e-portfolios beyond education and training
strategic ICT advisory service
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Foreword

This investigation compiles the evidence currently in existence to build a case for implementation of an Australian e-portfolio or e-portfolios.

E-portfolio applications have been around for a number of years and are widely adopted in Australian education institutions. However, once learners are no longer involved in formal education, their access to e-portfolio services can be severely limited, even though they are by no means at the end of their education and are just beginning the work phase of their career. Several e-portfolio implementations around the world demonstrate the potential of e-portfolios for users post-education, including:

- supporting workers facing redundancy
- career development
- workforce development and planning
- continuing professional development
- lifelong learning
- articulation of skills and experience.

E-portfolios have the potential to contribute to the policy response to an economic environment that includes complexities such as skills shortages, ongoing adjustment of the Australian labour market, the life-long learning agenda, and the impact of the global financial crisis.

Worldwide, e-portfolios are at an interesting stage. Many implementations are considered highly successful by their stakeholders, in terms of benefits for individual users and labour market outcomes. However, the implementations are too recent for a solid base of evidence to have emerged, which means that several successful e-portfolios have been developed and implemented simply on the basis of an understanding that this is the way of the future.

This investigation is one of the series commissioned by the Australian Government's Department of Education, Employment and Workplace Relations (DEEWR) as part of the Strategic ICT Advisory Service (SICTAS) project.

I commend this report and its findings to the reader.

Greg Black
CEO Education.au
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Glossary

ACCI  Australian Chamber of Commerce and Industry
ACE  Adult Community Education
ACODE  Australasian Council on Open, Distance and e-Learning
ACT  Australian Capital Territory
AICTEC  Australian ICT in Education Committee
ALGA  Australian Local Government Association
ALTC  Australian Learning and Teaching Council
ANTA  Australian National Training Authority
APL  Accreditation of Prior Learning (Netherlands)
AQTF  Australian Quality Training Framework
ARIIC  Australian Research Information Infrastructure Committee
ASTEC  Australian Science and Technology Council
BCA  Business Council of Australia
Blueprint  formerly the British Educational Communications and Technology Agency
COAG  Council of Australian Governments
CPD  Continuing professional development
CV  Curriculum Vitae
DECS  Department of Education and Children’s Services
DEEWR  Department of Education, Employment and Workplace Relations
DER  Digital Education Revolution
DEST  Department of Education, Science and Technology
DETA  Department of Education Training and the Arts
DFFEST  Department of Further Education, Employment Science and Technology
EELLS  East of England Lifelong Learning Support (UK)
EU  European Union
Framework  Australian Flexible Learning Framework
FRODO  Federated Repositories of Online Digital Objects
FTTP  Fibre to the premises
ICT  Information and communications technology
IFL  Institute for Learning (UK)
IT  Information technology
JISC  Joint Information Systems Committee (UK)
KERIS  Korea Education and Research Information Service
LRS  Learner Registration Service (UK)
MCEETYA  Ministerial Council on Education Employment Training and Youth Affairs
MCVTE  Ministerial Council for Vocational and Technical Education
MERRI  Managed Environment for Research Repository Infrastructure
MnSCU  Minnesota State Colleges and Universities
NEC  National Europass Centre
NMC  New Media Consortium
NQC  National Quality Council
NSW  New South Wales
NT  Northern Territory
NVQ  National Vocational Qualification (UK)
QLD  Queensland
SA  South Australia
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1 Executive summary

As we approach the end of the first decade of the 21st Century it is an opportune time to reflect on how we, as a nation, are positioned to support our citizens as they traverse their careers and lifelong learning journeys. While we examine Australia’s current situation it is also worth considering what support the better performing economies (not necessarily the largest, but those perhaps that ‘punch above their weight’) will offer their citizens to optimise their productivity over the next decade.

Around the world e-portfolios are being used to address a range of challenges that, in Australia’s current economic climate, are important policy concerns. These include:

- supporting workers facing redundancy
- career development
- workforce development and planning
- continuing professional development
- lifelong learning
- articulation of skills and experience
- developing competencies with ICT.

To date, Australia’s adoption and use of e-portfolios has largely been confined within education institutions such as schools, TAFE institutes and universities and once learners are no longer directly associated with those education environments, their access to e-portfolio services can be severely limited. From a lifelong learning perspective, however, these learners are by no means at the end of their education and are often just starting out on the work phase of their career.

In addition, as learners move from one school/RTO/university to another, they may end up with multiple institutional e-portfolios, qualifications, work experience etc but no easy way of drawing them together to form a ‘lifelong’ e-portfolio. This problem can be amplified for learners and workers/job seekers in the adult and community education sector, as there are currently no effective or consistent mechanisms for them to plan, reflect or record their achievements.

E-portfolios arguably become most important as they are used to help prepare and support transitions. These may be transitions within educational settings, between education and employment (and vice versa), or changes in employment status. Most e-portfolio implementations that we are aware of support individuals while they are within one of these settings and possibly leading up to a transition out of that setting. Very few are designed to support individuals through multiple transitions between different settings, yet from a lifelong learning or career management perspective this is probably where we should concentrate our efforts.

Some regions around the world do understand the potential for e-portfolios to support learners and workers throughout their lifetime. This investigation examines implementations of e-portfolios in environments other than educational institutions. It surveys the following e-portfolio implementations around the world including:

- NedCar (Netherlands)
- eFolio Minnesota
- Careers Wales
 Relevant reports from organisations including the UK Joint Information Systems Committee (JISC) and Becta (formerly the British Educational Communications and Technology Agency) are also reviewed to provide the broadest possible view of e-portfolio possibilities. These cases demonstrate that e-portfolios are being productively put to many uses beyond formal education and training.

The most important findings to come out of this investigation are that the initiatives investigated here demonstrate how e-portfolios are being used to address key challenges for lifelong learners, job seekers, and supporting regions around workforce development and adjustment. Several of the reports examined provide solid analysis that point to successful e-portfolio implementations in the areas that we are interested in. Despite the relative recency of these implementations, and the lack of a longitudinal evidence base that this implies, e-portfolios are helping citizens through a variety of life stages, and simultaneously helping employers and the workforce more broadly.

Given these findings, it is the intent of this report to demonstrate how we can apply e-portfolios to help address the aforementioned key economic and political challenges.

Key recommendations from the report are centred on what we should be doing to support our citizens and economy for the challenges that lie ahead for us.

This investigation is one of the series commissioned by the Australian Government’s Department of Education, Employment and Workplace Relations (DEEWR) as part of the Strategic ICT Advisory Service (SICTAS) project. The investigation’s audience is senior DEEWR policy advisors. Recommendations for action are compiled in the section below.
2 Recommendations

This investigation examines the potential of e-portfolios as a component of the broad policy response to labour market issues currently facing Australia. The recommendations are compiled in this chapter. Discussion leading to the recommendations can be found in subsequent chapters.

2.1 Recommendation One

Expand Myfuture to include the following:

a) the types of e-portfolio services offered by Careers Wales

Myfuture is the obvious choice for providing an e-portfolio service. It already offers many of the features required by a holistic, user-centred career management tool. Soon to be released features in Myfuture’s My Guide career exploration area are foundations to the creation and use of an e-portfolio for career and transition management, as well as professional development of an existing workforce.

Further, from a lifelong learning perspective, secondary school students are exposed to Myfuture for career planning at an important point in their career development. Users thus create a profile at the start of their career, and the opportunity exists for them to have subsequent access to a lifelong career, professional and personal development service with an e-portfolio service associated with that profile.

b) features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce

These features could be a permanent feature on Myfuture, or implemented locally as part of a rapid response for companies/industries facing sudden closure and/or labour market adjustment. A localised toolset could address specific industry/location issues.

c) multiple user interfaces to support different audiences

Also featured in the Career Wales service, multiple interfaces facilitate better engagement with a single service for a wider user group. Examples include year nine students, users with special needs, indigenous users, and non-native English speakers. Each interface could be focussed for engagement with its target audience by modifications to look, feel and content.

d) appropriate communications tools for collaborative reflection in professional development.

A number of the e-portfolio implementations investigated here facilitate communication and collaborative reflection, aligned with the understanding that skills of communication and collaborative reflection are important elements of personal and professional development.
2.2 Recommendation Two

Fund e-portfolio trials in areas of particular relevance to Australia.

In the UK, JISC has funded a number of trials in areas relevant to challenges and opportunities facing them. Many of these trials are relevant in Australia as well and we can learn from them. However, consideration should be given to funding trials here that have a strong local context; for example, e-portfolio services:

- for rural and remote populations
- to support the very disaggregated adult and community education sector
- to support sustainable labour market participation in Australia, in line with the Government’s initiative to raise the retirement age to 67
- for ACE learners to facilitate pathways into the VET system.

2.3 Recommendation Three

Fund interoperability trials between the recommended ‘Myfuture’ e-portfolio and existing Australian institutional e-portfolios.

Recommendation Three looks to the medium term, beyond the implementation of a national e-portfolio, and is directed towards ensuring interoperability between the recommended ‘Myfuture’ e-portfolio and existing Australian institutional e-portfolios.
3 Introduction

This report will consider a number of issues faced by the Australian Government and look into how e-portfolio services should be considered in the current and ongoing policy environment, which includes complexities such as:

- skills shortages
- workforce development
- labour market adjustment
- professional development
- career development/supporting transitions
- impact of the global financial crisis
- the life-long learning agenda.

In addition, along with state and territory education and training jurisdictions, DEEWR has significant responsibility for the goals set by COAG to fully develop Australia’s human capital by:

- increasing the proportion of young people making a smooth and successful transition from school to work or further study
- increasing the proportion of adults who have the skills and qualifications needed to enjoy active and productive working lives
- improving overall workforce participation.¹

As we move well into the digital age, well-designed and constructed e-portfolio services also offer the potential for people to develop their ICT skills and comfort with technologies, although this is not discussed in this report as a key focus or reason for broad-based, regional e-portfolio services.

It is our belief that economies which support lifelong learning, career development through widely available e-portfolio and related ICT services are positioning themselves to perform better than those economies that do not recognise the benefits that having a population comfortable with, and able to exploit the use of ICT throughout their careers.

Individuals as well as regions that understand how to use technologies to plan, reflect and promote themselves will do better than those that do not.

