

CONSULTANCY BRIEF
FRAMEWORK FOR NATIONAL COLLABORATION IN
FLEXIBLE LEARNING IN
VOCATIONAL EDUCATION AND TRAINING
2000-2004
STRATEGY 2000
PROJECT 2/5.1: PREFERRED STANDARDS TO SUPPORT
NATIONAL COOPERATION IN APPLYING TECHNOLOGY TO
VOCATIONAL EDUCATION AND TRAINING

PROJECT VISION

The aim of the Project is progress towards a nationally agreed, standards-based environment for the use of online training experiences in which

provision of flexible training in a manner that best suits requirements can be accomplished with an eclectic mix of products from competing manufacturers,

a complete range of training experiences is available online (including text-based information, whiteboard, live and recorded video and audio presentations, chat sessions, email, visualisation, and collaboration on projects),

both competition and cooperation among training organisations is possible on an agreed technological basis to the best advantage of the Australian Vocational Education and Training System as a whole,

access to online training is available for all Australians on a generic client platform of choice (i.e. learners have a choice of which products to purchase in order to set up a workstation that can be used to access online training),

transfer of clients among training organisations is facilitated by standards for the transfer of records concerning progress and results,

training needs of clients can be met in a manner consistent with the requirements of place, time, working arrangements, and particular equity group,

students can interact with instructors and other students in both a synchronous and asynchronous manner,

seamless interaction of products from different manufacturers is made possible by agreed operational guidelines, and

the Australian Vocational Education and Training system is a highly competitive player on the international stage.

The Project will produce a revised and extended version of a document called *Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training*.

BACKGROUND

Context

The terms *Australian National Training Authority*, *State and Territory Training Agency*, and *training organisation* are used frequently in this document. A training organisation is taken to mean an organisation that delivers training. The *Australian National Training Authority* is a Commonwealth agency which administers an agreement among the Commonwealth, State, and Territory Governments called the *National Vocational Education and Training System Agreement*. Under this agreement, each State and Territory is required to maintain a body called the *State or Territory Training Agency*. The State and Territory Training Agencies channel Commonwealth, State, and Territory training funds for use in the provision of training. The State and Territory Training Agencies may not necessarily be training organisations involved in the direct delivery of training. The government training organisations are called TAFE.

The Project is part of the Australian National Training Authority's *Strategy 2000*, which commences the implementation of the *Framework for National Collaboration in Flexible Learning in Vocational Education and Training 2000-2004*, which, in turn, supports the broader scope of the *National Strategy for Vocational Education and Training*.

The Australian National Training Authority, in collaboration with the State and Territory Training Agencies, has developed a *National Strategy for Vocational Education and Training*. The *National Strategy* is available at <http://www.anta.gov.au/ABC/bridge.htm>. The *National Strategy* has five components

- equipping Australians for the world of work,
- enhancing mobility in the labour market,
- achieving equitable outcomes in Vocational Education and Training,
- increasing investment in training, and
- maximising the value of public Vocational Education and Training.

The Project supports all five of these components.

The *Framework for National Collaboration in Flexible Learning in Vocational Education and Training 2000-2004* is available at <http://www.otfe.vic.gov.au/antafd/cfp.htm>. It lists the guiding principles as

- shared benefit for all States and Territories,
- strategic use of new technologies,
- accelerated take up of flexible learning methodologies,
- strategic partnerships among training organisations and between training organisations and other service providers,
- use of public training funds to leverage other investments in the Vocational Education and Training system,
- employee involvement in, and ownership of, projects, and
- projects driven by client demand.

The *Framework for National Collaboration in Flexible Learning in Vocational Education and Training 2000-2004* lists five areas in which projects will be run

- staff skills,
- infrastructure,
- content,
- policies, and
- regulation.

Strategy 2000 involves twenty-six projects in the five areas listed in the *Framework* document. The Project is one of five projects in the infrastructure area.

