27 percent) (Boupha 2007, p.9).

Currently, the Lao government is following its Sixth Five-Year part (2006-2010) of the Lao National Socio-Economic Development Plan. This Plan started in the 1980s as a national economic reform program aimed at promoting economic growth and international integration of Lao PDR (Boupha 2007; Matzdorf 2007). Foreign Direct Investment is seen as a source of
financing the targeted growth of 7.5-8 percent in this plan, which requires about US$600 million of FDI flow each year (Matzdorf 2007, p.4).

8.3. The skill shortage problem

Laos has one of the least-developed systems of education and training in the world. For example, ‘In 2000 only 72 per cent of children aged between 6 and 14 were going to school and only 50 per cent of children reached grade 5’ (Matzdorf 2007, p.22). With limited resources to spend on educational and industrial infrastructure, development of human resources in Laos is a major challenge. The adult literacy rate for age 15 and over was 77.4% and 55.5% respectively in the male and female population in 2004 (Quick Facts 2004). Laos also struggles around VET for lack of financial resources. Skill development programs in Laos have always been dependent on donations from overseas. According to Boupha (2007), the Lao Ministry of Education received a total of US$12.9 million in grants from thirty-five international organisations and national governments for the purpose of skill development in the period from 1995 to 2007 (Boupha 2007, pp.31-38).

In the Sepon case, the serious skill shortage of local workers was emphasised by both of the Oxiana project managers, Matthew Miller and Graeme Barr;

‘There is serious shortage about different technical skills in that region’ (personal interviews, 24 May 2007).

Skill shortage is a key constraint upon the expansion of activities of a firm from a developed country operating in a less-developed country through FDI (Acemoglu 1996 and 1998; Kiley 1999; O’Connor and Lunati, 1999). A shortage of skills in the host country is a possible bottleneck that limits both the establishment of new plants and the development of established plants. At a macro-level, ‘skill shortages’ in under-developed and developing countries is a potential barrier against technological development and economic growth. O’Connor and Lunati (1999) suggest that supplying education and training to the local workforce may offer a solution to the skill shortage problem.

8.4. Vocational education and training in the Sepon mining project

The lack of a local qualified and skilled workforce in Laos prompted the Australian mining investor to establish VET programs to provide the local workers with the opportunities for learning the required skills. Owen Hegarty, the Managing Director and CEO of Oxiana Limited (in 2008), considered delivery of training programs to workers as a key approach his company sought to overcome the skill shortage problem: ‘Given our demand for trained people, we clearly derive a benefit from encouraging pre-employment training’ (Hegarty 2008, p.7). The training offered by Oxiana at its Sepon mine are summarised in Table 8.1 below.
Table 8.1 Training programs developed by Oxiana in Sepon mine site

<table>
<thead>
<tr>
<th>Australian VET Certificate Programs *</th>
<th>Other Training Programs **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate II and III in Electrical Trade, Metal Trade, Building and Construction, and Automotive Mechanical Repairs</td>
<td>Computer skill training including MS Word, Excel, Access, Outlook, and PowerPoint</td>
</tr>
<tr>
<td>Certificate II, III, and IV and a Diploma in Metalliferous Mining Operations (processing)</td>
<td>Vehicle licenses and operating permits for heavy machinery and equipment</td>
</tr>
<tr>
<td>Certificate II in Business</td>
<td>Unexploded explosives demolition</td>
</tr>
<tr>
<td>Certificate III in Business Administration</td>
<td>Exploration and geological surveying</td>
</tr>
<tr>
<td>Certificate III and IV in Business (Frontline Management)</td>
<td>Safety training programs, including general safety training, safety for forklifts, occupational health and safety, risk assessment, and safety courses specifically relating to mining operations</td>
</tr>
<tr>
<td>Certificate IV in Business (Human Resources)</td>
<td>English language skill training with five levels to allow the trainer to tailor the program to the learner’s needs</td>
</tr>
<tr>
<td>Certificate IV in Training and Assessment.</td>
<td>Lao language skill training to improve the literacy levels of local employees</td>
</tr>
</tbody>
</table>

* These are nationally recognised Australian VET Qualifications
** non-accredited and in-company programs or non-VET licenses

Extracted from: Matzdorf 2007, p. 23

In two years since Oxiana commenced running these training programs, a total of 71,326 hours of technical training has been delivered to Lao workers at the Sepon operation. Oxiana also conducted 1,152 hours cultural awareness training at the Golden Grove operation and 2,928 hours at the Sepon operation (Oxiana Limited 2006, p.18).

The Oxiana Apprenticeship Program

In July 2006, the Oxiana – Lane Xang Minerals Ltd (LXML) initiated a Mining Apprenticeship Training Program for Sepon workers. Oxiana offered 88 apprenticeship places to Lao workers over a period of four years up to 2010. Oxiana signed a contract with RMIT University to implement the required training for the apprenticeships under the auspice of the Australian national VET framework (Matzdorf 2007).

The Royal Melbourne Institute of Technology (RMIT) is an Australian dual-sector university with a number of campuses in Melbourne, regional Victoria and in Vietnam. This university also provides a broad range of programs online, by distance education, and at partner institutions throughout the world and, as a Registered Training Organisation within the Australian VET system, offers a full suite of nationally recognised VET qualifications across a range of industry areas, including apprenticeship training at Certificate III.
To provide the training required by Oxiana’s Lao apprentices and other trainees, RMIT has formed a partnership with the Kangan Batman Institute of TAFE\textsuperscript{10}. Together the RMIT schools of Infrastructure, Electrotechnology and Building Services and Aerospace, Mechanical and Manufacturing Engineering; and the Kangan Batman schools of Automotive and Construction provide Certificate III training in Building, Construction, Carpentry, and Automotive Heavy Vehicles (RMIT - SET 2007).

According to an Oxiana Report Summary (Oxiana limited 2006), the program offered through RMIT and Kangan-Batman was the first apprenticeship of this type started in Laos. ‘The apprentice intake for 2006 is 16, comprising 4 apprentices in each of the following disciplines: electrical, instrumentation, maintenance fitting and machining, and metal fabrication and welding. All of the apprentices are from the local Vilabouly district. Twelve of the apprentices are maintenance employees who have been with Oxiana for up to three years and the remaining four apprentices are recent graduates from the Vilabouly Upper Secondary School’ (Oxiana Limited 2006, p.19).