E-portfolio applications have been around for a number of years and are widely adopted in educational institutions across all Australian education sectors. Beyond Australian education though, the term e-portfolio is used to describe a wide number of software application areas that provide a range of different types of services. These services include, but are not limited to:

- compiling and presenting evidence of achievement throughout your lifetime/career
- ongoing reflection
- lifelong planning and goal setting.

E-portfolios are used in many situations including by career seekers, groups, geographical regions (jurisdictions) and entire countries.
In Australia, once learners are no longer directly associated with formal education, their access to e-portfolio services can be severely limited, even though they are by no means at the end of their education and are often just starting out on the work phase of their career. In addition, as they move from one work or educational setting to another, they may end up with multiple institutional e-portfolios and qualifications but no easy way of drawing them together in a cohesive, well presented manner. For learners and workers/job seekers in the adult and community education sector, this problem can be amplified as there are currently no effective or consistent mechanisms for them to plan, reflect or record their achievements.

E-portfolios arguably become most important as they are used to help prepare and support transitions. These may be transitions within educational settings, between education and employment (and vice versa), or changes in employment status. Most e-portfolio implementations that we are aware of support individuals within one of these settings leading up to a transition out of that setting. Very few are designed to support individuals through multiple transitions between different settings, yet from a lifelong learning or career management perspective this is probably where we should concentrate our efforts.

3.1 Questions for investigation

In order to gain an insight as to how well or otherwise e-portfolios are being used outside formal education settings, this report considers the following:

- Identify and describe a selection of regional and workforce e-portfolio implementations.
  - To what purposes are the e-portfolios being put?
  - How is the success or otherwise of these e-portfolio implementations defined and measured?
  - Is there evidence of e-portfolios being used to address problems such as a downturn in employment opportunities, increasing unemployment, or skills shortages?
  - What business cases exist for the deployment of regional or workforce e-portfolios?

- Is there evidence of e-portfolios being used to address the following issues and user groups? How may e-portfolios be used to support the needs of these potential user cohorts?
  - a region – helping workers back into work, identifying courses and other personal development opportunities, identifying potential future career paths
  - indigenous – helping people articulate their plans, desires, skills, experience in a manner meaningful to them and in a safe, comfortable, engaging environment
  - special needs – providing advice, information, planning and support services in a way that is engaging and appropriate
  - recently unemployed – providing links between users and personal development and employment opportunities, workforce development

3.2 Methodology

The investigation was conducted by desktop research and by consultation with implementers of regional and workforce e-portfolio initiatives.

The e-portfolios investigated here are relatively recent developments and formal research on the outcomes of these projects is scarce. Longitudinal studies would offer compelling evidence, but we are not aware of any such research. Many implementations have not been in place long enough to
obtain sufficient longitudinal data that assesses the impact that such services have achieved. In the absence of longitudinal studies, the success or otherwise of e-portfolios can be ascertained in various ways, including the following:

- case studies
- surveys
- monitoring usage
- independent reviews
- adoption by other jurisdictions.

Wherever possible we interviewed the custodians of e-portfolio services to obtain feedback on the challenges they face, achievements to date and the success or otherwise of those initiatives. Some services have been subject to external reviews and in these cases we have examined those reviews. In the two major initiatives that we have examined, both initiatives have been in place a number of years and reviews were performed relatively early in their operation. The data could be considered dated (in internet terms) as in a number of instances it does not reveal the current growth and usage of the services. It does, however, establish a pattern of growth and usage.

JISC has funded research into a number of regional e-portfolio trials and individual project reports are available on the trials as well as some excellent summary reports on what they have achieved to date. The size of these trials is typically not on a scale anywhere near as large as the large-scale regional e-portfolio initiatives we examine, so some of those projects reported against statistically quite small samples. It is up to the reader to form their opinions on what may happen with much larger trials however it is our opinion the projects reveal both the successful outcomes and the challenges that these types of e-portfolio implementations can expect.

We rely extensively on the research that JISC has commissioned and are very grateful for the manner in which they report on and release their findings.
4 Supporting career development and lifelong learning

There is a growing awareness that career development skills make an important contribution to individuals’ efforts to respond to changing imperatives in the labour market and to achieve and maintain employment. Career development skills can also contribute to individuals’ efforts to achieve aspirations outside employment.

E-portfolios can be highly useful and effective tools in career development. Careers Wales is a significant example from Wales, reviewed below. Myfuture (while not an e-portfolio implementation) is an important online Australian career development initiative. It is the closest example of a service that Australia provides to its community that comes close to matching the range of services that Careers Wales offers. Myfuture is discussed in this section for information, in terms of its enormous potential to offer its already very large user base a suite of e-portfolio services, integrated with the career information and exploration services it already provides.

The Australian Blueprint for Career Development (Blueprint) is also reviewed in this chapter. The Blueprint is “a framework for designing, implementing and evaluating career development programs for young people and adults.” Within the broad framework it provides for career development competencies in Australia, the Blueprint is a strong driver for an Australian e-portfolio implementation.

4.1 Careers Wales

Careers Wales (http://www.careerswales.com), along with eFolio Minnesota (discussed in Chapter Five), is one of the largest, if not the largest, regional e-portfolio implementations in the world. It has over 250,000 registered users. Funded by the Welsh Assembly Government, Careers Wales is part of the government’s Lifelong Learning Agenda, ‘encouraging people to engage in learning, skills and career development, leading to economic prosperity for individuals and the nation as a whole.’

The service provides a fully multilingual website for Welsh people of all ages and life stages on careers information, advice and guidance. Careers Wales was set up in 2001 and brought together six careers companies across Wales under one name. The work of Careers Wales contributes to the Welsh Assembly Government’s Lifelong Learning Agenda, through which people are encouraged to engage in learning, skills and career development, with the aim of creating economic prosperity for individuals and for Wales as a whole.

More information about the services offered by the Careers Wales service is provided in Appendix A: Careers Wales.

The Careers Wales e-portfolio service has been in operation for over four years and is currently undergoing an expansion of the services that it offers. One new service is devoted to Year 9s. This area has a user interface that is more relevant to, and more engaging for this age group. It offers career exploration and planning functionality and is split into the following areas:

- In my school - helps students find out what choices they have within their school
- Let’s explore - provides more detail on courses, careers and the world of work
- My plans - enables the development of individual learning and career plans
• My site - provides students with the ability to create their own personal profile
• Help and support - provides information about the people students can contact for support.

A version of the website to support persons with special needs will also shortly be available and again, attention has been paid to ensuring that the site offers a rich and meaningful experience for this group.8

The idea of multiple interfaces to what is essentially a single service is significant. Properly executed, it can encourage engagement with a number of different user groups and a wider demographic overall. In the Australian context, in addition to a generic user interface for the majority of users, implementation of an e-portfolio might involve the development of different user interfaces for groups including:
  • year nine students
  • indigenous users
  • users with special needs
  • non-native English speakers.

In terms of recommendations, this discussion in captured in Recommendation 1c – multiple user interfaces to support different audiences.

4.1.1 Evidence of success

As with many emerging and newer technologies and services, evidence of success is often anecdotal and there is not yet a substantial amount of formal research publicly available.

It is worth noting that the Careers Wales Website won a British Academy of Film and Television Arts award for technical and social innovation in 2005.9

Estyn,10 Her Majesty’s Inspectorate for Education and Training in Wales, published A Report on the Progress and Effectiveness of Careers Wales11 in March 2006. The review demonstrates effectively how different audiences (including careers advisors, schools, adults, students, careers companies etc) are engaging with the Careers Wales website.

At the time of the review, Careers Wales had 85,000 registered users. Today that number has risen to approximately 250,000 registered users. This increase can be seen as a possible indicator that the service provides value to its community. Indeed, careers advisors report that they find the service very useful to them and to their clients. Approximately 75% to 80% of the registered users are or were students at the time they registered for the service. The service is promoted and used in Welsh schools and this accounts for this relatively large percentage. Over 20% of the registered users, however, come from outside the school system which means that a large number people are engaged or have engaged with the service through other means.12

Adult clients have reported positively back on a number of aspects of the service, as discussed below.

4.1.2 The Careers Information Library

The Careers Information Library provides information about a wide range of careers.

An adult client was looking for a career in art, but was not sure about the exact type of work she wanted to pursue. She explored the information in the section which grouped art related careers together. This extended her awareness of her options and helped her to identify a
particular option, textile and surface design, which matched her interests and which she had previously not considered.

Clients who are not clear about the type of career they want get useful ideas about what is open to them. They specify the level of qualifications they have (for example, ‘few qualifications’, or ‘A level’) and select one or more skills they wish to use in a job. This approach helped one client to identify that she was interested in becoming an electrician. Previously she had little career focus and had not considered this option before. The website helped to challenge the stereotyped restrictions she was placing on herself and it extended her career choices.13

4.1.3 The Learning Choices Database

The Learning choices database provides information about education and training opportunities throughout Wales.

Adults make good use of the database to find out where they can gain new skills. One employed adult said that the database was particularly useful in finding local, part-time, or distance learning opportunities. Another adult used the database to search across Wales for specialist courses, such as spinning and weaving. A few clients also found the database ‘the easiest way’ to find out about postgraduate learning opportunities.

Careers Wales’ Learndirect advisers use the database well to help clients find education and training opportunities that suit the clients’ circumstances and needs. This support is particularly helpful where clients do not have the skills to access the database themselves. Advisers also take this opportunity to discuss clients’ circumstances and to assess whether they need additional support or guidance.14

As an example of usage, during the quarter August-October 2005, clients accessed this part of the site 243,566 times. Given the number of registered users at the time, this possibly suggests quite a reasonable number of return visits, another indicator of value.15

4.1.4 The E-Progress File

The E-Progress File provides many of the ‘e-portfolio’ components of the Careers Wales website. It provides functionality for users to “record and track their learning, skills, achievements, qualifications and training online….throughout their lives.”16

In Coleg Gwent, clients find the e-Progress File helps them to gain evidence towards their key skills in Improving Own Learning and Performance. Clients enjoy the online approach to this work. They find the process of building up their portfolio helps to build their confidence. Many of them have used the planning and target setting section to identify things they need to improve to succeed in their course work. They also find that the process helps them to focus on the options available after their course has finished.