The Project has important relationships with a number of the other projects outlined in *Strategy 2000*. Of particular interest is the Technology Infrastructure Investment Fund Project. The Preferred Standards will be a technical guide to the use of the Technology Infrastructure Investment Fund.

Commonwealth, State, and Territory Ministers for Employment, Education, Training, and Youth Affairs have set up an advisory body called the *EdNA Reference Committee*. EdNA stands for *Education Network Australia* but is rarely spelled out in full. The EdNA Reference Committee

has representatives from all sectors of education, nominated by the relevant Commonwealth, State, and Territory agencies and advises the Ministers on information and communication technology matters related to education and training.

The Project will report to, and be advised by, the *EdNA VET Advisory Group*, an advisory group to the EdNA Reference Committee.

The EdNA Reference Committee is setting up a Standards Sub Committee. The Sub Committee will advise on standards matters of relevance to all three educational sectors. The Project Manager is a member of the Sub Committee. The Project will take a lead role in gaining national agreement on standards. It is expected that some of the recommendations from the Project will be adopted by the Sub Committee for all three sectors while others will form the basis of further work commissioned by the Sub Committee. The Sub Committee has expressed particular interest in results from the Project related to multimedia streaming technologies.

The EdNA Reference Committee, the EdNA VET Advisory Group, and the EdNA Reference Committee Standards Sub Committee provide an effective structure for the channelling of communications related to the use of standards in the online delivery of training.

The Project is being managed from Queensland by the Department of Employment Training and Industrial Relations.

History

The Australian National Training Authority, in collaboration with State and Territory Training Agencies has been working for a number of years on a *Flexible Delivery Action Plan*.

There are substantial advantages to be achieved by having State and Territory training systems using compatible delivery and administrative systems.

It was agreed early in the process that the option of mandating particular proprietary products was inappropriate. Firstly, it would be unethical for government agencies to limit competition among suppliers of hardware and software in this way. Secondly, such an action would stifle flexibility, creativity, innovation, and competition for training organisations.

On the other hand, the use of agreed industry standards would provide the basis for the realisation of the vision outlined in the section on *Project Objectives* above. The *term industry* standard is taken to mean a published standard that is implemented by more than one manufacturer and allows interoperability of products from different manufacturers.

The autonomy of State and Territory Training Agencies, and the differing needs of individual training organisations, militate against the use of a prescriptive approach to the use of standards. The term *Preferred Standards* was adopted to maintain autonomy and flexibility while providing a basis for agreement.

In 1997, the Australian National Training Authority commissioned a project *National Cooperation in Applying Technology to Vocational Education and Training*. A *National Technology Standards Policy and Maintenance Process* was produced and later endorsed by CEOs of State and Territory Training Agencies. The policy has the following main planks

technology is to be used to provide training services to clients as, where, and when required,

standards will, where possible, be selected from existing mainstream standards,

where additional standards peculiar to learning technologies are required, they will be developed cooperatively,

the emphasis is to be on interface standards to enable interoperability of different systems,

selection of standards will be based on consideration of flexibility, benefits, appropriateness, training needs, and likely industry and societal developments.

In 1998, the Australian National Training Authority commissioned a project *National Cooperation on Technology for Vocational Education and Training*. A report on *Preferred Standards to Support National Cooperation in Applying Technology to Vocational Education and Training* was produced. The Preferred Standards were endorsed by State and Territory Training Agency CEOs in March, 1999. The report is available at <http://www.vicnet.net.au/~neptune/finrep.htm>.

PROJECT DETAILS

Outline

The Project will extend the work of the 1997 and 1998 standards projects.

The Consultant will report to the Project Manager.

There will be a Steering Committee and a number of Working Groups to assist the Consultant and the Project Manager with information on the needs, protocols, and practices of the Vocational Education and Training Sector. The Consultant is to provide technical expertise to assist the Steering Committee and the Working Groups.

