The Le@rning FEDERATION

SCHOOLS ONLINE CURRICULUM CONTENT INITIATIVE

PHASE TWO PLAN 2005-2006

Contents

Executive Summary

Context

The Le@rning Federation, Schools Online Curriculum Content Initiative, begun in 2000, is the result of two sets of discussions coming together. On the one hand, the CEOs of Australian education systems had discussed the need for schools to support a society that is increasingly ICT enhanced and knowledge dependent. While individual jurisdictions had invested significantly in equipment, wiring and professional development, it was evident that the task was beyond any one jurisdiction and involved issues that would be better addressed collaboratively.

Simultaneously, the National Office for the Information Economy was putting together a number of policy documents, and looking at what was needed in public sectors (including health and education) to underpin Australia's future as an 'information economy'. The bringing together of these two discussions resulted in the publication of *Learning in an Online World* which identified that the sector needed to do work in relation to 'Infrastructure', 'People', 'Content' and 'Policy and Regulation' in order to ensure the schooling sector was preparing students to take their place in a society in which both jobs and social life were more dependent on knowledge generation and use than on industrial processes.

The Le@rning Federation addresses the 'Content' component of *Learning in an Online World*. Its funding reflects its origins, with 50 percent of original funding coming from the Commonwealth's *Backing Australia's Ability* innovation initiative and 50 percent from the State and Territory education budgets. New Zealand is now part of the initiative and a significant contributor.

The Schools Online Curriculum Content Initiative was in a feasibility phase (Phase One) from January 1999 to June 2001. In that time there was widespread discussion throughout the schooling sector on the nature and benefit of online content. As a result of this discussion and a number of specific research and scoping projects by Curriculum Corporation and **education.au limited** a consensus was reached that Australian schooling would be served well by the creation of a pool of online curriculum content in objects format for use by all school systems in Australia. A standards and objects based approach was chosen for its flexibility and capacity for distribution, high capability for reuse and tailoring at the point of delivery.

The New Zealand Ministry of Education joined the Initiative in July 2002.

Standard setting is underway to ensure online content in areas of agreed priority can be flexibly purposed and delivered in different and diverse jurisdictions. Teachers will match curriculum content to local curriculum outcomes to meet the needs of a wide range of students. The Initiative will track and manage intellectual property and copyright associated with the online content in the pool. Phase One work therefore supported the proposal that the Initiative will make a significant contribution to the Innovations agenda in Australia and New Zealand, in terms of: the stimulation it will provide to ICT developers; its synergy with work across education sectors; and in terms of the knowledge, experience and skills it will develop in Australian and New Zealand students. The Initiative will also assist in AESOC's objectives outlined in *Learning in an Online World (2000).*

The Initiative registered the trademark "The Le@rning Federation" in New Zealand on 17 September 2002 and in Australia on 28 August 2002 and is now using this as the project name.

Proposed Business

Phase Two of the Initiative has as its goal the collaborative development and promotion of a continuing supply of high quality digital educational content in priority areas agreed by AESOC, so that Australian learners gain maximum benefits from the online revolution.

For the five years to June 2006 the priority areas are:

Innovation, Enterprise and Creativity	All year levels
Languages Other Than English	All year levels
Literacy	Years 5-9
Numeracy and Mathematics	Years P-9
Science	Years P-6 and years 9-10
Studies of Australia	All year levels

The Le@rning Federation content will represent the best available, or conceivable, in the early twenty-first century and will engage teachers and students in the construction of learning and in creative and critical thinking. The development focus will especially be on providing virtual experiences that are difficult or impossible to reproduce in the classroom.

Actioning

Phase Two involves the commissioning of specific content development projects within the agreed priorities to an agreed timetable and within agreed standards. The first projects were Science, Literacy (for students in Years 5-9 who have not yet met literacy benchmarks), and Numeracy (Years P-9). Using the Victorian PRISM project as a base enabled a cross-state Science pilot to be undertaken in September 2001. Drawing on NALSAS work from NSW in Chinese has enabled a Chinese prototype to be developed.

Market research is being undertaken and user-focused content development implemented to ensure that materials appeal to students and will be used by teachers. Agreed criteria for educational soundness, accessibility and good design are rigorously applied through a quality assurance-based project management system. Agreed metadata standards, schema and thesauri are support classroom application of content through state supplied online learning services. A digital rights management system is being employed to affect copyright sharing and rights management utilising intellectual property licensing agreements endorsed by AESOC. These licensing agreements draw from the experience of AEShareNet.

The Initiative provides a basic tool-set for testing and piloting. Systems may wish to include this in their online learning services.

Experience in building and operating both EdNA Online and the National Careers Information Service informs the development of an exchange system enabling content to be uploaded to the pool with a quality assurance process and then downloaded through systems to schools, linking at all stages to the rights management system and standards framework.

Project plans and specifications prepared under the auspices of reference groups detail concept, prototype, pilot and full production phases. Where possible existing content work is used to inform project planning and to shorten production cycles.

Quality assurance frameworks depend for success on input from reference groups, user testing and feedback loops with stakeholders. This collaborative underpinning is the strength of the Initiative.

Administration

A Steering Group of AESOC members supported by a small secretariat provides governance to the Initiative with project management being undertaken by the two ministerial companies, *education.au limited* and Curriculum Corporation. The companies have a joint venture agreement in place for the purposes of this Initiative.

A budget of $72.9 million over five years is anticipated.   The companies consult with reference groups on six-month production timelines.

There are a variety of administrative roles played by state and territory Education Departments from curriculum advisers, to specification developers to developers of some components. Most development work is undertaken through competitive tendering arrangements and occurs throughout the country.

All Phase Two funding is allocated to components of the Initiative on the basis of project proposals within the scope of the Phase Two Plan and monitored by the Steering Group. The MCEETYA secretariat collects and disburses funding from states and territories on the authority of the Steering Group. DEST and New Zealand Government funding is directed under head contracts to *education.au limited*, Curriculum Corporation or the secretariat. Deliverables are agreed by AESOC and signed off quarterly by the Steering Group.

Funds from Commonwealth, states and territories will be in cash. States and territories are encouraged to leverage resources and will not be disadvantaged in proposing or bidding for components of nationally agreed priorities.

Risk management strategies have been identified for all components of the Initiative.

There are high communication demands on this Initiative and all its stakeholders. All aspects of the strategy depend for their success on a free and public flow of information to users suppliers, stakeholders and shareholders. Whether entirely in the public arena or eventually in a more commercial environment, this Initiative will lead to a marketplace for online curriculum content and a marketplace is by definition a place of communication. The plan anticipates enthusiasm from developers, publishers and producers of digital products and services. Universities, TAFEs, communities and industry should also benefit from opportunities arising from the work program.

Accountability and Relationships

AESOC is accountable to MCEETYA for the outcomes and good management of the Initiative. A Steering Group of AESOC members supported by a secretariat has carriage of the Initiative. Curriculum Corporation and *education.au limited* have been assigned project management roles on behalf of the collaborating jurisdictions. The companies will be accountable for the delivery of effective online curriculum content to school systems.

Education departments may play a variety of roles in the development process according to choice. Through the MCEETYA ICT in Schools Taskforce, the MCEETYA Student Learning and School Support Taskforce and other expert groups, education departments, the National

Council of Independent Schools Associations and the National Catholic Education Commission will provide key advice to the companies at all stages of development.

Although systems have quality requirements that must be met by the developers, the Initiative recognises the critical role of teachers and students. For this reason, emphasis will be placed on market research that targets the specific user audience for each content project component. User testing in a range of settings will be part of all projects.

Developers, providers and suppliers are recognised as beneficiaries and key players beyond their functional role. If, at the end of the five-year period, there is to be even a rudimentary marketplace responding to demand with efficiently distributed quality materials, developers and suppliers must be given access to the standards and requirements of the schooling sector.

The Ministers of Education in Australia and New Zealand are the shareholders in this enterprise. They are making the investment on behalf of the people of Australia. The return to the Ministers will be products that improve educational delivery to schools and link schooling to an innovative, knowledge-based economy.

CONTEXT

1. Definition of Terms

ACER	Australian Council of Educational Research
AESOC	Australian Education Systems Officials Committee
AICTEC	Australian Information and Communications Technology in Education Committee
BASIC TOOLS	software or templates used in testing or trialing to assist students and teachers to find objects, link them in useful sequences and construct or perform learning tasks
CESCEO	Council of Education System Chief Executive Officers, replaced in 2001 by AESOC
COMPANIES	Curriculum Corporation and ***education.au limited***
CURRICULUM CONTENT	identifiable components of information or knowledge designed to be used within the bounds of a curriculum framework to achieve teaching and learning outcomes
DEST	Commonwealth of Australia Department of Education, Science and Training.
E-LEARNING SYSTEM	a fully integrated software package that creates a digital learning environment in which teachers and students can manage content, assignments, assessment, interactions, communication and student learning data
EXCHANGE	the information system that manages the identification, quality assurance and access to the online curriculum content
IEEE	Institute of Electrical and Electronics Engineers, Inc
IMS	the Global Learning Consortium for developing standards for e-learning systems
ICT in SCHOOLS TASKFORCE	the information and communication technologies in schools taskforce of MCEETYA
ICTs	information and communications technologies – the broad range of technologies used for accessing, gathering, manipulation and presentation or communication of information (Cuttance P and Stokes S 2000)
INITIATIVE	The Le@rning Federation - Schools Online Curriculum Content Initiative
ISO	International Organization for Standardization

JOINT VENTURE COMPANIES	Curriculum Corporation and ***education.au limited*** working together on The Le@rning Federation.
JURISDICTION	the sphere of responsibility of an education authority
LEARNING OBJECT	a component of online material that can be identified, tracked, referenced, used and reused for a variety of learning purposes., A learning object could include learning resources such as an animation, a video clip, a discrete piece of text or URL or it could be a collection of contextualised files that make up a complete learning sequence
MARKET	trade or traffic in schools online curriculum content
MARKETPLACE	an arena where buyers and sellers, users and creators of online curriculum content trade or traffic in that content
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs. (Australia and New Zealand)
METADATA	structured data about data, any form of 'tagging' or codified identification used to describe an item of data
MODULE	a sequence of objects linked and enriched to achieve an identified learning goal
NALSAS	The National Asian Languages and Studies in Australian Schools strategy
ONLINE CURRICULUM CONTENT	identifiable components of information or knowledge designed to be used within the bounds of a curriculum framework to achieve teaching and learning outcomes that are, or can be, made available through the Internet. The term does not exclude delivery through other media such as cache, DVD or LAN
ONLINE LEARNING SERVICE	an environment, provided by education systems to schools, which may include e-learning systems, library systems, search and discovery tools, communications, caches and databases
PHASES	major components of the lifecycle of the Initiative
POOL	the collection of learning objects identified through the Initiative for use by Australian schools
PROJECT	a discrete component of the Schools Online Curriculum Content Initiative, which has identified deliverables for which responsibility is assigned

PRISM	Practical Resources & Interactive Science Materials – a Victorian initiative.
RIGHTS MANAGEMENT	the development of strategies and systems to allow the optimal balance between market access and creator recognition and reward
SCHOOL	a body registered by a state/territory authority for the delivery of education P-12
SHAREHOLDERS	the owners of the Initiative – Ministers of Education in Australia and New Zealand
SLSS TASKFORCE	Student Learning and Support Services Taskforce of MCEETYA
SECRETARIAT	the officer or officers appointed to support the Steering Group and implement its decisions
STAGES	components of the production cycle
SOCCI	Schools Online Curriculum Content Initiative
SPECIFICATION	a technical document providing implementation details for an application, often produced by communities of practice such as IMS, World Wide Web Consortium or The Le@rning Federation
STAKEHOLDER	specific groups, namely government school systems, non-government sectors, Boards of Study and Curriculum Councils, professional associations and the VET and Higher Education sectors, with a strong professional interest in the Initiative
STANDARDS	a specification produced by an accredited standards development organisation such as IEEE or ISO
STEERING GROUP	a subcommittee of AESOC with delegated responsibility for the coordinated development of digital curriculum resources through this Initiative
THE LE@RNING FEDERATION	A registered trademark of the Initiative.
USERS	teachers and students who apply the learning objects created through Schools Online Curriculum Content in an education setting to achieve learning outcomes

2. Background

2.1 Antecedents

This initiative is the result of:

- agreements by all education Ministers in Australia and New Zealand in the period 1998-2001;
- determination of the Australian state and territory Chief Executive Officers of education systems to collaborate in developing digital materials to support their curricula, to assist them in moving their schools into an electronic era and to use existing collaborative structures to achieve this;
- frameworking by the Commonwealth of Australia in relation to the information economy, innovation and standards to support these agendas;
- synergies between the work of two Ministerial companies, Curriculum Corporation and *education.au limited*, established to support the development of curriculum materials and electronic networks respectively;
- the foresight of Curriculum Corporation in initiating discussion in 1998; and
- the *Backing Australia's Ability: Innovation Action Plan* and *Learning in an Online World*.

2.2 Work to date

By March 2001, the Conference of Education System Chief Executive Officers had:

- established a secretariat
- agreed on a direction of objects-based curriculum content to be shared by all Australian schooling systems
- identified priorities for curriculum content
- initiated work to scope and plan:

  - quality assurance standards and processes

  - a market framework

  - management of intellectual property

  - information brokerage protocols and system requirements

  - a publication/content management platform.

In January 2001 the Commonwealth Government announced its *Backing Australia's Ability: Innovation Action Plan* which included funding for the Schools Online Curriculum Content Initiative. In July 2001 state and territory ministers agreed to match this funding and the Initiative entered the development phase. The New Zealand Education Ministry formally joined the Initiative in July 2002.

BUSINESS

3.   Mission

3.1 Goal
The goal is for the Australian and New Zealand education systems to collaboratively develop and provide a continuing supply of high quality digital educational content in priority areas to enable students to gain maximum educational benefits from the digital world.

3.2 Objectives

❑   Produce a pool of online material in areas of high priority, namely:

Innovation, Enterprise and Creativity	All year levels
Languages Other Than English	All year levels
Literacy	Years 5-9
Numeracy and Mathematics	Years P-9
Science	Years P-6 and years 9-10
Studies of Australia	All year levels

❑   Produce the online material within a framework for distributed access to state and territory gateways

❑   Develop online materials that:

▪   represent the best education available or conceivable in the twenty-first century

▪   will engage teachers and students in the construction of learning and in creative and critical thinking

❑   Support the growing innovations, enterprise and knowledge economy priorities of state, territory and Commonwealth governments in Australia

❑   Encourage a marketplace for high quality public and private online curriculum content

3.3 User Group for Online Curriculum Content
The user group for products of the Initiative are teachers working with students in schools.

