

4213.0



Measuring Learning in Australia

A Framework for Education and Training Statistics

Australia

2003

Measuring Learning in Australia

A Framework for Education and Training Statistics

Australia

2003

**Dennis Trewin
Australian Statistician**

AUSTRALIAN BUREAU OF STATISTICS

EMBARGO: 11.30AM (CANBERRA TIME) WED 29 JAN 2003

ABS Catalogue No. 4213.0

ISBN 0 642 47862 7

© Commonwealth of Australia 2003

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior written permission from the Commonwealth. Requests and inquiries concerning reproduction and rights in this publication should be addressed to The Manager, Intermediary Management, Australian Bureau of Statistics, Locked Bag 10, Belconnen ACT 2616, by telephone (02) 6252 6998, fax (02) 6252 7102, or email <intermediary.management@abs.gov.au>.

In all cases the ABS must be acknowledged as the source when reproducing or quoting any part of an ABS publication or other product.

Produced by the Australian Bureau of Statistics

INQUIRIES

- For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Jenny Dean on Canberra 02 6252 6175.

CONTENTS

	<i>page</i>
Contents	iii
Preface	iv
Abbreviations	v
The framework in summary	vi

THE FRAMEWORK

1 Introduction	10
2 Scope of the framework	16
3 How the framework is structured	23
4 Context	27
5 Participants and non-participants	32
6 Providers	34
7 Resources	35
8 Activities	39
9 Outputs and outcomes	43
10 Time	46
11 Geography	48

ADDITIONAL INFORMATION

Appendix 1: Statistical classifications and standards	50
Appendix 2: Examples of measures for each element and level of the framework . . .	51
Glossary	52
Bibliography	57

PREFACE

Measuring Learning in Australia: A framework for education and training statistics, 2003 has been developed by the National Centre for Education and Training Statistics within the Australian Bureau of Statistics (ABS). The framework is a joint initiative of the Department of Education, Science and Training, the Australian National Training Authority, all state and territory education and training departments, and the ABS.

The framework which is presented in this document is a suggested way of thinking about 'learning' (education and training) statistics. Reflecting the fact that this is a complex area, there are many ways that such a framework could have been drawn up. However, the ABS is confident that there is sufficient consensus for the framework to be put forward as an appropriate way of viewing statistics in this area.

There are many providers of statistics on education and training. These statistics will be far more useful if they are compatible across the different providers and relatable to other statistics. Among other things, the framework will help us move towards:

- a more comprehensive and integrated statistical view of learning
- increased comparability and consistency of statistics
- better relationships between learning-related statistics, other social and economic data and frameworks.

The ABS wishes to acknowledge the contributions of stakeholders and clients of the National Centre for Education and Training Statistics during the preparation of this document.

Agencies are strongly encouraged to use the framework to guide their data collection work and their analysis of data. Feedback on the usefulness of the framework and any questions about its use may be provided to the Director of the National Centre for Education and Training Statistics at the following address:

Australian Bureau of Statistics
Locked Bag 10
Belconnen ACT 2616
Ph: 02 6252 5936
Fax: 02 6252 8013
Email: <ncets@abs.gov.au>
Web site: <<http://www.abs.gov.au/ncets>>

Dennis Trewin
Australian Statistician

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASCED	Australian Standard Classification of Education
ASCO	Australian Standard Classification of Occupations
ASGC	Australian Standard Geographical Classification
AVETMISS	Australian Vocational Education and Training Management Information Statistical Standard
FTE	full-time equivalent
HECS	Higher Education Contribution Scheme
ISCED	International Standard Classification of Education
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
no.	number
OECD	Organisation for Economic Co-operation and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	vocational education and training

THE FRAMEWORK IN SUMMARY

WHAT IS THE FRAMEWORK?

A framework for a particular area of statistics is a well recognised tool which supports statistical measurement and data analysis in that area. It is a broad level conceptual 'map', which allows statistics to be organised and grouped into a logical structure which defines the scope of inquiry and delineates the important concepts associated with a body of knowledge. A framework can take on a number of different forms, with one arrangement not necessarily better or worse than another provided it is logical, relatively easy to follow and is comprehensive.

Traditionally, statistics on education and training have been organised largely according to sector, that is school, vocational education and training, higher education, and adult community education. However, there is an increasing need to address questions that involve more than one sector. Initiatives such as the introduction of vocational education and training courses into schools, the increasing ability of people to combine various streams of study, and greater attention on pathways and outcomes, have led to demands for improved national cross-sectoral statistical reporting.

Statistics on education and training come from a diverse range of agencies including policy departments, education providers and statistical and research organisations. Often, these agencies have been characterised by a high degree of independence from each other, with relatively little attention to overarching coverage and comparability. Across the various agencies, statistics may be derived from macro-level sources such as public finance collections, administrative sources (including school-based testing in areas such as literacy and numeracy), and business or household surveys. These statistics cover a wide range of topics, ranging from general contextual information through to finance and resourcing (both public and private sources), to participation, attainment, and social and economic outcomes. They also relate to individuals, organisations, and the broader community and society.

Recognising the complexity of the field, the framework for education and training statistics is a suggested way of thinking about the boundaries and content of statistics on learning. The scope of the framework is deliberately broad, allowing policy makers and other data analysts to consider the relative importance of various types of information. The framework can help us to move towards:

- a more comprehensive and integrated statistical view of learning
- increased comparability and consistency of statistics
- better relationships between learning-related statistics, other social and economic data and frameworks.

A BRIEF LOOK AT THE FRAMEWORK

Key features of the framework are:

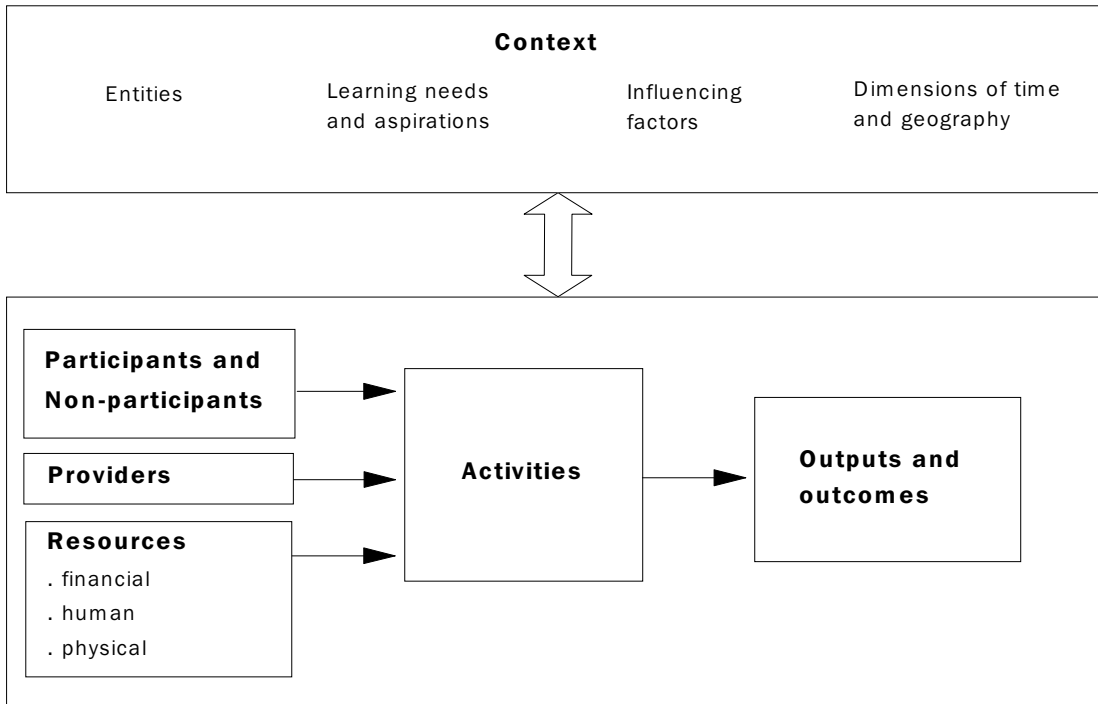
- an underlying model which identifies various elements
- a multi-level structure
- both activity and industry perspectives.

A BRIEF LOOK AT THE FRAMEWORK *continued*

These aspects are described briefly below.

The model underpinning the framework

The framework is based on a model which describes the elements about which information is required. This model is shown below.



Elements of the framework

The seven key elements about which information is required are:

- *Context*: representing the wider environment within which decisions are made about learning activities. This element incorporates the key dimensions of time and geography
- *Participants*: those who are undertaking learning activities
- *Non-participants*: those who are not undertaking learning activities
- *Providers*: organisations, and in some cases individuals, which deliver learning activities
- *Resources*: the financial, human and physical resources which may be necessary for learning to occur
- *Activities*: learning activities, activities of educational institutions, as well as the activities of non-participants
- *Outputs and outcomes*: the results and/or effects of learning activities.

A multi-level structure

In order to provide a comprehensive statistical picture, a three-level information structure may be overlaid on the framework model:

- *Individual*: this level is concerned with information about people, because individual learning pathways are a key aspect of the framework. The main statistical unit for this level is the person, but others include households and families.

*A multi-level structure
continued*

- *Organisational*: this level is concerned with information about organisations, including educational institutions and employers. One of the main statistical units for this level is the enterprise.
- *Systemic*: this level represents the broadest perspective of the framework, and is concerned with information about the national 'system' for education and training. The main statistical units for this level are governments (state/territory and Commonwealth).

Much policy-related analysis takes place at a broad level, and necessitates the use of information from each of the above three levels.

*Activity and industry
perspectives*

Learning activities occur in a variety of settings—they take place in institutions which have teaching as their principal function, and other settings such as child care centres, homes, communities, and work places. Stakeholders are often concerned with measuring learning activities across a range of these settings, and are interested in learning from a *learning activities* perspective. For some purposes though, an *industry* perspective may be needed. The education industry can be thought of as encompassing all entities which deliver education services as their main activity. While such entities clearly facilitate learning activities, they also undertake other activities (such as research). These auxiliary activities, although not themselves learning activities, are also included within the scope of the framework.

USING THE FRAMEWORK

The framework can be used to shape the way we think about information on learning, and there are a number of ways in which it might be useful to guide agencies in their statistical work. For example:

- the framework can be used to identify data gaps or duplications in a jurisdiction's administrative or survey collections. Combining the seven key elements about which information is required with the three level information structure provides a means to achieve this; (this is illustrated in table 1, Chapter 3).
- the framework provides the backdrop for taskforce or committee deliberations when developing key performance measures and population group disaggregations, or when considering resourcing issues.
- the framework elements could be used to organise data relating to agencies' own jurisdictions, such as in their data warehouses, and/or in public reporting. By giving prominence to the geographic dimension, for example, states and territories could present a view of education and training in their own jurisdictions which is consistent with the framework.
- the framework points to standard statistical classifications and definitions which should be used in administrative systems and statistical collections to maximise the comparability of learning-related statistics across the different data sources.

The framework does not itself prescribe priorities for data collection, and its scope is therefore deliberately broad. However, other ABS initiatives to support statistical development work arising out of the framework will allow data users and policy makers to consider their information requirements, and the relative importance and quality of various types of information. Some of the key initiatives are:

USING THE FRAMEWORK

continued

- Data stocktake—the framework is guiding the identification of data gaps and comparability issues for statistics in the areas of early childhood education, schooling, vocational education and training, higher education and adult community education.
- *Measuring Learning in Australia: Plan to Improve the Quality, Coverage and Use of Education and Training Statistics, 2003*—drawing on the framework and the stocktake, a Plan is being prepared which represents agreement among stakeholders about priorities and responsibilities for future statistical development.
- Data dictionary—the framework can also be used as a structure on which to base a data dictionary, which is being planned as a future project. A data dictionary is an agreed set of data definitions, classifications and standards for a particular area of statistics. A data dictionary for education and training statistics would provide a set of core definitions and data items to enable the collection and reporting of data across education and training collections in a consistent manner.

The more diverse and widespread the application of the framework, the more there will be useful feedback, which in turn will be valuable in refining the framework in the future.

POLICY CONTEXT

Education and training are important means by which individuals can realise their full potential and make positive choices about their lives and wellbeing. Education and training are often essential to gaining paid employment, and can provide the pathway to a rewarding career. Education and training support full participation in social, cultural and economic life.

Some of the key issues are:

- monitoring and improving educational attainment levels for individuals and target groups
- providing equitable access to education
- achieving sufficient levels of literacy to empower individuals in their daily lives
- ensuring educational resources and staffing are sufficient and appropriately distributed
- ensuring people leaving education are equipped to meet expectations of industry and the labour market, and have the necessary vocational and generalist skills
- facilitating lifelong learning and ongoing ability to be effective participants in the labour market
- maintaining economic growth through increasing productivity.

In recent times the distinction between 'education', as the acquisition of knowledge within a formal institutional setting, and 'training', as the acquisition of job-related skills in vocationally focused institutions and/or the workplace, has diminished considerably. For many purposes, that distinction is no longer meaningful. The broader concept of 'learning' provides a more flexible base for research and analysis than these more restrictive terms. It is particularly useful in extending the scope of interest and research beyond activities which take place in the traditional formal sectors to include a wider range of learning activities.