In Rathbone Community Industry (a work-based learning provider), clients make good use of the e-Progress File to develop evidence of key skills in communication. The learning styles quiz is very useful in helping them to discuss their training plans with trainers. Generally, they find the section that helps them with their CV to be useful, engaging and helpful. The support they get from the site to format their work is useful and helps them to develop confidence in using ICT.17

In general, accounts and comments from users of the service were very favourable. Bearing in mind that the service had not been in operation for an extended period of time, some schools felt that it was too early to evaluate the impact the service had on the development of key skills in this area. As with new technologies, there were some reports that some areas of the site required some further
technical attention but this is not at all uncommon with innovative solutions that are pushing the boundaries of online service provision. Access to bandwidth and good ICT infrastructure in some locations remained a problem for some users.18

Another indirect indicator that clients are deriving value from the Career Wales website is the use of storage for individuals’ e-progress files. Clients can store evidence of their achievements, qualifications etc. It is understood that initially an allocation of two megabytes per user was considered sufficient; however, monitoring has revealed that approximately ten megabytes per person is now a more realistic amount. This raises the issue of how much storage is appropriate and what cost effective approaches could be implemented (such as perhaps moving to ‘cloud’ services to provide storage).19

From a lifelong learning perspective, one interesting aspect of the Careers Wales website is that individuals are introduced to it at an early stage in their career/lifelong learning development and currently have the opportunity to use it as a key component of their portfolio related information for life. The provision of a digital presence which they can use no matter where they are (on their career journey) or which educational /work/other setting they are occupying, has a lot going for it that institutionally provided portfolio solutions may not be able to offer.

Careers Wales is a world leading service, and its e-portfolio components can be considered a model for an Australian e-portfolio implementation. In terms of recommendations, this discussion in captured in Recommendation 1a – expand Myfuture to include the types of e-portfolio services offered by Career Wales.

A number of recommendations emerged from the Estyn review. Careers Wales has been operational for several years, and these recommendations provide insights into operational aspects of existing e-portfolio implementations that might be fruitfully considered by Australian policy makers.

Estyn recommendation one: ensure that text conforms to Plain English Campaign / Cymraeg Clir standards.20

In an Australian context, consideration should be given in the development phase to the language used. Plain English is an important consideration for much of the demographic that would use an Australian e-portfolio service. In addition, language should also be carefully considered for an e-portfolio directed at young people, and implementations in languages other than English might be considered to target recent immigrants.

Estyn recommendation two: develop effective methods to share good practice about how advisers use the website to support clients.21

If an Australian service were to be implemented, consideration should be given to providing a related framework to support practitioners in their usage of the service and as they develop best practice approaches throughout that community.

4.2 Myfuture

Myfuture22 is Australia’s career information and exploration service, a joint initiative of the Australian, state and territory governments. It is freely available on the internet, and aimed at all Australians wishing to explore their career options, especially students.

Further information about the facilities provided on Myfuture is available in Appendix B: Myfuture, but it is appropriate to illustrate how Myfuture fits within with this investigation’s recommendations. Firstly, in 2008 the Myfuture service handled over 232 million server requests. Myfuture is clearly of great
value to people exploring and managing their careers, and it makes sense to leverage that for an
Australian e-portfolio implementation.

In addition, increasing numbers of secondary school students are using Myfuture services for their
career development. Using a Myfuture e-portfolio service, they could potentially add to the career
profile they create in Myfuture’s My Guide career exploration tool and have lifelong access to a
career, professional and personal development service that stores career related artefacts.

Finally, Myfuture already offers many of the services offered by Careers Wales. Myfuture’s
Occupations section is the equivalent of the information offered in the Careers Wales Careers
Information Library, while Myfuture’s Courses and Programs section is the equivalent of Careers
Wales’ Learning Choices Database.

In terms of recommendations, this discussion is also captured in Recommendation 1a – expand
Myfuture to include the types of e-portfolio services offered by Career Wales.

4.3 Australian Blueprint for Career Development

The Blueprint is a joint initiative of the Australian, State and Territory governments and was endorsed
by MCEETYA for roll out in 2008.

Among other functions, the Blueprint “identifies eleven career management competencies” which
can be considered significant drivers for implementation of an e-portfolio to assist users seeking
career development. The competencies are grouped into three areas:

- Area A: Personal management
- Area B: Learning and work exploration
- Area C: Career building

Specific information on the elements of the Blueprint that are drivers for Australian e-portfolio work is
provided in Appendix C: Australian Blueprint for Career Development. It is appropriate to clearly state
the significance of the Blueprint in the context of this report. At the finest level of granularity, sixteen of
the Blueprint’s competencies specify use of a portfolio (electronic or otherwise) either directly or
indirectly. As a MCEETYA endorsed framework for career education-related activity in Australia, the
Blueprint is an important policy driver for implementation of an e-portfolio. In addition, the Blueprint
provides a common language and structure that could be considered for an Australian e-portfolio
implementation, within an overarching framework of lifelong learning and career development.

4.4 The Australian context

It is appropriate to consider Australia’s unique nature. It is commonly acknowledged that Australia’s
rural and remote population do not necessarily have access to the level of service provision enjoyed
in urban and suburban centres. It is also commonly assumed that service provision using the internet
is one way to overcome this issue and ensure equity of access to services for all Australians. With
appropriate access to the internet, Australians in rural and remote locations can take advantage of the
career development and lifelong learning opportunities that an e-portfolio service can provide. The
JISC report, Effective Practice with e-Portfolios: Supporting 21st Century Learning, is discussed at
further length below, but it is appropriate to briefly review its discussion around lifelong learning here.
The JISC report draws a conclusion that most learners ‘become empowered through the reflective
cycle associated with e-portfolio based learning,’ but that it ‘should not be assumed that this will
occur without guidance or design.’ Provision of personal guidance and support for users is
significantly linked to successful user outcomes, but is problematic when Australia’s rural and remote areas are considered. Of course, face to face tuition and support is not a problem that can be overcome by internet-based solutions, and this uniquely Australian issue means that learnings from all of the e-portfolio implementations discussed in this report are not entirely applicable in the Australian context.

Another issue is the Australian Government’s recently announced policy that the age at which the age pension can be accessed will be raised to 67 years. This remains an unknown quantity, but it is likely that workers will choose to consider their employment options in light of the policy change and an e-portfolio service offers great potential to facilitate such activity. It is considerations such as these that provide the rationale behind Recommendation Two: Fund e-portfolio trials of particular relevance to Australia.

4.5 The value of pilot projects

JISC has funded a number of trial projects on e-portfolios investigating their application in a number of different contexts such as developing skills for the workplace and learning, supporting lifelong learning, CPD, embedding e-portfolios into the curriculum, changing users’ perception of assessment, and learning through reflection. Targeted and practical research into areas such as these has given JISC and others (through publication of reports such as Effective practice with e-Portfolios and associated project reports) insights into how technologies such as e-portfolios can be used to improve career development, teaching and learning. As a result of the projects it funds and the lessons learned from them, JISC has assumed a strong leadership position in this area. Funding a number of such projects has enabled JISC to investigate specific aspects of e-portfolios applicable to various regional demands. In Australia we need to consider whether there are additional local issues that should be investigated that other research groups are not addressing for us. As with many new technologies, it is important for us to be able to assess their applicability in addressing challenges that we face (either as individual learners, career seekers, specific interest groups, or regionally). Funding a number of trials targeting groups with specific needs is one way of achieving this. When considered alongside consideration of the specific Australian context, this provides a strong case for Recommendation Two: Fund e-portfolio trials of particular relevance to Australia.

4.6 Summary

The discussion in this chapter illustrates the potential of e-portfolios to support the Australian career development and lifelong learning agendas, both of which are identified as important policy drivers. The Blueprint is also identified as a significant driver.

The Careers Wales service is acknowledged as world leading. It goes far beyond providing an e-portfolio service, but the potential for the adaptation of Myfuture to include an e-portfolio, building upon Myfuture’s already significant strengths and successes, is noted.

Discussion in this chapter results in the formulation of two elements of Recommendation One, around the expansion of Myfuture to include various components and features.

Firstly, Recommendation 1a – Expand Myfuture to include the types of e-portfolio services offered by Careers Wales.

Secondly, Recommendation 1c - Expand Myfuture to include multiple user interfaces to support different audiences.
In consideration of an Australian e-portfolio implementation, examination of reports regarding implementations in other countries can never satisfy the considerations of Australia’s unique context. Australian trials can address that issue, hence Recommendation Two: Fund e-portfolio trials of particular relevance to Australia.
5 Supporting workforce development and planning

The *Skilling Australia for the Future* discussion paper identifies issues facing Australia around workforce participation and productivity, including a limited supply of skilled labour, Australia’s skill level relative to international competitors and an aging population. There is potential for an e-portfolio service to play a role in Australia’s strategy to address these issues.

This chapter provides a brief review of a study of the SWOOP e-portfolio which illustrates the necessity of support for e-portfolio users. It also presents an in-depth picture of the eFolio service, an initiative that serves all citizens of Minnesota in the USA. Finally, a report on labour market participation in the Netherlands is discussed. It makes a strong case for the role of an e-portfolio in efforts to increase labour market participation, a timely issue also for Australian policy makers.

5.1 South West Opportunities for Older People (SWOOP) e-portfolio

The European Union is facing similar challenges to the Australian challenges described above. Shifting demographics are prompting a reconsideration of the employment of older people, aimed at extending citizens’ working lives as a strategy to meet the challenges of aging societies. In the UK, “the employment rate of men and women declines as they enter their 50s and only just over one-in-ten are working beyond state pension age.” Older people are more likely to leave full time employment than younger people and, once unemployed, older people are less likely to find work. The barriers faced by older people include “ill-health, lack of formal qualifications and lack of confidence, particularly in the ability to find work.” In England’s South West an innovation program was established to research new approaches to enhancing the employability of people aged 45 and over. The project “funded an evaluative case study of the use of an e-portfolio for employment purposes with an older audience.” The study’s main findings are that e-portfolios may be effective tools in giving participants a better understanding of their skills and attributes, and may well enhance their self-confidence. However, these results are dependent on a programmatic approach; that is, next to the availability of the e-portfolio technology, three main factors are crucial:

- an explicit process of reflection and evidence building – boosts user self-confidence in terms of what they have to offer employers and also in their ability to find and secure work
- mentor support – crucial in introducing the e-portfolio software in a systematic way and supporting its use
- group support.

The findings suggest that the e-portfolio software alone is not sufficient of itself, but that a framework of support is required to ensure older users and their potential employers receive the benefits that an e-portfolio service can provide. An appropriate support network should be considered as part of any Australian e-portfolio implementation.