3.4 Values
Some fundamental educational values underpin the plan:
❑   the value of learners constructing knowledge, being active in the learning process and building on prior learning;
❑   education as a foundation for citizenship, public life and active, productive participation in our democracy and community, with an imperative of developing habits, skills and understanding for such active participation;
❑   creativity, initiative and enquiry at all stages of life for all members of the community;
❑   schools as communities of learners in which children work with adults and each other in the richest and most stimulating environment possible to become intelligent, responsible and competent members of society;
❑   the development of cultural understanding, common experience and the innovative potential of difference across our diverse communities through a significant body of high quality Australian and New Zealand materials available to all children;

- the diversity of students as a foundation of a productive, creative and democratic society for the twenty-first century;
- a common body of materials that can be applied in flexible ways within different jurisdictions, supporting distributed access and drawing on the strengths of each system;
- the collaboration that is fundamental to Australia's Federation; and
- the capacities of information technology to help us better achieve our goals.

3.5 Constraints

This Initiative is focussed on online curriculum content. While it is designed to make maximum use of the investments by all governments over recent years in hardware, software and teacher professional development in ICTs, it is important to note:

- the delivery of online content will be constrained by:
  - available and affordable bandwidth
  - the delivery capacity of education systems
  - the capacity of teachers, now and in the future, to adapt online materials and use them comfortably and productively in classrooms; and

- demand for online curriculum content in homes could overtake usage in schools if issues of school culture, bandwidth, delivery and professional development are not addressed.

The development of online content is expensive. Funding for this Initiative, however adequate, will not provide the bandwidth, nor the extent of professional development likely to result from widespread uptake of online curriculum content in the schooling sector.

3.6 Assumptions

3.6.1   Provided by the Initiative
It is proposed that the following be provided from the Initiative:
- a pool of online learning objects in agreed priority areas to be used freely by teachers in Australian and New Zealand schools and delivered to system gateways, delivery systems or e-learning platforms;
- basic tools for testing and piloting the selection, sequencing and use of the learning objects;
- agreements, protocols and specifications for:

  - determining and ensuring the educational quality of the learning objects
  - determining, tracking and reusing the learning objects
  - the exchange of the learning objects
  - the management of the learning objects
  - the management of the intellectual property rights associated with the learning objects and framework
  - sharing additional materials.

3.6.2   Provided by Systems
It is assumed that in order for schools to make full use of the learning objects education systems will provide:
- distribution of the learning objects to schools through their website, intranet, networks or an e-learning system;
- any sophisticated manipulation tools and e-learning environments required;
- participation in development processes.

4. Online Curriculum Content

4.1 Scope

Online content in this Initiative will be concerned with the development of interactive learning sequences and/or discrete activities linked to specific educational outcomes. Such content will be purposefully designed to exploit the use of technologies to enhance students' learning experiences.

The focus will be on student materials to be used primarily by teachers with students.

4.2 Priorities

4.2.1   Process of Identification

CESCEO determined the priorities for online curriculum content development at its meeting in Hobart in November 2000 on advice from its Curriculum Group and the Steering Group.

4.2.2   Agreed Priorities

Area	Start	Scope of project – description, year level etc.	Finish
Science Years P-6 and years 9-10	Feb 2002	An extension of the PRISM project to include additional resources for junior secondary and to expand to include primary and middle secondary, with an additional focus on the simulation of complex processes and concepts.	Dec 2005
Numeracy and Mathematics Years P-9	July 2002	Resources that support students in learning key mathematical concepts and becoming familiar with mathematical thinking. Focus on upper primary and junior secondary, and including attention to content areas that students and teachers find most difficult.	Dec 2005
Languages Other Than English All year levels	Aug 2002	Resources in the priority languages identified by NALSAS, particularly Chinese, Japanese and Indonesian and building on print and digital resources already developed. Focus on early stages of language learning, with materials appropriate to primary and secondary school language learners.	June 2006
Literacy Years 5-9	June 2002	Resources for students in the middle years who are at risk of not achieving the Literacy Benchmarks, particularly for Indigenous students, students at risk, students with specific learning difficulties and ESL students.	July 2005
Studies of Australia All year levels	June 2002	Resources to support the study of Australian history, geography, Indigenous studies, environment studies, values and cultural studies and the development of local studies of civic life, with a focus on the experience of rural and regional Australians. These resources will be linked with the Discovering Democracy program.	June 2006
Innovation, Enterprise and Creativity All year levels	Nov 2002	Resources to support vocational learning, the achievement of innovative capacities in young Australians, arts and design and technology.	June 2006

4.2.3 Monitoring Priorities

The priorities will be subject to review and adjustment by the MCEETYA Student Learning and School Support Taskforce in light of available funding, ongoing research and emerging curriculum issues.

4.3 Research

4.3.1 Usability

Empirical contributions and testing in use leading to modifications in practice will be undertaken to monitor the levels and type of takeup of the online materials. Information will be gathered through wide scale surveys, consultation through user groups, classroom observation studies and trialing and testing throughout the production process. These processes will provide information about usability, while data will be made available for longitudinal research into the effectiveness of online content.

4.3.2 Market Research

Ongoing market research will be a key feature of this Initiative.

Market research will investigate current classroom practice to identify where and how ICTs can most add value in particular contexts to improve learning. Outcomes will be made available to all participants in the market through the market information function of the Initiative. Innovative products that pre-empt the market require such research. The greater the gap between current realities and the design conception of a change initiative, the greater the risk of failure.

The user-centred content development model also relies on a market analysis of user feedback at inception, at critical points of the development process, and at final application in the classroom.

4.3.3 Commissioned Research

There is not yet a connected or comprehensive body of Australian or New Zealand research or knowledge on the subject of online curriculum content. A rigorous, dynamic research base is important in supporting understandings of how to best enhance teaching and learning and in determining the long-term impact of online content and ICTs on learning outcomes.

The Initiative will be well positioned to identify research needs and to collaborate and inform appropriate research bodies and research funding authorities.

4.4 Learning Objects

4.4.1 Nature

The online content will be designed and developed in the form of learning objects that can be deployed in multiple settings.

A learning object is a component of online content that can be identified, tracked, referenced, used and reused for a variety of learning purposes. For example, a learning object could be a single file such as an animation, a video clip, a piece of text

or URL or it could be a collection of contextualised files that make up a complete learning sequence.

Learning objects are developed to function as discrete entities and to be linked in order to relate to explicit concepts or learning outcomes. Metadata tags facilitate rapid updating and management of content by filtering and selecting only the relevant content for a given purpose.

In summary, online content will be:

- modular, free-standing and transportable among applications and environments
- non sequential
- able to satisfy a single learning objective
- accessible to broad audiences
- coherent and unitary within a predetermined schema and
- able to be repurposed without losing its essential value or meaning.

4.4.2 Flexibility

The learning object approach facilitates just-in-time customisation of content. Modular learning objects maximise opportunities for teachers to customise the learning objects to meet the needs of a class, group or individual student by permitting the delivery and recombination of material at the level of granularity desired.

A selection of learning objects may be viewed by going to the Showcase section highlighted on the homepage at www.thelearningfederation.edu.au .

4.5 Pedagogy

4.5.1 Contextualisation

Content does not intrinsically 'flow' across objects. The key for deploying learning objects effectively is the teacher's intervention and/or use of learning management tools. This enables contextualisation without which learning can be confusing and meaningless.

The learning object approach affords teachers a high degree of control over the selection and ordering of content as well as the ability to embed and extend the content in uniquely appropriate ways.

This capacity for teachers to participate actively in the contextualisation of information supports a range of pedagogical approaches. The teacher can select learning objects or develop a learning sequence to suit specific pedagogical requirements of their students.

4.5.2 Content Development

The development of online content requires parallel consideration of educational soundness principles, technology use within the learning context, development of enabling technologies, instructional design and use.

Online content must be conceptualised both as part of a larger cohesive whole (such as a learning sequence) and as stand-alone pieces of information. This ensures that

the material developed can be sequenced and is relevant to the curriculum requirements in terms of the topics/concepts covered and the outcomes considered, and that it can also be accessed at the desired level of granularity.

Design of the content must ensure that online experiences integrate into offline activities. The content will be created to be used in a range of contexts, both on screen and off screen and to be used across learning areas. The content will be able to link with online materials that teachers are already using. The development focus will especially be on providing virtual experiences that are difficult or impossible to reproduce in the classroom.

The content will enable students to move beyond their current knowledge, extend the classroom into real world domains and enhance understanding through interaction with a range of contacts.

Teachers will be able to integrate the content into their assessment processes. There will be a capacity to design formative assessment activities that provide immediate feedback to the student and also feedback on performance to the teacher. However, the learning objects will not store cumulative data on student achievement.

4.5.3   Educational Soundness

Educational soundness is considered the most appropriate measure of pedagogical quality of online curriculum content for the purposes of this Initiative. The concept of measuring pedagogical quality of online content in terms of how it might achieve specified curriculum outcomes is not possible as it assumes that an outcome is achieved by the use of resources alone. Online curriculum content is not a 'magic bullet'; rather it is a tool that can strengthen the best aspects of the classroom environment and teacher's role.

It is also not possible to use curriculum or syllabus compliance as a measure of pedagogical quality of online content because the level of detail and manner in which curricula are specified differs markedly between jurisdictions and alignment of activities with curriculum or syllabus requirements doesn't necessarily guarantee quality.

The concept of educational soundness is intended to reflect established principles of what constitutes good practice in planning, design, development, evaluation and use.

The Educational Soundness Specifications may be found on the website, www.thelearningfederation.edu.au by going to the TLF Specifications section linked from the homepage.

5. e-business

The Trinitas Report identified an emerging market for online curriculum content in Australia and calculated the potential of that market both in Australia and overseas (Trinitas 2000: 16-25). The report also identified the key requirements for the necessary market framework as:

- delimit a sufficiently stable market space to inform investment decisions
- improve the sources and flow of market information
- provide for quality assurance and safety
- establish and manage a system environment
- improve access for, and provide appropriate price and other signals to, users and
- allow a flexible but robust rights management regime.

This plan addresses all aspects of these key requirements.

5.1 Marketplace

Through this Initiative, the Commonwealth, states and territories will create a marketplace for schools online curriculum content by establishing a virtual place where online curriculum content is exchanged, stimulating the creation of a critical mass of objects that can be used without undue restraint by teachers and students for the purposes of learning. The initial investment of public money will delimit a stable market space by (1) providing work for private developers (2) producing materials that act as exemplars (3) raising user expectations (4) creating demand (5) providing educational expertise (6) providing accurate information about patterns of usage and requirements.

5.2 Developing Users

The new online curriculum content will be designed to be easy to use and attractive, not just to the early adopters of ICTs in schools, but to a broad range of teachers and students. While building on the growing number of teachers who have adopted ICTs in their classrooms, educational systems see the need to break through barriers to reach a majority of teachers. Users will be developed through a focus on user needs and needs not currently being met through conventional materials. Information about user needs and responses will be freely available to commercial developers and users.

The rights management framework and up-front licensing in the first years will ensure cost predictability and should promote legal usage.

Market research is factored into the Initiative to ensure all projects are based on patterns of user behaviour and need.

5.3 Stimulating Development

The Trinitas Report notes *significant components of the market will always be heavily dominated by the public sector both as a source of funds and because of the role of states and territories in setting curriculum standards and outcomes* (p56).

Development will be stimulated by:

- a major injection of public funds into development of online curriculum content in key areas of priority

- contracting of major work components to developers around Australia
- partnerships created for major development
- clear, transparent standards that make user requirements explicit
- the experience gained by developers working on materials with explicit educational quality requirements and linked to explicit standards and
- demand created as teachers and students at all year levels and in major subject areas develop expertise and expectations regarding online curriculum content.

5.4 Standards and Infrastructure

The Trinitas Report identified two sets of required market structures (p57), a market information/quality assurance function and an information broker function. Both functions require standards to be researched, identified, consulted and agreed. This plan outlines processes to achieve these standards based on feasibility work undertaken in 2000-2001.

5.5 Pricing Policy

The Trinitas Report pointed out that one of the characteristics of the market for digital curriculum resources is a lack of clarity about pricing signals and rights management. Pricing signals were identified as important components of market development. This poses some dilemmas for schooling authorities as they also have responsibilities to ensure cost-effective educational delivery and accountability for public funds and value for money. The Initiative will work through this dilemma by the following steps.

1. Nationally funded online curriculum content will be free to Australian schooling systems.
2. Crown Copyright licensing arrangements will provide for charging for licences on a cost or partial cost recovery basis. Licensing in state, territory or New Zealand developed content will be negotiated on a case by case basis.
3. Negotiations will be undertaken with appropriate publicly or part-publicly funded organisations for inclusion of their materials.
4. The joint venture will investigate the options for inclusion of commercial content under license.
5. The Exchange will be scoped with an option for transaction charges if required at a later date.

The rights management issue is addressed in Section 6 of the Phase Two Plan (2003-2006).

5.6 Monitoring to Ensure Sustainability

As part of its role in developing the market, the joint venture will develop strategies for attracting material to the national pool, particularly working through the steps outlined in 5.5, monitor progress towards a sustainable market for schools online curriculum content and report regularly to AESOC.

6.   Intellectual Property Management

6.1 Scope of Intellectual Property Management

An Intellectual Property Management Action Plan to establish an Intellectual Property Framework is available to stakeholders.

To place a pool of high-quality, legally reusable online educational content within the reach of all Australian and New Zealand students and teachers requires the pool to be managed in a way that negotiates and provides agreed reimbursement to owners of intellectual property within the pool in a fair and reasonable way.

6.1.1   Nationally Developed Content

This content will be third party property cleared and tracked for purposes of research, accountability and potential overseas sales. This content will be free for use by Australian teachers in the course of their work, but not for commercial purposes.

6.1.2   State/Territory Developed Online Content

Copyright will remain with the publishing state/territory and online content contributed in this way will be licensed for use in other jurisdictions.