The strong link between education and training has led to more flexible learning pathways, and an increasing vocational focus for learning in Australia. These themes have been expanded in a stream of state and Commonwealth Government reports produced in recent years. The Australian Education Council Review Committee's 1991 report *Young People's Participation in Post-compulsory Education and Training* was particularly influential in its advocacy of cross-sectoral links and improved flexibility for students as they move from school to work and further learning. More recently, the Prime Minister's Youth Pathways Taskforce has produced *Footprints to the Future* (2001), a document aimed at improving support systems for young people and their families in the transition from school to adult life. The steady implementation of reforms through reports such as these has resulted in major changes to the landscape of learning in Australia.

POLICY CONTEXT *continued*

The provision of education and training has undergone significant change in recent years. There has been an increase in the number of multi-sector institutions. There is greater emphasis on appropriate skills formation and entry level training, particularly in the vocational education and training sector. Industry now has greater involvement in the development of competency-based training packages and curriculum in both the vocational education and training and higher education sectors. The increased extent of learning activities undertaken by Australians, the increasing government focus on lifelong learning, the need for continual re-skilling, and the diversity of learning pathways, all require reliable information to assess the economic, social and personal impacts of these activities.

Within this broad context, there is greater emphasis on:

- the importance of early childhood learning in relation to later learning pathways and outcomes
- the links between education, training and work
- lifelong learning, with people taking different pathways at different times of their lives in order to obtain or upgrade their workplace and life skills, and their qualifications
- the private sector as a provider of education and training
- the assessment of the quality of learning activities, performance and outcomes, particularly for identified target population groups
- globalisation
- the need for nationally and internationally comparable measures of outcomes and performance
- international trade in education services.

Such developments are the focus of many policy initiatives of both Commonwealth, and state and territory governments, with associated moves towards the establishment of arrangements which will facilitate the evaluation of efficiency, effectiveness, and performance. For example:

- the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) is establishing a range of key performance measures for schooling to monitor progress towards *The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century* (1999).
- the vocational education and training sector has adopted eight key performance measures.
- in the area of higher education, the Commonwealth Government, in conjunction with state and territory governments, has developed several initiatives to improve the Australian accreditation and quality assurance framework to promote international best practice in higher education quality assurance.
- an annual *Report on Government Services* undertaken by the Steering Committee for the Review of Commonwealth/state Service Provision aims to provide objective and consistent data on the performance of services (of which school and vocational education and training activities are considered important elements central to the wellbeing of Australians).

POLICY CONTEXT *continued*

At the international level, the Organisation for Economic Co-operation and Development (OECD) Education Committee's 1996 meeting on *Making Lifelong Learning a Reality for All* has been influential in raising the profile of lifelong learning as a concern for educators worldwide. The report from this meeting (OECD 1996) highlights issues which have led to a focus on lifelong learning, such as the widening reach and impact of global technologies, globalisation and trade liberalisation, the ageing of the population, increasing cultural diversity, and the changing nature of work. This report has been instrumental in promoting the development of data collections which facilitate national and international comparisons of performance and outcomes.

MEASUREMENT ISSUES

Traditional statistical pictures of learning do not provide sufficient information (of an appropriate quality) to link inputs and processes in the various sectors to outcomes from them. Nor do they easily allow analysis of individual pathways through learning activities and the labour market.

From a statistical perspective, the complexity of the area and the pace of change present considerable measurement challenges. Increasingly, those involved in the analysis and development of policy and delivery mechanisms are seeking high quality information which supports cross-sectoral, and cross-jurisdictional, analysis and performance measurement. The public also has a right to information which measures the 'health' of education and training systems, and offers a window on the work and performance of the various jurisdictions and providers.

An integrated approach to measurement

Traditionally, statistics on education and training have been organised largely according to sector, and come from a diverse range of agencies including policy departments, education providers and statistical and research organisations. Often, these agencies have been characterised by a high degree of independence from each other, with relatively little attention to overarching coverage and comparability.

Across the various agencies, statistics may be derived from sources such as public finance collections, administrative sources (including school-based testing in areas such as literacy and numeracy), and business or household surveys. These statistics cover a wide range of topics, ranging from general contextual information through to finance and resourcing (both public and private sources), to participation, attainment, and social and economic outcomes. They also relate to individuals, organisations, and the broader community and society.

Differences across institutional sectors may not be of high priority for people who are concerned with only one sector or one training system. However, at a broader level there is a need to address questions that involve more than one sector. The more the traditional sectors of learning become blurred, by initiatives such as the introduction of vocational education and training courses into schools, the increasing ability of people to combine various streams of study, and the greater attention on pathways and outcomes, the more demands there will be for improved national cross-sectoral statistical reporting. Thus, there is a need for a statistical infrastructure which can provide alternative (but integrated) views of learning activities, within and across sectors, from a provider or participant perspective, with a geographic dimension, and over time.

WHAT IS A STATISTICAL FRAMEWORK?

A statistical framework is not a national statistical collection nor a national dataset. Rather, it is a broad level conceptual 'map', which allows statistics to be organised and grouped into a logical structure which defines the boundaries and content of these statistics. A framework can take on a number of different forms, with one arrangement not necessarily better or worse than another provided it is logical, relatively easy to follow and is comprehensive.

Statistical frameworks are a well recognised way of approaching measurement issues. They are used to:

- break down broad issues or areas of activity into core component concepts
- identify key entities and players
- order these concepts and entities into a hierarchy or structure
- identify key relationships and processes.

Frameworks are also used in the broader arena to provide a focus for decision making or policy activity and provide the 'boundaries' around a topic in a way which provides consistency to both data collection activity and to subsequent analysis and commentary.

CLASSIFICATIONS AND DEFINITIONS

The framework makes reference in several places to the existence of standard statistical classifications and definitions. Such classifications and definitions are tools which are used to classify responses for specific data items into a particular structure. It is important that administrative systems and statistical collections adopt these standards wherever possible in order to maximise the comparability of learning-related statistics across the elements and levels of the framework. Use of standard classifications and definitions will also contribute to international comparability of statistics. For ease of reference, Appendix 1 provides a listing of the main classifications which are relevant to this framework.

LINKING FRAMEWORKS TOGETHER

Frameworks also provide the basis for selecting appropriate indicators which can provide governments with feedback on policy, and to inform the community about issues affecting individual and social wellbeing. Key issues surrounding the measurement of individual and social wellbeing, and the development of social indicators and statistical frameworks, are outlined more thoroughly in the publication *Measuring Wellbeing: Frameworks for Australian Social Statistics* (cat. no. 4160.0) (ABS 2001b).

System of National Accounts

The main framework which underpins economic statistics is the *System of National Accounts* (SNA), 1993 (Inter-Secretariat Working Group on National Accounts 1993). The *Australian System of National Accounts* (cat. no. 5204.0) are compiled in accordance with the international standards contained within the SNA.

The SNA consists of a coherent, consistent and integrated set of macro-economic accounts, balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. It provides a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision-taking and policy-making. (*System of National Accounts*, 1993, Inter-Secretariat Working Group on National Accounts).

The main components of the accounts comprise:

*System of National
Accounts continued*

- current accounts—which record the production of goods and services, the generation of income from production and the associated distribution and use of income
- accumulation accounts—which are flow accounts that record the acquisition and disposal of financial and non-financial assets and liabilities
- balance sheets—which show the value of stocks of assets and liabilities at the beginning and end of an accounting period.

Within the Australian System of National Accounts, education is an industry contributing to gross domestic product, and expenditure on educational services is an important component of both household and government final consumption expenditure. Exports and imports of education services also contribute through international trade statistics. One way to present more detailed information about a particular component of the economy, such as education, is through the creation of a 'satellite account', showing economic flows between recipients, providers and funders of education and training services.

*Knowledge-based
economy/society*

There has been increasing focus on the degree to which Australia is a 'knowledge-based' economy and society. To this end, the ABS has developed an information paper entitled *Discussion Paper: Measuring a Knowledge-based Economy and Society—An Australian framework* (cat. no. 1375.0), which proposes indicators under five dimensions. The three core dimensions are: innovation and entrepreneurship, human capital, and information and communications technology. In addition, the two supporting dimensions are context, and outputs and outcomes. Clearly there are similarities in the concepts used in some of the above dimensions to those in the framework for education and training statistics. It is intended that common concepts would have the same broad measures across both frameworks, and would thus complement each other.

*Research and
development*

While many research and development activities take place within educational institutions, it can be difficult to distinguish teaching/learning activities from research and development. In most instances, research undertaken by postgraduate students under academic supervision will include some elements of teaching, but if the production of new knowledge is also involved, activities may be classified under both categories. Those postgraduate activities in which the creation of new knowledge is not involved (for example postgraduate course work, compulsory laboratory work or training in research and development methodology) are not included as research and development. The OECD's *Frascati Manual* (1993) provides internationally accepted definitions of research and development, and classifications of its component activities. These definitions exclude from research and development any teaching below postgraduate level, even where new knowledge may be created.

WHAT WILL THIS
FRAMEWORK ACHIEVE?

In the past, statistics on education and training have been organised largely according to sector. However, there is a growing need to provide different perspectives (such as on individuals' learning pathways, on a geographic basis, or over time) on learning activities. The framework can help us to move towards:

- a more comprehensive and integrated statistical view of learning
- increased comparability and consistency of statistics

WHAT WILL THIS
FRAMEWORK ACHIEVE?

continued

- better relationships between learning related statistics, other social and economic data and frameworks.

In order to maximise its value, the framework is:

- broad in scope to cover statistics relating to the total learning experience
- multidimensional, to enable factors that impact on the learning experience to be considered and relationships between these factors to be explored
- hierarchical, to accommodate broad concepts as well as specific detail about data items, classifications and standards
- robust and conceptually sound, while providing flexibility to adapt to future changes in the learning environment
- comparable with international views of education and training statistics, wherever possible
- accepted by, and seen as relevant to, major education and training statistics stakeholders in Australia, including policy makers and researchers.

SUMMARY OF CHAPTERS

The remaining chapters of this publication describe the scope, structure and contents of the framework as follows:

- Chapter 2—*Scope of the Framework* outlines and describes types of learning activities which are considered to be within the scope of the framework.
- Chapter 3—*How the Framework is Structured* provides an overview of the structure of the framework and, in particular, the underlying model which describes the concepts and relationships surrounding learning activities.
- Chapter 4—*Context* discusses the context element of the framework, outlining the role of, and the impacts on, the environment in which learning takes place.
- Chapter 5—*Participants and non-participants* discusses the different interactions of individuals, either as participants or as non-participants in learning activities.
- Chapter 6—*Providers* discusses the interactions of individuals and organisations which provide education and training.
- Chapter 7—*Resources* discusses the financial, human and physical resources considered as contributing to learning activities.
- Chapter 8—*Activities* discusses the events which occur while learning takes place.
- Chapter 9—*Outputs and outcomes* discusses the results of either participation or non-participation in learning activities.
- Chapter 10—*Time* discusses the dimension of time as it applies to learning activities.
- Chapter 11—*Geography* discusses the dimension of geography as it applies to learning activities.

KEY CONCEPTS

The terms 'education', 'training' and 'learning' are all relevant for use in some circumstances, particularly where there are recognised usages such as 'workplace training' or 'education system'. However, for the purposes of the framework, it is useful to have a single overarching term which jointly covers these concepts. The term 'learning' will be used throughout this paper to refer to the lifetime process of obtaining knowledge, attitudes, skills, and socially valued qualities of character and behaviour. Learning as defined here is intentional and sustained, and, for most types of learning, involves communication, or the transfer of knowledge or skills from one person to another. This communication can involve a wide variety of channels and media and may be verbal or written. It may be delivered face-to-face or by other means.

Learning occurs within a wide range of settings, some more formal than others. At one end of the continuum, formal learning is provided in the traditional manner by teaching institutions, or occurs through other courses, seminars or workshops. At the other end of the continuum, non-formal learning includes activities such as managers coaching or mentoring staff, parents instructing children, or members of the community teaching each other living skills. Non-formal learning often involves an interaction or exchange between two parties, as occurs through a student/teacher relationship, but it may also include self-directed learning. For example, non-formal learning occurs when people intentionally acquire skills through reading, listening to or viewing audio-visual material, following self-guided tutorials, searching web sites or visiting libraries.

Importantly, the scope of the framework relates to what could ideally be collected in order to take account of stakeholder needs for information, rather than what is, or is perceived to be, feasible or practical to collect. The framework can therefore be viewed as a map which can assist in identifying priority areas for new statistical collections, as well as reinforcing the need for existing statistics or suggesting more appropriate compilation and analysis of such statistics.

SCOPE ISSUES

The framework can be applied to a diverse range of learning situations, and encompasses the broad types of activities outlined above. However, while some learning activities are clearly central to the interests of all stakeholders, other activities do not so clearly fall within scope, and the boundaries for these areas need to be articulated.

Scope inclusions

A learning activity is any learning experience where the primary intention of the learner and the provider (if present) is to increase or improve knowledge, skills or competencies (excluding certain 'one-off' activities, as outlined below). Learning activities which are clearly in scope of the framework include:

- courses, classes, units or other activities with a structured content, such as those delivered by schools, vocational education and training providers, higher education institutions or adult community education providers

Scope inclusions continued

- other activities which are taught or delivered either directly or indirectly, such as structured workplace training, adult community education, distance and online learning, television and radio broadcasts with a significant educational component, and other instructional activities
- activities which are assessed or evaluated, including all vocational education and training conducted by or under the auspices of Registered Training Organisations.