Owen Hegarty, previous Managing Director and CEO of Oxiana Limited, points to the cooperative role played by the RMIT University campus in Hanoi in Vietnam in relation to the Sepon project: ‘In Laos, we have been cooperatively involved with RMIT, which has a campus in Hanoi, in neighboring Vietnam, and Rio Tinto to deliver both pre-employment and apprenticeship training. Much of the training is done on-site…Our largest department at Sepon is our Training Department’ (Hegarty 2008, p.7).

In order to deliver the required underpinning knowledge and principles of apprentice courses to related candidates, Oxiana in conjunction with the Rio Tinto Mining Company\textsuperscript{11} has also established a pre-apprenticeship program at the Savannakhet Technical and Vocational school, a Lao college, totally run by Lao teachers to teach Lao students. In 2006, ten positions were offered for each intake in welding, mechanical and electrical maintenance, instrumentation, hydraulics, and refrigeration.

In addition to the training programs for local workers, Oxiana LXML allocates approximately US$500,000 per year to cover the professional development costs of its Lao professional and high potential technical staff who participate in different educational and training programs offered by various international educational institutions, vocational institutions, and other

\textsuperscript{10} Kangan Batman TAFE formed out of the merger of three major institutes-John Batman, Broadmeadows College and the Richmond automotive campus of Barton Institute of TAFE. Kangan Batman Institute of TAFE is one of Australia’s major vocational education providers located in Victoria offering a wide range of courses in a variety of fields, ranging from certificates to diplomas in seven campuses. (http://www.kangan.com.au Accessed 5 March. 2009).

\textsuperscript{11} Rio Tinto is an international mining group, combining Rio Tinto plc, a London listed public company headquartered in the UK, and Rio Tinto Limited, which is listed on the Australian Stock Exchange, with executive offices in Melbourne (http://www.riotinto.com/whoweare/business_overview.asp Accessed 5 March. 2009).
mining operations overseas. LXML also each year covers three additional scholarships to the AusAID Scholarship Program to be granted to the Lao students to study at Australian universities (Matzdorf 2007, pp.23-4). Lao workers who participate in these programs have generally studied the required underpinning knowledge in their own language at Savannakhet Technical College.

8.5. The Oxiana/RMIT training arrangements

The following description of the Australian training offered through Oxiana for its Lao workers, and the issues faced in this operation, is based on an interview with Graeme Barr, who manages the Oxiana training project for RMIT.

8.5.1. The students and the program

The RMIT project manager describes the participants of the apprenticeship programs:

‘The people who are coming out of the Savannakhet Technical College are not Australian qualified electricians or tradesmen, but Oxiana draws apprenticeship from here because they have already got some knowledge. Some knowledge taught in their own language…It will be used as a basis for drawing their future apprentices from as pre-apprenticeship training who already have some technical knowledge’ (Barr, personal interview, 25 June 2008).

Barr explains the commencement of the apprenticeship program by RMIT as:

‘[We] started this year, just recently after three years activity. Their cooperation extents to just they being in the Lao instructors from the technical college to sit in our training delivery courses and they possibly boost their technical knowledge in some areas and just gives them an understanding of what is required of the trainees that come out of the Savannakhet technical college looking for employment with Oxiana’ (Barr, personal interview, 25 June 2008).

8.5.2. Addressing language barriers

All of the programs by RMIT are delivered to Lao workers through interpreters on site at the Oxiana/OzMinerals Sepon gold and copper mine in Laos. Barr answers my question about his main challenge in this project:

‘My main challenge is to overcome the language barrier. The biggest challenge is working with non-English-speaking students. We have to send learning materials to translators. For checking the understanding rather than assessment, you go to topics, imagine a few items, tens of verbal items are needed to check understanding… and one of the biggest problems that we have is literacy and numerical skills’ (Barr, personal interview, 25 June 2008).

To my question about the number of translators there, Barr replies:
‘Seven translators. I tried to assign one per trade program. Some of them have been doing two roles, as the program develops they employ more people’ (Barr, personal interview, 25 June 2008).

As shown in the Table 8.1, Oxiana offers some English language training courses to the local workers. Barr’s explanation about these courses is: ‘At the moment there is the apprentices we teach trade, every Sunday they are taught English lessons. They work six working days on the tools, because they work mining shifts seven days a week, so every Sunday they are taught English and maths, which is going to be a great bonus’ (Barr, personal interview, 25 June 2008).

Barr explains delivery of the qualifications at the Levels III or II:

‘We did Certificate III but four-year apprenticeship may take slightly longer to complete all of the technical tasks and assessment because of limited workshop training facilities. As for Certificate II, it has not done at a level up to Certificate III in Mining, because some of the modules expand over all three years of the theory delivery. We do give certificates of completion that they have completed an underpinning knowledge of stage one or stage two of that module… Nobody has completed a qualification yet’ (Barr, personal interview, 25 June 2008).

And to my question ‘Does it take a much longer time in comparison to delivery activities in Australia?’ Barr says:

‘At the moment they have structured to take four years. In Australia probably it would take three years, and a very short period 24 hours in the fourth year. Because all the theory is condensed into one block. because in Australia when the apprentices go one day a week or five days every six weeks to have their block release. In Lao they do a whole year of theory in one 30-day block that will happen three times over three year, and in the fourth year it would be more practical assessment period’ (Barr, personal interview, 25 June 2008).

About completion of apprenticeship programs by students in the Oxiana project, Barr explains:

They would complete their apprenticeship in more than four years to complete their practical assessment; however, they will remain in employment with Oxiana, complete their apprenticeship and as far as on the way to continue their employment’ (Barr, personal interview, 25 June 2008).

8.5.3. Accommodating the requirements of the AQTF

To the question ‘Do you think that any part of AQTF or Australian style of training is irrelevant to that context? Or might be a challenge of an issue?’ Barr answers:

‘It would be some parts of that irrelevant, most definitely. I couldn’t give you an example, I try to give you an example, yes, there are some things that are irrelevant that we have to
We have to talk about OH&S [Occupational Health and Safety] legislation. Totally irrelevant to people in Laos, but as a part of this Training Package we have to deliver it. We are also trying to cooperate in their own in-house Oxiana OH&S policies; it is a little bit of a double up’ (Barr, personal interview, 25 June 2008).

Answering to my question ‘Did you have any problems meeting the requirements of the AQTF?’ Barr explains:

‘Not yet, but I think next year is going to be different all together... I am talking particularly about the technical electrical, not about the rest of the trades... We would have some difficulties because of the AQTF in apprenticeship. We are doing profiling. We have had time to do theory with very few mining practices. Now, we should do theory and more practical to enforce that. But they didn’t have facility for practical and there has been theory and all the practical in one block in the fourth year, and that is not really going to go well with the AQTF as well.’ (Barr, personal interview, 25 June 2008).