6.1.3   School Developed Online Content

At this stage the Initiative aims to enable teachers to mix customised objects from the national pool with locally available objects. Therefore the Digital Rights Management System will be designed to improve schools' own copyright management. States may also wish to develop quality assurance processes to propose school-based content to the national pool.

6.1.4   Online Content Developed by Partner Countries

As the Initiative progresses, it is envisaged that other countries may wish to become partners and contribute online content they have developed. Quality Assurance criteria would apply. The Digital Rights Management System will need to encompass and track materials contributed by partner countries.

6.1.5   Commercial Content

Commercial content that meet the quality assurance criteria may also be linked to or included within the pool. It is intended, however, to license commercial content up front rather than to negotiate on a transaction fee in the first instance.

6.1.6   Branding

Content within the pool may be branded for the purposes of overseas marketing.

6.1.7   Integrated and Standards-Based

Consistent with the content and framework models adopted, an integrated, standards-based approach to intellectual property trade will be adopted. This includes standard

and consistent ways to reference materials, users and agreements. Also, consistent with the direction of the Initiative, intellectual property will, as far as possible, be managed electronically, underpinned by the standards and agreements reached collaboratively.

6.1.8　　Fair Agreements

Management includes monitoring usage to ensure agreements are both fair and honoured. It is acknowledged that creators as well as users have rights that need to be managed within our agreed framework if we are to have a successful marketplace.

6.2 Aspects of Intellectual Property Management Included within the Initiative

6.2.1　　Lifecycle

Intellectual property management must support the full lifecycle of creation, use, reuse and removal of intellectual property. Because the Initiative is objects-based, the re-purposing (as opposed to the redevelopment) of objects is an integral part of the plan. Teachers must be able to re-purpose and re-combine objects within rights agreements.

6.2.2　　Distribution of Rights

The framework will provide support for management of intellectual property within the pool and at the level of the system delivering the objects.

Systems may wish to extend the framework to the level of the school.

6.2.3　　Third Party Ownership

Rights management will accommodate both public and private ownership of materials. Third party copyright permission must be negotiated whether the object is part of the nationally developed content or contributed by a stakeholder or private provider.

6.2.4　　Agreements

Rights management will encompass public domain agreements, licensing agreements and, if required in the future, payment per use agreements. Agreements have been negotiated with shareholders and the independent and Catholic education sectors to enable the use of the nationally developed content and related third party content.

6.2.5　　Records

Rights will be managed within this Initiative so that schools are not subject to further copyright charges for usage. Content in this Initiative will not, therefore, be part of audit requirements for copyright usage payments. The Digital Rights Management System will provide accurate records of usage for monitoring and feedback purposes. The Initiative will keep accurate records of transactions between the pool and systems. Education systems may also be able to use the Digital Rights Management System to track usage of content by schools.

6.3 Copyright on Materials Developed within the National Initiative

Copyright of the nationally developed content will be held nationally. A Memorandum of Agreement has been executed by all shareholders. This cedes copyright ownership to the ministerial companies, *education.au limited* and Curriculum Corporation.

6.4 Crown Copyright Materials Added to the Pool

States and territories already share Crown Copyright materials under a variety of agreements. Once states and territories agree to standards for online content, materials developed by states and territories outside the national Initiative are likely to conform to national standards and be in demand from teachers and students interstate. Facilitating the sharing of such materials is a component of this Initiative.

6.4.1 Pre-requisites

In order to be added to the pool, Crown Copyright materials must meet quality assurance standards.

6.4.2 Sharing Model

The following model is proposed for Crown Copyright materials meeting the above criteria and offered to the pool.

6.4.2.1 Central licensing administration and brokerage

The Joint Venture, on behalf of the Initiative, will broker deals between and on behalf of states, territories and other partners of the Initiative using standard agreements.

6.4.2.2 Uniform licensing

Standard agreements will be developed and used as the basis for all negotiations.

6.4.2.3 No further payments

Any return to governments on Crown Copyright materials contributed to the pool will be through up-front licensing agreements and outside the Copyright Licensing Agreement arrangements.

6.4.2.4 Overseas sales

The Initiative will brand and promote the content overseas with returns to the copyright owner and a fee to the national pool.

6.5 Commercial Materials Added to the Pool

6.5.1 Pre-requisites

In order to be added to the pool, commercial materials must meet quality assurance standards.

6.5.2   Licence terms

Licensing agreements for these commercial materials need to encompass availability for re-purposing by teachers (but not necessarily for redevelopment by teachers).

6.6 Intellectual Property Digital Rights Management System

The Digital Rights Management System will manage the full life cycle of intellectual property for the creation, trading and use of learning resources and accommodate the complex relationships between content, parties and rights.

The Digital Rights Management System will be integrated into the operation of the Exchange. Education systems may adapt the Digital Rights Management System for their own use.

6.6.1   Creation of Digital Rights
The content creation module will include support for:

❑   digital rights creation tools which can be used by distributed content creators;
❑   flexibility in the type of charges and licensing models for different groups;
❑   a wide range of copyright, ranging from Crown through to commercial;
❑   the complexities of intellectual property rights which arise from combinations of rights holders and which may apply to each learning object and clusters of objects;
❑   recognition of the reuse and customisation requirements of the learning objects approach; and
❑   a wide range of media formats.

A content and metadata management module will include support for:

❑   a directory of rights holders
❑   consistent use and application of digital rights vocabulary terms
❑   registration and assignment of identifiers for digital rights and
❑   reports on the digital rights repository.

6.6.2   Access Based on Digital Rights
The Digital Rights Management System will operate in the context of education systems' resource access environment.

The Digital Rights Management System will support:

❑   application of user authentication standards;
❑   access to the learning objects by education systems and based on digital rights;
❑   different types of digital rights licensing which may apply to education systems;
❑   education systems that may wish to establish licensing or usage charging for their schools;
❑   the supply of content that enables digital rights enforcement technology to be applied; and
❑   reporting, tracking and payment requirements.

6.6.3   Honouring Rights Agreements
The Digital Rights Management System will include provisions to:

- inform teachers of their rights and responsibilities for the use of each learning object;
- enable enforcement technology where required;
- allow appropriate customisation of the learning object within the provisions of the digital rights;
- track the usage of learning objects where required; and
- support teachers in verifying their legal position and facilitate appropriate permissions.

These concepts are further explained in the *Approach to Managing Intellectual Property Rights* paper available on the website www.thelearningfederation.edu.au by going to the Feasibility and planning section, a sub-section of the Brochures and reports section linked from the homepage.

6.7 Roles and Responsibilities in Management of Intellectual Property within the Initiative

6.7.1 Determination of Intellectual Property Policies

AESOC will determine all policies underpinning and relating to intellectual property within the Initiative.

6.7.2 Publisher of National Content

Curriculum Corporation is the publisher of the national online materials.

6.7.3 Brokerage of Intellectual Sharing, Rights Trading and Business Arrangements

The joint venture companies will be responsible for ensuring and maintaining the business arrangements and brokerage of intellectual property sharing and trading. These arrangements will be managed through the Digital Rights Management System.

6.7.4 Development and Maintenance of Digital Rights Management System

The joint venture companies will develop and maintain the Digital Rights Management System in compliance with agreed standards.

6.7.5 Guidelines and Information for Developers

The joint venture companies will provide information, guidelines and services to developers and others within the educational multi media industry wishing to enter the schools online content market.

6.7.6 Honouring Copyright Agreements

Schooling systems will be responsible for honouring copyright agreements and associated record keeping and user authentication. Schooling systems may adapt the Digital Rights Management System for use in schools.

7 Information Exchange and Interoperability Specifications

7.1 Objectives

The key objectives of the Exchange is to provide:

- an aggregation mechanism for quality assured learning objects which may be contributed by national investment, states and territories, cultural agencies, commercial vendors or members of the education community;
- a gateway to learning objects for school education systems and sectors, and other approved organisations;
- tools and services to support distributed content contribution, and access; and
- an integrated mechanism to manage intellectual property rights.

7.2 Interoperability Specifications Framework

Interoperable specifications are fundamental to the operation of distributed content contribution and access service for learning objects across the nation, and potentially overseas.

7.2.1 Purpose

The development of interoperable specifications will achieve the following purposes for the Initiative:

- o accessibility – the ability to access learning components from one remote location and deliver them to many other locations in a variety of user-specified formats;
- o interoperability – the ability to use learning components developed in one location with one set of tools on a platform in another location with a different set of tools or platform;
- o durability – the ability to withstand technology changes without requiring redesign or recoding;
- o scalability – the positioning of the Initiative so that it can benefit from both growth in demand for its services and an increase in new inputs, such as technologies that may enhance the re-use of the resources collected; and
- o flexibility – the ability to mix and reuse learning components from a range of sources into multiple applications.

7.2.2 Context

The Australian school sector interest in interoperable standards is timely as it coincides with heightened international interest and activity. This provides both risks and opportunities for the Initiative. It provides opportunities to influence emerging standards and risks in the need to make decisions on specifications in areas where there are no leading contenders, depth of experience or confidence in directions.

The interoperability specifications are being developed in close collaboration with other Australian education sectors and work with the AICTEC.

7.2.3 Objectives

The principal goal is to define and deliver interoperable specifications to ensure learning content from distributed contributors can be accessed and shared by distributed learning system providers.

To support this goal the objectives are to:

o collaboratively develop Australian school sector interoperability specifications for this Initiative;
o influence international standards and specifications initiatives which impact on this Initiative;
o secure commitment in the school sector to the specifications for this Initiative;
o liaise with Australian education sector standards groups; and
o liaise with industry to encourage the development of standards compliant products, tools and services that support this Initiative.

7.2.4 Principles

The following principles guide the implementation of specifications and protocols for the Initiative:

o adoption of standards that do not compromise school education systems and sectors in achieving their own educational priorities;
o adoption of international standards and protocols that are compatible with other Australian education sectors;
o adoption of stable, industry-supported standards and specifications which conform to open architecture principles;
o recognition that optimisation of the learning value of digital learning objects is fundamental in establishing interoperable specifications for the Initiative; and
o recognition of the tension between the processes involved in the international standards initiatives and the pragmatic solutions required for the Initiative.

7.2.5 Interoperable Specifications

7.2.5.1 Scope

This Initiative will provide the driver for the school sector to address interoperability standards that facilitate access to learning objects and portability of content across jurisdictions. Interoperability standards apply in many areas of concern to school education authorities and the administration and curriculum systems they currently have or are engaged in procuring. The Initiative has identified priority interoperability specifications for the Initiative and other areas that have a direct relationship to it such as e-learning systems. The broader schools interoperability standards agenda is being overseen by the ICT in Schools Taskforce in conjunction with the Australian Information and Communications Technology in Education Committee (AICTEC).

7.2.5.2 Consultation

The Le@rning Federation Exchange Consultative Committee will facilitate discussions, sharing and advice on the interoperable standards framework for the Initiative.

The Schools Metadata Consultative Group will continue to operate as the metadata advisory group for the school sector for this Initiative.

The Initiative will work closely with other education sectors' interoperable standards projects and with the AICTEC.

7.2.5.3 Influencing the standards community

Through the Initiative, the school sector aims to influence the school sector community, vendors, resource developers and other service providers to adopt the agreed interoperable standards. It is also involved in national and international standards and specifications forums to ensure developments are consistent with Australian school sector requirements.

7.2.5.4 Implementation and monitoring

Compliance with the interoperability specifications for the learning objects will be a key element in the Initiative's quality assurance processes.

The joint venture will monitor and review the interoperability specifications.

7.2.6 Elements

The Le@rning Federation Exchange Consultative Committee will advise on the elements in the specifications framework, their priorities and recommendations for adoption. A schedule of versions of interoperability specifications may be found on the website at www.thelearningfederation.edu.au by going to the TLF Specifications section linked from the homepage. These specifications have been developed in consultation with the AICTEC Standards and Interoperability Committee, http://standards.edna.edu.au.

7.3 Exchange Content

7.3.1 Interoperability Specifications

All learning objects contributed to the Exchange must comply with the agreed interoperability specifications along with all other aspects of the quality assurance framework described in Section 8.

7.3.2 Content Contributions

Once items are approved through the quality assurance process their metadata is made accessible in the Exchange. Several methods of data collection will be provided in the Exchange.

The Exchange will provide tools to assist content developers in the creation of metadata and intellectual property rights management. Content developers will be given advice on interoperability specifications and will be able to register interest in having their content included in the Exchange.

Contributions from the commissioned content pool will be managed through the Exchange.

Workflow processes will take the learning object through the quality assurance processes described in Section 8.

7.3.3 Metadata

Metadata standards are important to facilitate effective resource management and discovery. The Le@rning Federation Metadata Application Profile has been developed to ensure the particular needs of the Initiative are accommodated and minimum compliance standards will be established for all contributions to the Exchange.

Using metadata each state and territory will be able to develop systems to identify and manage learning objects related to specific aspects of their curriculum framework.

The Schools Online Thesaurus (SCOT) is being developed. The online thesaurus will be included in metadata creation and discovery tools developed in the Initiative. These will be applied to other national online projects such as EdNA Online.

7.3.4 Learning Object Management

The Exchange is being developed as a repository for the management of learning objects. The aim is to hold metadata about each object.

7.3.5 Managing the Exchange Content

The content in the Exchange will be managed throughout its lifecycle. Quality assurance processes in the contributions phase will ensure initial quality and this will be followed by ongoing maintenance and review of the content in the Exchange.

Information managers will manage the Exchange administration and discovery metadata to ensure consistency and integrity, and intellectual property specialists will manage the intellectual property rights metadata.

Regular usage information will be provided to support joint decisions by the Initiative and content owners to update, remove or maintain their content on the Exchange.

7.3.6 Basic e-learning Tool Set (BELTS)

The BELTS software has been made available to education systems and sectors to provide content access to selected schools for the purposes of trialing and testing the online content. It enables user and class management, download of content from the Exchange and sequencing of the learning objects. BELTS is licensed under an open source software licence which will enable further development of the product.

7.3.7 Other National Repositories

The learning object repository will supplement national online collections including those being aggregated and managed by *education.au limited*, such as EdNA Online, myfuture and the Commonwealth Government Education Portal. These data sets provide complementary resources to the Initiative's data set and will provide future opportunities for enriched services to the education community.