The relationship between learning and the needs of industry and the community has resulted in cross-sectoral and private provision of learning, an environment which supports and relates learning in the population to vocational needs, and an emphasis on continuing education. These factors have meant that the concept of learning adopted for the framework (taking into account some exclusions outlined in the next section) should also include within its scope:

- unstructured learning activities which are sponsored, delivered, or otherwise provided, by an employer, educational institution or other private organisation, such as unstructured workplace training and mentoring
- instructional activities which are delivered, or otherwise provided, by or through an individual or informal group, such as coaching, individual and community teaching and training, book clubs, learning circles, and prior to school learning undertaken outside preschools
- self-directed activities which have the aim of increasing or improving knowledge, skills or competencies in specific areas.

It is acknowledged that some of these latter areas have a scope which is wider than 'education' as defined in some circles, including that which is measured and classified in official international collections. In particular, the scope of the framework includes a variety of non-formal learning activities not covered elsewhere. As many of the factors influencing the changing face of learning are specific to the Australian context (see Chapter 1), it is considered important to reflect these differences in Australia's national statistical framework, while maintaining the ability to support international definitions to facilitate international comparability.

Scope exclusions

Incidental learning is excluded from the scope of the framework. Most people experience some level of incidental learning on a daily basis in the process of living, absorbing behavioural rules and norms through life experiences. For example, while relaxing or conversing with friends, or reading or listening to current events, people can pick up knowledge. Children, in particular, constantly absorb incidental information as they come to understand their environment (for example, they may learn that fire is hot through sensory experience not directed at learning). In these situations, learning occurs unintentionally or coincidentally during a person's development and is therefore not considered to be in scope.

In other forms of learning there may be an intent on the part of an individual to learn, but the provider's intent is to be informative rather than educative. The activity of 'informing' concerns imparting facts or news to an open-ended audience, which is neither systematic nor sustained in its delivery. Activities in this category include:

- short-term activities such as one-off lectures, visits to shopping malls or museums, and guided tours of galleries or heritage sites

Scope exclusions continued

- forms of information including advertising literature, marketing materials and other forms of mass media, as well as one-way broadcasts of information such as newspapers, magazines, timetables, product instructions and guidebooks
- public 'education' campaigns such as lifestyle, health or safety promotions.

TYPES OF LEARNING

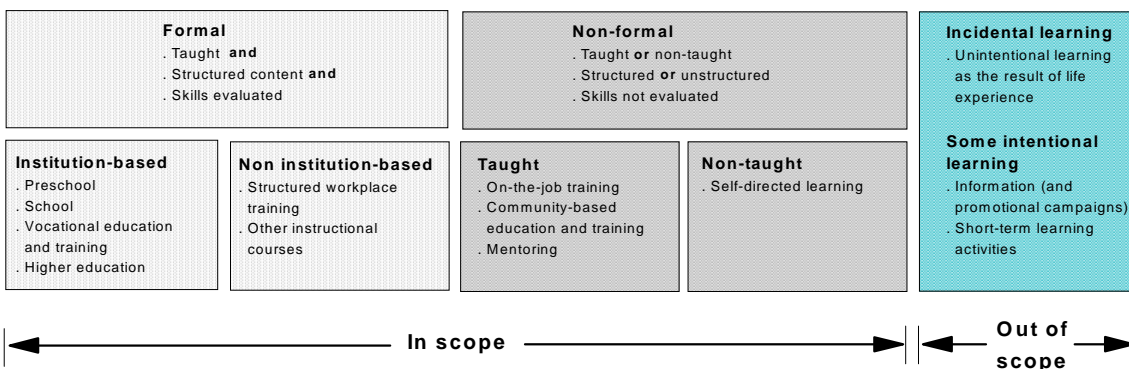
Learning may take place in a variety of settings, through a range of delivery methods and at different levels of formality. These activities can be further categorised based on their characteristics. The most formal, activities provided through educational institutions represent one end of the spectrum, and non-formal learning sits at the other end. Other types of learning, including incidental learning, are excluded from the scope of the framework (see previous section).

The concept of type of learning is underpinned by the following criteria

- delivery—whether the activities are taught (whether there is a student/teacher relationship)
- structure—whether activities have a designated course content, such as a school curriculum or competency-based training package
- evaluation—whether activities are assessed, accredited, or monitored.

The first consideration in identifying types of learning activities is whether they are formal or non-formal, based on a combination of the criteria listed above. Formal learning can be further divided into institution-based and non institution-based. Non-formal learning may be taught or non-taught. These components of learning are described in diagram 1.

DIAGRAM 1: TYPES OF LEARNING



Formal learning

Typically, 'formal learning' is characterised by activities that are delivered, structured and evaluated. These activities are also usually systematic, planned and organised ahead of time. Within this category, 'formal institution-based learning' is that provided by educational institutions including preschools, schools, vocational education and training establishments and higher education institutions. The category of formal learning is consistent with the Education Division of the *Australian and New Zealand Standard Industrial Classification* (ANZSIC) (ABS 1993).

Formal learning continued

'Formal non institution-based learning' includes the structured, evaluated learning activities of other providers such as training organisations, community organisations and workplaces. Formal non institution-based learning also covers activities such as learning to drive or qualifying to serve in voluntary organisations, where there is an identifiable provider, as well as a structured content and an evaluative process accompanying the learning.

Non-formal learning

'Non-formal learning' does not involve any evaluation of achievement. It may be structured, such as community-based learning, or unstructured, such as on-the-job training; it may be taught or non-taught. 'Non-formal taught learning' includes most recreational courses, some non-award courses, impromptu instruction in the workplace and learning to play sport. 'Non-formal non-taught' learning takes place where individuals provide their own instruction. Learning of this sort includes, but is not limited to, self-directed learning such as using a 'how-to' book or computer package to learn a new skill.

Learning has a number of further characteristics including the field of study, level of study, the mode of delivery and duration of study. These characteristics, which together make up the type of learning, are discussed in more detail in Chapter 8.

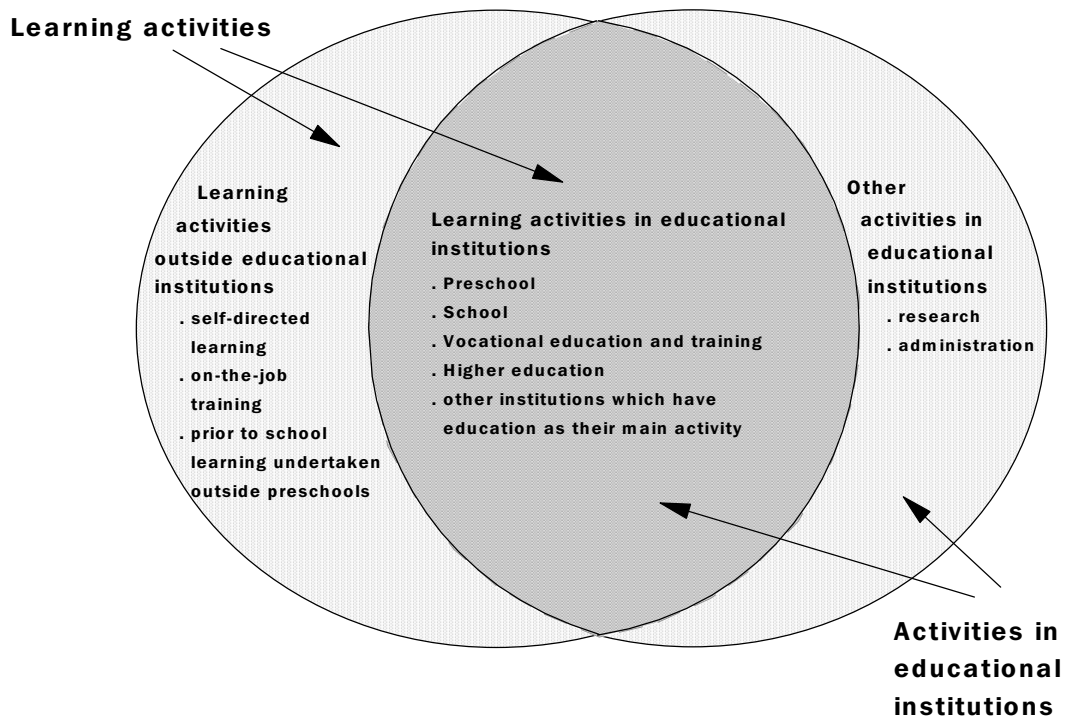
LEARNING ACTIVITIES
AND THE EDUCATION
INDUSTRY

Learning activities, as defined above, occur in a wide range of settings: for example, in institutions which have teaching as their principal function, and also in other settings, such as various nonprofit organisations, child care centres, homes, communities, businesses and, more specifically, employing agencies engaged in training their own employees. Stakeholders are mostly concerned with measuring learning activities across all these settings, and are thus interested in learning from an *activity* perspective.

For some purposes, though, an *industry* perspective may be needed. The education industry is defined as including all entities, either government or private, the main activity of which is the delivery of education or training services. While such entities clearly facilitate learning activities, they also undertake other activities (such as research and administration) which are of interest to some stakeholders. Some activities which support the activities of teaching or learning may be undertaken both by those in and outside the education industry itself. For example, the development of curriculum and competency-based training packages are often an integral or connected part of staff professional development and teaching activities, but also may be undertaken by non-education business entities (such as textbook manufacturers).

Neither the learning activities model nor the education industry perspective provides the full picture of statistics required by stakeholders. The scope of the framework therefore encompasses both of these perspectives; that is, it includes: *learning activities in educational institutions, learning activities occurring in other settings, and those non-learning activities which occur in educational institutions.*

DIAGRAM 2: LEARNING ACTIVITIES AND THE EDUCATION INDUSTRY



LEARNING ACTIVITIES AND THE EDUCATION INDUSTRY *continued*

The term 'sector' is often used to differentiate between kinds of services provided by entities in the education industry. The different sectors of education have traditionally been grouped into four broad types of provision:

- school—formal tuition offered on a daily basis within classes supervised by qualified teachers and designed to provide students with a broad general level of education
- vocational education and training—post-compulsory education and training, excluding degree and higher level programs delivered by higher education institutions, which provides people with occupational or work-related knowledge and skills. Vocational education and training also includes programs which provide the basis for subsequent vocational programs
- higher education—education offered by a university or other recognised higher education institution, leading to the award of a degree or higher level qualification
- adult community education—education and training intended principally for adults, including general, vocational, basic and community education, and recreation, leisure and personal enrichment programs.

While useful in differentiating the main institutional providers of education and training, the traditional sector-based approach is limited in that it assumes that each sector is providing distinct kinds of learning services, and that learners stay within each sector when undertaking learning activities. Also, this approach does not take account of increasing differentiation within sectors, in terms of the mode of delivery. Nonetheless in the framework, the term 'provider' is closely related to sector and to the different types of learning and modes of delivery.

CROSS-CUTTING AREAS

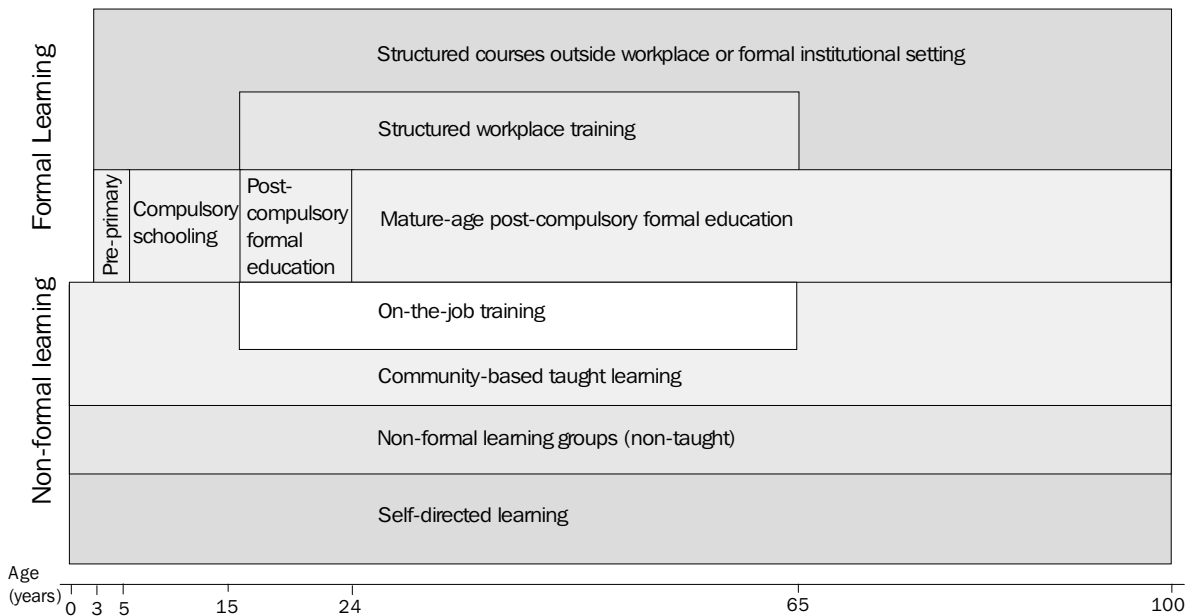
Several areas cut across the 'type of learning' categories. While many specific topics such as 'schooling' or 'self-directed learning' are relatively easy to categorise according to formality, setting and delivery, some broader areas can be more difficult to categorise according to these three distinctions. Some examples are discussed below.