According to Graeme Barr’s notion, some restrictions in preparing the optimum circumstances for providing practical training in parallel to theory caused separation of theory and practice in the technical electrical training program. This separation and gap in delivery may not address the AQTF requirements.

About the educational activities of Oxiana in the future Barr says:

‘The educational activities of Oxiana are developing strongly. They started offering small facility, getting larger and larger and just built quite a big centre. They have their own workshop training area. Something shouldn’t have been done from the beginning. They have trained their own people, they have got asked to train people for training and assessment, so now the supervisors can do a lot of workplace assessment because they are qualified to do so’ (Barr, personal interview, 25 June 2008).

I also asked ‘Is there any influence of this project to any other sectors of Laos, for instance to employers, to educational sectors?’

‘I have no knowledge of it, I think they would be some sort of influence because all the actually that industry is involved with supporting the mine, people talk, they would notice that there is a bloody of Lao being employed and trained, definitely now the educational sector with the technical college we have spoken of, is aware what the requirements are, they may be able to re-struct it, they may do that to suit that, I don’t think done. In this a speculation of my partner I don’t know anything in particular. I have had no contact, but I think in answering your question it would have some influence, yes’ (Barr, personal interview, 25 June 2008).
'In that Lao college, did you see that they copy a sort of your training work? Can you remember any evidence for that?'

'At this stage I have no evidence of that, because only their instructors come to our training areas, they sit in there and they participate as students. As a teacher I have been there once this year, so they have one instructor sitting there or participating, I had no evidence of what he does. He tells me he knows a lot of the subject, his biggest problem is limited budget for materials. He has requested some materials from Oxiana, and I believe Oxiana is going to provide him with some training material' (Barr, personal interview, 25 June 2008).

8.6. Discussion

The different macro-level economic and socio-cultural contexts of Australia and Laos have played a part in shaping international cooperation activities such as FDI, which require the direct involvement of local people over a long period of time. In particular geographic remoteness and language barriers have performed significant roles in limiting Lao capacity to attract foreign investment from any country but its near neighbours. As Hiratsuka points out, linguistic and cultural similarities and geographical proximities have played a significant role in enabling transnational company activities in other countries in the East-Asia region Hiratsuka (2006, p.19). He argues that these factors were effective in promoting a high proportion (58%) of Lao’s foreign investment from neighbouring Thailand between 1999 and 2003, and an increasing FDI from Vietnam to Laos (Hiratsuka 2006, p.20) which are more closely related geographically and culturally. The language barrier was a serious issue to be addressed in the Sepon project, in which a number of translators intermediate all communications between the Australian teachers and Lao students in the training programs. However, because I am not focusing on the level of learning by individual trainees/apprentices, but on the impact of the application of the Training Package on the nature of an FDI activity – that is in creating the framework for systematic application, I have not explored in any detail the ways in which language barriers have played out at the level of individual skills transfer.

Through the perspective of this study, the transnational activities of Oxiana, now Oz Minerals, as an Australian mining company have created a process through which the Australian VET knowledge is being transferred into a non-Australian context entirely through the actions of an individual company, facilitated by a host government, and working in cooperation with Australian Registered Training Organisations, to establish an Australian mining operation to Australian training standards in a mining industry site outside the jurisdiction of the Australian VET system. In effect, what the Oxiana case illustrates is how the Australian VET system can be extended to incorporate a site within a foreign jurisdiction, by the application of training standards.
In conclusion, I return to the three-part model of transfer of VET knowledge to analyse which aspect of Australian VET knowledge is being transferred, and to what extent it is being transferred overseas via the Oxiana/Oz Minerals and RMIT activity.

This case study illustrates Model C, where an Australian training provider cooperates with an Australian industry sector to deliver training programs to non-Australian students in their region. In fact, two main Australian stakeholders of VET are transferring the Australian VET knowledge to overseas via an outward foreign direct investment project in the mining industry.

As shown in the Figure 8.3, in this model it is the third function of the Training Package that is being transferred – that is the provision of knowledge and skills to employees through the deployment of Australian approaches to the provision of training within the Australian industry and training sectors. Employment of workers in an Australian industry provides RMIT as the training provider with the opportunity to conduct a complete assessment process by having access to an industry sector for getting the training outcomes.

**Figure 8.3 Operation of Training Package at the Sepon mining project**

In this model, the general expectations of employers to their workers in regard to the application of skill operate according to the same criteria that are used in Australia. This means: an Australian employer has invited an Australian provider to deliver on-site training to workers. The difference is that neither the students nor the macro socio-cultural context of work are Australian, and this raises a challenge for skill development. The competencies that make up Australian VET qualifications are those defined by the needs of Australian industries.
operating under Australian training and industrial regulations in the macro socio-cultural context of Australia. However, once transferred to a different macro context, the question is to what extent the Australian training standards that are being applied to workers in Sepon are in fact being transferred. There is reason to ask whether the non-Australian characteristics of the macro context mean that a considerable number of the areas of competency that constitute the Australian VET qualification are in fact disregarded.
Chapter 9.
Conclusion

In concluding this study, I retrace my steps and summarise what has been undertaken as a basis for drawing some conclusions in relation to my research questions which are:

- What is the process of adaptation involved when the Australian VET approaches are used as a framework to develop skill formation in a new context overseas?
- In different models of transfer of VET knowledge what are the relative drivers and constraints in effecting the transfer?

The broad context in which these questions were posed led me to explore multiple theoretical perspectives in order to be able to account for the concepts of globalisation, knowledge transfer, and regulatory modes.

The major theoretical framework for the consideration of the phenomenon of globalisation has been Braithwaite and Drahos’ (2000) conceptualisation of the globalization of regulatory arrangements as a framework for describing the way in which Australian VET knowledge is being transferred in these three models via various mechanisms and by a range of different actors in a global context. I proposed that Australian VET regulatory arrangements and practices are being used in two different modes. First in an immutable mode as a ‘technology of trust’ which manages to hold the face value of its components (e.g. units of competency and qualifications) intact in different settings and under different training and assessment practice regimes, providing the standard is addressed. The second mode involves the combination of the Australian regulatory arrangements and practices with local regulation and practice, which is enriching the hosts’ regulatory knowledges of VET. In my proposition, the development of transnational activities according to each of these modes acts as a catalyst for the globalisation of the Australian VET approach to training regulation, in different forms and with different degrees of effectiveness.