7.4 Intellectual Property Digital Rights Management System

The Intellectual Property Digital Rights Management System described in Section 6 will be integrated into the operation of the Exchange. It will provide tools to support the creation of intellectual property rights, subsequent trading and usage according to the rights. An IP Management Action Plan has been developed and is available to shareholders.

7.5 Access to the Content

7.5.1 Access Providers

School education systems and sectors will be the primary delivery mechanism for teachers to access the learning objects available through the Initiative. The access could be through a number of online learning services such as e-learning management systems, BELTS or resource discovery services. This will allow each school education system and sector to smoothly interface the learning objects into their own online services that reflect their requirements. Through this approach, linkages and relationships to associated services such as resource discovery services, school administration, curriculum services and distance education provision can be maintained and developed to meet local requirements.

As the Initiative develops arrangements may be established with approved service providers who will provide access to special school sector client groups. This may be required to support international and national sales of the resources and to provide access to some groups of Australian schools.

7.5.2 Services to Access Providers

School educations systems, sectors and approved providers will be able to access content in the Exchange in a number of ways to provide maximum flexibility and savings on costs and effort. For example, the Exchange data could be exported to providers; providers and the Exchange could share functions; or individual modules may operate at the access provider level.

The Intellectual Property Digital Rights Management System aims to provide tools to support effective rights management at the system provider and school levels.

7.5.3 Supporting Resource Use by Teachers

The quality assurance framework will ensure that learning objects are capable of being discovered, assembled and customised by teachers. Teachers will need access to appropriate tools to exploit these characteristics of learning objects and add value to student learning.

At this time, access to e-learning systems through school education systems and sectors is not universal. The capacity of commercial e-learning management systems to support an interoperable environment and provide services such as intellectual property rights management is still developing.

To overcome these issues in the early phase of the Initiative, the basic e-learning toolset (BELTS) has been developed to support testing, trialing and early use. It is

available for use by access providers and includes discovery, customisation, and management tools.

The Exchange will investigate mechanisms to support teachers sharing, re- purposing and re-assembling the learning objects.

7.5.4   Access Rights

The Intellectual Property Digital Rights Management System will control the groups that have access to content in the Exchange. The Exchange will operate an authentication service to recognise the education system requesting access to the content.   It will assist education systems in providing appropriate access and digital rights compliance in their service provision to schools.

7.5.5   Inter-repository Protocols

Inter-repository protocols will operate between the Exchange and content access providers.

7.5.6   Commercial e-learning Management Systems

Some current versions of commercial e-learning management systems support the e-learning needs of industry and education and provide an increasingly sophisticated range of services. Some current versions of these commercial systems take a closed proprietary approach to content and tools and do not support the accessibility, durability and flexibility requirements for learning objects in the school environment.

The Initiative works actively with commercial vendors and education systems to influence the provision of open, interoperable e-learning management systems for use in the school sector. It also takes the opportunity to influence the provision of services that support good practice in e-learning pedagogy in the school sector.

7.6 The Le@rning Federation Exchange Consultative Committee

The Le@rning Federation Exchange Consultative Committee monitors development and implementation of the Exchange, provide advice on project plans, processes and priorities and represent client groups on Exchange services issues.

8.   Quality Assurance

8.1 Purpose of Quality Assurance

Quality assurance ensures that all products and deliverables commissioned and endorsed by the Initiative are in accordance with agreed specifications and processes.

8.1.1   Standards and Specifications

A specification is a technical document providing implementation details for an application. For example, The Le@rning Federation's *Technical Specification for Content Development* defines technologies that can be used to create TLF content. A standard is a specification produced by an accredited standards development organisation such as IEEE or ISO. In contrast, specifications are produced by communities of practice such as the World Wide Web Consortium, IMS, or TLF.

8.2 The Quality Assurance Framework

The Quality Assurance Framework developed in 2001 and revised in 2003 may be found on the website, www.thelearningfederation.edu.au by going to the Feasibility and planning section, a sub-section of the Brochures and reports section linked from the homepage.. The Quality Assurance Framework comprises agreed standards and specifications relating to educational soundness, interoperability and intellectual property rights.   The Quality Assurance Framework consists of mechanisms to apply these standards and specifications to monitor and evaluate all process steps and deliverables for each content development project.

The Quality Assurance Framework is applied to the development of all new content. An integral part of achieving quality content is a user-centred methodology for content development. The users are involved from the outset and through the entire development cycle in the testing of the content in terms of the agreed standards and specifications.

The quality assurance process for the inclusion of extant content contributions to the pool of resources commences with consideration of the alignment with the priorities of the Initiative. Inclusion of items outside the priority areas will require endorsement of the Student Learning and Support Services Taskforce. Proposed contributions will be assessed by the Initiative for compliance with the educational soundness, interoperability and intellectual property rights standards and specifications.

The Quality Assurance Framework is structured in consideration of the following users.

- *Tendered content developers* – commissioned content development projects based on the nationally agreed curriculum priority areas and providing new purpose built content.

- *States & territories* – contributing new and or modified existing materials.

- *Government agencies* – contributing new and or modified existing materials.

- *Commercial content developers* – contributing new and or modified existing materials.

- *Teachers* – teacher-developed or re-purposed materials for use directly with students.

Within each of these varying content development, deployment and delivery contexts, the Framework assists:

- *project managers* and teams looking to utilise good practice standards and to reinforce what commissioning authorities want from the developer community;

- *multimedia developers* who will use the framework as a basis for their designs and an opportunity to build understanding of the educational context in which they work;

- *reference groups* who will use guidelines, specifications and standards to comment on successive stages of work in progress;

- *teachers* as they choose between competing resources, select quality examples of content and develop their own content as required using the standards and specifications; and

- *educational leaders* who can use the resource to increase credibility of and confidence in the use of digital curriculum materials by students, parents and teachers.

8.3 Quality Assurance Standards and Specifications

8.3.1   Educational Soundness

The Educational Soundness concept is based on exemplary practice in planning, design, development and use of online curriculum content. Educational Soundness standards have been established to assess online curriculum content in terms of its:
- learner focus
- integrity
- useability
- accessibility

These concepts are explained in the Educational Soundness Specifications on the website www.thelearningfederation.edu.au by going to the TLF Specifications section linked from the homepage.

8.3.2   Interoperability Standards and Specifications

To achieve interoperability of learning objects across a range of delivery platforms and systems adherence will be required to a number of technical standards and specifications. Standards and specifications are being developed in the areas of:

- Metadata Application Profile
- use of thesaurus tools
- intellectual property
- accessibility
- Learner Profiles Matrix

8.3.3   Intellectual Property Rights

A rigorous approach to quality assurance for intellectual property management is critical to market and user confidence in the Initiative. Intellectual Property Quality Assurance standards and specifications will address:

1. trade in intellectual property
2. creation of intellectual property
3. use of intellectual property

A schedule of versions of interoperability specifications may be found on the website at www.thelearningfederation.edu.au. by going to the TLF Specifications section linked from the homepage.

8.4 Monitoring and Evaluation

8.4.1 Monitoring Standards and Specifications

The Quality Assurance Framework has defined an agreed minimum set of standards for content development, deployment and delivery. The standards, specifications and related guidelines are documented and published via a variety of project templates. The quality assurance processes applied during content development, deployment and delivery enables continuous monitoring of the applied standards and specifications in terms of their relevance and viability.

The application of interoperability standards and specifications within the Initiative monitored and opportunities taken to influence related international initiatives such as the IMS Global Learning Consortium to ensure that the emerging standards and specifications address the Australian school sector education requirements.

8.4.2 Monitoring Processes

The Quality Assurance Framework includes mechanisms to monitor and evaluate all process steps for each content development project to ensure continually improved practice. The quality assurance processes are iterative and dynamic. The Quality Assurance Framework is based on principles of total quality management, informs and is informed by the market at every stage of product or service development, deployment and delivery.

8.4.3 Evaluation

The Quality Assurance Framework is subject to continuous evaluation of practices and processes by all users. The following elements are central to the Framework:

❑ mechanisms for evaluation by all users
❑ peer and external review processes
❑ reporting processes to facilitate continued development and improvement of the system and its products.

8.5 Collaboration in Quality Assurance

Quality assurance frameworks depend for success on input from reference groups, user testing and feedback loops with stakeholders. This collaborative underpinning is the strength of the Initiative.

ACTIONING

9. Project Implementation

9.1 Project Management Models

9.1.1 Content Management Framework

The Content Management Framework has been developed through consultation with key stakeholders and is continuously reviewed to ensure its effectiveness. It is available on the website www.thelearningfederation.edu.au by going to the Feasibility and planning section, a sub-section of the Brochures and reports section linked from the homepage, then clicking on "Project Management Framework V2.0".

The purpose of the Framework is to produce consistent, high quality content within agreed time lines and budgets. The content must fulfil educational and technical requirements and be ultimately supported and used by teachers and students in schools. Critical to this is the Quality Assurance Framework with its user-centred content development strategy consisting of processes to ensure standards and specifications relating to educational soundness, intellectual property and interoperability. It is available on the website www.thelearningfederation.edu.au by going to the Feasibility and planning section, a sub-section of the Brochures and reports section linked from the homepage, then clicking on "Quality Assurance Framework for Online Content Development

The key components of the Content Management Framework include:

- detailed project templates, guidelines, specifications and standards to support each project scenario;
- supporting infrastructure for the operation, for example, a content management system and work flow to manage the distribution of information and objects in the development phases;
- communications with stakeholders; and
- a market information and supplier management function.

The joint venture manages the content development process through consistent application of agreed quality assurance processes, a user-focused development process and extensive consultative processes with key stakeholders.

9.1.2 Competitive Tendering

A Tender and Selection Policy has been developed by the joint venture and reviewed by the Governance Advisor. It is available on the website under the "Register and Participate" menu.

9.1.3 Exchange Management Framework

9.1.3.1 Synergies with other national initiatives
The Exchange will optimise opportunities for the school sector through synergies with other online national education services particularly those provided by **education.au limited,** specifically EdNA Online (EOL), myfuture and the Commonwealth Government Education Portal. Consideration will be given to achieving synergies through:

- ❑ uniformity of hardware and software
- ❑ shared hosting arrangements
- ❑ shared technical team members
- ❑ common technical framework
- ❑ shared development environment

- ❑ consistent information management and metadata standards
- ❑ sharing database services
- ❑ sharing import and export services
- ❑ common discovery mechanisms

9.1.3.2 Resourcing of technical development and support work

The development of the Exchange is being undertaken by an outsourced contractor under the management of the joint venture.

9.2 Delivery to Australian Systems and Sectors

9.2.1 Premises

There are two underlying premises.

- The cost of delivery to schools from a repository will be born by systems and sectors outside the Le@rning Federation funding.
- Both government and non-government sectors have access to the materials.

9.2.2 Principles

- Objects developed nationally will be available for delivery to all Australian schools.
- Funding contributed nationally will be directed to the development of objects, sequences, frameworks and standards that are commonly accepted and can be shared by all or most schools;
- Delivery to schools remains the prerogative of states and territories and should not be undertaken by the national Initiative either for government or non-government schools.
- Non-government schools may negotiate for delivery through individual state/territory systems or make their own delivery arrangements.
- The customisation of objects, frameworks or standards to meet the needs of specific jurisdictions remains the responsibility of individual jurisdictions whether that jurisdiction is government or non-government.
- Officers of both the government and non-government sectors should participate in consultations for the development and implementation of projects and contribute to the intellectual work involved in achieving the outcomes of the Initiative.

9.2.3 Payment

States and territories have different arrangements and legislation for resource-sharing between government and non-government sectors. In some cases the non-government systems and sectors pay to access aspects of state system infrastructure, in others such access might be part of state education budget arrangements. In some states there may be no sharing at all and each sector or system organises and funds its own arrangements. Delivery of Le@rning Federation content to schools will be managed within each state or territory in the context of its existing arrangements.

Consequently there will be a variety of arrangements in place from state to state. In some states each sector will establish and fund its own repository and distribution to schools, in others a non-government sector or system might pay a state system for access to a state education channel or other distribution system.

The issue of whether the cost of delivery to schools is borne centrally by a system or sector or whether delivery costs are passed to schools is a matter for each system or sector to determine.

9.3 Key Deliverables

9.3.1 2001-2002
The work against these deliverable was accepted by AESOC in June 2002.

9.3.1.1 Content Production
❑ Content Management Framework
❑ Content management system and workflow
❑ Standard licensing arrangements for intellectual property
❑ Quality Assurance Framework
❑ Project Scoping Briefs, Science, Literacy, Maths
❑ RFT Science and Maths
❑ Extant content in pool

9.3.1.2 Market Information
❑ Communication Strategy
❑ Website to inform developer community and stakeholders
❑ Seminars for developers
❑ Market research
❑ Brokering arrangements for Crown Copyright
❑ Promotional CD Rom

9.3.1.3 Resource Access
❑ Information System Procurement
❑ Release RFT
❑ Information System Development Plan
❑ Interoperability Specifications
❑ Establish metadata specification

9.3.1.4 Intellectual Property Management
❑ Core intellectual property creation services
❑ Basic intellectual property services for use

9.3.1.5 Secretariat
❑ Support for Steering Group
❑ Communications Action Plan
❑ Collection and disbursement of funding
❑ Communications coordination

9.3.2 2002-2003 (Key Deliverables)
The work against these deliverable was accepted by AESOC in June 2003.