5.2 eFolio Minnesota

eFolio Minnesota ([http://www.efoliominnesota.com/](http://www.efoliominnesota.com/)) is a multimedia electronic portfolio, designed to help users create a showcase of their education, career and personal achievements. In addition to supporting students and educators during their formal engagement with Minnesota State Colleges and Universities (MnSCU) institutions, eFolio Minnesota invites all residents of and students within the
The discussion below concerns indicators of eFolio Minnesota’s success. More information about the eFolio itself is provided in Appendix D: eFolio Minnesota.

As with other e-portfolio initiatives investigated here, there is not a great deal of formal evidence around the success of the eFolio Minnesota service. Privacy for individual users is paramount and this imposes some constraints on how evidence on the use of the service by its users may be collected. Lifelong or regional e-portfolios are also relatively new (when compared to the length of a person’s career) and any longitudinal studies would lack information collected over a significant period of time. The information below is mostly drawn from a telephone interview conducted by Education.au and a study commissioned by MnSCU and published in 2005.

In addition, anecdotal evidence for the success and value of regional initiatives such as eFolio Minnesota can be found in other jurisdictions’ implementations of similar services. Other states in the United States, including California, are in various stages of implementation of the system. There is also interest in the eFolio system in Canada.

5.2.1 Benefits

A conversation with the eFolio Business Director highlighted benefits of the eFolio in a number of areas. The implementation of large scale, state-wide shared infrastructure created economies of scale, increased return on investment and reduced costs to schools and colleges which each would otherwise have had to implement separate solutions. Students enjoyed what was referred to as the ‘transformational’ aspect of e-portfolios; that is, self reflection on activity in school and within the broader community facilitated by the eFolio was important for users.

At a macro level, the eFolio created benefits for workforce management. For example, if an organisation were considering whether or not to invest and set up in a particular region, it would be possible for the organisation to assess the region in terms of its capacity to meet the organisation’s current and future requirements for human capital. The eFolio can provide macro level information about a region’s incumbent workforce and students graduating from university.

The eFolio Business Director gave an example of eFolio use in Minnesota’s Iron Range region. After one year the eFolio had approximately 3500 users. We received anecdotal evidence of successful outcomes for industry and that the workers concerned recognised the benefits of the eFolio.

In 2004 and 2005 research was conducted to identify and explore ways in which eFolio is proving valuable to its users. eFolio users were invited to complete an online survey and some users were subsequently contacted for phone interviews.

Between the launch of eFolio Minnesota in October 2002 and June 2005 over 32,000 Minnesota residents and students took advantage of the service. The number of active users grew linearly from August 2003 through July of 2005 at a rate of approximately 1300 new users each month. Over the year ending in May 2005, eFolio received an average of over two million hits and 67,000 unique visits per month.

eFolio users were found to range in age from 16 to 66 years, with a median age of 35. Compared to Minnesota residents overall, there was a disproportionately large number of users of college age. eFolio users were also much more highly educated than Minnesota residents overall. While only 9% of Minnesota residents had earned graduate or professional degrees, over 35% of eFolio users had earned these credentials. While over 32% percent of Minnesotans possessed only a high school
diploma or less, only 4% of eFolio Minnesota users were at this level. Of interest for Australian policy makers, the report presents two likely explanations for this anomaly. First, many users reported being introduced to eFolio through an MnSCU institution. As either college faculty or students, these individuals would necessarily have some college education, even if they began using eFolio in their first course since high school. Second, using the eFolio software and the process of composing a portfolio may be more difficult for those with less formal education.

The research results suggest that eFolio Minnesota users employ the software for a wide range of complexly interconnected uses. Six primary functions of electronic portfolios were defined for the purposes of the study:

- educational planning
- documenting knowledge, skills, and abilities
- tracking development
- finding a job
- evaluation within a course
- performance monitoring in the workplace.

The research found that each of the six purposes was used by a relatively large proportion among those reporting, ranging from 36% for performance monitoring to 75% for documenting knowledge, skills, and abilities. For the most part, the proportion of users employing eFolio for each function remained high across students, educators, and workers. Unsurprisingly, workers used eFolio more often than other users to find a job and less often for evaluation within a course. Workers also used eFolio less for tracking development, and, to a lesser extent, for educational planning. Educators were most likely to use eFolio for performance monitoring.

Users were generally satisfied with eFolio for each use, found the portfolio helpful, and used it at least once per semester over a period of one semester or more for that function. Finding a job showed a lower level of perceived effectiveness and less frequency of use; users reported finding eFolio somewhat helpful for finding a job and used it less than once per year for this purpose.

There is a great deal more detailed information in the full research report, but as a whole the results of the research show that eFolio Minnesota supported lifelong and life-wide learning for a diverse group of Minnesotans. The patterns of usage identified, however, suggested that eFolio’s impact could be broadened and strengthened in several ways.

Given the identified limitations in the nature of the evidence for e-portfolios as a response to workforce planning and development issues, the discussion above mounts a strong case for the success of eFolio Minnesota. Taken alongside further discussion in this and subsequent chapters, the evidence provided makes the case for Recommendation 1b - Expand Myfuture to include features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce.

### 5.2.2 eFolio recommendations

As with the Estyn report on e-Careers Wales, discussed above, a number of recommendations emerged from the eFolio review. The service has been operational for several years, and these recommendations provide operational insights useful for Australian policy makers as they consider implementing an e-portfolio service in the Australian context.
eFolio recommendation: Expand access
In order to serve all of Minnesota, eFolio must do a better job of reaching residents who have a high school education or less. Because MnSCU’s primary mission is higher education, programs targeted at this less-educated population should be developed in partnership with other organisations, such as primary and secondary school systems, workforce development organisations, non-profit organisations focusing on literacy and other basic skills, employers, and the Department of Labor. In order to promote lifelong learning, MnSCU should place a particularly strong focus on engaging secondary school students.61

If an Australian national e-portfolio implementation were set up to serve all Australians it is important that all Australians are supported in using it. It is unlikely that an Australian e-portfolio would be implemented by a body equivalent to MnSCU, a state system that includes one board and one chancellor to govern 25 colleges and seven state universities, so access to the e-portfolio for less-educated citizens is probably less of a concern. However, measures directed at all sectors of the target demographic would be required as part of the implementation to ensure best take-up of the e-portfolio.

eFolio recommendation: Foreground planning
The Cambridge eFolio research paper indicates that educational planning plays a central role in successful portfolio practice.62 At the strategic level, programs at MnSCU institutions and other organisations that encourage the use of eFolio for planning should be identified and promoted, and the successful strategies used in these programs should be documented and shared.63

Depending on the target demographic, integration of an Australian e-portfolio into programs within relevant sectors of Australian education would be a critical part of any strategy aimed at ensuring optimal take-up of the e-portfolio and consideration of career development within formal education.

eFolio recommendation: Increase findability
Making connections with audiences is central to high impact use of eFolio. In order to increase the availability to meaningful audiences for eFolio users’ portfolios, their findability should be increased. At the most basic level, this action may be as simple as ensuring that users who so desire are assisted in getting their sites indexed by major search engines. At a more sophisticated level, eFolio might offer a search interface for employers, which allows them to search all listed portfolios for specific skills, competencies, or characteristics.64

eFolio recommendation: Cultivate audiences
MnSCU should find ways to work provide guidance and support to members of such audiences as potential employers, graduate school admissions officers, and parents about how to make sense of portfolios and how to integrate their use into organisational practice. MnSCU should encourage programs to work in partnership with businesses and government agencies whose workers they educate to help them capitalize upon and support the continuation of portfolio learning through the use of eFolio.65 These collaborations should be supported by a richer picture of portfolio use from the perspective of the audience.66

These recommendations capture the importance of considering the needs of the e-portfolio’s secondary audience. For example:

- employers who will experience the e-portfolio as a source of evidence for employment selection decisions
- educators and education administrators who might experience the e-portfolio when potential students submit it as the evidence base for enrolment applications.
Implementers of an Australian e-portfolio should consider the needs of the e-portfolio’s secondary audience as carefully as the needs of the e-portfolio’s primary users.

5.3 The Netherlands

As part of the investigation of the NedCar e-portfolio initiative Education.au received a copy of a report by the Netherlands Committee on Labor Market Participation: *Towards a future that works: main recommendations*. The Committee’s remit was broad. It was requested to “investigate, without any restrictions, what measures are necessary to bring about a structural increase in labour market participation in the Netherlands to 80%” and “submit recommendations for both the short and long term.” The report identifies three routes towards achieving greater labour market participation. An overview is presented below for context:

- Get more people into work as soon as possible
  Invest in helping people find work and introduce specific measures to make it easier and more attractive to work longer and to work more hours.

- Work security for everybody
  The report describes various measures to improve the operation of the labour market.

- Sustainable labour market participation
  Make it possible for people to gradually work for longer than only up to the age of 65.

The report presents specific recommendations around each of the three routes cited above. Of most interest here is the e-portfolio recommendation, which is included as a measure to increase citizens’ employability:

Digital portfolio. Every member of the labour force will be entitled to a digital e-portfolio, ie an electronic inventory of their competencies, diplomas, experience, and accreditation of prior learning (APL). This will give people a better understanding of their position on the labour market and their career prospects, and of any need they have for further training.

It is of interest that the committee perceived the e-portfolio as a significant means by which users could gain an understanding of their employability and of means by which they might improve it.

The report identifies another measure by which employability can be increased, also involving the e-portfolio:

Periodical talent analysis. Talent analysis and APL procedures must be introduced on a large scale, with maximum use being made of the e-portfolio.

“Talent analysis” is not actually defined in the report so the precise meaning is unclear, as is the role that an e-portfolio might play in the process. It is possible that the process might be entirely user-centric, with the e-portfolio set up to facilitate users’ analysis of their own talents. It is also possible that the e-portfolio facilitates some form of reporting and thus a central talent analysis of e-portfolio users. If this were the case it could certainly generate useful information and provide a solid basis for decisions around workforce development. This point is worthy of further research.

The Netherlands report provides further support for the provision of an Australian e-portfolio, as specified in Recommendation 1a – Expand Myfuture to include the types of e-portfolio services offered by Careers Wales.
5.4 Summary

Discussion of the SWOOP and eFolio e-portfolios in this chapter, as well as the Netherlands report on labour market participation, illustrates the potential of e-portfolios in policy efforts to increase labour market participation. This discussion is part of the case for Recommendation 1d – Expand Myfuture to include features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce. It also strengthens the case, some of which has already been presented above, for Recommendation 1a – Expand Myfuture to include the types of e-portfolio services offered by Careers Wales.
6 Supporting continuing professional development

Continuing professional development (CPD) is an important part of any worker’s capacity to contribute to Australia’s productivity and economic prosperity throughout their working life. It is means by which professionals improve and broaden their skills and knowledge and stay up to date with their professions.