Lifelong learning

The concept of 'lifelong learning' refers to the learning path of an individual which is initiated at birth, develops through schooling and other formal and non-formal types of learning, and continues throughout adult life. The study of lifelong learning implies a need to understand flexible learning pathways which span an individual's lifetime, with movement in and out of learning activities in a variety of settings and subject areas. Consistent with this thinking, diagram 3 shows the types of learning activities typically undertaken by individuals over the course of their lives. Individuals can undertake the majority of these activities in any order, and in many cases may undertake different activities concurrently. Similarly, these activities can take place in a range of settings, from formal educational institutions to learning activities in the home.

Only certain aspects of lifelong learning are measurable in the context of the framework. This is because in its widest sense the concept covers incidental learning, which is out of scope of the framework. For the purposes of the framework, the definition of lifelong learning does not include incidental learning.

DIAGRAM 3: LEARNING ACTIVITIES AND LIFESPAN



Early years learning

Learning before school age may take place solely in the home, be based at a child care centre or take place in a preschool centre. Learning in the early years can incorporate many levels of formality, and there is some point at which it is important to identify the more formal and measurable aspects. The concept of 'evaluation' as a criterion for defining formality is more loosely applied here than in other areas of learning. Usually there is no official assessment or accreditation of learning which is undertaken prior to school, though teachers and carers do evaluate the progress of participants. They may also make recommendations to parents regarding progression onto further learning. The definition of formality relies more on the learning content, and the qualification of the teacher or carer, than on the evaluation procedures in place.

The category 'formal institution-based learning' (as outlined in diagram 1) includes all preschool or pre-primary education, while other centre-based programs fall into formal non institution-based learning. It is difficult to specify where child care ends and education begins, and formal assessment or accreditation processes are not associated with all pre-primary programs. Therefore, we add a further definition to both the preschool and pre-primary categories that children should be aged three years and over, and that programs should include staff that have training in an education field. These components of the definition of early years learning are consistent with the coverage of early childhood programs in the *International Standard Classification of Education* (ISCED) (UNESCO, 1997; OECD, 1999).

Adult community education

Of all types of provision, adult community education is the least defined. It is mostly privately funded and is mainly delivered through private and community providers. Adult community education providers offer a range of learning options from non-award through to accredited Certificate courses. Thus, while many adult community education learners participate for personal enrichment reasons, and not as a pathway to employment, others use adult community education as a bridge or re-entry point for more formal kinds of learning. In the measurement of both these kinds of activities—those leading to an award and those not leading to an award, it would be of benefit to recognise the distinction between them. For this reason, it is proposed that some adult community education learning activities fall into the category of formal non institution-based learning, while others fall into the non-formal taught category of the learning program, as outlined above.

BACKGROUND

This Chapter describes how the framework is structured. It outlines the main model which underpins the framework, and discusses the relationships between the various areas of the framework. More detail on each of the *elements* of the framework are contained in subsequent Chapters.

ORGANISATION OF THE FRAMEWORK

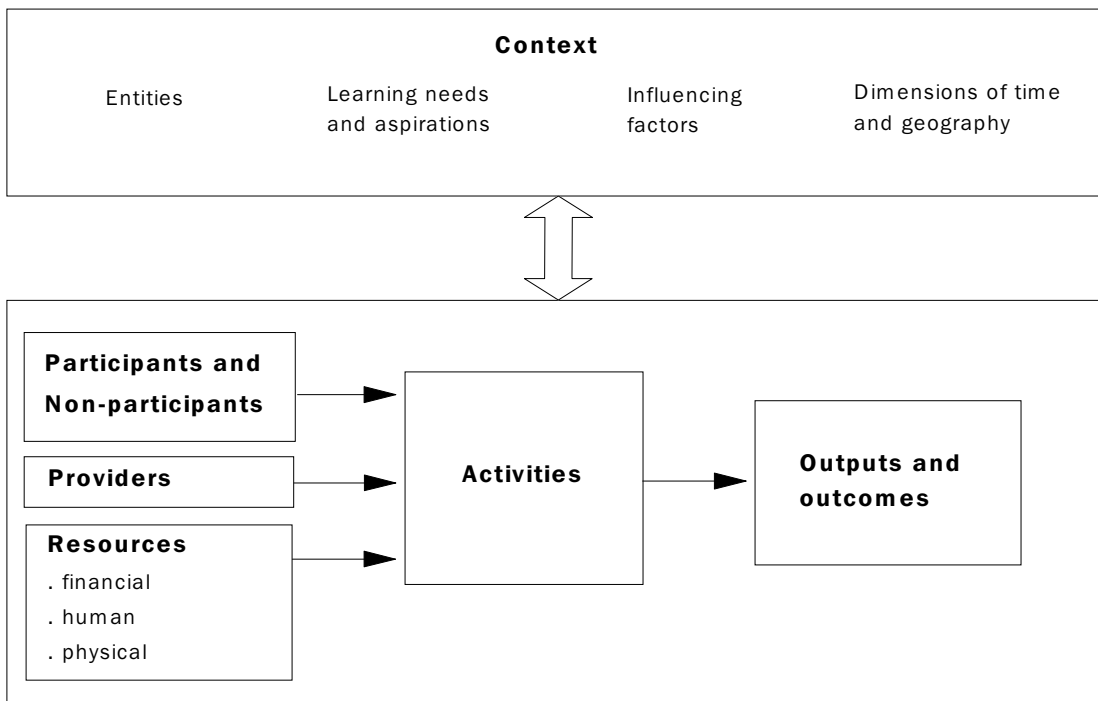
The underlying model

The framework is based on a model which describes the concepts and relationships surrounding learning. The model also examines related areas, such as auxiliary activities of educational institutions, which, although they are not directly involved with learning activities, are within the scope of the framework (as discussed in the previous Chapter).

The model, as shown in diagram 4, illustrates the flows surrounding learning. It shows, for example, that participants, some form of resource, and in most cases also providers, are necessary for a learning activity to occur. The diagram also illustrates that activities—of both participants and non-participants—result in outputs and/or outcomes. The model recognises that the context (the social, economic and physical environment) has an important role to play through its interactions with the other elements.

The model should be used in conjunction with the more detailed textual explanations of the framework to 'flesh out' the components and their connections.

DIAGRAM 4: THE MODEL UNDERPINNING THE FRAMEWORK



Elements of the framework

Briefly, the elements of the framework, as illustrated in the above model, are:

- *Context*: the wider environment, which affects, and is affected by, other elements of the framework. The context represents the entities in the population, their relationship with the wider environment, and their learning needs and opportunities.

Entities: Includes the individual, their family and community, as well as institutions, business and organisations, governments and the broader population.

Learning needs and aspirations: The learning/training requirements and ambitions of individuals and other entities. These may impact on other parts of the framework, such as activities and outcomes. Other elements of the framework may also affect learning needs and aspirations.

Influencing factors: Factors which individuals or organisations draw on, or are influenced by, including economic and financial factors; time factors; cultural factors; social factors; intellectual/knowledge factors; psychological/motivational factors; physical and environmental factors.

Dimensions:

Time—There are two aspects to the time dimension: cross-sectional statistics provided on a comparable basis over time, as well as data of a longitudinal nature, to facilitate studies of the 'dynamics' of learning pathways and how these interact with the labour market and social conditions.

Geography—There are three key aspects to the geography dimension: states and territories, and other defined geographic regions; the notion of geographic area (for example urban/rural); and the domestic/international aspect.

- *Participants*: individuals who undertake learning activities. The participant element also includes organisations which use education and training services provided by others for their staff
- *Non-participants*: those who are not undertaking learning activities of interest. This group is of importance to the framework as there is interest in why people are not participating in certain learning activities and whether they encounter any barriers to participation
- *Providers*: organisations, and in some cases individuals, which deliver learning activities
- *Resources*: the financial, human and physical resources which may be necessary for learning to occur or produce outputs
- *Activities*: covers both learning activities (as defined in the previous Chapter) and other activities of educational institutions, such as research. This also includes activities of non-participants
- *Outputs and outcomes*: outputs are the quantity or amount produced from activities, and include completions or partial completions of qualifications. They also include the output, in an economic sense, of the education industry (such as the amount or monetary value of education services provided). Outcomes are the effects resulting from activities. Outcomes include skills acquisition, educational attainment, and social, economic and labour market effects.

A multi-level structure

In order to provide a comprehensive statistical picture, a three-level information structure may be overlaid on the framework model:

- *Individual*: this level is concerned with information about people, because individual learning pathways are a key aspect of the framework. The main statistical unit for this level is the person, but others include households and families
- *Organisational*: this level is concerned with information about organisations, including educational institutions and employers. One of the main statistical units for this level is the enterprise
- *Systemic*: this level represents the broadest perspective of the framework, and is concerned with information about the national 'system' for education and training. The main statistical units for this level are governments (state/territory and Commonwealth).

Much policy-related analysis necessitates the use of information from each or all of the above three levels.

Combining the elements with the levels in the model provides a useful way of thinking about the main types of statistical information required, as shown in table 1. This table does not represent all areas of measurement: its purpose is simply to highlight the main areas within each element of the framework for each level.

TABLE 1: ELEMENTS AND LEVELS OF THE FRAMEWORK COMBINED

		Elements								
		Context	Participants	Non-participants	Providers	Resources			Activities	Outputs & Outcomes
						Financial	Human	Physical		
Levels	Individual	Factors which may influence an individual's participation in learning activities	Number and characteristics of students and learners	Number and characteristics of non-participants Barriers to participation	Number and characteristics of self-employed teachers and trainers	Expenditure relating to learning activities Income and financial support	Number and characteristics of all teachers and trainers	Measures of individuals' use of and access to learning facilities and equipment	Characteristics of learning activities undertaken by individuals	Measures of the results and effects of learning activities (or lack of them) related to individuals
	Organisational	Factors which may influence an organisation's provision of education and training services	Number and characteristics of organisations consuming external education and training services	Number and characteristics of organisations not consuming external education and training services	Number and characteristics of organisations providing or not providing education and training services	Measures of sources and uses of funds	Measures relating to teachers and trainers in organisations	Measures relating to the stock of learning facilities and equipment	Characteristics of learning activities provided and or consumed by organisations	Measures of the results and effects of learning activities (or lack of them) on organisations
	Systemic	Strategic measures relating to factors which may influence education and training	Strategic measures relating to participation	Strategic measures relating to non-participation	Strategic measures relating to the provision or non-provision of education and training	Strategic measures relating to financial resources in education and training	Strategic measures relating to human resources in education and training	Strategic measures relating to physical resources in education and training	Strategic measures relating to learning activities	Strategic measures relating to results and effects (or lack of them) of learning activities

Relationship to type of learning

It is also useful to detail how the elements of the framework might relate to the main areas of measurement for each type of learning, regardless of which level the information is concerned with. This is illustrated in table 2. Neither non-participants nor context are shown here, as type of learning is only appropriate when learning activities actually occur.

As can be seen, the information of interest is similar across the entire spectrum of learning activities, but in some areas it is limited to the more formal types of learning.

TABLE 2: SELECTED ELEMENTS OF THE FRAMEWORK BY THE TYPE OF LEARNING

		Elements															
		Participants		Providers		Resources			Activities		Outputs & outcomes						
						Financial	Human	Physical									
Type of learning	Formal	Institution-based	Number and characteristics of students in educational institutions		Educational institutions (ANZSC)		Source and uses of funds	Number and characteristics of teachers and trainers, and staff in organisations which provide education and training	Use of, access to and stock of, learning facilities and equipment	Mode and duration (time spent)	Field of study (ASCED)	Level of study (ASCED)	Skills and competencies	Qualifications (ASCED level) and/or completions	Social and labour market outcomes		
			Non institution-based	Number and characteristics of students and learners in other formal programs		Other education and training providers eg employers										Number and characteristics of providers	
	Non-formal	Taught		Number and characteristics of learners in other taught learning activities		Other education and training providers eg employers										Number and characteristics of providers	
			Non-taught	Number and characteristics of learners in self-directed or other non-taught learning activities													

BACKGROUND

The potential for individuals to participate in learning activities, the level and kinds of activities that they participate in, and the resulting learning outcomes, are influenced by their context.

Information about the context (including about the individual's family and community, other close social attachments, the workplace setting and the wider social, economic, business and government environment) is important in understanding the learning environment. As well as this, data on the structure of the population, the wider environment, the state of the labour market, and the resources that individuals, families and communities have, is necessary to understand why learning takes place. Thus individual learning is shaped within a constantly changing social and economic environment which influences, and is influenced by, the individual's part within that environment.

The context is not static: learning activities and social and economic processes have impacts on the underlying population, and on other entities (see the section in this Chapter on 'Influencing factors'), and therefore alter the learning needs of individuals as well as the kinds of education and training that organisations may offer. It may be as a result of these changes that individuals choose to undertake, or contribute to, further education and training. Similarly, governments or businesses may make decisions which impact on the demand for and supply of education and training and the course of particular learning activities as they are occurring. Changes within the context will also affect learning outcomes and other social and economic outcomes.

In the framework, the context has four aspects. These are:

- *entities* (including individuals, families, institutions, and businesses) which undertake learning activities, or provide the environment or circumstances within which an individual learns
- *learning needs or aspirations* which entities might have
- *influencing factors* on learning choices
- two key dimensions of *time and geography* which underpin activities of learning.