From this perspective of knowledge transfer in different modes, I considered the global flows of industry, technology and capital as globalising forces which create new demands for skills by operating in a global as distinct from national or international context. Knowledge, in multiple forms – including skill, regulation, and technical know-how has become a most critical resource in the era of globalization (Bresman, Birkinshaw & Nobel 1999), flowing in a worldwide pattern as a part of the circuit of capital (Thrift 2005; Sharma 2008). The rate at which knowledge is transferred increases as a consequence of increases in the rate of transfer of capital as a whole.
I referred to concept, modes of knowledge and its transnational transfer (Nonaka 1994; Alavi and Leidner 2001; Kogurt and Zander 2003) in this study to say how Australian regulatory arrangements for VET are considered as the knowledge of this system, and to state how a Training Package is a modern practical artefact and a way of building order (Winner 1998) being used as a knowledge transfer technology in VET.

Within this multi-layered theoretical framework I discussed cases that represent three different models for the transfer of VET knowledge from one system to another. The three models and the respective cases are summarised below in Table 9.1.

Table 9.1 Models of VET transfer and respective cases

<table>
<thead>
<tr>
<th>Model A</th>
<th>Model B</th>
<th>Model C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanism</td>
<td>Transfer of Australian VET knowledge through a reform project</td>
<td>Institutional partnership model</td>
</tr>
<tr>
<td>Case/cases</td>
<td>Australia-China Chongqing Vocational Education and Training Project (ACCVETP)</td>
<td>China Electricity Council (CEC) Project involving Chisholm Institute of TAFE, The Australian College of Kuwait</td>
</tr>
</tbody>
</table>

In this chapter, I draw together the threads of the discussion of VET knowledge transfer in these four cases and compare their different aspects in terms of the nature and implementation of the mechanisms applied in each model. In this context I reflect on the nature and characteristics of Australian VET knowledge; and identify and name exactly what it is that is being transferred from one system to another in each of the cases studied. On this basis I draw preliminary conclusions about the modes and methods of knowledge transfer under each of the three models. My key interest in this study has been to describe how transfer takes place, in order to be able to identify key driving factors at work in each case. In conclusion I suggest some directions for further research based on the findings of this quite preliminary study.

9.1. The processes of adaptation under different transnational models

To address the question of adaptation of the Australian training regulatory mechanisms, we need to understand how the concept of outcome-oriented VET is played out in the different models and cases.

In Chapter Four I reviewed the formation and development of the knowledge that constitutes the Australian VET system. As this discussion demonstrated, the regulation of training outcomes in a demand driven environment has been the dominant theme in the development
of the Australian VET system. This stands in contrast to previous Australian vocational education and training systems, and to many international systems, where the focus has been on the regulation of training processes and on the maintenance of a supply driven system. The significance of this reform program was that ‘industry’ came to assume authority over training outcomes through their role in the determination of training standards (Deveson 1990; Anderson 1999; Smith & Keating 2003). This Australian VET system strategy has been sustained through the introduction of Training Packages in 1997-8, and recently reinforced through the implementation of a new version of the AQTF in 2007 in which being ‘Outcome-focused’ is one of the four key themes (Table 4.4).

The contrast between Australian VET and other systems is illustrated in the case study of transnational VET transfer according to Model A. The Chongqing project involved the Chinese participants of a process-oriented training system and a developing centrally managed economy in using the regulatory tools of an outcome-oriented VET system which evolved in a liberal economic and political system. In brief the difference is this. In a process-driven system, the point of regulation is the process of training itself, which means that the delivery of the curriculum, its content and modes of assessment are all subject to regulation. However, in an outcomes-based system, such as Australian VET, there are just two key points of regulation: in the design of industry competency standards and in the monitoring of outcomes. This means that the curriculum and modes of assessment need to be determined by the training provider. For Chinese trainers and their managers, this was a significant change in practice, and one which their system was not structured to readily take on.

In addition to the process versus outcomes distinction, there is the question of economic and political differences. In contrast to VET in Australia, which has been shaped over two decades in a liberal economic and political structure; notwithstanding recent contributions by Chinese industry to training policy and provision (Wang 2003; Misko et al. 2005; Comyn 2007; Barnaart, personal interview, 20 December 2008), there are no industry oriented mechanisms for monitoring and providing feedback on training outcomes in the Chinese system. In addition to being influenced by the strong process orientation of Chinese education system, the notion of an industry-based monitoring and feedback mechanism may be hindered by the low productivity of the workforce in Chinese enterprises.

To reform a process-oriented system by using the regulatory arrangements of an outcome-oriented one involves more than a series of internal changes to the host’s VET system. To adopt the Australian Training Package as a regulatory agent requires reform which embeds VET firmly into its surrounding industrial and government context. It means bridging the ‘island’ of VET with the market by initiating a range of government-industry monitoring processes and two-way information channels through new agreements between the existing VET system and industry agencies, or by creating new agencies for this purpose.
In Model B the outcome orientation of the Australian VET qualifications being delivered offshore presents a similar challenge to that presented in Chongqing. Assessing students without holding an examination at the final stage of a training program is strange to the countries like China and Kuwait with process-based systems. Arrangements for the collection of evidence of competence through demonstration in the workplace or under simulated workplace conditions are not in place in the two host contexts explored in this study. Training and work remain separate. There are no industry-training relationships and protocols (including legal agreements with employers, and requirements for regular contact between employers and the training provider) to enable trainees to move between college-based and workplace learning and assessment in the way an Australian apprentice does.

Most particularly there is no mechanism to ensure feedback on work-based training and assessment from an employer to the training provider where there is no formal link with industry or any monitoring processes in place. Albeit, in some cases such as the China Electricity Council (CEC), we may find that an industrial agency client of the Australian provider, creates the micro conditions for feedback in a particular case.

Model C is different in this respect. In the Sepon mine project, an Australian Registered Training organisation trains non-Australian workers to work in an Australian company, under Australian training conditions in a non-Australian setting. Here the Australian apprenticeship program is able to provide a mechanism of bridging training and work and learning at job for workers. The Australian employer can readily cooperate with the Australian RTO in this regard, despite the fact that both are in a non-Australian jurisdiction, because they have both effectively exported the Australian VET system. In fact what they have done through this cooperation is to create an Australian regulatory island inside Laos; enabling the outcomes of training to be monitored through Australian regulatory arrangements (competency-based assessment and AQTF quality assurance) and the feedbacks provided to the RTO.