Products

Deliverable items to be produced by the Consultant are

an updated and extended version of the 1998 *Preferred Standards* report including

revision of all existing material,

additional material where recommended in that report , e.g. standards for groupware,

additional material to reflect advances in technology, e.g. video and audio streaming over the internet,

additional material describing resources available to facilitate the use of the Preferred Standards (e.g. tools for creating the metadata for web pages),

restructuring and additional material to make the report more accessible to persons with limited technical knowledge,

references to other relevant material and examples of the use of the Preferred Standards,

recommendations for a continuing maintenance process, and

recommendations for further work,

a short and straightforward guide to the use of the Preferred Standards in connection with planning, purchasing, implementation, and operation of training delivery systems,

progress on projects recommended by the 1998 report, e.g. directory services,

a report on the adoption of the *Preferred Standards* from the 1998 version,

a communication plan for the dissemination of the Preferred Standards and the encouragement of take up of the Preferred Standards, and

discussion papers, background material, progress reports, Preferred Standards, guides, etc in forms suitable for publication on a Project Web Site (the Project Web Site will be provided by the EdNA VET Advisory Group and maintained by the Project Manager).

The Consultant is to write each document in a manner that suits the needs of its target audience.

Material for publication on the Project Web Site is to be supplied in three forms

word processing format (RTF, WordPerfect 6, and MS Word 97),

PDF format with table of contents, and

HTML format with appropriate hyperlinks.

Standards Areas

Standards and operational guidelines are required for, but need not be limited to, the areas listed below. A complete online delivery system requires standards in all the identified areas. No priority has been assigned to the areas in the areas listed. The Consultant is to apply effort to each area to the extent required to document the relevant standards and describe appropriate operational guidelines. The areas are

management systems (including data storage and transmission) - AVETMISS, IMS, AICC,

groupware(document management, workflow management, scheduling, calendar, chat, application sharing, whiteboard, forums, email) - ODMA, ODMA workflow extensions, Workflow Coalition distributed workflow architecture, iCalendar, vCalendar, T120, vCard, SMTP, IMAP4, MIME

web protocols - XML, HTML, HTTP, Java, Javascript

multimedia - delivery standards: SDP, RTSP, H320, H323, gateways for H320 and H323, RTCP, RTP, HTTP; coordination standards: SMIL; encoding standards: hinted quicktime, ASF; compression schemes: H261, sorensen, etc, data types: MPEG, AVI, AU, GIF, JPEG, PDF etc

resource locators (meta data, search engines, and directory services) - LDAP, X400, X500, Dublin Core, EdNA Metadata, IMS Metadata, etc, and

client computers and associated hardwares - processor power, main memory, disk storage, monitor resolution, graphics memory, modem speeds, etc.

The development of operational guidelines is an integral part of the Project. The use of standards alone does not necessarily guarantee seamless interoperability of products from different manufacturers. For example, the standards for email are universally adopted by software manufacturers but operational guidelines are required for such things as line lengths, file formats for attachments, and file formats for message body (no HTML).

Methodology

The Consultant will

conduct an environmental scan to identify relevant new technologies and standards,

review the recommendations from the 1998 Project and produce a discussion paper on their continued relevance in the light of recent developments,

develop a draft communication plan for the dissemination of the *Preferred Standards*,

survey Commonwealth, State, and Territory Training Agencies and government training organisations to determine strategies adopted for, and progress towards, implementation of the existing *Preferred Standards* and provide a report on the findings,

prepare discussion papers on standards and operational guidelines in areas where revisions and extensions to the existing *Preferred Standards* are required,

provide draft and discussion papers to the Project Manager for publication on a restricted web site to make them available to Steering Committee and Working Group members,

arrange a list server and teleconferences for discussion among Steering Committee and Working Group members,

develop the discussion papers, the advice of the Working Groups, and the 1998 *Preferred Standards* into a revised and extended edition of the *Preferred Standards* and recommendations for further work,

produce specifications, costings, and prototypes (as appropriate) for initiatives recommended in the 1998 *Preferred Standards*,

arrange workshops for the Working Groups to undertake final review of the Communication Plan, project details, revised *Preferred Standards*, and recommendations for further work,

revise the documents in accordance with the instructions of the Working Groups,

arrange a face to face meeting of the Steering Committee for presentation of the documents,

revise the documents in accordance with the instructions of the Steering Committee, and

provide final electronic versions of all documents in formats described above plus 200 bound copies of the new *Preferred Standards*.