9.3.2.1 Content Production
❑ Published extant content 1 & 2
❑ Project Scoping Brief in Science 2, Numeracy and Mathematics, Literacy, LOTE v.2, Innovation, Enterprise and Creativity, Studies of Australia v.2
❑ Innovation, Enterprise and Creativity Project Scoping Brief v1
❑ Requests For Tender release in Literacy 1, LOTE 1 Chinese and Japanese, Innovation, Enterprise and Creativity 1,Science 2 and Studies of Australia 1, Numeracy and Mathematics, Literacy 2, LOTE 2
❑ Published content in Science 1
❑ Content Management Workflow v1.0
❑ Quality Assurance Framework v2.0
❑ Quality Assurance Instruments and Tools for Science and mathematics
❑ Expert Focus Group Training Program v1.0
❑ User Focus Group Training Program v.1.0

- Developers Online Resource Centre v1.0 on website
- Disability Action Plan
- Learner Profiles Matrix
- Quality Assurance Workflow Manual v.1.0
- Project Management Manual v1.0
- Quality Assurance in-school testing and evaluation procedures
- Preliminary report on Field Review Phase 1
- Developer environment Phase 1
- Acceptance testing plan and procedures v.1

9.3.2.2 Market information
- Update on implementation of the Communication Plan
- Update of Phase 2 Plan
- National workshops for developers
- Monthly teleconferences with Contact Liaison Officers
- Maintenance of website and management of User Database
- Benchmark research on the use of Australian commercial online resources
- Trial exchange of content with Oklahoma Vision Project – International collaboration project
- Colloquium of Contact Liaison Officers
- Maintenance of website and management of User Database

9.3.2.3 Information Systems
- Learning Exchange Releases 2, 3 & 4
- Basic E-Learning Tools Release 1, 2 & 3
- Digital Rights Management (DRM) system requirements definition
- Hosting staging environment established
- Progress report on consultation with education systems and sectors, the Commonwealth industry and vendors, identifying key issues and management strategies
- Digital Rights Management system design documentation
- Hosting disaster recovery environment established and Hosting Status Report
- Digital Rights Management Release 1
- Hosting Status Reports

9.3.2.4 Resource Access
- Progress reports on engagement with relevant national and international standards and specifications groups
- Review and update of the Schools Online Thesaurus (ScOT) with Mathematics terms
- Review and update of the Curriculum Organiser
- Review and update of the Infrastructure Interoperability Specifications:
- TLF Metadata Application Profile, Rights Management
- Editorial Specification release

9.3.2.5 Intellectual Property Management
- Content licensing models and business rules
- Memorandums of Agreement with Crown copyright holders
- Intellectual Property Management Plan

9.3.2.6 Secretariat
- Support for AESOC Steering Group
- Monitoring progress of Initiative
- Collection and disbursement of funding
- Supporting collaboration
- Raising awareness of impacts

9.3.3   2003-2004 (Key Deliverables)

AESOC endorsed these deliverables in June 2003.

9.3.3.1   Content Production
- Revised Project Management Framework
- Revised Quality Assurance Framework
- Content in Languages other than English (Chinese, Japanese or Indonesian)
- Content in Literacy for students at risk
- Content in Innovation, Enterprise and Creativity
- Content in Studies of Australia
- Content in Science
- Content in Mathematics/Numeracy
- Commercial content into pool
- Revised extant content into pool

9.3.3.2   Market information
- Expanded resource pool database
- Enhanced web site to inform developer community and stakeholders
- Seminars for developers
- Partnerships with national and international commercial providers
- Brokering of Crown Copyright sharing

9.3.3.3   Information Systems
- Learning Exchange Release 12,13, and 14, including enhancements to metadata management and learning object management.
- Basic E-Learning Tool Set Releases, including automatic distribution of learning objects
- Hosting Status Report
- Progress reports on consultation with education systems and sectors, the Commonwealth industry and vendors, identifying key issues and management strategies

9.3.3.4   Resource Access
- Enhanced work flow practices for content contributions
- Advanced harvesting and data import facilities
- Advanced distribution services
- Complete content management capacity
- Progress reports on engagement with relevant national and international standards and specifications groups
- Review and update of the Schools Online Thesaurus (ScOT)
- Review and update of the Interoperability Specifications:

9.3.3.5   Intellectual Property Management
- Digital Rights Management module
- Intellectual Property Licensing regime
- Review and update of Intellectual Property Management Action Plan

9.3.3.6   Secretariat
- Support for AESOC Steering Group
- Monitoring progress of Initiative
- Collection and disbursement of funding
- Supporting collaboration

9.3.4   2004-2005 (Key Deliverables)

9.3.4.1   Content Production
- ❑ Content in Science
- ❑ Content in Mathematics and Numeracy
- ❑ Content in Languages (Chinese, Japanese or Indonesian)
- ❑ Content in Literacy for students at risk
- ❑ Content to support Innovation, Enterprise and Creativity
- ❑ Content in Studies of Australia

9.3.4.2   Market Information
- ❑ Expanded resource database
- ❑ Enhanced website to inform developer community and stakeholders
- ❑ Update of the Communication Plan
- ❑ Monthly teleconferences with Contact Liaison Officers
- ❑ Colloquium of Contact Liaison Officers
- ❑ Report on support for jurisdiction implementation
- ❑ Reports on take-up and use of online curriculum content

9.3.4.3   Intellectual Property Management
- ❑ Review, maintain and upgrade intellectual property management services
- ❑ Intellectual property licensing regime for use and commercialisation of The Le@rning Federation Intellectual Property

9.3.4.4   Information Systems
- ❑ Exchange Release 15, 16, and 17, including resource management and intellectual   property management functionality
- ❑ Basic E-Learning Tool Set including distributed search, resource delivery and enhanced Curriculum Organiser demonstrations
- ❑ Hosting status reports
- ❑ Progress reports on consultation with education systems and sectors, the Commonwealth, industry and vendors, identifying key issues and management strategies

9.3.4.5   Resource Access
- ❑ Enhanced distribution services, including LORAX 3 for the distribution of digital resources
- ❑ Progress reports on engagement with relevant national and international standards and specifications groups
- ❑ Review and update of the Schools Online Thesaurus (ScOT)
- ❑ Review and update of the Interoperability Specifications.

9.3.4.6   Secretariat
- ❑ Support for AESOC Steering Group
- ❑ Monitoring progress of Initiative
- ❑ Collection and disbursement of funding
- ❑ Supporting collaboration
- ❑ Raising awareness of impacts

9.3.5   2005-2006 (Key Deliverables)

9.3.5.1   Content Production
- ❑ Content in Science
- ❑ Content in Mathematics and Numeracy
- ❑ Content in Languages (Chinese, Japanese or Indonesian)

❑ Content in Literacy for students at risk
❑ Content to support Innovation, Enterprise and Creativity
❑ Content in Studies of Australia
❑ Management and maintenance plan for the ongoing support of TLF content

9.3.5.2 Market Information
❑ Finalised resource pool database
❑ Finalised website to inform developer community and stakeholders
❑ Report on implementation of the Communication Plan
❑ Monthly teleconferences with Contact Liaison Officers
❑ Publication of case studies
❑ Management and maintenance plan for the ongoing support of TLF website

9.3.5.3 Intellectual Property Management
❑ Completion intellectual property management services
❑ Finalisation of intellectual property licensing regime for use and commercialisation of The Le@rning Federation Intellectual Property

9.3.5.4 Information Systems
❑ Completion of the Exchange including resource management and intellectual property management functionality
❑ Hosting status reports
❑ Final report on consultation with education systems and sectors, the Commonwealth, industry and vendors, identifying key issues and management strategies
❑ Management and maintenance plan for the ongoing support of TLF infrastructure

9.3.4.5 Resource Access
❑ Final reports on engagement with relevant national and international standards and specifications groups
❑ Complete, as per TLF requirements, Schools Online Thesaurus (ScOT)
❑ Complete, as per TLF requirements, Interoperability Specifications.
❑ Management and maintenance plan for the ongoing support of ScOT and Interoperability Specifications

9.3.4.6 Secretariat
❑ Support for AESOC Steering Group
❑ Monitoring progress of Initiative
❑ Collection and disbursement of funding
❑ Supporting collaboration
❑ Raising awareness of impacts
❑ Planning sustainable future

9.4 Critical Success Factors

The success of the project will be illustrated by the following critical success factors.

9.4.1 Adoption by Schools
The Initiative alone cannot achieve the following critical success factors as they relate to adoption by schools. These factors are also dependent on the delivery mechanisms employed at the schooling systems level.

9.4.1.1 Availability of content
A critical mass of both nationally funded and contributed content must exist and be easy to find and access.

9.4.1.2 Quality content

The content must be of high quality, fulfilling educational and technical requirements. It must support the achievement of educational outcomes, and be easy to use.

9.4.1.3 Ease of use and functionality

The interface presented to the teachers and students must be intuitive and simple, while functionality must enable and encourage object re-use and contextualisation.

9.4.1.4 Reliability and response time

The infrastructure must be reliable with very high availability and good response times. Technical performance factors must not disrupt teaching and learning.

9.4.1.5 e-learning tools

Teachers must have access to sufficient e-learning tools to optimise the use of the learning objects in the school environment.

9.4.2 Teacher Skills

The skills of teachers in using the technology will have a significant impact on its uptake. This includes the ability to integrate content within existing and improved teaching practices.

9.4.3 Content Supply

9.4.3.1 Procurement capability

Effective business processes, resources and infrastructure must be developed and put into place by the joint venture to provide the service levels required for the project management and Quality Assurance functions.

9.4.3.2 Industry capability

The industry capability must evolve or be developed to a level where it can deliver the quantity and quality of content required.

9.4.3.3 Content renewal

A sustained flow of new and renewed content will be essential to retaining the quality and relevance of the material.

9.4.3.4 Technology interoperability standards

The agreement on and implementation of interoperability standards is essential to the delivery of both a viable component architecture and cost effective content delivery. Development of a robust exchange framework which supports both distributed access and distributed content contributions is essential.

9.4.4 Stakeholder Commitment

Commitment to the process, standards, specifications and execution of the agreed Initiative strategy in the content development and distribution processes, at all levels, will be crucial to the success of the whole venture.

Teachers must value the contribution of the online curriculum content to the achievement of student outcome.

9.4.5 Project Sustainability

A sustainable market for online curriculum content depends on an industry prepared to develop product and schools or systems prepared to pay for it.

9.4.6 Interoperability Framework

An interoperability framework allowing information to flow freely within the Australian and New Zealand school sectors and aligned with international standards will be adopted.

9.4.7 Exchange Framework

A robust exchange framework will support both distributed access and distributed content contributions.

ADMINISTRATION

10. BUDGET AND FUNDS ADMINISTRATION

10.1 Development Budget 2000 –2005

10.1.1   Income

The Commonwealth Government's *Backing Australia's Ability: Innovation Action Plan* (January 2001) identified $34.1 million for Schools Online Curriculum Content 2001-2006. States and Territories agreed to match that figure. In July 2002 New Zealand formally joined the Initiative on the basis of size of jurisdiction (90% of student numbers for Victoria) and proportion of material to be accessed (currently calculated as two-thirds total material). New Zealand participation is retrospective to July 2001. The total anticipated budget for the next five years is $73 million Australian. The following table represents relative contributions using the ACER formula with an extension to accommodate New Zealand.

	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	TOTAL
Com	4 500 000	7 200 000	7.400 000	7 500 000	7 700 000	34 100 000
NSW	1 534 500	2 455 200	2 523 400	2 557 500	2 625 700	11 628100
Vic	1 144 800	1 831 680	1 882 560	1 908 000	1 958 880	8 675 040
Qld	779 400	1 247 040	1 281 680	1 299 000	1 333 640	5 906 120
SA	374 400	599 040	615 680	624 000	640 640	2 837 120
WA	426 600	682 560	701 520	711 000	729 960	3 232 680
Tas	120 600	192 960	198 320	201 000	206 360	913 880
NT	43 200	69 120	71 040	72 000	73 920	327 360
ACT	76 500	122 400	125 800	127 500	130 900	579 700
NZ	0	1 179 500	1 208 833	1 223 500	1 252 833	4 864 666
TOTAL	$ 9 000 000	$15 579 500	$16 008 833	$16 223 500	$16 652 833	$73 064 666

These figures vary by $A0.2 million to avoid the rounding up effect in Commonwealth figures. They include Commonwealth departmental expenses.

It is anticipated that funding will be provided in cash. Australian states, territories and New Zealand are encouraged to leverage resources and will not be disadvantaged in proposing or bidding for components of nationally agreed priorities.

10.1.2   Budgeted Implementation Expenditure

The major areas of expenditure are (1) Content Production and Management and (2) Information Systems Brokering. The following table indicates the projected expenditures in these areas and for the Secretariat for the duration of the Initiative. The budget seeks to achieve a workable balance between infrastructure costs and products for use by students and teachers. In general terms Curriculum Corporation will manage the content production and *education.au limited* will manage the information systems.

10.1 Development Budget 2000 –2005

Budget Summary ($k)

	2001/2	2002/3	2003/4	2004/5	2005/6	TOTAL
Content Production and Management	4 600	11 071	11 400	10 965	12 557	50593
% of Total Budget	*51%*	*71%*	*71%*	*68%*	*75.4%*	*68.8%*
Information Systems	4 000	4 108	4 208	4 908	3 695	20919
% of Total Budget	*44%*	*26%*	*26%*	*30%*	*22.1%*	*28.5%*
Secretariat	400	400	400	350	400	1950
% of Total Budget	*4%*	*3%*	*3%*	*2%*	*2.5%*	*2.7%*
Total Budget	**9 000**	**15 579**	**16 008**	**16 223**	**16 652**	**73462**

Budget by components ($k)

	2001/2	2002/3	2003/4	2004/5	2005/6
Budget					
Total	**9 000**	**15 579**	**16 008**	**16 223**	**16 652**
Content Production					
Procurement Management	797	1 627	1 609	1 618	1 658
Outsourced Set up Services	1 329	392	397	200	297
Direct Project Costs	2 474	9 052	9 194	9 147	10 602
Total Content Production & Management	**4 600**	**11 071**	**11 400**	**10 965**	**12 557**
% of total budget	*51%*	*71%*	*71%*	*68%*	*75.4%*
Information Systems					
Exchange Services*	2 500	2 408	2 408	2 908	2 695
Rights Management	800	1,000	1,000	1200	200
Standards	400	400	400	400	400
Information Management	300	300	400	400	400
Total Information Systems	**4 000**	**4 108**	**4 208**	**4 908**	**3 695**
% of Total Budget	*44%*	*26%*	*26%*	*30%*	*22.1%*
Secretariat					
Total Secretariat	400	400	400	350	400
% of Total Budget	*4%*	*3%*	*3%*	*2%*	*2.5%*

* This line includes the Commonwealth departmental expenses.

10.1.3   Budget Assumptions

Budget

❑ The states and territories will match the Commonwealth allocation of $A34.1 million.

❑ New Zealand will contribute $4 864 666 between 2002 and 2006.

Content Production and Management

❑ 2001/2002 was an investment phase, where the operation was progressively put in place for the ongoing delivery of the online content.

❑ The setup and operation will be achieved through a combination of in-house staffing and the purchase of services externally. This will provide a balance of intellectual property retention, and variable costs for specialist skills and services.