If we compare the Models B and C through the aspect of access to industry for the purposes of collecting evidence of competence (see Figure 9.1), we can see that Model C provides an integrated arrangement which is not possible under the conditions at work in Model B. In fact, if the aim is to increase productivity of individual workers in a company workforce then the Australia-Lao activity in Model C is likely to be more effective because the environment in which the transfer is taking place is essentially a micro-Australian regulatory environment.
9.2. Drivers and constraints on Transfer in each model

As illustrated in Table 4.9 in Chapter Four, the Australian National Training Package operates as a knowledge transfer technology through three main functions which operate through a cooperative relationship between different stakeholders. These are:

Function 1: Identifying skills in demand in particular industries and collecting information. This is a function carried out by industry organisations (in Australia this includes a range of industry associations and member enterprises, who provide information to the national Industry Skill Councils)

Function 2: Processing information to create a set of knowledge artifacts in the form of units of competency which are packaged as qualifications, and bound by rules of operation. This is a government regulatory function conducted by VET system agencies which oversee industry standard development (in Australia this includes national Industry Skill Councils which work within government rules and regulations to produce training products (Training Packages) which are reviewed and endorsed by government via the National Quality Council).
Function 3: Embedding these knowledge artifacts in the training system and making them available to RTOs and individuals as assessment and training. This is a training provider function. In Australia this involves RTOs which design and deliver training qualifications for industry clients and individuals seeking work skills, and which operate within government quality standards (AQTF) to issue a nationally recognised Australian qualification to national industry standards.

In Figure 9.2, below I have classified these three key functions of the Training Package to show the main scope of each function for operation in relation to their primary institutional location and colour coded these accordingly: industry [blue], VET system [yellow] and training provider [orange].

Figure 9.2 Classification of functions in the Australian VET system

![Classification of functions in the Australian VET system](image)

This schema shows that the first function (analysis of skill needs and design of training standards) is located in Australian industry organisations, the second function (regulation of training quality) is carried out through a cooperation of government and industry organisations and the third function (delivery and certification of training) is conducted by registered training providers – either in training institutions or workplaces, underpinned by the regulation of the VET system. What this classification of functions shows is:

- a clear and continuous involvement of industry throughout the entire training process
- a significant system regulatory function, and
- a three-way involvement in the delivery and quality assurance of training.

In the next section of this concluding chapter I use this schema to show the relationships between Training Package operations by offshore activities in different models in order to identify and examine the driving and constraining factors of each model.

9.2.1. Driving and constraining factors in Model A

(a) Political factors

In this model, the role of the Australian Training Package is used as a design exemplar for the design of Chinese qualifications. The students in the Chongqing training institutions received a Chinese qualification on completion of their programs, not an Australian qualification.
As indicated in Chapter Six, the aim of reform projects in Model A is to influence the structural and regulatory arrangements of the host system (as distinct from models B and C which have more instrumental economic and business goals). This was the major driving factor in the Chongqing project which was the subject of agreements between governments. Bearing in mind Max Weber’s theory of ‘*formal rationality*’, and his argument that ‘*the real authority is in the rules*’ I identified change agendas related to three sets of rules and regulatory arrangements which were the subject of reform action in the Chongqing project:

- Changing the bureaucratic boundaries between government and industrial bodies through the establishment of Industry Coordination Committees at municipal and national level.

- Changing the bureaucratic boundaries between industry and training providers by fostering new arrangements for training delivery. Hospitality training, discussed in Chapter Six, is an example of this type of reform action.

- Strengthening the role of industrial bodies in production of competency standards as cultural materials.

In addition the Chongqing project represented an attempt to influence the dominant conceptual foundation of a traditional education system. Introducing the Training Package into the Chinese VET system is a first step away from a highly cognitive learning perspective to a more flexible system in which local training managers and administrators, teachers and learners were expected to make decisions and choices which were the domain of central policy makers. This major shift was not supported by the Chinese training cultural milieu, nor was there a widespread grasp of the behaviourist (e.g. assessment by observation) and humanist (e.g. local choice and negotiation) orientations of the Australian training standards.

In the ACCVET project, the initial strategy of the Australian leading team was to make the most of the possible changes that the host system may accept.

> ‘When the first [Australian] team sat, they were quite bold and they said, if all this reform going to work, eventually you get to make a commitment to establish what we have, which is Australian Training Framework – the three pillars I talk about: the Australian Qualifications Framework, Australian Quality Training Framework and national competency standards [within] Training Packages. And they [Chinese] rejected that no we are not going to do this, because it is too hard politically’ (Barnaart, personal interview, December 2008).

The Chinese response meant that whatever might be the technical potential of the ‘three pillars’ of the Australian VET regulatory arrangements to reform the management and quality control of the Chinese VET system, it was unlikely to happen for political reasons.

This situation recalls the observation of Rizvi and Lingard in 2000 that ‘Within the context of educational policy studies, then, globalization raises many complex questions about the reconfiguration of political power in contemporary society’ (Rizvi and Lingard 2000, p.422). It is
clear that the Chinese VET authorities regarded structural and regulatory changes as a risk which might lose them managerial and political control and that they were aware that even where changes were operationalised within their existing political relations, any change could have unanticipated consequences. This is consistent with Hofstede’s observation that ‘Strategies are carried out via the existing structure and control system, and their outcome is modified by the organizations culture; and all these elements influence each other’ (Hofstede 2001, p.408). The issue is that the Chinese VET authorities could not be assured that a set of regulatory agents from a liberal political context would enable the administrative strategies of the policy-makers in the host context to be maintained and supported. Alongside such negative attitudes on the part of policy makers to wholesale training reform, the lack of readiness of Chinese industry to embrace change was a closely related political factor.

The focus of the Chongqing project on influencing political relations meant that the project was much more complex than those operating under Model B or C, and ended up with multiple aims – not all of which are shared or understood by all project participants. To draw any conclusions about the effectiveness of the political report goals of the project would involve an in-depth examination of inter-governmental project papers, and interviews with host political actors which was not possible within this project. What can be said, on the basis of a limited number of interviews is that the resistance of Chinese political actors to intervention and their protection of existing conditions suggests that the level of reform in the VET system of the Chongqing province would at this stage be limited.

(b) Training governance and institutional factors

While macro-political opposition may constrain change at a policy level, there is nevertheless room for change in the governance and institutional relations within the organisations which make up a training system. As Figure 9.2 illustrates, in the Australian VET system three major functions are shared between three different institutions – industry, VET system agents and training providers. In Figure 9.3 below the highlighted section illustrate the extent to which the three functions of the Australian VET system and its governance and institutional relations were applied in the Chongqing project. There was effectively no industry involvement at the design end of the training process and no VET system involvement in the regulation of training undertaken in training providers, with a small amount of involvement from industry.