ENTITIES

Entities are the main population groupings from which specific statistical units are then used for the collection, collation and dissemination of information. Wherever possible, these activities should use any existing standard statistical classification—for example individuals' cultural and language diversity can be described using classifications of country of birth, language, and Indigenous status; similarly, businesses can be classified using the standard for industry.

Entities can be grouped against each of the three levels outlined in Chapter 3. Changes to any entity in the context may give rise to changes in the relationship with other entities, and thus change an individual's opportunities for learning.

TABLE 3: FRAMEWORK LEVELS BY POPULATION ENTITIES

Individual level
Individuals
Families/Communities
Organisational level
Institutions
Businesses
Other organisations
Systemic level
Governments
Population structure and characteristics

Individuals

Individuals are of central importance in the context, as are the decisions they make about learning at any point in time. People's learning experiences are increasingly characterised by a 'mix and match' approach, with individuals custom-building a set of skills (only some of which may be recognisable as traditional courses or qualifications), and choosing a variety of learning activities, as and when they have the need and the opportunity. From a measurement perspective, an individual's characteristics as well as their interactions with other entities in the context are relevant as they both have an impact on a variety of learning-related factors, such as the decision to learn, the choice of activity, participation characteristics (e.g. motivation during course, level of achievement), and outputs and outcomes.

Family and community

The family and community represent the close social environment in which the individual lives. For most people, family life is their first experience of living in a community and is the basic focus for their material and emotional support. The extended family, along with the nuclear family, can provide bonding and companionship, as well as practical forms of care and support. Beyond family, individual wellbeing is still directly dependent on the strength of the community or communities to which the individual belongs as they move through various ages and life stages. Aspects of community aside from family include the individual's neighbourhood, suburb or town, friendship and peer networks, local associations and clubs, the workplace, and the individual's cultural and birthplace affiliations.

Educational institutions, businesses and other organisations

Educational institutions, businesses and other organisations are potential providers of education and training services. Much of the delivery of education and training lies with schools, vocational education and training institutions, higher education institutions and the adult community education sector. However, the delivery of education and training also has an increasing level of involvement from businesses and other organisations. This involvement can take the form of the provision of education and training services to other entities (be they domestic or overseas), or the commitment of resources to the education and training of their own workforce.

Governments

Governments have a critical role in education and training through both policy formulation and funding. Education and training policies aim to assist Australians to become more economically competitive and contribute to the creation and maintenance of a positive social environment. Equally, governments are responsible for providing resources to education and training, particularly financial resources. Specifically, governments are involved in:

- ensuring educational resources are sufficient and appropriately distributed (by regulation and other means)
- providing income support to participants to meet the costs of study
- assisting people leaving education and training to be equipped to meet the expectations of the labour market
- promoting equitable access to education
- promoting productivity growth through access to effective educational services.

Population structure and characteristics

The population represents the pool of potential learners as well as potential providers of education and training. Information about population size, composition and distribution, population projections (including projections for specific sub-populations of interest), and the changing age structure of the population are all necessary in order to understand how and why learning activities take place. For example, information on the composition of the population is necessary to show how diversity in cultural and language background may impact on the demand for education and training services. There are also close relationships between the size and composition of the population and the labour market.

It should be noted that while the population is regarded as a systemic level entity, many of its characteristics are measured at other levels of the hierarchy i.e. through the characteristics of individuals and organisations which are aggregated to the whole population.

LEARNING NEEDS AND ASPIRATIONS

People do not make choices or decisions about learning in isolation from other entities. At any stage in their lives, individuals respond to competing demands for time and resources when making decisions about their learning needs, and many of these are affected by their living arrangements and close social attachments.

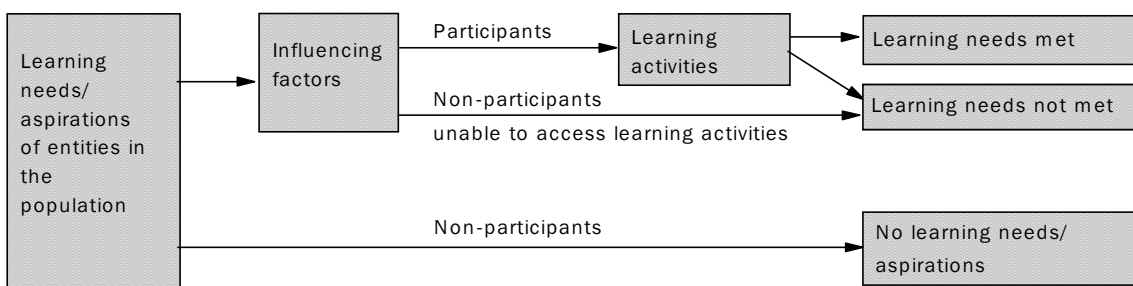
Educational institutions, businesses and other organisations also have learning or training needs. There is a recognition that training brings a return on investment that facilitates competitiveness in product markets, through the improvement in the workforce's skills. The training choices and needs of business and enterprises are shaped by a range of influencing factors, including economic conditions, the degree of change impacting on their industry, and particular characteristics of the business.

The relationship between learning needs, influencing factors and learning activities is shown in diagram 5. Learning needs may or may not be met depending on the existence of the various influencing factors described above. In addition, learning needs may or may not be met depending on the adequacy, quality or appropriateness of particular education and training activities and services.

LEARNING NEEDS AND ASPIRATIONS *continued*

Influencing factors which prevent an individual from undertaking learning activities can be termed 'barriers to participation' and are central to informing policy. Barriers to participation may be individually-induced (such as motivation) or environmentally-induced (such as physical proximity to services). Barriers and their impacts are discussed in more detail in Chapter 5.

DIAGRAM 5: LEARNING NEEDS/ASPIRATIONS OF THE POPULATION



INFLUENCING FACTORS

The context not only includes the entities described above but also the factors and resources which individuals draw on, and are influenced by, throughout their lives. These factors operate within the wider population but primarily translate to the individual through their family and/or wider network. Influencing factors include:

- economic and financial factors: the income and stocks of wealth owned by individuals, families or households as well as the economic resources distributed to providers of education and training
- time factors: the commitment or organisation of individual priorities in terms of hours spent in learning activities, the time available to the individual to devote to learning, or of providers and others in supporting learning activities
- cultural factors: the connections formed through shared values, traditions and lifestyles relating to the cultural, language or Indigenous background of the population and which are reflected in participation in learning activities
- social factors: the relationships between individuals and groups, including community participation, civic involvement, local networks and support mechanisms which provide the environment for learning
- intellectual/knowledge factors: individual and societal knowledge, skills and competencies as well as culturally acquired knowledge, beliefs and values which contribute to learning
- psychological and motivational factors: individual mental health, motivations, self-management mechanisms, and attitudes which feed in to learning choices, activities and outcomes
- physical and environmental factors: the infrastructure, both natural and human-made, which enables individuals and higher level entities to draw on and provide learning opportunities; or the lack thereof.

DIMENSIONS OF TIME
AND GEOGRAPHY

Two dimensions have overarching relevance to other elements of the framework: *time* and *geography*. These dimensions are each discussed in detail in Chapters 10 and 11.

EXAMPLES OF MEASURES

Appendix 2 provides examples of context measures for each level of the framework, including:

- at the individual level: qualifications of parent
- at the organisational level: community involvement in schooling
- at the systemic level: the unemployment rate.

BACKGROUND

In deciding whether or not to participate in learning activities, entities are influenced by their own characteristics and interactions with other entities (see Chapter 4 for more detail). As a result of such a decision, they may become participants by entering into a learning activity, or they may become 'non-participants', and move through a set of activities not related to learning. In the case of non-participants there may be influencing factors which act as barriers (described below under 'Non-participants') that either inhibit their participation in learning activities, or influence their decisions about learning relative to other activities, at a given point in time.

PARTICIPANTS

Individuals become participants in a particular learning activity at the point they make a decision to undertake such learning and this decision is accepted by the provider (in types of learning where a provider is involved) (see Chapter 8 for more detail on types of learning).

For most types of formal learning and some types of non-formal learning, learning activities begin following the acceptance of applications by an institution, organisation or workplace, and subsequent administrative procedures which establish admission. In other less formal learning activities, the individual's decision is less defined by the environment, but nevertheless is usually accompanied by input from a range of individuals, and the use of resources.

Information relating to participants includes the number of participants disaggregated by type of learning, whether studying full-time or part-time, the type of provider, and whether the participant receives support for that learning. Most data requirements about individuals involve their socioeconomic and demographic characteristics. The characteristics which are relevant to both participants and non-participants include age, sex, cultural and language background, Indigenous status, disability, socioeconomic status, income and financial dependency, labour force status, living arrangements, family structure and family responsibilities, prior educational attainment (both completed and partially completed) and geographic location.

Businesses also participate in learning activities. Information relating to businesses includes the number and characteristics of employees attending specific courses to meet their business needs, time spent in learning activities, the level of support for that learning provided by the business, the flow of funding to and from these organisations, and characteristics of the business and its workforce.

NON-PARTICIPANTS

At any point in time, individuals may not be participating in learning activities which are in scope of the framework. Their choice not to participate may be influenced by their opportunities, as well as employment, family and social circumstances: but equally, people may choose not to participate because they feel they have no need for certain learning options. Non-participants are in one sense the 'mirror image' of participants and there is specific interest in studying their characteristics to identify the pathways they pursue over time as a result of their non-participation.

In particular, populations of non-participants for which a specific need exists or which have been identified through policy or research are likely to be of interest in terms of the activities and outcomes resulting from their non-participation. Thus it is recognised that particular groups of individuals may be at additional risk of experiencing barriers to learning opportunities. Some of the main at-risk groups include those with low socioeconomic status, Indigenous people, those from certain cultural backgrounds, those from rural and remote locations, people with disabilities and early school leavers. The barriers they face include the cost of learning, personal motivating factors, limited access to financial and other forms of support, social marginalisation, health problems, lack of community expectations, limited access to technology, limited or no access to non-compulsory education (preschool as well as post-compulsory school and tertiary education), and inadequate or inappropriate facilities or teaching resources. Barriers to participation for other groups in the community include family responsibilities and age, increasing work hours and changing work conditions, and may be related to attitudes, aspirations and disincentives to continue learning such as lack of prior achievement in learning.

Non-participants may have applied for a formal course of study but may not have been offered a place, and so even in attempting to participate in a learning activity, non-participants may consume resources of a potential provider (for example, student administration resources in institutions).

Non-participants can also refer to organisations which are not consuming education and training services. Of interest are the number and characteristics of these organisations, and also the reasons for their non-participation.

EXAMPLES OF MEASURES

Appendix 2 provides examples of measures relating to participants and non-participants for each level of the framework, including:

Participants

- at the individual level: age distribution
- at the organisational level: the number of businesses consuming training, by number of employees
- at the systemic level: education and training participation rates.

Non-participants

- at the individual level: main reason for not studying
- at the organisational level: the number and characteristics of businesses not consuming training
- at the systemic level: the proportion of 15–19 year olds not undertaking learning activities.

PROVIDERS

Providers, in broad terms, are the entities which directly deliver education and training to participants. Providers can be seen as either institutions (such as schools, technical and further education or higher education institutions); employers; other organisations such as professional colleges, contracted training providers, and community-based organisations; or individuals such as private music teachers, coaches, or tutors. Thus, providers relate to both the organisational and individual levels of the framework. In the area of early childhood education, providers also include the parents and child care centres, as well as preschool and other pre-primary institutions.

In an economic sense providers represent the supply side of a demand-supply model, i.e. they are the suppliers of education and training services.

A range of information about providers could include: type of providers, number and distribution, and for institutional providers, distribution by type, and institutional sector. In addition, information is needed about a provider's human resource characteristics (see the 'Human Resources' section in Chapter 7). Characteristics of employers, in their role of training providers, may include industry, organisational structure and links to other training organisations.

There have been significant changes to the involvement of providers in education and training in recent years. For example, there has been a considerable increase in the role of the private sector. There has also been a blending of types of learning programs offered by providers from the various sectors, such as vocational education and training units being offered within school programs.

EXAMPLES OF MEASURES

Appendix 2 provides examples of measures relating to providers for each level of the framework, including:

- at the individual level: the main field of education provided
- at the organisational level: the geographic distribution of higher education institutions
- at the systemic level: the number of public primary schools in Australia.

BACKGROUND

In the framework, three types of resources are considered as contributing to learning activities: financial, human and physical resources. Financial resources are involved in most learning activities, but they are not mandatory, particularly at the non-formal end of the learning spectrum. Generally, either a human or a physical resource is a minimum requirement in order for learning to occur, though in many cases, particularly in formal learning activities, financial, human and physical resources will all be used.

FINANCIAL RESOURCES

Financial resources are used by both providers and participants in order to acquire human services and physical resources. Both the sources of funds and the ensuing distribution of funds for education and training purposes are of interest. The allocation and distribution of funds also to some extent determines the nature, structure and provision of education and training programs.

From an industry perspective, measuring financial inputs is becoming increasingly important because of their relationship to other parts of the learning process, particularly outputs and outcomes. For example, in identifying an input measure such as the cost to run a particular education program, it may also be valuable to evaluate whether the program is 'value for money' and to compare or associate the characteristics and results of the program with those of other programs.

The presentation of a consolidated picture encompassing both the sources and uses of funds and the economic transactions which relate to the industry perspective, mentioned above, could be more directly related to the Australian System of National Accounts through the creation of an Education and Training Satellite Account. In this context, financial statistics are referred to as economic statistics, as the economic transactions incorporated in such accounts are broader in nature than purely the financial flows.