Workshops

The Consultant will arrange a workshop for each of the standards areas listed above.

The workshops will be attended by the members of the relevant Working Group, the Consultant, the Project Manager, and optional observers from the Schools and University sectors. Observers will meet their own travel and accommodation costs.

Each workshop is expected to last about one full day but the exact duration can be determined on the basis of the needs identified during the email and teleconference discussions prior to the workshops.

The dates and locations of the workshops will be determined by the Consultant to maximise value achieved from Project funds. Some Working Group members may be involved in more than one Working Group. The Consultant may have staff from more than one city. The 1998 Project distributed the workshops over three cities and ran them on consecutive days.

Initiatives Recommended in 1998 Report

The 1998 *Preferred Standards* report identified a number of initiatives that should be pursued. The Consultant is required to address these to the extent that

the initiatives are directly connected with the adoption of standards, and

the work does not involve negotiations with, or purchases from, suppliers of goods and services.

The Consultant will produce specifications, costings, and demonstrations of the relevant systems.

These initiatives include

interface between computer managed learning systems and legacy systems (perhaps using the AICC interface standard),

extension of AVETMISS, and

directory services for people and services.

An initiative concerning the identification of training materials is the topic of another Strategy 2000 project.

ADMINISTRATIVE DETAILS

Management

The Project is being managed by the Department of Employment Training and Industrial Relations. Contact details for the Project Manager are given at the end of this document.

A Steering Committee has been formed. The Steering Committee has a representative from the Commonwealth and each of the States and Territories. The representatives were nominated by the EdNA VET Advisory Group. The Chairman is the Queensland EdNA VET Advisory Group

member.

Working Groups will be established for each of the six standards areas to be addressed. It is intended that each Working Group will comprise one representative from the Commonwealth and each of the States and Territories. It is likely that some representatives will be members of more than one working group. Representatives will be nominated by the Steering Committee. There may also be observers from the Schools and University sectors. The Working Groups will be chaired by the Project Manager.

It is proposed that Working Groups be established for

management systems,

groupware,

web protocols,

multimedia,

meta data, search engines, and directory services, and

client computers and associated hardwares.

Milestones

The following milestones apply to the Consultant

- July: environmental scan; review of recommendations from the 1998 Project and production of discussion paper; draft communication plan; discussion papers on standards and operational guidelines; list server
- August: survey of training organisations to determine progress towards implementation of the existing *Preferred Standards*; online discussions and teleconferences of Working Groups and Steering Committee
- September: revised and extended edition of *Preferred Standards* and recommendations for further work; report on findings of survey, workshops
- October: specifications, costings, and demonstrations (as appropriate) for initiatives recommended in the 1998 *Preferred Standards*, final Communication Plan, project details, revised *Preferred Standards*, and recommendations for further work; final meeting of the Steering Committee
- November: final material for publication on the web site plus bound copies of the new

Preferred Standards.

Other milestones for the Project Manger and the Steering Committee include

May: agreement on Consultancy Brief, nomination of selection sub committee, call for tenders

June: selection of Consultant

October: final report to the EdNA VET Advisory Group

The EdNA VET Advisory Group will seek the endorsement of Commonwealth, State, and Territory Training Agency CEOs in November.

It is suggested that travel be limited during the time of the Olympic Games.

Goods and Services Tax

Currently available information on the GST indicates that the whole of the budget allocated to the Consultancy will be available for use by the Consultant in producing the agreed deliverable items. With regard to funding transferred from the Australian National Training Authority to the Department of Training and Industrial Relations, the two agencies will make any necessary arrangements to ensure that GST does not affect the funding available. With regard to payments from the Department of Training and Industrial Relations to the Consultant, the Consultant will be permitted to gross up invoice values to include GST incurred. The Department will be able to claim back the additional costs as input credits. To facilitate these arrangements, the Consultant will be required to provide an ABN and valid GST tax invoices.