Figure 9.3 Application of Australian VET functions in the transfer of knowledge under Model A
One of the institutional drivers in Chongqing was the capacity of local teachers to develop skills in teaching an Australian-style training program. The fact that the teachers adapted quickly and effectively was largely due to the quality of the Australian educators involved in the project and their capacity to work in a cross-cultural setting.

9.2.2. Driving and constraining factors in Model B

Unlike Model A where government agreements for reform drives the implementation of projects, in Model B the driving factors are business related and located within the operations of the training institution. The role of the Australian Training Package in this model is as a framework for the issuing of a nationally recognised Australian Qualification. In other words, the Training Package is the vehicle for the export of Australian qualifications for the career benefit of individuals.

Figure 9.4 Nature of driving factors on the functions of Training Package in the scope of Model B

As shown in the Figure 9.4 the main scope of Training Package’s operation in Model B is on training institutes established within a host macro-context, but which that have no relationships with the host’s own VET system and industrial sectors. The involvement of a VET system is only at the point of delivery and certification, where the AQTF standards which are embedded within the Training Package govern training outcomes and guarantee the certificate issued. In this model, the Training Package is used as a framework for training and assessment practices – that is, as a set of standards for local program design and delivery. It is not part of a wider regulatory reform process. As discussed in Chapter Four, this form of cooperation between Australian and local training institutions offers students in the host context an opportunity to participate in a nationally recognised Australian qualification in the environment of a training institution at their home country.

The motivation of students to participate in Model B training programs will vary according to several purposes which may include:

- Students who wish to move to Australia, and who may use their Australian qualification to secure work;
- Potential job-seekers in their home market who may seek to work after completion of training program with local or global companies who value an Australian qualification;
- Students who intend to continue their education to higher levels
Therefore, the cases which are classified under Model B are driven by the demand by individuals for an Australian recognised qualification. This driver is supported by the motivations of the training providers and sponsoring companies which are related to business growth only, and include:

- Australian training providers which seek to expand their training business by delivering into a foreign market;
- Local (host) which invest in or otherwise sponsor the establishment of Australian training providers to increase the supply of skilled labour to support their entry into a global market
- Global companies which invest in the establishment of Australian training providers to ensure that their local (host) operations are supported by availability of skilled labour.

The purpose of issuing Australian qualifications requires the training providers to operate according to the standards in the AQTF and the Australian Training Packages and to avoid any involvement with the regulatory requirements of the host training context.

Therefore the main environment in which knowledge is transferred is the training provider environment and the key actors are the training managers and administrators who operate in this type of environment. A major issue for the training providers is to maintain a high quality of training delivery and ensure that the qualifications issued are capable of recognition within Australia.

Therefore, the driving factors in the transfer of knowledge in this model are the availability and quality of training resources and the capacity of the training provider to apply Australian training standards in an Australian institution within a host legal system and without interference from other host regulatory mechanisms. While there may be sponsoring or investing companies, these do not play any role in the design and delivery of training.

9.2.3. Driving and constraining factors in Model C

There are two key factors driving the establishment of offshore training programs under Model C. The first is the host context’s trade policy of attracting Foreign Direct Investment. The second is the investing company’s need for local skilled labour in order to be able to operate their global business in the host context.

Unlike training conducted within Model B, the scope of the knowledge transfer in Model C involves two different environments:

- An institutional training environment created by the Australian company for classroom training of apprentices by Australian trainers.
• A workplace training environment in which trade skills can be developed and practiced in a real work setting, guided by workplace supervisors and administrated by Australian training experts.

In this model, training practices remain entirely within an Australian training and work environment. They do not cross the boundary into the political environment of the host country to influence the regulatory arrangements of the host VET system.

An apprenticeship program of this nature does have the scope to influence the skill supply to local industry. However, in the case studies in this research, there was no effect on local industrial conditions and labour markets, as the enterprise is wholly Australian owned, and the trained workers have remained in the employ of this enterprise.

Figure 9.5 Nature of driving factors on the functions of Training Package in the scope of Model C

As Figure 9.5 shows, Model C has a training provider and a workplace cooperating to deliver training, which is directly regulated through both the Training Package standards and auditing to ensure that the AQTF standards are maintained in practice. Because the training providers in this model are Australian RTOs, registered by their state training authority, any training delivered within the conditions of this model may be audited in the same way as are qualifications delivered within the physical boundaries of the state.

Model C is unique in terms of maintaining the circumstances required for the implementation of apprenticeship as a mechanism for the transition of students from training to work in a non-Australian context. For many Australian VET specialists and offshore project managers, it is hard to imagine the implementation of Australian apprenticeship in an offshore program, and they are sceptical about the extent to which the outcomes of the program and the qualifications issued will be actually recognised by all aspects of the VET system – government, industry and training providers. This attitude is illustrated by the response of an Australian VET manager when I sought his expert opinion on the validity of offshore Australian apprenticeship outcomes in an Australian setting:

‘No Apprenticeships are welded in legislation in Australia, very protected by Unions. I cannot see an overseas student being indentured overseas being accepted by an Australian Education and Training and Department of Labour’ (an Australian VET manager, interview, 27 Feb. 2009).
9.3. What is being transferred in each model?

The scope of this study did not allow for the examination of the transfer of knowledge in both tacit and explicit modes. Accordingly the following discussion refers only to the transfer of the most explicit mode of Australian knowledge in each model and case. The tentative conclusions drawn here should be seen as a basis for further study in future to explore the transfer in more detail to understand how tacit knowledge transfer between individuals actually embeds the transferred knowledge in a host system and culture.

There are some broad similarities regarding transfer of cultural factors. All the studied models transfer English language to non-English contexts. Model A programs may be taught in English or local languages. In Model C, in the case studied here, interpreters were involved in training delivery. Programs in Model B have a stronger mechanism for fostering English learning at the global context as they generally consider IELTS as a prerequisite for enrolments.

9.3.1. What is being transferred in Model A?

Two out of the three functions governing Training Package operation has been implemented in the Chinese VET system of the Chongqing province through the ACCVETP project (see Figure 9.6).

Function 1: Identifying skills in demand in particular industries and collecting information by industry organisations.

This function was not transferred through the Chongqing project.

Function 2: VET system agencies processing information to create a set of knowledge artifacts in the form of units of competency which are packaged as qualifications,

What happened in the ACCVET project does not completely transfer the second function of the Australian Training Package. As shown in the Figure 4.10 in Chapter Four in Australia this function includes processing the information about skill demand of industries via cooperation between industry (which designs) and government agencies (which endorse) industry competency units). In Chongqing, Australian Training Packages were used by the Australian and Chinese members of the ACCVETP team to develop more than 410 units of competency in Chinese language and add them to the Chinese curricula. This means that packages of information about industry competency needs which were collected and created by Australian industries (related to the demand for skills in Australia) were used in this project to extend the Chinese training curricula.