❑ Direct project costs were estimated at 54% of the content production and management budget in 2001/2 increasing to 81%-83% for the duration of the project.

❑ Outsourced setup services including business process design, guidelines and project models; project management support; technology support (content management and workflow only); legal advice and commissioned research were estimated at 29% of the content budget in 2001/2, decreasing to 3.5% in 2002/3 and 2003/4, 3% in 2004/5 and 2.5% in 2005/6.

❑ Four per cent of the content budget, $200K in the first year, and $400K in subsequent years, was budgeted for state and territory liaison positions. This was later adjusted, and $400K made available in the first year as well.   These positions are based in each jurisdiction and play an active role in supporting the user-centred development process, consultation and quality assurance of online content.

❑ Total development costs for each year level of a learning area were originally estimated at $394,000. This estimate is likely to vary for different learning areas and approaches to content development.

❑ Project office staffing is built up incrementally, to allow for integration to the content production and management team and cost-containment.

❑ The key positions originally established to perform both setup work and direct project work were:

  ▪ Project Director
  ▪ Program Management
  ▪ Project Office
  ▪ Administration and Scheduling
  ▪ Database Management
  ▪ Quality Assurance Management
  ▪ Market Information Management
  ▪ Project Accountancy

Exchange

❑ The sophistication of the Exchange will be progressively developed and will be further enhanced as new developments in online technology become available.
❑ Development of the Exchange will be achieved through a combination of in-house and external staff.
❑ Costings for the Exchange cover in-house staff, external staff, hosting, hardware, software and pro rata project administration costs.
❑ Savings are assumed through synergies with other *education.au.limited* contracts and licenses.

Rights management

❑ There will be an investment in the establishment of digital rights software systems and intellectual property policies in the initial years followed by development of more complex systems to meet a range of information brokering requirements in the later years.
❑ Costings include system development and pro rata project administration costs.

Standards and specifications

❑ There will be an initial investment to establish interoperability standards and specifications followed by continued work as the online learning environment architectures become more complex.
❑ Costings include pro rata project administration costs.

Information management

❑ This will provide for the establishment and implementation of agreed metadata standards and specifications, quality assurance of contributions, development of tools and management of an increasing volume of information as the content in the pool increases.
❑ Costings include pro rata project administration costs.

Secretariat

❑ The Secretariat salaries support a Director, administrative assistance, governance and expert advice as required. It has no project management function and supports the Steering Group.

10.2 Details of Initiative Components

10.2.1 Content Production and Management

(a) Content Creation within the Initiative

Includes:
- ❑ agreement on a quality assured production process
- ❑ test bed environment
- ❑ set-up and on-costs
- ❑ process for new and extant content addition
- ❑ Establishing relationship with pre-existing content
- ❑ development of standard processes, agreements and contracts for Crown Copyright materials
- ❑ content development and
- ❑ contract management.

(b) Content Contribution outside the National Materials

Includes:
- ❑ obtaining collaborative policy agreements
- ❑ obtaining agreements to conditions of inclusion of commercial sector
- ❑ development of licence agreements.

(c) Market Information, Communication and Research

Includes:
- ❑ liaison with developers and providers
- ❑ market research and relationship with users
- ❑ promotion on and off-shore
- ❑ identification of markets
- ❑ development and implementation of communication strategy
- ❑ liaison with stakeholders.

10.2.2 Information Systems Brokering

(a) Intellectual Property Management

Includes:
- ❑ agreement on sharing/pricing
- ❑ rights management
- ❑ defining standards (both technical and information)
- ❑ developing delivery systems
- ❑ Licence development

(b) Resource Management
(i) Resource Access
Includes:
- ❑ agreement on standards, specifications, schema and description for objects, exchange, delivery system and associated services
- ❑ liaison with content developers, system vendors, education systems, other education sectors to promote interoperability
- ❑ controlled vocabulary, mapping and thesaurus creation and associated tools
- ❑ deployment of resource discovery tools

- ❑ harvesting
- ❑ quality assurance of contributions
- ❑ development and maintenance of systems
- ❑ management of database
- ❑ technical systems for delivery to states/territory schooling systems.

(ii) Client Systems
Includes:
- ❑ investigating and researching client-side delivery system to allow clients to make use of content within their schools
- ❑ standards definition
- ❑ liasing with industry to promote development of standards compliant systems
- ❑ liaison with clients, providers of software, content managers
- ❑ liaison with VET and Higher Education sectors to ensure consistency.

10.2.3   Secretariat

Includes:
- ❑ implementation of Steering Group decisions
- ❑ formulation of policy recommendations
- ❑ collection and disbursement of funds
- ❑ monitoring of progress and contracts
- ❑ development and monitoring of plans
- ❑ facilitating collaboration and ensuring consultation
- ❑ developing networks and communication
- ❑ monitoring global trends and benchmarks
- ❑ preparing reports, meetings, and minutes.

10.3 Funds Administration

As much funding as possible should go to projects without incurring unnecessary administrative costs. As Curriculum Corporation and *education.au limited* will, under the management model proposed, be contracting out most of the development work for both content and infrastructure, funds should reach the companies in the most direct and efficient manner possible.

AESOC will approve annual deliverables and achievement of these will be signed off in stages by the Steering Group. Funds will be paid to the companies in stages following the sign-off of deliverables by the Steering Group. State and territory contributions will be collected through and held by the MCEETYA Secretariat. Commonwealth contributions will be dispersed directly to the companies under contract. Steering Group acceptance of joint venture reports against deliverables will be the trigger for payments in the case of Australian state and territory funds and a component of the payment trigger in the case of the Commonwealth and New Zealand contracts.

11. Risks Analysis and Management Strategy

This is a substantial change Initiative. It seeks to ensure Australian and New Zealand schools have a supply of online curriculum content from a current situation where supply is short and traditional methods are widespread. It requires collaboration with ten governments. It requires infrastructure development as well as product development. It is, therefore, a complex management exercise with significant risks.

11.1 Risks Associated with Curriculum Content

11.1.1 Risks Associated with Priorities

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Curriculum priorities change over time.	Changes in government and national /international education trends are likely over five years.	Low	Low	• Monitor changes through the MCEETYA Student Learning and Support Services Taskforce • Monitor national and international curriculum trends.	• Director, Online Initiatives and Manager Communications and Implementation monitor ongoing educational trends.

11.1.2 Risks Associated with Project Management of Content

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Content developers with extensive online curriculum content experience are difficult to find.	The content developer market is very underdeveloped and will need to be supported to produce the online content required by TLF.	Medium	High	• Conduct seminars and a web based information service to support developers • TLF selects, trains and develop s educational writers and subject matter experts in writing for multimedia • TLF provides ongoing training and workshops for contracted Developers and instructional designers. • Focus tenders on multimedia capability.	• Seminars and design workshops are conducted and ongoing liaison with developers is occurring • Learning design and instructional design workshops/training for educational writers, subject matter experts, instructional designers and TLF project managers is underway • Tenders solely for multimedia developers have been implemented since 2003. • Guidance for learning design is provided by a Learning Activity Framework published to the TLF website.

11.1.2. Risks Associated with Project Management of Content (continued)

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Managing the development of online content is complex and costs may escalate.	Timeframes can blow out and mistakes are costly to fix in online content development, partly because it is a relatively new endeavour.	Medium	High	• Develop a set of published specifications, guidelines and templates for use by TLF and content developers • Develop an electronic content management and workflow system as the basic infrastructure for management of the development process • Develop a budget management system to monitor and report on project expenditure and establish financial metrics. • Implement contract penalties for non-conformance to TLF specifications and failure to achieve contracted milestones and schedules.	• Specifications and guidelines for interoperability, educational soundness and rights management are available on the TLF website • Content and workflow are being developed in the Exchange • The budget and financial reporting system is implemented and is providing timely project management reports and metrics. • Monthly review of developer progress and achievement of milestones in terms of quality and schedules.
Content may prove to be controversial – either to a community group or an academic group.	Some interpretations within subject areas polarise opinion or offend some groups.	Low	High	• Involve respected academics, subject experts and instructional designers in Education Design teams. • Curriculum Area Reference Groups provided with Design specifications and prototypes for comment.	• Curriculum Area Reference Groups have been structured to involve a wide range of expertise as required • Specialists, advisors and/or specialist agencies are used in development process to advise on controversial issues.
Content may not initially suit expectations of some stakeholders.	The interactive object-based content may not suit the diverse expectations of stakeholders.	Low-medium	High	• Educate stakeholders on the research and development nature of the Initiative and the challenges involved in developing online content. • Support jurisdictions in the implementation on line content via classroom trials and reviews of approaches to in class use. • Document and distribute approaches to use of online content in classes.	• Information provided to stakeholder meetings on content development issues • Content distributed to jurisdictions for trial and review. • Implementation trials are being conducted across all jurisdictions.

11.1.3 Risks Associated with Objects Model

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Lack of learning object independence reducing capacity for flexible use.	The object-oriented approach to digital content design and development requires creation of stand-alone learning objects relating to learning outcomes and topics.	Medium	Medium	• Provide training and development programs for content development teams • Provide guidance and illustrative examples of the learning object model in relation to best practice learning design • Develop pedagogically based learning activity frameworks for education design teams.	• Design workshops are conducted for all content development teams. User-centred design development and design process are being implemented • An Online Resource Centre for multimedia developers has been established for training purposes • A demonstration of the Learning Object Model is included in the Online Resource Centre. • Learning Activity Framework published to the website for reference.
Functional inadequacies or lack of content and learning management applications across education jurisdictions.	Learning management systems must provide for flexible use and sharing of learning objects. Existing learning management systems do not adequately provide for content assembly, reassembly and publishing.	High	High	• Provide a default learning management system • Foster industry partnerships to ensure provision of appropriate functionality and application of interoperability specifications for learning management system development • Design learning objects that also operate independently of learning management systems.	• The Basic e-Learning Tool Set has been delivered to jurisdictions as a default learning management system for implementation. • Vendors are regularly consulted and some are adopting IMS standards used by the Initiative • TLF is working with major vendors on interoperability of TLF learning objects • Learning objects are being designed to also operate in non-proprietary environments.
Innovative products like online content pre-empt the market and could fail to achieve take up.	The greater the gap between current classroom realities and online content design, the greater the risk of failure.	Low	High	• Ground design and development in market research involving teachers and curriculum experts in the priority areas • Involve teachers and students in the design and development process • Ensure widespread participation by jurisdictions • Support jurisdictions and devise an TLF implementation strategy	• Market research is being conducted with teachers of the priority curriculum areas • A user-focused design and development process has been implemented to ensure widespread participation by teachers and systems personnel from jurisdictions • Ongoing research is being undertaken to investigate take-up and use of online curriculum content

11.2 Risks Associated with Systems Infrastructure

11.2.1   Risks Associated with Interoperability

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Lack of interoperability in systems.	Client systems don't support the interoperability specifications.	Medium	High	• Establish interoperability specifications based on industry standards, and monitor their implementation • Influence adoption of standards and interoperability specifications by vendors, and education systems • Use collaborative processes to resolve interoperability specifications that need to be agreed • Publish agreed interoperability specifications to all stakeholders • Provide an interim solution until vendors and education systems implement the interoperability specifications.	• Interoperability specifications have been collaboratively developed, and have been published on the TLF website. An ongoing review process is in place • A community of practice website has been developed and regularly updated to communicate implementation of TLF specifications in TLF content • Vendor discussions have been conducted, and will continue • The TLF Exchange Consultative Committee provides a forum for discussion on interoperability • Project visits with individual jurisdictions are held regularly to discuss and support interoperability • The Basic E-Learning Tools Set has been developed to meet the initial needs of the education jurisdictions in terms of interoperability. • A trial Exchange environment has been made available to developers so that they can test their implementations of the LORAX protocol.

11.2.2. Risks Associated with New Technologies

Risk	Explanation& Comment	Likelihood	Impact	Management Strategies	Status of Implementation
New, unproven concepts are being developed for the system infrastructure.	Several technologies and specifications on which the Exchange is based are evolving. There is little prior experience of operating an exchange for learning objects.	Low	Medium	▪ Use prototyping to test concepts ▪ Use experienced contractors to assist in development who are committed to new technologies/development approaches ▪ Establish comparisons with similar initiatives in other countries	▪ Prototype approach is being undertaken ▪ An iterative release development schedule is in place ▪ The Basic e-Learning Tool Set has been provided to jurisdictions ▪ A demonstration website for use by jurisdictions has been developed
	The Basic e-Learning Tool Set is an innovative demonstration system for how the TLF sees learning objects being used.	Medium	Medium	▪ Scope the Basic e-Learning Tool Set in consultation with stakeholders. Provide ongoing information during development phase.	▪ The TLF is supporting jurisdictions to install the Basic e-Learning Tool Set.
Implementation by inexperienced technicians and corruption of user data.	The Basic e-Learning Tools Set is publicly available for downloading. Inexperienced installers may do this in an unsecured environment.	Low	High	▪ Give adequate information in the release notes for distribution. ▪ Improve the usability of the installation and require users to accept license conditions and terms of use.	▪ Release notes include warnings for inexperienced users ▪ Reviewing documentation requirements to incorporate detailed development and system installation information
	Inexperienced users installing the Basic e-Learning Tools Set in an inappropriate environment.	Low	High	▪ Give adequate information and warnings in the release notes for distribution ▪ Arrange visits to all jurisdictions to assist implementation.	▪ Best effort support is being provided through the SourceForge website ▪ Visits conducted with all jurisdictions to assist in installation and distribution of Basic e-Learning Tool Set.

11.2.2. Risks Associated with New Technologies (continued)

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Content is technically inoperable.	The specifications that enable innovative, sustainable content may exceed the technical environment in schools.	Medium	High	▪ Collaboratively negotiate and publish specifications ▪ Use readily available software in content development ▪ Ensure early identification and notification to jurisdictions of technical requirements for hardware and software ▪ Communication to stakeholders that the project is innovative.	▪ The TLF Exchange Consultative Committee and the EdNA Metadata Consultative Group are regularly briefed and consulted on standards ▪ All software plug-ins used are freely available ▪ Regular liaison with MCEETYA ICT in Schools Task Force on standards, technical requirements and the innovative research and development nature of the Initiative.