This chapter reviews a report from JISC that highlights the role e-portfolios can play in CPD, and also discusses the importance of communication and collaborative reflection in CPD.

6.1 JISC report: Effective Practice with e-Portfolios

Effective Practice with e-Portfolios: Supporting 21st Century Learning75 is a recent report produced by the Joint Information Systems Committee (JISC) in the UK that looks at e-portfolios from a number of different perspectives, including lifelong learning. Other perspectives covered in the report include the learner’s perspective, the practitioner’s perspective, an institutional perspective and also the audience’s perspective. The report recognises that there are a number of definitions of the term e-portfolio and indeed, e-portfolios are used in many different settings and put to different purposes but broadly an e-portfolio may be defined as a ‘product, created by the learner, a collection of digital artefacts articulating experiences, achievements and learning.’76

From a lifelong learning perspective, JISC believes that e-portfolios are particularly important ‘since, in the presentational sense, they provide evidence of the learner’s progress over time, and in the developmental sense, they engage learners in ongoing self-evaluation through:

- reflecting on personal strengths and weaknesses
- recognising gaps in existing knowledge and competences
- celebrating achievements
- evaluating how to move forward
- entering into dialogue with others.77

The JISC report examines e-portfolios from a lifelong learning perspective through a number of case studies. In one case study, the UK Institute for Learning (IfL) used an e-portfolio system to support continuing professional development (CPD) and found two major areas where benefits were derived. These were the ability to creatively record evidence and reflect on what has been learnt (for example, through digital photos, videos, or podcasts) 78 and perhaps more importantly, collaborative reflection on practice.79 Online communication tools formed an integral part of this e-portfolio implementation.80 Many practitioners often work alone and do not have the face-to-face support or ability to attend regular CPD events necessary to help them develop their expertise. Dialogue with others via online tools plays an important part of CPD, particularly in those types of situations.

In another case study, the East of England Lifelong Learning Support (EELLS) project ‘set out to explore the viability of an e-portfolio service for lifelong learners that was independent of institutional systems81. This project recognised that learners may or may not be always engaged with an educational organisation. Learning takes place in many forms, both formal and informal, as does the articulation of evidence supporting that learning. Dependence on institutional e-portfolio systems can make it very difficult for learners to demonstrate their knowledge and skills to potential employers or course providers.'
The ELLS project team, in consultation with user groups, developed a portal based system that was capable of integrating data (content) and services from a number of locations and presenting the results in a unified manner that reflected the users’ needs. Following positive feedback from users, the ELLS e-portfolio service was adopted as a free e-portfolio service for the region. It was felt that the project ‘demonstrated a viable market for an independent portal service available throughout the lifetime of a learner.’

The ELLS project also illustrates another important aspect of e-portfolio services that is essential to properly support lifelong learners and career development; that is, standards and specifications to support interoperability and portability of content and services. Over a lifetime a learner may accumulate information that is important to them in a number of different services. To create a cohesive personal profile, it is important that this information is accessible and portable. Content may need to be transferrable from one service to another or made available and understandable to other services that need to access it.

6.2 Reflection and Communication

In addition to the imperatives for implementation of an e-portfolio discussed both above and below in this investigation, a number of studies and reports on e-portfolio implementations reviewed for this investigation reflect on the importance of communication and reflection for users’ career development and also for effective lifelong learning. This is discussed below, and informs Recommendation 1d – expand Myfuture to include appropriate communications tools.

The JISC report, *Effective practice with e-Portfolios*, presents a case study of students at the University of Wolverhampton who use the PebblePad e-portfolio system to support their learning. Findings from the case study identify benefits from e-portfolio use around reflection on learnings. Firstly, ‘students are more likely to reflect and gain understanding as a result of using an e-portfolio tool,’ and secondly, ‘students who exploit opportunities for personal reflection in their e-portfolios are more likely to develop the self-appraisal skills required of healthcare professionals.’ Finally, an ‘established habit of reflection also provides a record of skills development over time – many students find it a boost to morale to look back and see how far they have come.’

*Effective practice with e-Portfolios* also makes a case for reflection in lifelong learning. Reporting on a case study involving The Institute for Learning, a physiotherapist participant made the following comment:

> Recording and reflecting on practice and processes is not an end in itself – the impact of effective evaluative learning will ultimately enhance the experience of patients, colleagues and the profession itself.

Under the heading, ‘Communication is key,’ *Effective practice with e-Portfolios* makes a strong case for the inclusion of communication tools in e-portfolio implementations:

> Receiving feedback makes learners more willing to overcome difficulties and increases their capacity to reflect. Communication tools associated with e-portfolio systems, such as blogs, enable learners to acquire the support they need to continue through the highs and lows of their experiences. Timely feedback also initiates learners more effectively into ways of working associated with a new stage of education or a new professional role.
Individual and personal reflection is been discussed above, but collaborative reflection is another mode of reflection that can be useful. This is another sound business case for the inclusion of communication functionality in e-portfolio solutions. *Effective practice with e-Portfolios* identifies that the ‘curriculum can also be enriched by the outcomes of learners’ enquiries and reflections, shared and developed via the communication tools associated with most e-portfolio systems.*

A participant in the Institute for Learning case study reported in *Effective practice with e-Portfolios*, explicitly identifies the benefits of collaborative reflection:

> Although there are clear advantages in undertaking CPD online, it is the communication tools within the system that offer the greatest potential for profound learning. Others can offer constructive advice, but it is only by articulating your thoughts to someone that you really hear how far you have come and understand how to overcome outstanding issues.

> Time for considered reflection in further education is at a premium. Face-to-face CPD events occur infrequently, and practitioners working in small organizations do not have the luxury of regular contact with other colleagues. To help all practitioners develop the reflective and self-evaluative skills that underpin effective CPD, we have to ensure no one is working alone. Online communication tools embedded in the system can add real value in these circumstances.

In sum, as stated in *Effective practice with e-Portfolios*, an ‘e-portfolio system or combination of tools that supports reflection, collaborative activity and the preparation and presentation of evidence of achievement provides crucial opportunities for personal development.*

There are complexities around the provision communication tools in an e-portfolio implementation, especially where people under the age of 18 years might have access. The potential for unsafe internet practice must be balanced against the benefits of communication tools, and a solution found before communication tools are made available.

### 6.3 Summary

This chapter’s discussion illustrates several important points around e-portfolio implementations from a CPD perspective. Firstly, there is strong potential for e-portfolios in the CPD area. Secondly, collaborative reflection is a powerful element of successful CPD, which leads to Recommendation 1d - Expand Myfuture to include appropriate communications tools. Thirdly, dependence on institutional e-portfolio systems can make it very difficult for learners to demonstrate their knowledge and skills to potential employers or course providers. This is a strong part of the case for Recommendation 1a – Expand Myfuture to include the types of e-portfolio services offered by Careers Wales.
7 Supporting workers made redundant

When workers are made redundant it is often devastating for them. When an organisation makes many workers from a single region redundant, it can be devastating for the region, and even more so if several supply organisations are forced to lay off staff when their client shuts down or slows production. This chapter reviews the NedCar e-portfolio implementation, which demonstrates the potential of e-portfolios in such situations.

The Australian workforce has undergone a number of upheavals following the demise of major employers and tremendous upheaval in the regional areas. In the current economic climate there is a strong likelihood of further examples. The NedCar initiative is an example of what can be achieved with foresight and planning in developing innovative responses to such challenges. Current indicators are that employment is going to increase in the foreseeable future and that more and more of the workforce will be facing very difficult career transitions along with students (including further and higher education) entering the workforce for the first time with potentially very bleak prospects.

The circumstances these people face is unlike any other in history. The economic outlook is unlike any other many have ever known and at the same time we have another very important factor in place. We are well into the 21st Century and for the first time we are entering into incredibly difficult economic times within the digital age. Those who have a digital presence and access to tools that help them plan their future, collect information about themselves and present it in compelling ways will be at a distinct advantage over others less equipped. E-portfolio related services, while not a solution to the many challenges we are facing, can play an important role in an overall strategy in helping prepare our citizens to survive and thrive in that digital age.

7.1 NedCar

The researchers found it difficult to gather information about employment outcomes from the NedCar e-portfolio implementation beyond high level expressions of the program’s success. However, the initiative is an important example of the innovative application of technology to support workers through difficult transition period and shift in the workforce dynamics of a region.

NedCar is a large scale automobile producer in the Netherlands, with its factory is located in Born, a town of approximately 15 000 inhabitants. The factory is important in terms of regional employment, currently employing close to 1600 people, which flows on to approximately 10 000 full-time jobs in supporting industry in the region.99

The factory has a three shift annual production capacity of approximately 300 000 units. In March 2006 DaimlerChrysler announced the cancellation of the Smart Forfour model, which resulted in a significant reduction in production to 65 000 units.100 101 Planning for redundancies had began in 2006 and termination notices were given by the end of March 2007.102 Internal NedCar staffing levels were reduced by 1200 by a combination of voluntary redundancy, early retirement and compulsory redundancy.103 104 Employees at NedCar suppliers were also laid off.105

At its heart, the issue resulted from a shift in the industry from an employment economy to an ad hoc project economy.106 In such an economy hiring and firing is the norm, in response to the level of project work at the time.107 In high level terms, the goal of NedCar’s response was a flexible, mobile and transparent labour market, with the rationale that this would facilitate the exchange of workers within the industry and lower the cost of hiring and firing.108 Also in high level terms, the solution was
to look to employability beyond the borders of the company and boost workers’ employability beyond the jobs at hand. At a more operational level, the solution involved providing regional and (industry) sectoral infrastructure to organise employability and lifelong learning. Part of this solution was an e-portfolio.

The e-portfolio was seen to offer the following advantages:

- a better position for fired employees on the labour market through
  - better matching with vacancies
  - certification of acquired competencies
  - more detailed and accurate view, and thus better understanding in the labour market, of available competencies
- an instrument to facilitate HR
- better matching with training opportunities
- an instrument to facilitate lifelong learning.

Broadly, the e-portfolio was seen as a “labour market-centric” employability infrastructure.