The Consultant is to pay GST as required by law without requesting variations to the Contract to accommodate circumstances that could be reasonably have been anticipated at the time of submission of the Tender.

The Contract will be a *Transition Contract*, i.e. it spans the date of introduction of the GST. The Consultant may wish to propose arrangements to distribute the GST liability over the progress payment schedule. This would require that progress payments are contingent on the production of specific deliverable items.

The Project Manager acknowledges that unforeseen circumstances may arise in connection with the introduction of GST and will take steps to remedy such circumstances should they arise. The Memorandum of Agreement for provision of funds from the Australian National Training Authority provides for negotiation in the event of unforeseen circumstances related to GST. In such circumstances, the Consultant is required to prove that the circumstances could not reasonably have been anticipated at the time of submission of the Tender.

BUDGET

An indicative budget of up to \$160,000 is available to the Consultant.

The Consultant is expected to arrange and pay for teleconferences, the use of a list server, workshops (including travel and accommodation for participants but not observers), production of material for publication on the web site, reproduction of final report, and reproduction and dissemination of survey instruments.

The Consultant is not expected to pay any salary costs for Working Group and Steering Committee members.

Other provision has been made for the salary of the Project Manager and his assistants for the time they are employed on the Project.

Activities connected with the appointment of the Consultant, e.g. Steering Committee meeting, teleconferences, advertisements, etc, will be funded separately.

SELECTION PROCESS

Selection Criteria

The Consultant will be selected on the basis of

knowledge of relevant standards and operational principles,

strategic approach focussed on the production of tangible results of benefit to the Vocational Education and Training system,

understanding of the nature of, and requirements for, electronic training delivery and management systems in the Vocational Education and Training sector,

proposed work plan,

consultation ability,

familiarity with the operation of the Vocational Education and Training system within a federal system,

experience with projects of this nature,

agreement to limit requests for variations to the provisions of the Tender, claimed to be necessitated by the introduction of the GST, to circumstances completely beyond reasonable anticipation at the time of submission of the Tender, and

value for money.

Registration of Interest

Organisations intending to submit tenders are invited to register their email addresses with the Project Manager, whose contact details are given at the end of this document. Registered organisations will be notified of responses to questions from other organisations in cases where the responses contain information in addition to that given in this document.

Tender Documents

Tenders should address each of the selection criteria (no more than 500 words each) and support the narrative with

indicative breakdown of budget (no more than 50 line items),

work plan showing how the process summarised in the section on *Methodology* above will be carried out (no more than two pages),

staffing arrangements - Curriculum vitae of staff and duties to be allocated to staff,

proposed payment schedule in relation to components of the work plan,

references to work performed by the Tenderer and organisations that have employed the Tenderer, and

contact details.

Lodgement

Tenders must be received at either of the following addresses before 12 noon, 19th June, 2000.

DETIR Tender Box
Department of Employment Training and Industrial Relations
Floor 2 (Albert Street side), Education House
30 Mary Street
BRISBANE Q 4000

Mr J L Henry
Project Manager
Infrastructure Planning
Department of Employment Training and Industrial Relations
Box 192
PO ALBERT STREET BRISBANE Q 4002

Tenders should be in a sealed envelope and clearly marked PREFERRED STANDARDS CONSULTANCY TENDER.

The tender opening will be witnessed but not public and will take place at 1300 on the date given above..

Decision

The Steering Committee will decide the successful tender, possibly on the basis of an evaluation by a sub committee.

Contract

The Consultant will be required to agree to the conditions of a Queensland Government Consultancy Contract.

CONTACT DETAILS

Name:

Mr J L Henry
Project Manager

Email Address:

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Infrastructure Planning
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30 Mary Street
BRISBANE Q 4000

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