11.2.3   Risks Associated with System Delivery

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Availability of skilled staff.	There may be a shortage of staff skilled in the new technologies.	Low	Medium	▪ Use contractors from locations where there is the highest availability of skilled resources.	▪ Skilled staff members have been employed ▪ Contractors will be sought when needed.
System hardware and network infrastructure failure.	Users cannot access system for a prolonged period due to hardware and infrastructure failure.	Low	Medium	▪ Create an environment with no single point of failure ▪ Purchase hardware from a reputable vendor ▪ Engage a reputable hosting service provider ▪ Engage in a hardware management agreement ▪ Develop a disaster recovery strategy.	▪ Scaleable production and staging environments have been established ▪ Basic e-Learning Tool Set distribution architecture reduces single point of failure for access to content ▪ Hardware was purchased from IBM and a hardware management agreement has been established with IBM through the ISP ▪ A hosting services contract has been established with AR & I (Adelaide University) ▪ A disaster recovery environment has been implemented.

11.2.3 Risks Associated with System Delivery

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Content cannot be accessed from Exchange.	Users cannot access system due to software failure.	Low	Medium	▪ Manage the outsourced development team's software development process ▪ Ensure conformance to formal software design and development methodologies ▪ Ensure system testing is undertaken. ▪ The distributed nature of the content delivery means that existing published content is not restricted from being used if the Exchange is not available.	▪ Weekly progress meetings and monthly management meetings are conducted with the software developer, Dytech Solutions ▪ Software design documentation has been developed, and is regularly reviewed.
Functionality of developed system not meeting user requirements.	The developed system does not meet major requirements of the education systems.	Low	Medium	▪ Provide a regular forum for discussion of system functionality.	▪ TLF Exchange Consultative Committee requests advice from education jurisdictions on their ongoing requirements and provides a forum for discussion of all information system functionality. ▪ Significant portions of the Exchange have been completed, with user feedback being provided.

11.3 General Risks

11.3.1 Risks Associated with Collaboration

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Stakeholders lose engagement with the Initiative.	Educational jurisdictions do not consider they have a sufficient level of participation in the Initiative or they lose their commitment to the outcomes.	Low	High	▪ Monitor stakeholder engagement and commitment to outcomes by consulting through existing networks ▪ Widen networks as the Initiative progresses ▪ Ensure information is in public arena	▪ TLF Chief Operating Officer reports to the AESOC TLF Steering Group, AESOC and MCEETYA through the Initiative's Secretariat ▪ TLF regularly seeks advice and provides information to MCEETYA taskforces ▪ Regular teleconferences and meetings with Contact Liaison Officers are held ▪ Quarterly meetings are held with the TLF Exchange Consultative Committee ▪ Stakeholders participate in online discussion forums on content, infrastructure and specifications ▪ Regular briefings and visits to all jurisdictions on content and system infrastructure are taking place ▪ The TLF website is used to communicate information about the Initiative to stakeholders and the public ▪ A communications plan is in place and is being progressively monitored and implemented. ▪ An implementation strategy is in place to stimulate take-up of online curriculum content in jurisdictions.

11.3.1   Risks Associated with Collaboration (cont.)

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Funding Contributions are paid late.	Delays in funding to joint venture companies causes cash flow crisis and consequent delays in production.	High	High	❑ Steering Group reminds jurisdictions ❑ MCEETYA secretariat follows up ❑ Joint venture prepares early budget submission to DEST ❑ Jurisdictions streamline legal and administrative processes ❑ Joint venture companies request late payments from contractors ❑ Carryover built into budget.	▪ All identified strategies are being undertaken.
No transition strategy agreed	The current Initiative finishes in June 2006. Unless Ministers agree on arrangements beyond 2005-2006 the investment will not be realised.	Medium	High	❑ Develop Investment Proposal 2006-2008 ❑ Raise issue with MCEETYA/AESOC	▪ Issue raised in report to MCEETYA 2004 ▪ Investment Proposal presented to MCEETYA in 2005

11.3.2 Risks Associated with Intellectual Property Management

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Breach of copyright or Conditions of Use by users.	Breach of copyright, in-licenses or Conditions of Use could threaten the credibility of the Initiative.	Low	High	- Engage high-level legal expertise regarding in and out- licences - Actively promote out-licence terms and Conditions of Use to systems and sectors and end users - Use technology to assist with a combination of technical, legal and business rule measures to govern content use - License-in Third Party materials on broad terms	- All content issued from The Exchange is accompanied by a Conditions of Use statement - All TLF content is copyright-marked - Third Party Content listed under an "acknowledgements & rights" button in learning objects - Conditions of Use for TLF Content and Third Party Content being refined - Broad permissions sought from Third Party Content owners - Processes and policies developed to ensure appropriate use of Third Party Content - Exchange developed to accommodate multiple Conditions of Use - Consultation with stakeholders continues through TLF Exchange Consultative Committee and Contact Liaison Officers
Licences lapse.	Intellectual property licences are not renewed.	Low	Medium	Develop strategy for effective intellectual property management.	An IP records database is under construction enabling automatic flagging of licence renewal
Inadequate Digital Rights Management.	Modified objects must reflect the original rights and intellectual property ownership as users create, assemble, repurpose and republish content.	Low	High	- Create and modify metadata throughout the content life cycle to track the intellectual property ownership of content - Adopt a phased approach to Digital Rights management system development - Educate systems and sectors about their responsibilities	- An IP records database has been developed - Metadata specifications are being revised to support administration of digital rights management metadata

11.3.3 Risks Associated with Bandwidth

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Significant numbers of schools cannot access or afford access to content.	More sophisticated (and by implication, interesting) content can be developed and delivered using higher bandwidth. If content that is developed requires bandwidth that is not available to all schools then there will be an access gap.	High	High	▪ Support AESOC's work for higher affordable bandwidth ▪ Maintain and continually adjust content specifications to meet required bandwidth in consultation with stakeholders ▪ Explore alternate delivery mechanisms.	▪ The TLF is supporting AESOC's efforts to work for higher affordable bandwidth by providing information on bandwidth requirements of the online content ▪ Content specifications are taking into account changing bandwidth capacities ▪ The Basic e-learning Tool Set has been developed as an interim delivery mechanism with the potential to address some bandwidth issues.
Content under used because it does not exploit capacity of bandwidth.	Content developed for low bandwidth capacity does not offer the same experience the high bandwidth or content developed for other medium such as CD ROM.	Medium	High	▪ Ensure content meets the instructional design and curriculum requirements for Australian education ▪ Match development to emerging bandwidth opportunities.	▪ Specifications take into account bandwidth capacities while ensuring interactivity ▪ Design guidelines are being developed to explain improved ways of developing online content to exploit capacity of bandwidth ▪ Emerging bandwidth opportunities are being regularly investigated.

11.3.4 Risks Associated with Teacher Take up

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Low teacher take up.	The materials not used in the classroom.	Medium	High	■ Ground design and development in market research involving the teachers within subject areas ■ Ensure range of materials appeals to late and middle adopters as well as early adopters ■ Support systems to promote use of materials ■ Include Principals, teachers, educational associations and professional associations in information and publicity loops ■ Promote Initiative to pre- and in-service training institutions ■ Release of content supported within jurisdictions	■ User-centred design process is being implemented ■ Market research has been conducted to ensure materials suit the needs of content area teachers ■ Communications Plan has been developed to promote the project to Principals, teachers, educational associations, pre and in service institutions, and educational systems ■ Workshops have been conducted for individual education jurisdictions and professional associations on request and articles are being written for a range of professional journals ■ Strategies for implementation of content in schools are being developed in collaboration with jurisdictions • School based trials are being conducted in collaboration with jurisdiction and professional organisations

11.3.5 Risks Associated with the Market Place

Risk	Explanation & Comment	Likelihood	Impact	Management Strategies	Status of Implementation
Duplication of existing materials	The Le@rning Federation develops materials already available to schools	Medium	Medium	▪ Identify existing materials as part of scoping brief development by Content Area Reference Groups ▪ Undertake ongoing market research to identify existing relevant materials ▪ Apply TLF Quality Assurance instruments to identify quality and relevance of existing material	▪ Stock take of current commercially available digital content was provided for ongoing identification by Content Area Reference Groups ▪ Current commercial digital resources for schools are considered in the development of the scoping brief ▪ Scoping of quality assurance instruments underway and criteria for their application to existing material developed
Australian market dominated by overseas materials	The development of high quality learning materials takes time and money. It is possible that materials from overseas – particularly from the USA – may enter the market while The Le@rning Federation is developing Australian materials and that in the meantime teachers will respond by purchasing these materials	Medium	Low	▪ Promote the Australian nature and the quality of materials ▪ Continue strategy of high match of materials to Australian curriculum ▪ Continue strategy of objects-based approach with high degree of flexibility of learning objects for learners	▪ The content scoping emphasises Australian curriculum content ▪ Object based approach engages users in customising curriculum for their local requirements ▪ Project scoping process maps existing content

12.   Communication

All aspects of the Initiative depend for their success on a free and public flow of information to ensure users, suppliers, stakeholders and shareholders are connected to the value of the content produced. Whether entirely in the public arena or eventually in a more commercial environment, this Initiative is about creating a marketplace for online curriculum content and a marketplace is by definition a place of communication. While the Initiative products will be valuable they only become effective when education systems support them with a range of other services and products, incorporating them into their school delivery and distribution processes so they become part of the culture of Australian schooling. Further value is added when developers, publishers and producers of digital products and services use the Initiative's standards and examples for future products.

12.1 Purpose of Communication

Growing a market for online curriculum content for the schooling sector requires developing and sustaining long-term relationships between those on the supply and demand sides of the market. In the schooling sector this requires a complex set of relationships with government, the private sector, employing authorities, professional bodies and standards bodies. Communication includes both information gathering and information provision but its prime purpose is to develop and sustain relationships in which the exchange of information serves common or agreed ends.

To this end a communication plan has been developed. It can be found on the website at www.thelearningfederation.edu.au in "About the Initiative" under "Feasibility".

12.2 Communication Roles and Responsibilities

BODY	ROLE	RESPONSIBILITY
Commonwealth	Shareholder	❑ Contracted outcomes ❑ Agreements with other governments
MCEETYA	Shareholders	❑ Whole of government liaison ❑ Advice on partnerships
AESOC	Monitor	❑ Information to Ministers ❑ Information within agencies
Steering Group	Management	❑ Relationship with AESOC ❑ Health of collaboration ❑ Long term outcomes
Secretariat	Monitor Management	❑ Monitor implementation ❑ Support collaboration
Joint venture	Market Information Broker Ministerial Company Joint venture Information Systems Broker	❑ Development of strategy ❑ Develop market relationships ❑ Market research ❑ Promotion and advocacy ❑ Encourage industry development ❑ Collaboration with stakeholders ❑ Transparency ❑ Seamless project management ❑ Relationship with contractors
S L &Support Service Taskforce	Advice	❑ Advice to AESOC ❑ Advice to Steering Group
ICT in Schools Taskforce	Advice	❑ Advice to AESOC ❑ Advice to Steering Group
Systems	Stakeholders	❑ Advice on needs ❑ Promotion ❑ Exploiting benefits ❑ Distribution within jurisdictions

12.3 Groups Targeted for Communication

GROUP	GATHERING/ PROVIDING INFORMATION	PRIME RESPONSIBILITY	NOTES
Users and potential users	Both	Joint venture	❑ User focus makes this group critical ❑ Includes market research & testing/trialing
Suppliers and providers of services	Both	Joint venture	❑ Includes public and private providers ❑ Located in all parts of country ❑ Need information about education
Shareholders	Primarily providing	AESOC	
Educational stakeholders	Both	Steering Group ICT & SLSS Taskforces Companies Secretariat	❑ Complex ❑ Includes professional associations, non-government
Standards community	Both	Joint venture	❑ Includes international and national
Administration	Both	Steering Group Secretariat Companies	❑ Complex structure with high demand on communication

12.3.1 Communication with Users and Potential Users

The purpose of communication with users and potential users is to ensure the products meet the needs of the identified market and achieve widespread take-up. The following table identifies the parameters of communication with users and potential users. Developing these relationships is part of the joint venture's market information role.

LOCAL USERS & POTENTIAL USERS	POTENTIAL OVERSEAS USERS	OVERSEAS GOVERNMENTS
❑ Focus groups and other forms of market research as part of product/service development ❑ Testing and piloting as part of product/service development ❑ Feedback processes as part of product lifecycle ❑ Promotional material developed by the Joint venture and disseminated through systems, professional associations, company publications ❑ Linkages to professional development programs ❑ Linkages made and sustained by systems to their own services and programs	❑ Promotion and marketing as part of the Joint venture market information role ❑ Linkages made by systems as part of any overseas promotions	❑ Partnerships sought and channelled through appropriate government agencies ❑ Linked to Steering Group and AESOC through Secretariat

12.3.2   Communication with Suppliers and Providers

The flow of information to suppliers and providers is critical in developing a long-term market and is part of the joint venture market information role. This Initiative particularly seeks to provide information about standards and quality requirements in the schooling sector in order to encourage developers. The strategy for achieving this is outlined below.

SUPPLIERS & PROVIDERS	SUPPORTING INFRASTRUCTURE	COMMUNICATION METHODS	OPTIONS
GOVERNMENT Education authorities Cultural agencies Public authorities **COMMERCIAL** Developers, Designers, Publishers, Industry authorities, Industry training, e-learning suppliers,Telcos, Media, Education sectors, ISPs	❑ Quality Assurance Framework ❑ Exemplars ❑ Educational expertise ❑ Access to demand information ❑ Database of providers and suppliers	❑ Dedicated web directory ❑ Briefings ❑ Email updates ❑ Promotional materials	❑ Collaborative research and development ❑ Joint ventures ❑ Sponsorship

12.3.3   Communication with Shareholders

Given the investment of government funds in this Initiative it is essential that Ministers as shareholders receive regular information about progress, achievements and anticipated key milestones. To sustain appropriate communication with shareholders it is proposed to:

- ❑ report regularly to MCEETYA
- ❑ regularly maintain the Initiative website as a point of up-to-date information on progress
- ❑ provide a dot-point one page update with key achievements and anticipated milestones for CEOs to forward to Ministers
- ❑ develop presentation material as required and
- ❑ provide additional notes for CEOs to forward to Ministers when achievements potentially impact on specific jurisdictions

12.3.4   Communication with Stakeholders

Stakeholders have a role in both the supply and demand side of the equation in this Initiative. They are collaborators in the Initiative and users of the end products. Communication with stakeholders therefore serves more that one function. The relationships are critical and communication must be extensive, open, thorough, transparent, consistent and two-way. It must ensure ongoing commitment to the project at all levels, and assist in building solid teamwork across individual projects.