NedCar states that “all employees are encouraged to show initiative and work on the development of their own career by identifying their own strengths and abilities and using them to optimal advantage.”

### 7.2 Workforce demographics

eFolio Minnesota is discussed above in Chapter Five as it relates to efforts to support workforce development and planning. Darren Cambridge’s eFolio Minnesota for Lifewide and Lifelong Learning: Research Results study is noted, including the recommendation that access to the eFolio be expanded: ‘In order to serve all of Minnesota, eFolio must do a better job of reaching residents who have a high school education or less.’

Broad access across a wide range of demographics is also important when use of an e-portfolio to support workers made redundant is considered. Some redundant workers may have low levels of literacy and ICT expertise, which may compromise their capacity to use an e-portfolio service to re-gain employment.

The Research Results study makes a lengthy recommendation about this issue in the context of eFolio Minnesota. This recommendation might be considered by Australian implementers of an e-portfolio service to ensure its benefits can be enjoyed by the broadest possible demographic and its impact around post redundancy re-employment can be maximised:

Because MnSCU’s primary mission is higher education, programs targeted at this less-educated population should be developed in partnership with other organizations, such as primary and secondary school systems, workforce development organizations, non-profit organizations focusing on literacy and other basic skills, employers, and the Department of Labor. In order to promote lifelong learning, MnSCU should place a particularly strong focus on engaging secondary school students. Given a strong introduction at a young age, these students are most likely to continue using their eFolios as they move into higher education and into new roles as workers and educators later in life.

Access can also be expanded through adding new features to the eFolio software that make the initial development of a portfolio less difficult for users with less formal education.
New tools should be developed that guide users step by step through the early stages of development, providing them with a usable version of their portfolio quickly and building their confidence so that they may move on to use the existing features of eFolio.115

7.3 Summary

This chapter illustrates an important potential for e-portfolios in Australia’s current economic climate, where unemployment is becoming a significant economic consideration; that is, the potential for e-portfolios as part of a strategy to help unemployed people get back into the workforce. Discussion of the NedCar e-portfolio supports Recommendation 1b: Expand Myfuture to include features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce. Further consideration of eFolio Minnesota through the prism of assisting workers made redundant to gain employment illustrates strategies that might be fruitfully considered in an Australian e-portfolio implementation to ensure greatest impact in this regard.
8 Supporting articulation of skills and experience

Decisions around the selection of candidates for employment are based on those candidates’ skills, qualifications and experience, and an e-portfolio clearly has a role to play in helping workers articulate their employability. E-portfolios also have a role to play when the articulation of skills and experience is considered at a macro-economic level, in the context of a nation-wide up-skilling push to secure Australia’s economic prosperity.

The Europass e-portfolio service, which exemplifies the potential of an e-portfolio in the articulation of skills, qualifications and experience, is reviewed in this chapter. A Becta report on e-portfolios’ potential in apprenticeships is also considered.

8.1 Europass

Established by a decision of the European Parliament and the Council of 15 December 2004, Europass is a service to make European citizens’ qualifications and competencies clearly and easily understood throughout Europe. Overall, the objectives and aims of the Europass initiative are to:

- increase the mobility of people in geographical, educational and job-related terms
- help to increase awareness of and access to transparency instruments among learners, teachers, trainers, employers and admission staff of educational institutions
- improve the communication impact of existing transparency instruments
- improve information on issues related to transparency and mobility
- inspire the development of additional transparency instruments

So, in addition to meeting the needs of its users around mobility, Europass is conceived as the vanguard of a “transparency” movement, in which citizens’ qualifications, competencies and skills are clearly articulated in a standard set of documents. Discussion in this investigation will focus on the first of these objectives.

Europass is a coordinated portfolio of five documents, freely provided to users, that improves communication between job applicants and employers, even across borders:

- the Europass Curriculum Vitae (CV), the backbone of the Europass portfolio, has a common structure in all languages and helps people highlight their qualifications, professional experience, skills and competencies
- the Europass Language Passport, facilitates detailed description of language skills, and is part of the more comprehensive European Language Portfolio
- the Europass Mobility, a record of transnational mobility experiences for learning or training purposes
- the Europass Diploma Supplement, issued by a university or institution along with a higher education diploma to make educational qualifications more easily understandable, especially outside the country where they were awarded
- the Europass Certificate Supplement, issued by national authorities along with a vocational education and training certificate to clarify the holder’s competencies, especially outside the country where they were awarded.
8.2 Europass evaluation

ECOTEC Research and Consulting, an independent body, carried out stakeholder interviews, an analysis of Europass documentation, and a user survey in September 2007. The evaluation focussed on the relevance of the Europass framework and on the level of achievement of the initiative’s objectives. This evaluation, along with other Europass information provided online, provided the basis of the information presented in this section.

Before turning to Europass itself, the evaluation found that there is a need for transparency instruments that facilitate geographical, educational and occupational mobility. For reasons of European integration, mobility of people is a key objective of the European Union (EU), and Europass is considered more relevant for international mobility than for intranational or occupational mobility. The need for mobility within education and between occupations is of greater interest in the Australian context than the facilitation of geographical mobility between countries, and these aspects of Europass form the focus of the discussion below.

8.3 User impact

The evaluation concludes that, in addition to geographical mobility, the assistance Europass provides for people moving in the labour market and in lifelong learning is also required. Regarding movement within the labour market, and in addition to its facilitation of CV generation and skills recording, Europass can be used as a checklist of information to be included in job applications. Users can gain an understanding of information that is relevant to a job application by reading through example CVs and other Europass documents.

In addition to the wide variety of mobility it is intended to facilitate, Europass has a very wide target group. Stakeholders consulted in the evaluation considered Europass, and especially the Europass CV, to be more relevant to the needs of educational institutions than employers. Users displayed a high level of satisfaction with Europass documents, which:

- allow clear communication of individuals’ skills and competencies
- facilitate the comparison of candidates for both lifelong learning and occupational vacancies
- allow for standardised and easy exchange of information about qualifications between organisations and sectors, and understanding of that information.

In addition to the document creation tools, Europass also provides online guidance for the use of those tools. This is highly appreciated by users.

The usefulness of the initiative is demonstrated by its take-up. By early 2008 3.1 million copies of the Europass CV were in existence. About 100 000 Language Passports had been produced online and about 90 000 citizens have received a Europass Mobility following a mobility experience within their education or training. Over a quarter of users felt that Europass had helped them gain access to learning and employment opportunities across Europe to a very large or large extent. 15% of respondents reported that Europass had helped them to change job or location which, considering the number of Europass CVs in existence (3.1 million), corresponds to a remarkable outcome (465 000).

The Europass CV reaches a more diverse group of people. Two thirds of the users are between 20 and 35 years old, with 10% younger and 15% older. Most users of the Europass portal (which provides access to the Europass documents) are highly educated (65% have a higher education degree), about half are employed, and about 16% are unemployed. The evaluation illustrated a
clear need to improve Europass' uptake among the low qualified and the unemployed, groups for whom the CV could be particularly helpful.

There was general agreement from the stakeholders consulted that Europass is effective in making qualifications and competency information clearer to organisations from countries and sectors other than those in which they were acquired. Users considered the language section of the Europass CV to be the most useful, a result that is not hugely relevant in the Australian context. The “education and training,” “work experience” and “personal information” sections were considered very helpful by over 50% of respondents, while the “additional information and annexes,” “personal skills and competencies,” and “desired employment / occupational field” sections received less support.

8.4 Efficiency and value

The budget for the Europass initiative in 2005, 2006 and 2007 was €2.1M (~AUD3.8M) per year from EU sources and €2M (~AUD3.6M) from national sources. In 2008 the financial support to the National Europass centres was about €2.5M (~AUD4.5M).

Given the positive user results discussed above, the evaluators concluded that Europass is a very useful and cost efficient service, whose costs are decreasing as the numbers of users increases. Evaluators calculated a cost per document of slightly more than €1 (~AUD1.8), and noted that most organisations that provide advice and guidance on the preparation of CVs and job applications charge many times this amount for their services, offered free by Europass, although in a less personalised manner. In addition to the documents already discussed, Europass services include information provided to millions of portal visitors and the citizens, mobility promoters and educators who contact the national Europass centres.

8.5 Further developments

Further developments are planned to ensure Europass services keep up with demand. The CV tool will grow into a comprehensive Europass CV and self-assessment service, offering

- targeted versions of CVs
- additional self-assessment tools to help people describe skills they have acquired outside the formal education system
- more and diversified guidance tools.

These improvements are aimed to

- make the service easier to use for the low-qualified
- improve the service for the young and inexperienced who need more guidance
- improve the service for mid-career professionals, who might prefer flexible formats
- improve the service for researchers or academics, who need to present publication details.

The Europass service will also forge closer links with employment, youth and guidance services.

8.6 ECOTEC recommendations

The ECOTEC evaluation made twenty-one recommendations around the relevance, coherence and complementarity, effectiveness, efficiency, sustainability and added value to Europe of the Europass
initiative. Some of these recommendations are helpful in terms of insight they provide into the refinement of operational matters around a large e-portfolio implementation that has been in existence for a few years. They are briefly surveyed below.

ECOTEC recommendation five: Europass’ complementarity with current education and training programs is enhanced to ensure the use of Europass documents becomes universal in those programs whenever complementarities exist between the two.\textsuperscript{155}

In light of this recommendation, implementers of an Australian e-portfolio might consider close cooperation with relevant sectors of Australian education and training to ensure the e-portfolio meets their needs and is integrated within education and training programs to ensure maximum take-up.

ECOTEC recommendation six: Close cooperation with entities developing similar transparency initiatives to ensure the relationship between Europass tools and other transparency initiatives is clear to users and duplication of effort is avoided.\textsuperscript{156}

This recommendation is especially relevant to Australia’s federated context, where consideration of possible duplication is important. A possible solution is the development/adoption of relevant standards to ensure interoperability with other e-portfolio initiatives.

ECOTEC recommendation ten: Links between Europass and guidance centres and the business community should be strengthened through the activity of the National Europass Centres (NEC) network to enhance the effectiveness and dissemination of the initiative.\textsuperscript{157}

The European situation, involving many nations, differs from the Australian context, in which it is more likely that jurisdictions in multiple states and territories will be involved in a national e-portfolio initiative. If state and territory e-portfolio centres are part of an Australian e-portfolio initiative they should work closely with the business community to enhance the e-portfolio’s effectiveness and take-up. Coordination with relevant state and territory bodies should also occur if an Australian e-portfolio initiative is centrally managed by the Australian Government.