Function 3: Embedding these knowledge artifacts in the training system and making them available to RTOs and individuals as assessment and training by training providers

The third function of Training Package in the Chongqing project was influenced by Australian knowledge to some degrees. As discussed in Chapter Six, some apprenticeship and on the job
training practices were developed in the Chongqing pilot colleges along the lines of those in Australia. However, in the design and delivery of curriculum, there was no evidence that any Australian style outcomes focussed training programs were being developed by Chinese training managers in Chongqing. And although teachers at the pilot schools in Chongqing practiced an Australian style of assessment as part of their teaching, a final examination is still required after completion of their qualification for recognition in the Chinese system.

Figure 9.6 Points of effect of the Australian regulatory arrangements on the Training Package operation model in Chinese context (Model A)

9.3.2. What is being transferred in Model B?

In Model B, the focus of transfer is the Australian qualification and the agents who affect this transfer – the training managers and teachers. Neither the industry organisation role in determining standards, not the VET system role in endorsing standards is significant here. The key factors are hence teacher qualifications which signify that the Training Package qualifications are being delivered appropriately.
As discussed in Chapter Four, Australian teachers must complete a Certificate IV in Training and Assessment (Cert IV TAA) to be certified to deliver nationally recognised training qualifications. Both local and Australian teachers cooperate in the delivery of offshore programs in Model B, and through completion of the Cert IV TAA qualification some local teachers become familiar with the fundamental regulatory frameworks, design, delivery and assessment practices of Australian VET. When they have completed the Cert IV TAA they do their teaching practice in Australian training colleges for a period of a few months up to a few years. There is no data available about the number of local teachers, averages of the length of working in Australian training colleges, nor about their practices in non-Australian qualifications at these and other local training institutions. However, offering Cert IV TAA to local teachers of offshore programs can be regarded as a mechanism for developing Australian VET standards among the local VET teaching workforce in different contexts.

9.3.3. What is being transferred in Model C?

Model C involves the transfer of technical skills in a different field through the implementation of Training Package trade qualifications. The third function of the Training Package: training delivery is implemented by Australian teaching staff, using the facilities provided by the Australian company.

In contrast to Model B, in the case of this model no host institute or industry contributes to the delivery of training through Australian VET approaches. At the point of practice, individual Australian teachers and training managers play a major role in the transfer of knowledge.

At the Sepon Mine operation seven interpreters mediate the transfer of knowledge and skills between the Australian trainers and Lao workers and supervisors in training sessions. As well as language issues, this type of training practice must also deal with the problem of low numeracy and literacy skills in the participants: making for difficult circumstances for the transfer of knowledge and skills between individuals.

However, a positive aspect of this case is the possibility of sharing a work environment by Lao and Australian workers. According to knowledge transfer theories (Nonaka 1994; Polanyi 1966) individual Lao and Australian workers working together provides the circumstances for the transfer of cognitive and technical skills and knowledge between individuals. Through this perspective tacit knowledge embedded in individual practice could be transferred, and contribute to work skill and productivity and individual educational development.

This means that transfer of technical skills to learners in Model C may be more profound in comparison to cases in Model B, because Model C features on-the-job training in an environment shared between local and Australian workers.
9.4. The transferability of the Australian Training Package

Braithwaite and Drahos introduce a mechanism which they name modelling to explain the globalisation of regulations. They propose that:

Regulations backed by an explicit and public technical case are more likely to be modelled. Systems of rules that are detailed, comprehensive and provide answers to problems are more likely to be modelled (Braithwaite and Drahos 2000, p.541).

In the context of this theory I would propose that the Australian Training Package is more likely to be effectively transferred if it is being used as a set of systematic regulatory arrangements which are applied to all operations within the particular jurisdiction.

Further, as discussed in Chapter Two, Kogut and Zander (2003) study of the transnational transfer of technology in multinational firms accounts for three main aspects of knowledge in the transfer process. These three dimensions are:

- **codifiability** (perceived codifiability),
- **teachability** (perceived teachability) and
- **complexity** (different types of educational/administration processes)

Under this model, highly explicit information with low complexity and high levels of codifiability and teachability will facilitate the knowledge transfer process to a new context.\(^{12}\)

As we have seen through the discussion in the previous section, the form in which Australian Training Packages are transferred as Australian VET knowledge, varied from one model to another. In the different settings, under different circumstances, this transfer saw the Training Package being the vehicle for:

- Transfer of knowledge and skills to individual learners (Models B & C)
- Transfer of new certification arrangements and training practices to teaching and administration staff (Model B)
- Transfer of Australian qualifications and quality standards (Models B & C)
- Transfer of regulatory and institutional knowledge for the operation of training as happened to some extent in Model A.

In summary, and returning to the argument introduced in Chapter One: Models B and C involve the application of the Training Package as a basis for training practice and certification in the form it is used in Australia, while Model A aims to transfer the **technology** of the Training

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\(^{12}\) Kogut and Zander also suggest two further factors: ‘the age of technology at time of transfer’ and ‘number of previous transfers’ as considerations in cross-border transfers. Examining these aspects about Training Packages requires a more detailed study than was possible in this case, and was not the purpose of this research. It is however a useful framework for further research in this field and one which I would opt to pursue in the future.
Package to a new context for a different purpose. In Models B and C the Training Package continues to work as a ‘technology of trust’ because it is able to hold the face value of its components (units of competency and qualifications) intact in non-Australian settings and under different training and assessment practice regimes, because the standards contained in the Training Package have been adhered to in the delivery and in the issuing of an Australian qualification.

In transferring the Training Package technology to a new context where it is used as an exemplar approach to guide the development of host units of competency and qualifications Model A involves the combination of the Australian regulatory arrangements and practices with local regulation and practice. In this way Model A exploits the flexibility inherent in the technology of the Training Package by customising it to address local circumstances and needs, while retaining the overall design intent of the regulatory arrangements. In this way the hosts’ regulatory VET knowledge is modernised and extended.

In my proposition, the development of transnational activities according to each of these modes acts as a catalyst for the globalisation of the Australian VET approach to training regulation, in different forms and with different degrees of effectiveness.

What this range of transfer forms suggests is that the Australian Training Package has been able to demonstrate sufficient codifiability and teachability to enable transfer from one system to another without the complexity of the process of transfer into already complex systems hindering the transfer itself. Whether this transfer is effective in the longer term will depend on a myriad of local factors and on whether the Training Package technology is explicit enough to be comprehended in the host context, and whether its technical features continue to resolve local problems.