Some explanation of the issues relating to financial statistics is given below.

Sources and uses of funds

One of the fundamental issues in education and training economic statistics is to have appropriate statistics about the sources from which funds come, and how such funds are used. From an institutional sector perspective, the major suppliers and receivers of funds are:

Sources and uses of funds
continued

■ *Governments at all levels*

The Commonwealth government provides funds through specific payments to state and territory governments for education and training and by payments to universities. State and territory governments use the Commonwealth specific payments for education, as well as other revenues which include their own tax revenues and more general financial assistance grants from the Commonwealth. Governments provide funds to a range of private educational institutions, including non-government schools and preschools and private registered training organisations. Governments also make payments to other entities apart from Australian educational institutions, including payments to enterprises to support the employment of apprentices, payment of living allowances (such as Youth Allowance), payments for Australians studying overseas and payments to corporations for the transport of school students.

■ *Private corporations and nonprofit organisations*

Private corporations and nonprofit organisations receive government funds for education and training as specified above; they also receive funds from private sources through research contracts, donations, private scholarships and other sources. While they receive some reduction in tax liability for their expenditure on education and training, this generally represents only a small contribution to the support they provide for the education and training of employees and other workers in the workplace.

■ *Households*

Households receive financial assistance from governments and from employers. Households pay fees to educational institutions and make payments outside educational institutions for private coaching, books, transport and student living expenses. Households also repay HECS loans to the Commonwealth.

■ *The rest of the world*

Overseas students make payments to educational institutions particularly for higher education and vocational education and training. In some cases they are supported by international organisations. Some overseas students are also supported by scholarships provided by Australian agencies such as the Australian Agency for International Development (AusAID).

Classifications for
institutional expenses

Following *Education at a Glance, OECD Indicators* (OECD 2001), the types of information used in analysis of policy issues relating to expenses of educational institutions can be classified according to resource categories and/or service categories.

The main *resource* categories are:

- employee expenses
- non-employee expenses
- depreciation
- amortisation.

For analysis of the inputs it may be useful to have information on resources devoted to *service* categories. The main service categories are:

- instruction (delivery provision and support; administration and general services)
- ancillary student services
- research.

Classifications for non-institutional expenses

For expenditure outside educational institutions, two major categories may be useful:

- expenses related to instruction/training (e.g. private coaching, textbook purchase, workplace training not provided by educational institutions)
- expenses for ancillary items (e.g. transport, general living expenses while undertaking education and training).

HUMAN RESOURCES

Human resources are the people who deliver or support the delivery of education and training. They are either employed by providers or are self-employed in less formal types of learning. In non-formal community based learning the human resource may be a parent or friend providing the learning activity. In a wider sense the human resource component also comprises the ongoing skill, knowledge, intellectual property and innovation which enables an organisation to develop and maintain its market advantage.

Where a provider is an individual person, the human resource represents their own labour and skill, and encapsulates their personal qualifications and experience. Human resources can be classified by occupation using the *Australian Standard Classification of Occupations* (ASCO) (cat. no. 1220.0) (ABS 2nd edition 1997).

Human resource characteristics include: number of staff, and their demographic characteristics, education background and working arrangements. Staff roles within the institution, that is whether staff are employed for the purpose of teaching, research, administration (corporate) or ancillary functions (general maintenance/clerical), can also be measured. It may also be relevant to measure the number and type of skills that the organisation has, and the effectiveness and value of these skills to the organisation and society.

Classifying occupation

ASCO is a skill-based classification which encompasses all occupations in the Australian workforce. It is used for the production and analysis of occupation statistics. The structure of ASCO comprises five hierarchical levels: Major Group, Sub-Major Group, Minor Group, Unit Group and Occupation.

An example of the ASCO structure at the Sub-Major Group, Minor Group, Unit Group, is shown below. Other education relevant occupations, such as Educational Psychologist, Careers Counsellor and Education Aide are covered in other parts of the classification.

EDUCATION PROFESSIONALS: ASCO structure**24 EDUCATION PROFESSIONALS****241 School teachers**

- 2411 Pre-primary school teachers
- 2412 Primary school teachers
- 2413 Secondary school teachers
- 2414 Special education teachers

242 University & vocational education teachers

- 2421 University lecturers and tutors
- 2422 Vocational education teachers

249 Miscellaneous education professionals

- 2491 Extra-systemic teachers
- 2492 English as a second language teachers
- 2493 Education officers

*Classifying occupation
continued*

The ABS and Statistics New Zealand are in the process of reviewing their occupation classifications with the aim of producing a joint publication the *Australian New Zealand Standard Classification of Occupations* (ANZSCO). It is envisaged that ANZSCO will be implemented in statistical collections from 2006 onwards.

PHYSICAL RESOURCES

Physical resources are used by providers in the delivery of learning and include capital items such as buildings and facilities as well as smaller items such as library books and equipment. Physical resources are also used by participants in the course of learning and mainly include materials such as books, computers and other durables.

The use of physical resources by providers may be measured through data on items such as the size and location of the institution or learning facility, presence of facilities or equipment (for example, gymnasium, pool), number of classrooms, classroom space, the quality of facilities, and number and type of smaller durable items.

The use of physical resources by participants includes expenditure on books and study equipment, as well as access to, and use of, learning facilities such as computers or the Internet.

EXAMPLES OF MEASURES

Appendix 2 provides examples of resources-related measures for each level of the framework, including:

- at the individual level: weekly household expenditure on learning activities
- at the organisational level: teaching resources used in schools or preschools
- at the systemic level: staff to student ratios.

BACKGROUND

The activities component of the underlying model refers to learning activities and the activities of the education industry, as well as the activities of non-participants in education and training at any point in time. Learning activities include organised courses, classes or units, as well as a wide variety of non-course activities, and activities which occur outside educational institutions.

The main purpose for measuring activities is to evaluate learning programs and assess their efficiency and effectiveness. Keeping track of the amount and type of learning is also necessary to forecast trends and assess future demand for education and training services. The two main areas of focus for measurement of this part of the framework are:

- the extent and nature of individual participation, and non-participation, in education and training
- the extent and nature of economic activity associated with education and training.

Different approaches can be used to measure and classify these areas of interest. For example, there can be a focus on individual participation and the need to classify learning activities by the type of learning undertaken. This ties in with the trend towards lifelong learning, where individuals undertake different education, training and other learning at various stages in their lives, particularly beyond the period of compulsory schooling. Alternatively, the emphasis could be placed on economic activity and the need to classify entities involved in the production of education and training services, and the activities they undertake.

TYPES OF LEARNING

All learning that is included within the scope of the framework can be organised according to type of learning. Type of learning has a number of different characteristics including: whether it is formal or non-formal in nature, whether it is institution-based; the field of study; mode of delivery; duration of study; whether it is taught; whether or not it relates to a qualification, and if so, the level of qualification. Various combinations of these characteristics define the type of learning.

Thus, learning, both formal and non-formal, can be characterised according to:

- level of study—classifies all formal learning and some less formal learning according to level of study, using the *Australian Standard Classification of Education* (ASCED) (ABS 2001a)
- field of study—gives an indication of whether the learning is of a general nature (for example the majority of schooling) or relates to a specialised field. Field of study can also be classified to ASCED
- mode of delivery—describes the mode of delivery, such as formal or 'face-to-face' delivery (for example traditional schools, on campus attendance), distance or correspondence education, open learning, research, and other forms of delivery, such as self-learning via the Internet

TYPES OF LEARNING

continued

- duration of study—describes how long a course of study takes to complete. There might be a number of different ways of measuring this, such as total contact hours, or elapsed duration, and different measures may be applicable for different types of learning. Measures of full-time equivalence are used to measure student load, which generally relates in some ways to the number of hours of study undertaken.

Type of learning is described in the activities part of the model, but may be applicable as a classificatory variable in other elements of the framework (for example, resources, providers, outputs and outcomes).

CLASSIFYING EDUCATION

The *Australian Standard Classification of Education* (ASCED) (ABS 2001a) is a national standard which has been developed to replace the *ABS Classification of Qualifications* (ABS 1993) and other classifications of level of education, field of study and discipline groups that were used for producing statistics from the administrative data from the various sectors of the Australian education system. ASCED comprises two classifications—Level of Education and Field of Education—and has been designed to classify forms of learning activities by the level and field of the activities. ASCED also provides the flexibility to classify statistics on different aspects of learning such as enrolments, resources (financial and human) used, and the educational attainment of the population. From 2001, data on educational attainment and attendance collected in the 2001 Population Census and in household surveys have been classified according to ASCED. Relevant data in the Higher Education Student Collection and the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) Provider Collection have also been classified according to ASCED since 2001.

The ASCED classification is aligned with the *Australian Qualifications Framework* (AQF Advisory Board 2002) and attainment for all AQF detailed levels can be estimated from data that are ASCED-coded. The classification is supported by a suite of standards which outline definitions of the concepts measured, standardised question modules and information on the appropriate ways to output information collected using the methods contained in the standard.

ASCED was developed to adopt as far as possible the concepts used in the *International Standard Classification of Education* (ISCED), which defines education as '...all deliberate and systematic activities designed to bring about learning needs' (UNESCO 1997). ASCED can be used to classify most components of a learning program, but it has not been specifically designed to classify some of the less formal aspects, for example, self-directed learning activities. Thus, while the scope of ASCED and that of the framework are similar, some activities included in the scope of the framework may not be of a recognised level of education and not be classifiable to the ASCED Level of Education Classification. For the above reasons, the scope of the framework must be considered to be broader than that of both ASCED and ISCED.

ACCREDITATION

An important characteristic of formal learning activities from both a participant and provider perspective relates to the process of accreditation. Accreditation is one of the main processes used by institutions, businesses and other organisations to evaluate learning activities, establish competency standards and support the professional development of teachers and trainers. The *Australian Quality Training Framework* (Australian National Training Authority 2001), for instance, ensures nationally consistent and quality provision of education and training by registered training organisations through common standards of accreditation and recognition of achievement.

NON-PARTICIPANTS'
ACTIVITIES

The main 'activities' in the model underpinning the framework are the learning activities undertaken by participants. However, the framework also recognises, and therefore organises information about, non-participants and the activities in which they are involved when they are not undertaking any learning activities (see also Chapter 5—Participants and non-participants). One of the main ways that non-participants' activities can be classified is through the Time Use Framework, which gives information on what people do, as well as with whom the activity is done and the location of the activity (ABS 1998).

EDUCATION INDUSTRY

Entities mainly involved in the provision of education and training services comprise the education industry. These entities can be classified according to the *Australian and New Zealand Standard Industrial Classification* (ANZSIC) (ABS 1993), which provides a hierarchical structure of all entities into divisions, groups and specific classes. For educational institutions so classified, the types of activities about which information is required can be thought of as those which directly deliver learning, and other activities which might indirectly facilitate learning such as administration, curriculum development, and research conducted in universities (OECD, 2001, for example, refers to the service categories instruction, ancillary student services and research). Some activities, such as curriculum development, are often an integral or connected part of staff professional development and teaching activities and are difficult to separate from each other in a measurement sense. However, they need to be considered as distinct activities. All activities of the education industry are included in the scope of the framework. (For a more complete description of the role the education industry plays within the framework, see the section on 'Learning activities and the education industry' in Chapter 2).

Classifying industry

The education industry constitutes a Division within ANZSIC (ABS and the New Zealand Department of Statistics 1993). ANZSIC is an industrial classification used for the production and analysis of industry statistics. The purpose of ANZSIC is to identify groupings of 'entities' (for example, businesses, government and non-profit institutions) which carry out similar economic activities. The Education Division includes those entities mainly engaged in providing education. Any individual entity can be assigned an appropriate industry code on the basis of predominant activity.

The ANZSIC structure for the Education industry division, at the Group and Class level, is shown in the following table.

*Classifying industry
continued*

STRUCTURE OF THE ANZSIC EDUCATION DIVISION

84 EDUCATION

841 Preschool education

8410 Preschool education

842 School education

8421 Primary education

8422 Secondary education

8423 Combined primary and secondary education

8424 Special school education

843 Post school education

8431 Higher education

8432 Technical and further education

844 Other education

8440 Other education

ANZSIC Groups 841 to 843 in this table cover those entities engaged in the provision of formal, institution-based education, i.e. education for people in preschool, school, technical and further education, and higher education. ANZSIC Group 844 consists of entities mainly engaged in the provision of any other education or training (excluding training in sporting or other recreational activities, which are included in ANZSIC 9313 Sports and Services to Sports—not elsewhere classified).

ANZSIC 1993 is currently under review, the result of which will culminate in the publication of a new industry classification, ANZSIC 2006.

EXAMPLES OF MEASURES

Appendix 2 provides examples of activity measures for each level of the framework, including:

- at the individual level: level of education being studied
- at the organisational level: level and type of training provided by businesses
- at the systemic level: apparent retention rates.

BACKGROUND

Measuring the results of learning activities is essential for the assessment of program delivery. When policy makers target programs to achieve certain results, there is a need to measure those results in order to assess whether goals are met. Governments, providers and the community need such information in order to evaluate the success and the value of learning programs—whether the resource investments made by individuals, providers and society are warranted by the labour market, financial, educational and social returns which result from activities.

The development of appropriate output and outcome measures (such as those referred to as key performance measures in the schools and vocational education and training sectors) needs to occur through collaboration between key stakeholders, such as policy and statistical agencies.