For information, in 2008, NECs’ Terms of Reference included the following tasks, which can be related to the tasks of state and territory e-portfolio bodies in a centrally funded Australian implementation:

- General task – to be perceived as the Europass body in its country and provide appropriate answers to queries from anybody in any capacity who needs information and guidance on the Europass and any of its documents.
- Core task 1 – document management
- Core task 2 – promotion of Europass
- Support task 1 – national internet site and information systems
- Support task 2 – information and guidance
- Support task 3 – networking at a European level.\textsuperscript{158}

ECOTEC recommendation twelve: To bring the document closer to its users and enhance take-up, Europass Mobility should be issued by other bodies in addition to NECs, such as Chambers of Commerce and education institutions.\textsuperscript{159}

Australian implementers of a national e-portfolio will need to consider by what means official, accredited information about qualifications and competencies might be provided in a national e-portfolio service, and what bodies might be certified to provide it.
ECOTEC recommendation eighteen: That the European Commission Directorate-General for Education and Culture increase the take-up and image of the Europass initiative by encouraging its use within the different Commission Directorates-General and other EU services.

As noted, the general concept of an e-portfolio in Australia is an implementation by education providers, strongly related to their courses and current students. In addition, Australia’s education and training jurisdictions are normally considered as the implementers of an Australian e-portfolio; an argument supported by DEEWR’s commissioning of this report. The participation of other jurisdictions, however, including employment, industry, indigenous affairs, enterprise, science, research and arts (where they are not included with the education portfolio) could well be valuable for the take-up of an Australian e-portfolio initiative.

ECOTEC recommendation nineteen: Increase the communications and information campaigns budget for NECs if they are required to undertake further Europass promotional activities.

Marketing would be an important element of strategies to ensure that the take-up of an Australian e-portfolio initiative achieves sound value for the investment and should receive appropriate budget allocation if an initiative should go ahead.

8.7 Becta report: E-portfolios for apprentices

In March this year (2009) Becta (formerly the British Educational Communications and Technology Agency) published a report that is highly relevant to this investigation: *E-portfolios for apprentices: A guide for providers and employers*. The Becta report does not present original research, but reviews pre-existing published information and guidance on e-portfolios. E-portfolios within education and training are not the focus of this investigation, but a brief survey of this report, covering the strategic elements relevant to Australia policy makers, is presented below.

Firstly, the Becta report broadly outlines the relevance of e-portfolios to apprenticeship programs:

- E-portfolios have the potential to bring together learning from different contexts, allowing for the co-ordination of classroom-based provision and work-based training.\(^{161}\)
- Within apprenticeships, e-portfolios can provide a tool for planning and reflection on authentic work practices, assist with assessment processes and allow learners to monitor evidence of their developing skills.\(^{162}\)
- The use of e-portfolios for apprenticeships and/or NVQs (National Vocational Qualifications) has allowed some learning providers to cut down on assessment visits, improve relationships with learners, and increase the retention and throughput of learners, which has in turn led to increased productivity and hence profitability for the employer.\(^{163}\)

The report also presents lengthy lists of the benefits that e-portfolios can bring to learning providers and to learners (apprentices). These lists are reproduced below in Appendix E: E-portfolios for Apprentices.

While the use of e-portfolios within education and training is not the focus of this report, it should be noted that the Becta report identifies e-portfolios’ potential to transmit information about apprentices to employers. This is important both during an apprenticeship and afterwards, when a user who has completed their apprenticeship is seeking to transition into employment. This supports the case for Recommendation 1b – Expand Myfuture to include features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce.
For information, the Becta report provides a great deal more information than is presented above, around choosing, constructing or implementing and using e-portfolio systems for planning learning, assessment, reflection and presenting learning. It also provides introductory information about e-portfolios and presents various case studies of e-portfolio use.

8.8 Summary

This chapter illustrates the potential for e-portfolios in the articulation of users’ skills and experience, which is a core component of e-portfolio functionality. The Europass service is a particularly strong example of this; it facilitates articulation of many facets of users’ experience as relevant in the European context. The ECOTEC report provides solid evidence for the success of the Europass initiative in terms of its usefulness for both primary and secondary users (employers).

The Becta report illustrates the potential of e-portfolios for apprentices. Articulation of skills and experience is an important consideration for employment seekers, and this chapter’s discussion contributes to the case for Recommendation 1b – Expand Myfuture to include features that address labour market adjustment issues, particularly the needs of workers dealing with unemployment and trying to get back into the workforce.
9 Infrastructure considerations

While consideration of infrastructure was not included in the original plan for this investigation, as the investigation proceeded it became clear that various forms of infrastructure can enable or act as barriers to the implementation of e-portfolios. These issues are considered in the SICTAS investigation into national software infrastructure, but brief notes of specific relevance to e-portfolios are included below.

9.1 Interoperability – user considerations

When a national e-portfolio implementation is considered in light of Australia’s lifelong learning agenda, certain user needs related to interoperability are apparent:

- Lifelong learners may have access to an institutional e-portfolio while they are associated with a formal learning institution. That access is most likely lost when learners leave, even though they may want continuing access to the information they have entrusted to the e-portfolio. If there were a national e-portfolio in which to hold the information, it would be important that interoperability had been considered in its implementation in order to facilitate transfer of information from institutional e-portfolios to the national e-portfolio.

- In addition, and similar to the consideration above, learners may wish to access information hosted by an institutional e-portfolio from within the national e-portfolio recommended in this investigation, and vice versa.

These simple use cases demonstrate that interoperability is critical in a national e-portfolio implementation to ensure users can use their own information as they require for the purpose of their lifelong learning.

9.2 Standards for interoperability

Internationally, there have been several attempts to create standards for e-portfolios, including HR-XML, IMS and LeaP 2A.

HR-XML is a library of XML schemas, developed to support business process related to human resource management, including resumes, payroll, temporary staffing, management of employee benefits, and assessment for recruiting.\(^{164}\) HR-XML has been developed by the HR-XML Consortium.\(^ {165}\)

Developed by the IMS Global Learning Consortium,\(^ {166}\) the IMS e-portfolio specification was created to make e-portfolios interoperable across systems and institutions and to:

- support the advancement of lifelong learning
- facilitate exchange of e-portfolio in transitions from education to work
- facilitate education institutions’ tracking of student competencies
- improve employee development.\(^ {167}\)

Each of the standards mentioned above is complex, but in 2007 the Australian Flexible Learning Framework commissioned Education.au to write Developing e-portfolios for VET: Policy issues and interoperability.\(^ {168}\) This report points out the potential for the use of relatively light weight standards.
for granular elements of a broader e-portfolio service. For example, ATOM and RSS could be considered for use in transferring easily understood content that is not reliant on contextual information, and standards already endorsed for accessibility can be applied.

One of this report’s authors attended the Learning Forum London and ePortfolio 2009 conference in the very late stages of the investigation and observed the potential of the LeaP 2A e-portfolio standard. Funded by the UK Department of Trade and Industry, LeaP 2A is a standard intended to:

- reduce the cost and complexity of e-portfolio implementation
- facilitate the representation of information centred around individuals, especially information authored by individuals, about themselves.

Further research is required, but early indications are that LeaP 2A is a light weight standard of the type recommended in the Developing e-portfolios for VET: Policy issues and interoperability report, offering the promise of a highly interoperable standard.

The focus of this investigation is e-portfolio implementations beyond education and training, but there is no avoiding the fact that the majority of previous Australian work around e-portfolios has taken place within the spheres of education and training. The Australian Flexible Learning Framework has a business activity around e-portfolios, which aims to establish a national standards-based approach to the use of e-portfolio technologies for managing learner information, between VET, other educational sectors, and employment. This group has already done a great deal of work that can be considered for its suitability in e-portfolio implementations that respond to the policy drivers discussed above.

In 2007 AICTEC commissioned a study into interoperability standards across all education sectors. The Croger Research Report: Interoperability Standards Across the Australian Education and Training Sector identified the strategic need for and recommended the development of a national cross-sectoral collaborative framework to progress the development of interoperability frameworks and shared infrastructure across all sectors of education and training. This report is still an excellent source for consideration of interoperability standards in Australia’s federated environment.

With regards to standards around identity, there are many possible approaches and also challenges. The UK has the Unique Learner Number (ULN) system, which can be used for a number of purposes including to support access to a portfolio or portfolio content for an individual that may accrue over a lifetime. The Learner Record of every UK citizen over the age of 14 is identified by a unique, randomly generated ten digit number. The ULN is being made available across the UK education sectors: schools, sixth form colleges, further education and higher education and “will allow students to build a lifelong record of their learning participation and achievements, which they can access and choose to share.”

Australia has seen progress in this area, including via the Learner Identity Management Framework (LIMF) and Australian Access Federation (AAF) initiatives. This issue is discussed in the SICTAS national software infrastructure paper.

9.3 Constant technological change

Decisions around software infrastructure or any other area of technology are complicated by technology’s nature; it is a truism that technology changes constantly and rapidly. Decisions around software infrastructure must be cognisant of this, seeking solutions that are independent of specific technologies, and made in an environment prepared for ongoing change. This issue is discussed in detail in the previous SICTAS report, Collaboration in teaching and learning.
9.4 Summary

In terms of an Australian e-portfolio implementation, the answers to questions around standards for interoperability and identity are not yet apparent, although LeaP 2A has potential. Regarding constant technological change, potential optimal solutions for implementation of an e-portfolio will shift along with technological developments.

Discussion around considerations of infrastructure and interoperability inform Recommendation Three, which is presented under the assumption that Recommendation One has been actioned. Recommendation Three looks to the medium term, beyond implementation of a national e-portfolio, and should be conducted through coordination between the recommended ‘Myfuture’ e-portfolio and a number of institutional participants. Recommendation Three: Fund interoperability trials between the recommended ‘Myfuture’ e-portfolio and existing Australian institutional e-portfolios.
This investigation has reviewed a number of e-portfolio implementations, used around the world in environments including, but also broader than, education and training. The e-portfolio implementations, reports and initiatives discussed in this investigation demonstrate the potential of e-portfolios for users post-education:

- career development and lifelong learning
  (Careers Wales, Australian Blueprint for Career Development)

- workforce development and planning
  (SWOOP, eFolio Minnesota, the Netherlands)

- continuing professional development
  (JISC report)

- supporting workers facing redundancy
  (NedCar)

- articulation of skills and experience
  (Europass, Becta e-portfolios for apprentices report).