9.5. Conclusion

The regulatory arrangements of a system and its socio-economic and political rules operate to define the level and type of cooperation of different VET stakeholders. If these arrangements provide suitable and integrated bridges between different sectors of the market and VET policy, we can expect a high level of consistency between the labour market demand for skills and the skills that the training system supplies. The perception that this is the case in a particular system may lead other nations to consider the rearrangement of their regulatory processes and enrichment of their VET knowledge assets through transnational reforms. These nations may also employ strategies to foster the activities of international institutions in their own boundaries to train their workforce. In the pursuit of higher economic growth, nations are being drawn into greater participation in the global economy. Labour markets are under pressure to change through upskilling in order to be able to compete globally. It is this context that the Australian government and training providers have been able to exploit the reputation of the Australian
VET system for quality in education and industry relevance and use Australian regulatory knowledge and VET practices to address the demand for skill development and system change in other jurisdictions.

In this research I have examined the characteristics of selected cases of offshore VET projects in order to find out what happens under different circumstances and to make some generalisations that can be applied in further study and in other projects to produce more effective outcomes.

The scope of the study has been limited by time and access to several important forms of data, and I have only been able to set a theoretical context for research in this field and to introduce the phenomena of Australian VET transfer as the basis for further study. The conclusions I draw are also limited, consisting of a classification of activities according to each model, and observations about the ontological characteristics of the Australian Training Package, and the need for a more effective way of understanding these characteristics and their impact on different forms of knowledge transfer.

9.5.1. Classifying VET knowledge transfer
In this study I approached the transfer of VET knowledge through the application of the Australian Training Package according to three models within two broad perspectives

- Transfer of Training Package technology to operate in a VET system as a knowledge transfer technology (in Model A).
- Training Package as a pack of Australian competency units to be used by Australian training institutions in a partner institute for skill development of individual trainees (in Models B and C)

On the basis of the empirical data analysed in each model I now proposed the following classification according to four dimensions of transfer activity: mechanism; drivers; key actors and outcomes (Table 9.2). I have developed this classification and the related classification of the functional categories of Australian VET knowledge transfer, outlined in Chapter Four and detailed in this chapter (Figure 9.2 and following discussion), through a close examination of the characteristics of the Australian VET system, the systems into which it is being transferred, and the processes and mechanisms of transfer. I regard these classifications as a contribution to further study in this field – for myself and other researchers, and as a conceptual framework to be subjected to critical scrutiny and enhanced through modification and further development.
### Table 9.2 A classification of Australian international VET activities identifying mechanisms for knowledge transfer

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Driver including funding source</th>
<th>Key actors</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| **Model A**  
Training policy as a vehicle for reform | Transfer of Australian VET knowledge through an inter-governmental project | Government policies in a global context  
- Government and aid agency funding | Governments and government agencies | Students may receive a host country qualification on successful completion |
| **Model B**  
Training as a commodity being traded in a global market | Transfer of Australian VET knowledge through offshore training partnerships between Australian RTOs, local institutions and international investors | The transnational business strategies of training providers.  
- Funded by provider and in some cases by sponsoring enterprise investment | Australian VET training institutions and universities | Students may receive an Australian nationally recognised qualification which may be recognised by Australian firms for the purposes of employment. |
| **Model C**  
Training as a tool for Transnational Labour Force Development | The transfer of Australian VET knowledge via outward Foreign Direct Investment | Host Government foreign investment policies and corporate growth strategies in a global market  
- Funded by investing company and facilitated by removal of financial impediments | Australian Company and Australian Registered Training Provider | Workers receive an Australian nationally recognised trade qualification.  
- The recognition of this qualification for the purposes of gaining a trade ticket in Australia is untested. |
9.5.2. The nature of the Australian Training Package

The Training Package maintains a paradoxically bilateral nature. Its deregulated flexible foundation for the design of training qualifications encourages its globalisation and fosters its implementation in a broad range of contexts to meet the skill demands of local contexts. Reducing the dependency on curriculum in the local context is regarded by Ziguras and Rizvi (2001) as a common approach to developing international programs in higher education, and technically the Training Package can help to reduce the dependency on curriculum, hence increasing international consistency of standards and reducing the time needed to design programs. Further, because it is a set of standards which do not specify any particular teaching context, both trainers and trainees are released from the constraints of a centrally prescribed curriculum and can modify the form of delivery to suit their own needs and preferences.

On the other hand the Training Package is tightly tied to the Australian context through three key features of their content and design.

- First the competency units and qualifications are designed by Australian industry agencies to be meaningful and applicable in an Australian context.
- Secondly, although units of competency can be customised to meet local needs there are limits to the level of customisation.
- Thirdly the embedded logic of the composition and use of Training Packages is highly culturally specific and relies on a tacit knowledge of the Australian context to be effectively implemented.

For these reasons I suggest that the main force that has fostered the transnational transfer of Training Package, and the force most likely to be significant in the future is the aspiration of global and transnational businesses (including training businesses) which operate in Australia and elsewhere for economic growth, and the capacity of these businesses to deal with the complexity and cultural specificity of their non-Australian host contexts.

On the other hand, because the Training Package represents such a radical shift from the widespread modern ‘Western’ model of training which is college-based and driven by process regulation, and is also a conceptual departure from some traditional VET models in developing nations, it is a source of puzzlement to many government and VET agencies which may wish to benefit from its reported flexibility.

It is with this observation about the Training Package and its potential as a vehicle for the Transfer of Australian VET knowledge that I conclude my study, and recommend a major area for further study for both scholarly and practical purposes. While it may not be necessary for a company such as Oxiana to understand the nature of the Training Package in order to use it as a basis for the design and delivery of training, it is certainly necessary for training designers in Australia and in host countries to understand that they are dealing with a set of industry
competency standards and not a curriculum, and to know how to take advantage of this characteristic. Similarly Australian policy makers and training institutions need to be able to draw on studies which will inform them of all aspects of the process of knowledge transfer. To date there have been no published studies of the Chongqing project, and information on the project proved very difficult to access from the Government agencies in Australia and China who were responsible for the project. Assembling the descriptions of the project in this thesis was only possible through the testimony of project personnel. Nor is there a significant body of material on the other models of transfer studies here – only brief published papers on limited aspects and, again first person testimonies. In a global economy in which the relations between nations are drawing ever closer, and where the exchange of knowledge is a major commodity, it is important that government and non-government actors alike are familiar with their tools of trade.
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