OUTPUTS

For individual participants in education and training, examples of outputs are the numbers of completed or partly completed qualifications, vocational education modules, or non-qualification courses. In an economic sense, the main output of the education industry is the amount or monetary value of education services provided.

OUTCOMES

Identifying learning outcomes, that is, identifying *changes* to, say, educational attainment, labour force status or occupation that occur because of learning activities, is vital for policy research and analysis. Importantly, outcomes may be either positive or negative. They may also be either planned or unintentional.

Outcomes often stem from outputs such as completion or partial completion of learning activities, but in some cases an outcome may occur without connection to any particular output, so the relationship between these two parts of the framework need not be viewed as sequential.

Outcomes can be thought of as applying to a range of entities, as described below.

Participants

Outcomes for participants may be diverse, ranging from experiences in the labour market, to individuals' sense of wellbeing. More specific examples are:

- labour market outcomes: Individuals may experience changes to their employment or promotion prospects, or may change occupation or industry as a result of their education or training. Their earnings may increase, or they may experience greater job satisfaction. Conversely, outcomes from learning activities need not always be positive. An individual may be labelled 'overqualified' or inappropriately skilled for the current labour market for example, as a result of his or her education and training experiences, and therefore experience underemployment in terms of skill utilisation.

Participants continued

- education and training outcomes: Learning activities are likely to result in changes in levels of educational attainment, skill levels and improvement in individuals' abilities to learn further, either in their specific field of study, or more generally. They may result in a direct progression on to further learning
- individual wellbeing outcomes: Individuals may feel personal satisfaction or increased self-confidence as a result of their learning activities. Increases in education may also lead to increased societal awareness and sense of belonging.

Any of these changes could be seen as an outcome resulting from learning activities, which may in turn affect the context in which the individual exists, and may influence the future learning experiences of the individual, or those around them.

Non-participants

In Australia, virtually all people participate in education at some time. However, individuals cease their involvement at different stages of their life; for example, some do not continue past the compulsory schooling age and others cease their involvement at Year 12. Educators and trainers view such people as non-participants, in the sense that, for whatever reason, they are not involved in the available education and training services (post-compulsory schooling and tertiary education and training respectively in this example). Such people then have social and economic outcomes which can be compared with the outcomes of those who did not cease participating at those points. For example, compared to people who did complete Year 12, those who did not may experience higher unemployment rates, or those who are employed may earn less. In turn, such situations may then give rise to other social outcomes, such as an overall decrease in wellbeing, or an increased health risk. Initial outcomes may also take the form of an increased or decreased interest in future study, or a re-evaluation of the type of learning which might be undertaken in the future

Providers

Providers may also experience outcomes from their learning-related activities.

Depending on the nature of the provider these could include:

- a change in an education institution's reputation, based on the outcomes for its students. This could in turn lead to changes in the institution's ability to attract funding or high quality students and/or staff
- achievement of an education institution's stated goals
- increasing shareholder value, in the case of a provider which is a commercial business.

Community and society

For the community at large, outcomes can generally be thought of as broader social and economic effects. Education and training activities may result in an increase in the overall knowledge and skills stock of the population, and increase the number of people qualified for more skilled occupations. This may result in productivity gains, and higher economic growth than would otherwise be the case, representing return on investments into human capital. On a global level, the labour market and economy are likely to be more competitive if the population is better educated. Increases in educational attainment may also lead to improved literacy, numeracy and other life skills, and increased social and civic participation (social capital). There are also numerous health benefits commonly associated with higher levels of education.

*Community and society
continued*

Outcomes for society can also influence the context in which learning occurs through aspects such as future decisions about learning activities.

EXAMPLES OF MEASURES

Appendix 2 provides examples of output and outcome measures for each level of the framework, including:

- at the individual level: educational attainment
- at the organisational level: whether training improved business productivity
- at the systemic level: the attainment of completion targets.

BACKGROUND

The time dimension can be applied to all elements of the framework. The level of activity at any point in time can be considered to be a 'stock' measure, whereas the cumulative increases and decreases in that activity over a period can be considered 'flow' measures. For instance the number of full-time equivalent students at a given time is a stock measure whereas the number of students completing a qualification over a period of time is a flow measure. Further, the net change in stocks between two points in time (such as the change in the number of people with a particular level of education) is also a flow measure which has a number of contributing components.

There are two distinct methods of measurement using the time dimension:

- time: through the analysis of cross-sectional data
- time: through the analysis of longitudinal data.

Time can also be thought of either as a resource or as a barrier (this issue is discussed in Chapter 4). However, this section explores the above two perspectives of time in relation to the possible data needs arising out of the proposed framework.

CROSS-SECTIONAL DATA

Cross-sectional data can be used to produce broad, aggregate measures and make inferences about the education and training experiences of various population groups at a point in time. From surveys which are repeated periodically (using consistent definitions and classifications over time), researchers are able to observe how the characteristics of aggregates, such as staff or school students, have changed from one point-in-time to another. Where time series analysis is not possible, for example when a survey is run for the first time but users require retrospective data, respondents may be asked to recall periods of time in their history: for example, in which year they obtained a particular qualification, and which institutions they attended.

TRACKING INDIVIDUAL PATHWAYS, HISTORIES OR TRANSITIONS

Longitudinal data

Longitudinal data may allow researchers to gain an understanding of individuals' learning pathways and the factors which influence them. Data of this kind may be used to assess how well education and training programs are performing. Causal links between programs and performance can be inferred to some degree from cross-sectional data, but links are clearer and may be more reliable in longitudinal data, where the same individual is monitored over time.

Linking administrative datasets over time

Administrative data, such as school and university records, are rich sources of data about individuals and institutions. Linked together, existing data from administrative sources can allow analysis of basic demographic variables and some educational history information. Longitudinal analysis of linked records can also span generations and sectors. Although administrative data sources have the potential to provide some longitudinal and even inter-generational data, the process of record linkage may require coordination of existing data sources, cooperation between organisations and sectors to achieve comparability of sources, and resolution of confidentiality and privacy issues.

Tracing cohorts using existing datasets

Pseudo-longitudinal or 'cohort' methods may also be used to assess learning pathways and the accumulation of learning experiences over time. This is done not by repeatedly interviewing the same individual over time or asking that individual to recall past events, but by following a particular population group over time, and reporting differences in the characteristics of this group.

For example, if we have an education/training profile of people aged 25–34 years at a point-in-time, these people will be aged 30–39 years in five years time. By examining the characteristics of this latter group we can see how the former group has changed over a five-year period. Of course, given repeated measurement points, this approach can be extended over more lengthy periods of time. While the sample itself will contain different individuals across years, the population estimates are for the same 'cohort' of individuals.

GEOGRAPHY

The dimension of geography is important to understand the spatial relationships that exist in the framework. The relevance of geography in the framework relates to access to learning opportunities. While information technology (for those who have access to it) may decrease the importance of geography in this regard, geography still has an impact.

There are three key measures of the geography dimension:

- states and territories, and other defined geographic regions
- the notion of geographic location (for example urban/rural and remoteness)
- the domestic/international aspect.

The geography dimension can be applied to different elements of the framework, including the underlying population, providers and participants. The geographic location of both participants and providers may be of interest to identify differences between the two (for example home address for students boarding to complete their education, or undertaking correspondence courses). The main classification that applies to geographic distribution is the *Australian Standard Geographical Classification (ASGC)* (ABS 2002a).

State, territory and regional data may be of interest in order to assess issues of access, according to individuals' physical locations and their proximity to educational institutions.

The educational opportunities and outcomes for people in urban and rural communities are frequently compared. There is a policy focus on the effects of remoteness, in terms of access to facilities (both education and more general facilities) and social networks. In particular, there are links between geographical remoteness and socioeconomic status, and people in remote areas are considered at greater risk in terms of educational and labour market outcomes.

A recent change has seen the introduction of a remoteness classification within the ASGC (ABS 2002a). The purpose of the Remoteness Structure is to classify Collection Districts across Australia into broad geographical regions which share common characteristics of remoteness. The Accessibility/Remoteness Index of Australia, which measures the remoteness of a point based on the physical road distance to the nearest Urban Centre in each of five size classes, has been used as the underlying measure of remoteness.

The domestic/international perspective is included as a key aspect of geography, because there is a growing interest in monitoring the influences of increasing economic globalisation on education and training, for example, changes in the number and characteristics of overseas students, links between Australian and overseas institutions (such as reciprocal student exchange programs), and overseas delivery of education and training by Australian providers.

CLASSIFYING GEOGRAPHY

The *Australian Standard Geographical Classification* (ABS 2002a) provides a common framework of statistical geography and enables the production of comparable national statistics which can be spatially integrated. In practice, statistical units such as households and businesses are first classified or assigned to a geographical area in one of the seven ASGC structures. Data collected from these statistical units are then compiled into ASGC defined geographic aggregations which, subject to confidentiality restrictions, are available for publication.

The seven interrelated classification structures of the ASGC (ABS 2002a) are:

- Main structure
- Local Government Area structure
- Statistical District structure
- Statistical Region structure
- Urban Centre/Locality structure
- Section of state structure
- Remoteness structure.

STATISTICAL CLASSIFICATIONS AND STANDARDS

CLASSIFICATIONS

The main statistical classifications which are relevant to this framework are listed below.

Countries—published as Australian Bureau of Statistics 1998, *Standard Australian Classification of Countries (SACC), 1998*, cat. no. 1269.0, ABS, Canberra.

Cultural and ethnic groups—published as Australian Bureau of Statistics 2000, *Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG), 2000*, cat. no. 1249.0, ABS, Canberra.

Economic sector—published as Australian Bureau of Statistics 2002b, *Standard Economic Sector Classifications of Australia (SESCA), 2002*, cat. no. 1218.0, ABS, Canberra.

Education—published as Australian Bureau of Statistics 2001a, *Australian Standard Classification of Education (ASCED)*, cat. no. 1272.0, ABS, Canberra.

Geography—published as Australian Bureau of Statistics 2002a, *Australian Standard Geographical Classification (ASGC)*, cat. no. 1216.0, ABS, Canberra.

Industry—published as Australian Bureau of Statistics and New Zealand Department of Statistics, 1993, *Australian and New Zealand Standard Industrial Classification*, ABS cat. no. 1292.0, NZ cat. no. 19.005.0092, ABS, Canberra & Department of Statistics, Wellington.

Languages—published as Australian Bureau of Statistics 1997, *Australian Standard Classification of Languages (ASCL), 1997*, cat. no. 1267.0, ABS, Canberra.

Occupation—published as Australian Bureau of Statistics 1997, *Australian Standard Classification of Occupations (ASCO), Second Edition*, cat. no. 1220.0, ABS, Canberra.

Religious groups—published as Australian Bureau of Statistics 1996, *Australian Standard Classification of Religious Groups (ASCRG), 1996*, cat. no. 1266.0, ABS, Canberra.

Research—published as Australian Bureau of Statistics 1998, *Australian Standard Research Classification (ASRC), 1998*, cat. no. 1297.0, ABS, Canberra.

STATISTICAL STANDARDS

The above statistical classifications are used in a number of statistical standards for a range of variables, such as level of highest educational attainment, which are developed by the ABS to provide a means of standardising the way the ABS and other agencies collect and disseminate statistical information.

MORE INFORMATION

The publications documenting the above classifications and information about statistical standards, are available on the ABS web site at <<http://www.abs.gov.au>>.

EXAMPLES OF MEASURES FOR EACH ELEMENT AND LEVEL OF THE FRAMEWORK ..

		Elements								
		Context	Participants	Non-participants	Providers	Resources			Activities	Outputs & Outcomes
						Financial	Human	Physical		
Levels	Individual	Parents' qualifications Eligibility to receive youth allowance	Age distribution of participants Characteristics of participants in continuing education	Main reason for not studying	Main field of education provided by individual provider	Household weekly expenditure on learning activities	Number of Indigenous teachers	Access to internet at home	Level of education Time spent studying	Educational attainment Completions and partial completions Literacy and numeracy measures
	Organisational	Community involvement in schooling	Businesses consuming training by number of employees	Number and characteristics of businesses not consuming training	Geographic distribution of higher education institutions	Sources and uses of funding on education and training	Distribution of VET institutions by number of teaching staff	Teaching resources used in schools or preschools	Level and type of training provided by businesses Quality/ effectiveness measures	Whether training improved business productivity
	Systemic	Unemployment rate	MCEETYA participation rates	Proportion of 15-19 year olds not undertaking any education or training	No. of public primary schools in Australia	Total expenditure on VET Expenditure per FTE student	No. of primary school teachers in state or territory Staff to student ratios	No. of higher education places	Apparent retention rates	No. of higher degree research completions

GLOSSARY

Accreditation	The process by which a course or training program is officially recognised and approved. Under the Australian Recognition Framework, accreditation of courses and customised qualifications occurs only where no relevant training packages exist.
Activities	An element of the framework, including learning activities, activities of educational institutions, and the activities of non-participants.
Adult community education	Education and training intended principally for adults, including general, vocational, basic and community education, and recreation, leisure and personal enrichment programs; the providers which deliver such education programs.
Assessment	The process of gathering and judging evidence in order to decide whether a person has achieved a standard or objective.
Business entity	A person or body involved in economic activity.
Competency	The ability to perform tasks and duties to the standard expected in employment.
Competency-based training	Training which develops the skills, knowledge and attitudes required to achieve competency standards.
Context	An element of the framework which refers to an entity's relationship with the wider environment as they make choices to enter learning activities based on their needs and opportunities. The context has four aspects: entities, learning needs and aspirations, influencing factors, and the dimensions of time and geography.
Continuing education	Educational programs for adults, usually at the post-secondary level and offered as part-time or short courses in personal, academic or occupational subject areas.
Curriculum	The specifications for a course, subject or module which describe all the learning experiences a student undergoes, generally including objectives, content, intended learning outcomes, teaching methodology, and recommended or prescribed assessment tasks.
Dimension	One of the four aspects incorporated in the context element of the framework. In the framework, there are two dimensions: time and geography.
Education	The process of acquiring or imparting knowledge, skills, understanding, attitudes, character or behaviours; the attributes themselves.
Educational institution	Any establishment providing education as its main activity, including schools, colleges, universities and institutes.
Element	A key area about which information is required.
Enterprise	The unit covering all legal entities within an enterprise group that are classified to the same institutional sector within the <i>Standard Institutional Sector Classification of Australia</i> (SISCA) (ABS 2002b). An enterprise is one of the main statistical units represented at the organisational level of the framework.
Enterprise group	The unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. An enterprise group is one of the statistical units represented at the organisational level of the framework.