In contrast with the Australian situation, where access to e-portfolios is limited for users no longer involved in formal education, this evidence suggests that e-portfolios have the potential to contribute to Australia’s policy response to an economic environment that includes complexities such as skills shortages, ongoing adjustment of the Australian labour market, the lifelong learning agenda, and the global financial crisis.

It is important, however, to acknowledge the nature of the evidence examined. As noted, many implementations are considered highly successful by their stakeholders, but the implementations are too recent for a solid, statistically valid base of evidence to have emerged. Development of an Australian e-portfolio in the current environment could only be undertaken on the basis of an understanding that this is the way of the future.

It is also important to acknowledge unique aspects of the Australian context, where internet-based services can be seen as social equity solutions for the rural and remote population. When the need for user support and training in the use of relatively complex internet-based services (such as e-portfolios) is considered, however, we are reminded of the tyranny of distance and the complexities it presents for provision of services. Australia’s policy environment is also different from the environments in which the e-portfolios surveyed here were implemented.

Despite the complexities of the Australian context, e-portfolios can provide part of the solution to important labour market policy drivers including the lifelong learning agenda and responding to worker redundancies.
Appendix A: Careers Wales

In addition to the e-portfolio service discussed in this report, Careers Wales manages the following services:

- a telephone helpline
- a workforce development service, offering information, advice and guidance to employers and their employees on training and learning opportunities. The initiative aims to increase the skill levels of employed adults and improve access for learning, especially for those with little or no qualifications and/or the low paid.\textsuperscript{179}
- education business partnerships, which provide activities like work experience, mentoring, business awareness and enterprise days which prepare young people for the world of work.\textsuperscript{180}
- business support services, including help with redundancy and selection, workforce development, and redundancy counselling.\textsuperscript{181}
- a youth gateway program, which provides help and support to 16 – 19 year olds before they move onto college courses or into training and employment.\textsuperscript{182}
- CLIC, a national online service for young people aged 11 to 25 years. CLIC offers information and advice on many areas, including education, employment and training, environmental issues, housing, health, the law and rights, money, sport and leisure, and family and relationships.\textsuperscript{183}

The service encourages clients to undertake useful and good quality self-assessment exercises which help them to identify their skills, personal qualities and preferred learning styles. Video tutorials are provided in support. Users store quiz results and profile information in their e-portfolio.\textsuperscript{184}

The service also encourages users to plan, set targets and monitor the outcomes of their plans, helping users to think about their progress and develop new plans that take account of their achievements.\textsuperscript{185}

Users can also store documents in a presentation file which they can share with others. This can be used by job seekers who wish to offer employers online access to their CVs.\textsuperscript{186}

Careers Wales recognises different stages of a person’s career and is split into a number of audience categories:

- up to age 16
- age 16 – 19
- adults
- professionals (support for those working in education and training)
- employers.
Myfuture’s services cover two target groups. The primary target group is all Australians who wish to explore their career options, divided into five categories according to age and career stage:

- younger secondary school students
- older secondary school students
- school leavers who have left school in the last 2-3 years
- further education and training students
- adults. 187

Within the primary target group the main targets are students within the Australian education sectors. The secondary target group is those engaged in providing career counselling and advice services in Australia:

- career practitioners within schools, institutes and universities
- private career practitioners
- Centrelink and Career Information Centre staff
- employment, rehabilitation and migration service providers
- other influencers such as parents, guardians and teachers. 188

Myfuture offers a number of main features, outlined below:

- **The Facts** 189
  This section provides comprehensive career information and statistics drawn from a variety of data sources. This includes:
  - descriptions of more than 600 occupations
  - industry profiles covering over 750 sectors
  - details on over 18 000 accredited post-compulsory education and training courses, including provider contacts
  - labour market information for 204 regions across Australia
  - information on over 2400 scholarships.

- **My Guide** 190
  My Guide is a personalised career exploration tool to support users with career decision making and pathway planning. My Guide customises the level and number of activities presented to users based on the age and life stage they selected when registering. There are over 360 questions on interests, skills, knowledge, education and work to build a personal profile to use for exploring suitable occupations. The tool is currently being enhanced and will enable users to develop a comprehensive career plan that they can email to third parties assisting them in career development and guidance.

- **Assist Others** 191
  The Assist Others section provides resources to help career advisers, teachers, parents, guardians and influencers (such as youth workers, coaches, cultural leaders, religious leaders and grandparents) with providing support for those making career decisions.
Area A: Personal management

1. Build and maintain a positive self concept
2. Interact positively and effectively with others
3. Change and grow throughout life

Area B: Learning and work exploration

4. Participate in lifelong learning supportive of career goals
5. Locate and effectively use career information
6. Understand the relationship between work, society and the economy

Area C: Career building

7. Secure/create and maintain work
8. Make career enhancing decisions
9. Maintain balanced life and work roles
10. Understand the changing nature of life and work roles
11. Understand, engage in and manage the career building process

Each of the competencies cited above is divided into four phases and, as the Blueprint is broken down into these granular elements, areas in which an e-portfolio service could contribute to a person’s implementation of the Blueprint in their own career development become apparent. Blueprint competencies where an e-portfolio can play a role are listed below. In some cases, the role of a portfolio is explicitly stated within the Blueprint:

Link lifelong learning to the career building process

- Identify the transferable skills, knowledge and attitudes that can fulfil the requirements of a variety of work roles and work environments.

Develop qualities to seek, obtain/create and maintain work

- Explore commonly used work search tools (e.g., job application forms, résumés, and portfolios).
- Demonstrate personal qualities (e.g., dependability, punctuality, getting along with others) that are needed to get and keep work.
- Identify your transferable skills and experience a new task by using them.
• Develop the work search tools required to find and maintain work (e.g., résumé, portfolio, job application letter).

• Acknowledge your personal qualities and skills and determine which you will build into your career goals and aspirations.

**Develop abilities to seek, obtain/create and maintain work**

• Demonstrate employability skills and attributes necessary to obtain and maintain work.

**Improve on abilities to seek, obtain/create and maintain work**

• Update your work search tools and the skills required to seek, obtain/create and maintain work (job application forms, résumés, portfolios, job interviewing, proposals, cover letters, etc.).

• Identify your transferable skills, knowledge and attitudes.

• Market yourself using work search tools and skills (job application forms, resumes, portfolios, job interviewing, proposals, cover letters, etc).

• Demonstrate the skills, knowledge and attitudes that are transferable from one work role to another.

• Evaluate your skills, knowledge and attitudes in terms of their effectiveness for seeking, obtaining/creating and maintaining work.

**Explore and understand the interrelationship between life and work roles**

• Demonstrate how work skills, knowledge and attitudes are acquired through leisure.

**Take charge of your career building process**

• Update your resume and/or portfolio using newly acquired information about yourself and the labour market.

**Manage your career building process**

• Understand the importance of updating your resume and portfolio using newly acquired information about yourself and the labour market.

• Update your resume and/or portfolio.
The eFolio Minnesota e-portfolio tool is structured for three user groups:

- **students** – current K-12 and higher education students can showcase educational achievements, employment, volunteer experience and interests. Students receive a private site requiring a password and username that they can share with others as they choose.²¹⁸
- **educators** – teachers, instructors and faculty members can highlight professional development and including publications and presentations and evidence of educational and career development.²¹⁹
- **individuals who are seeking employment or currently working** – users can market their career history, skills and other experience to prospective employers by directing them to a private portfolio.²²⁰

The initiative has been around for six years and has over 100,000 registered users. Growth in usage has largely been through word of mouth as there is no marketing budget for it.²²¹

A key aspect of the eFolio service is ownership. Ownership of the portfolios rests with the users. Leading practitioners in e-portfolios recognise the importance of individuals owning their portfolios and the eFolio service remains true to this ideal.²²²

The process of creating a portfolio is outlined nicely for users and is broken down into the following five steps:

1. reflect
2. collect
3. select
4. build
5. publish.²²³

The system is used to develop the concept of the ‘professional self’ rather than the ‘personal self’. The providers of the system feel that it is important to separate these two aspects. It is not seen as a social networking platform. Portfolio owners can create multiple views of their portfolios (both public and private) and choose who they would like to see their portfolios. Owners create invitations for viewers. Viewers do not have to be portfolio owners themselves.²²⁴

### 14.1 Challenges for the eFolio initiative

The success that the eFolio initiative is having has resulted in an interesting challenge for highly mobile students. As the does not yet have complete coverage of the State, there are schools and colleges that use the service and others that do not. This has created an interesting challenge for mobile learners. Some of the schools and colleges that have adopted the service have done so wholeheartedly and embedded e-portfolio practice right into their teaching and learning; that is, it is not just an adjunct to teaching and learning. Learners who move from such schools into others that have not adopted the practice have to adapt back to a less progressive approach to learning.²²⁵ Over time as coverage increases, in the usage of the eFolio system and/or embedding e-portfolios into teaching and learning will see this transitional phase start to disappear.
Appendix E: E-portfolios for Apprentices

15.1 Benefits that e-portfolios can bring to learning providers

- supply evidence of technical competence to awarding bodies that recognise the e-portfolio
- save assessor time by improving the efficiency of site visits
- reduce the need for additional visits outside those mandated by the awarding body
- improve assessment turnaround time
- improve learner motivation and raise attainment levels by removing barriers for underachieving learners
- promote transparent internal communication
- improve and secure communications between delivery organisations and the employer
- reduce trainer workload by cutting the amount of paperwork required
- improve security and confidentiality
- save money
- track learner progress
- be used for evaluation and benchmarking
- help to support work placements
- drive up retention and completion rates by increasing the engagement and motivation of learners, thus making them more likely to finish their learning program.

15.2 Benefits learners (apprentices) can gain

E-portfolios:

- can be transferred between employers and between learning providers
- may more effectively assist learners with disabilities in recording evidence
- make contact with learners easier and more efficient
- allow for better information sharing
- enable the learner to continue with study in a work-based environment
- can be shared with interested parties
- can enhance learner IT skills, which is a core element of an apprenticeship
- can be used to store apprenticeship course credits, which can be transferred between apprenticeships and also between employers and/or learning providers
- are flexible – learners choose when they work on the e-portfolio
- can be used to create individual learning plans
- can be used to tie in evidence to details stored on the apprenticeship national database
• can help learners organise their work requirements, resources and time
• can help learners gather together assets from non-formal learning.227
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