Entity	One of the four aspects incorporated in the context element of the framework. An entity is a person or body which has the potential to fund, deliver or receive education and/or training. In the framework, entities include individuals, families and communities, institutions, businesses and other organisations, and governments.
Evaluation	Whether an activity is assessed, accredited, or monitored.
Financial resources	Within this framework, financial resources are an element of the framework which refer to the sources of entities' funds and their use of these funds for education and training purposes.
Formal learning	A type of learning which is characterised by learning activities that are delivered, structured and evaluated. These activities are also usually systematic, planned and organised ahead of time. In the framework, there are two types of formal learning: institution-based learning and non institution-based learning.
Framework	A tool which can be used to organise information into a logical structure, and which provides a coherent and comprehensive 'map' of statistics, representing an agreed, common way of thinking.
Funds	The monetary value of finance provided to acquire the physical and human resources to enable learning activities and/or support the living expenses of persons participating in learning activities. Funds are generally referred to in terms of their flow between different entities for specific purposes.
Geography dimension	Incorporated within the context element of the framework. There are three key measures in the geography dimension: <ul style="list-style-type: none"> ■ states and territories, and other defined geographic regions ■ geographic location (urban/rural/remote) ■ the domestic/international aspect.
Higher education	Education offered by a university or other recognised higher education institution, leading to the award of a degree or higher level qualification.
Human resources	An element of the framework which refers to the people who deliver or support the delivery of education and training.
Incidental learning	Learning which occurs unintentionally or coincidentally during a person's development as the result of life experiences.
Individual level	One of the three levels used to group information about entities in the framework. This level is concerned with information about people because individual learning pathways are a key aspect of the framework. The main statistical unit for this level is the person, but others include households and families.
Industry	The set of all production units engaged primarily in the same or similar kinds of productive economic activity.
Influencing factors	One of the four aspects incorporated in the context element of the framework. These are factors which may influence entities' participation in learning activities, including economic and financial factors, time factors, cultural factors, social factors, intellectual/knowledge factors, psychological/motivational factors, and physical and environmental factors.
Institution-based learning	Learning (formal or non-formal), provided by educational institutions, including preschools, schools, vocational education and training institutions and higher education institutions.

Learning	The lifetime process of obtaining knowledge, attitudes, skills, and socially valued qualities of character and behaviour. In the framework, learning is intentional and sustained, and for most types of learning, involves communication, or transfer of knowledge or skills, from one person to another. This communication can involve a wide variety of channels and media. It may be verbal or written. It may be delivered face-to-face or by other means.
Learning activity	Any learning experience where the primary intention of the learner and the provider (if present) is to increase or improve knowledge, skills or competencies.
Learning needs and aspirations	One of the four aspects incorporated in the context element of the framework. Learning needs and aspirations are the learning/training requirements and ambitions of individuals and other entities.
Level	A way of organising information about entities in the framework, by grouping them into three levels: the individual level, the organisational level and the systemic level.
Lifelong learning	The learning path of a person which is initiated at birth, develops through schooling and other formal and non-formal types of learning, and continues throughout adult life. For the purposes of the framework, lifelong learning does not include incidental learning.
Management Unit	The largest type of unit within an enterprise group which controls its productive activities and for which accounts are kept. Management Units are one of the main statistical units represented at the organisational level of the framework.
Non-award course	A course of study that is undertaken for any purpose other than to obtain an educational qualification. It can be a unit or a module of study that leads to a qualification but which is not completed to the qualification level. More commonly, it is a short course that leads to the acquisition of specific skills.
Non institution-based learning	Learning (formal or non-formal), provided by organisations and businesses other than educational institutions, such as training organisations, community organisations and workplaces.
Non-taught learning	Learning which is not delivered either directly or indirectly by a provider.
Non-formal learning	Learning which does not involve any evaluation of achievement. Non-formal learning may be structured, such as community-based learning, or unstructured, such as on-the-job training. It may or may not involve a student/teacher relationship.
Non-participants	An element of the framework, which refers to persons or organisations not undertaking learning activities at any point in time.
Organisational level	One of the three levels used to group information about entities in the framework. This level is concerned with information about organisations, including educational institutions and employers. The main statistical unit for this level is the business unit.
Outcomes	The effects resulting from an activity. Outcomes include skills acquisition, educational attainment, and social, economic and labour market effects. Outcomes may be positive or negative; they may be planned or unintentional. Outputs and outcomes are grouped together as a single element in the framework.
Outputs	The quantity or amount produced from an activity, including completions or partial completions of qualifications, and including the output, in an economic sense, of the education industry (such as the amount or monetary value of education services provided). Outputs and outcomes are grouped together as a single element in the framework.

Participants	An element of the framework, which refers to persons or organisations undertaking learning activities at any point in time.
Pathway	A path or sequence of learning or experience that can be followed to attain competency.
Physical resources	An element of the framework, which refers to the items used by providers in the delivery of learning, and by participants in the course of learning. They include capital items such as buildings and facilities as well as smaller items such as library books, equipment, computers and other durables.
Pre-primary education	Educational and developmental programs to young children before commencing primary education. It is primarily designed to introduce young children to the ideas, attitudes and behaviour required in a school environment. In the framework, programs are considered to be pre-primary programs if they include staff that have training in an education field and children who are aged three years and over.
Preschool	Educational and developmental programs for children in the year (or in some jurisdictions, two years) before they begin full-time primary education. In the framework, programs are considered to be preschool programs only if they include staff that have training in an education field and children who are aged three years and over.
Providers	An element of the framework, which refers to organisations and individuals which deliver learning activities.
Qualification	Formal certification, issued by a relevant approved body, in recognition that a person has achieved learning outcomes or competencies relevant to identified individual, professional, industry or community needs.
Research and development	Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of people, culture and society, and the use of this stock of knowledge to devise new applications. A research and development activity is characterised by originality. It has investigation as a primary objective, the outcome of which is new knowledge, with or without a specific practical application, or new or improved materials, products, devices, processes or services. Research and development ends when work is no longer primarily investigative.
Resources	An element of the framework, which refers to the physical, human and financial inputs which may be necessary for learning to occur.
School	Formal tuition offered on a daily basis within classes supervised by qualified teachers and designed to provide students with a broad general level of education.
Self-directed learning	Learning in which the learner is the principal driving force, deciding how, when, and at what pace learning takes place. Self-directed learning has no provider: for example, using a 'how-to' book or computer package to learn a new skill.
Statistical unit	The basic units about which data are recorded, aggregated and published in official statistics. In the context of the framework, these units relate to information about entities at the individual, organisational and systemic levels.
Structure	Whether the learning activity has a designated course content, such as a school curriculum or competency-based training package.
Systemic level	One of the three levels used to group information about entities in the framework. This level is concerned with information about the national 'system' for education and training. The main statistical units for this level are governments (state/territory and Commonwealth).

Taught learning	Learning which is delivered either directly or indirectly by a provider.
Tertiary education	Formal education beyond secondary education, including higher education, vocational education and training, or other specialist post-secondary education or training. Also called post-secondary education or further education.
Time dimension	Incorporated within the context element of the framework. The time dimension has two aspects: cross-sectional statistics provided on a comparable basis over time, as well as data of a longitudinal nature, to facilitate studies of the 'dynamics' of learning pathways.
Training	The development of skills, knowledge and competencies through instruction or practice.
Vocational education and training	Post-compulsory education and training, excluding degree and higher level programs delivered by higher education institutions, which provides people with occupational or work-related knowledge and skills. Vocational education and training also includes programs which provide the basis for subsequent vocational programs.
Workplace training	Learning or training undertaken in the workplace, usually on the job, including on-the-job training under normal operational conditions, and on-site training, which is conducted away from the work process (for example, in a training room).

BIBLIOGRAPHY

Note: references to standard statistical classifications are contained in Appendix 1, and so are not included here.

Australian Bureau of Statistics 1993, *ABS Classification of Qualifications*, cat. no. 1262.0, ABS, Canberra.

Australian Bureau of Statistics 1998, *Time Use Survey, Australia, 1997—User's Guide*, cat. no. 4150.0, ABS, Canberra.

Australian Bureau of Statistics 2000, *Australian National Accounts: Concepts, Sources and Methods*, cat. no. 5216.0, ABS, Canberra.

Australian Bureau of Statistics 2001b, *Measuring Wellbeing: Frameworks for Australian Social Statistics*, cat. no. 4160.0, ABS, Canberra.

Australian Education Council Review Committee 1991, *Young People's Participation in Post-compulsory Education and Training*, AGPS Press, Canberra.

Australian Institute of Health and Welfare and Australian Health Ministers' Advisory Council 1995, *National Health Information Development Plan*, AGPS Press, Canberra.

Australian National Training Authority 2001, *Australian Quality Training Framework*, viewed June 2001, <<http://www.anta.gov.au>>.

Australian Quality Framework Advisory Board 2002, *Australian Qualifications Framework Implementation Handbook: Third Edition 2002*, viewed March 2002, <<http://www.aqf.edu.au>>.

Burke, G., Harrold, R. and McKenzie, P. 2001, *An Evaluation of Education and Training Financial Statistics, Report to the Australian Bureau of Statistics*, Centre for the Economics of Education and Training, Monash University, Clayton.

Department of Primary Industries and Energy & Department of Human Services and Health 1994, *Rural, Remote and Metropolitan Areas Classification: 1991 Census Edition*, AGPS Press, Canberra.

Inter-Secretariat Working Group on National Accounts 1993, *System of National Accounts 1993*, World Bank, Brussels/Luxembourg, New York, Paris, Washington D.C.

Ministerial Council on Education, Employment, Training and Youth Affairs 1999, *The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century*, MCEETYA, Carlton South.

Organisation for Economic Co-operation and Development 1993, *The Measurement of Scientific and Technology Activities: Proposed Standard Practice for Surveys of Research and Experimental Development: Frascati Manual 1993*, OECD, Paris.

Organisation for Economic Co-operation and Development 1996, *Lifelong Learning for All*, OECD Education Committee (Ministerial level), Paris.

- Organisation for Economic Co-operation and Development 1999, *Classifying Educational Programmes: Manual for ISCED-1997: Implementation in OECD Countries 1999 Edition*, OECD, Paris.
- Organisation for Economic Co-operation and Development 2001, *Education at a Glance, OECD Indicators 2001*, OECD, Paris.
- Prime Minister's Youth Pathways Action Plan Taskforce 2001, *Footprints to the Future*, Ausinfo, Canberra.
- Steering Committee for the Review of Commonwealth/State Service Provision, *Report on Government Services*, Ausinfo, Canberra—released annually.
- United Nations Educational, Scientific and Cultural Organization 1997, *International Standard Classification of Education: ISCED 1997*, UNESCO, Paris.

FOR MORE INFORMATION...

- INTERNET* **www.abs.gov.au** the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
- LIBRARY* A range of ABS publications is available from public and tertiary libraries Australia-wide. Contact your nearest library to determine whether it has the ABS statistics you require, or visit our web site for a list of libraries.
- CPI INFOLINE* For current and historical Consumer Price Index data, call 1902 981 074 (call cost 77c per minute).
- DIAL-A-STATISTIC* For the latest figures for National Accounts, Balance of Payments, Labour Force, Average Weekly Earnings, Estimated Resident Population and the Consumer Price Index call 1900 986 400 (call cost 77c per minute).

INFORMATION SERVICE

Data which have been published and can be provided within five minutes are free of charge. Our information consultants can also help you to access the full range of ABS information—ABS user-pays services can be tailored to your needs, time frame and budget. Publications may be purchased. Specialists are on hand to help you with analytical or methodological advice.

- PHONE* **1300 135 070**
- EMAIL* **client.services@abs.gov.au**
- FAX* 1300 135 211
- POST* Client Services, ABS, GPO Box 796, Sydney 2001

WHY NOT SUBSCRIBE?

ABS subscription services provide regular, convenient and prompt deliveries of ABS publications and products as they are released. Email delivery of monthly and quarterly publications is available.

- PHONE* 1300 366 323
- EMAIL* subscriptions@abs.gov.au
- FAX* 03 9615 7848
- POST* Subscription Services, ABS, GPO Box 2796Y, Melbourne 3001



2421300001029
ISBN 0 642 47862 7

RRP \$10.00