12.3.4.1 Interaction points

The table below identifies the stages at which stakeholder communication is critical to achieve the agreed outcome.

INTERACTION POINT	OUTCOME
Project development stage	Agreed standards, guidelines and models
Content prioritisation stage	Agreement on scope of content and application of standards
Development stages	Curriculum Corporation and *education.au limited* deliver agreed components
Delivery stage	Content services provided to each state and territory system
Publishing/deployment stage	Content field-tested and evaluated
Distribution/application stage	Content widely used in schools

12.3.4.2 Principles of communication with stakeholders

❑ **Transparency**

In order to keep faith with the collaboration, reduce confusion and sustain the long-term benefits of the Initiative, communications will as far as possible be in the public arena and documented.

❑ **Existing infrastructure**

For the sake of efficiency and good process wherever possible existing groups and processes will be used for consultation and decision-making.

❑ **Networks**

To maximise the benefit of ICTs. communication will be networked, linking groups across organisations rather than hierarchically.

❑ **Authority**

For clarity and efficiency the authority of a communication will be identified wherever possible. The website will be the most authoritative source of documentation.

❑ **Appropriateness**

Information provided to and requested from stakeholders will be appropriate to the expertise and authority of the parties to the communication.

❑ **Support**

In order to maximise the effectiveness of the Initiative wherever possible support will be provided to stakeholders to manage communication about and for the Initiative within their own networks and organisations.

❑ **Mutual responsibility**

Communication within a collaboration is the responsibility of stakeholders as much as Initiative workers.

❑ **Inclusivity**

In order to maximise the reach and impact of the Initiative throughout stakeholder organisations communication will be inclusive of as many networks and experts as possible within stakeholder groups.

❑ **Benefit**

Wherever possible communication will leverage benefit to stakeholder groups within their jurisdiction as well as within the Initiative itself.

12.3.4.3   Methods of communication with stakeholders

A full range of formal and informal communication methods will be employed with stakeholders including:
- ❑ formal minuted meetings with identified group
- ❑ formal consultations
- ❑ workshop meetings
- ❑ website publication
- ❑ email alerts
- ❑ posting to news lists
- ❑ email distribution lists
- ❑ teleconferences
- ❑ presentations and papers
- ❑ publicity materials
- ❑ briefings
- ❑ conferences

12.3.5 Communicating with the Standards Community

The Initiative will provide a strong focus for the interoperability standards agenda for the school sector and will establish links with the standards community nationally and internationally.

| *STANDARDS GROUP*	*COMMUNICATION THROUGH*	*LINKS WITH*	*PURPOSE OF COMMUNICATION*
❑ ISO sub committee for Information Technology in learning ❑ Education and Training (ISO/IEC JTCC1 SC-36) ❑ IEE ❑ LTSC ❑ DCM1 ❑ W3C ❑ IMS Global Learning Consortium ❑ ADL-SCORM	❑ AICTEC Standards Group and/or Initiative Reference Group ❑ *education.au limited*	❑ Higher Education ❑ VET sector ❑ schooling internationally	❑ to ensure robust interoperable standards for Initiative products and services ❑ to ensure Australian needs are understood and influencing international standards

ACCOUNTABILITY AND RELATIONSHIPS

13. Governance

13.1 Overview

The Steering Group has engaged the services of a governance adviser to provide six-monthly reports on governance and reviews of documentation and policy on a needs basis. Governance reports are available to shareholders via the website.

The following diagram outlines the governance for the Initiative.

GOVERNANCE FRAMEWORK
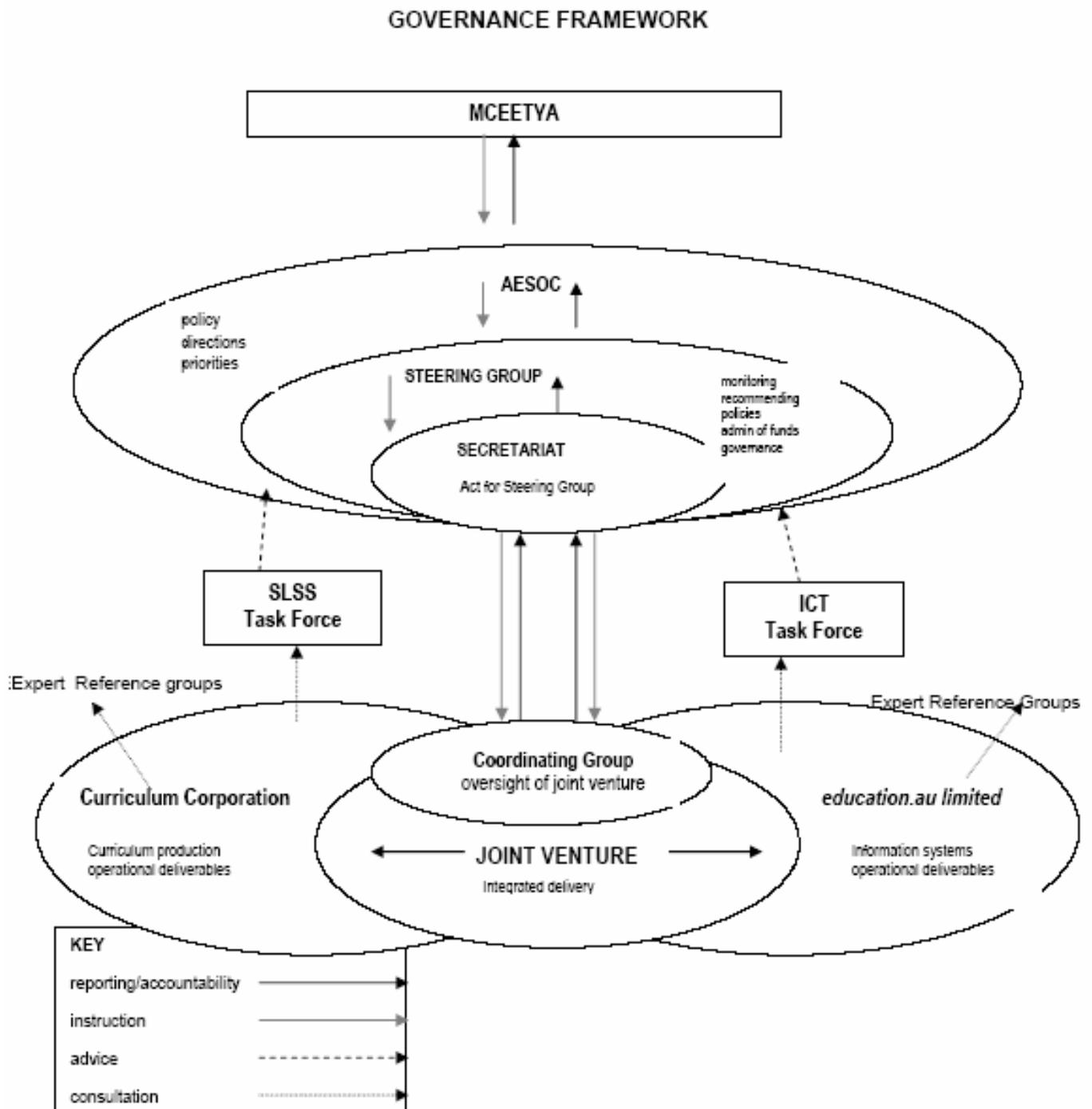
13.2 Key Groups

13.2.1   Users

The prime target audience for materials developed under this Initiative is students and teachers in schools. Student and teacher testing and observation will determine the design and delivery of the materials.

13.2.2   Shareholders

The Ministers of Education in the Commonwealth, states and territories of Australia and New Zealand are the shareholders in this Initiative. They are making the investment on behalf of the people of Australia and New Zealand. The return to the Ministers will be products and infrastructure that improves educational delivery to schools, links schooling to the directions of Australia and New Zealand as innovative, knowledge-based economies and supports a continuing supply of high quality materials for schools through involvement of both public and private developers.

The ACER formula will be used as the basis of shareholder contribution to the Initiative.

Reporting to Ministers as shareholders will be through MCEETYA.

13.2.3   Governing Body

13.2.3.1   AESOC

The heads of education departments in Australia and New Zealand have the operational accountability for this Initiative and for all policies on which it is based. AESOC is the governing body for the Initiative. The Initiative will report to and gain agreement from AESOC for all policy positions, priorities and directions.

13.2.3.2   Steering Group

The Steering Group of AESOC members appointed in May 2000 is the group responsible for management on behalf of AESOC. It is supported by a small secretariat. The Steering Group will approve the allocation of funding to the two companies and the Secretariat, will monitor progress and recommend policies and priorities.

13.2.4   Advisory Groups

13.2.4.1   Student Learning & Support Services Taskforce

The role of the SLSS Taskforce includes advice on: the priorities for content development throughout the Initiative; the scoping of each project to develop a major piece of content; pedagogical standards; target groups and target audiences; teacher access to and usage of online materials and related standards; and issues needing to be addressed in intellectual property sharing policies and protocols.

13.2.4.2   ICT in Schools Taskforce

The role of the ICT in Schools Taskforce, includes: advice on the technical infrastructure, (including standards and interoperability); contributing to pedagogical standards (particularly in 'mainstreaming' insights from ICT use); identifying risks and risk management strategies, ensuring that technical developments are occurring consistently with developments in Higher Education and Vocational Education and Training and advice on the development of intellectual property sharing agreements.

13.2.6   Partners

It is anticipated that education departments in governments outside Australia and New Zealand may be interested in becoming partners in this Initiative, contributing content and availing themselves of the standards and technical infrastructure. Where appropriate, governments interested in such an agreement will be offered partnership status. All partnership arrangements will be within the framework of government-to-government agreements and will be approved by AESOC. Partnerships will be determined by criteria of:

❑ synergies with Australian and New Zealand standards
❑ benefit to Australian and New Zealand schools
❑ cost-benefit.

13.2.6.1   Contribution

The basis of contribution of partners will be negotiated on a one-to-one basis, but will not impact on the ACER formula as the basis of contribution for Australian governments. It is expected that the size of the partner's jurisdiction, the amount of adaptation required and the potential benefit to Australian schools will influence the agreement.

13.2.7   Stakeholders

While there is a broad range of groups, including business and the general public, who have some stake in this Initiative, the term 'stakeholder' will be used within the Initiative to refer to specific groups with a strong professional interest in the products and outcomes of the Initiative. These groups are one step removed from, but nevertheless represent the users, as well as interfacing with governments. The products of the Initiative must be useful to and used by teachers within stakeholder groups. The views of stakeholders are therefore of great importance to the Initiative and consultation groups for all components and stages of the Initiative will be drawn from stakeholder groups.

13.2.7.1   Government school systems

The Le@rning Federation is an initiative of governments. All Australian and New Zealand governments are represented on AESOC and its subcommittees.

13.2.7.2   Non-government sectors

Nationally developed material is intended for use by non-government as well as public sector schools. Both government and non-government school users will be

invited to join testing and trials. It is anticipated that delivery to non-government schools in Australia will be negotiated at the state level, either through state delivery mechanisms or through private providers (see section 9.2).

13.2.7.3   Boards of Study and Curriculum Councils

This Initiative has been planned as a P-12 Initiative. The priorities, however, for initial materials have been identified in the P-10 range. Once established, the pool of materials is intended to extend beyond the compulsory years of schooling. Discussions will be held with interested Boards of Studies regarding possible inclusion of materials within the post-compulsory years of schooling.

It is also recognised that in some states, Boards of Studies have responsibility for curriculum more widely than post-compulsory years. In these states it is intended that state system representatives on advisory groups will liase with their Boards of Studies.

13.2.7.4   Professional Associations

Not only are professional associations important in ensuring that curriculum content meets the requirements of particular groups of teachers, but they also play a critical role in the acceptance of new methodologies and in the take-up of online opportunities as well a being content producers. Professional associations bring a high degree of knowledge and expertise to the creation of new materials. Professional associations are invited to participate through the Initiative website, engagement in forums, focus groups and research projects as well as being potential co-developers of particular projects within the Initiative. The secretariat and joint venture will be available to make presentations to professional association conferences.

13.2.7.5   VET and Higher Education Sectors

The Initiative aims to be fully interoperable with other education sectors. The VET sector is a co-deliverer of programs in schools in the post-compulsory years and both the VET and Higher Education systems are clients of schooling systems. Teachers work across all sectors. Both VET and Higher Education are potential developers of materials for schooling use. Additionally, both sectors, but particularly the Higher Education sector, have been active in standard setting and have considerable expertise to offer the Initiative.

13.2.7.6   Teacher training institutions

There is potential for teacher training institutions to play a role in conducting pre-service courses to support the readiness of new teachers to use online curriculum content as well as roles in research, advice, testing and development.   The Initiative will develop a network representing teacher training institutions to support communication and involvement in the Initiative. Presentations will be offered at key conferences of teacher-educators.

13.2.7.7   Parents

Parents are key stakeholders in the education community and their support for and understanding of the Initiative is crucial to its success. Parent associations will be kept informed about the intentions and progress of the Initiative through newsletters, conference presentations and email.

13.2.8 Companies

MCEETYA has established a number of companies to carry out tasks on behalf of Ministers. Two of these Ministerial companies have been given substantial tasks in the administration of this Initiative. Work is assigned to the companies through the Secretariat and accountability is (through the Secretariat) to the Steering Group and AESOC. The two companies are undertaking the Initiative work as a joint venture.

13.2.8.1 Curriculum Corporation

The role of Curriculum Corporation could be summarised as business broker. Curriculum Corporation will broker the essential business of online curriculum content. This includes:

❑ educational quality assurance
❑ content development and management
❑ market information and marketing
❑ intellectual property management and brokering

13.2.8.2 *education.au limited*

The role of **education.au limited** could be summarised as information systems broker. **education.au limited** will broker all aspects of the systems through which the online curriculum content is accessed and developed. This includes work associated with:

❑ interoperable specifications and standards
❑ the Exchange
❑ information management

education.au limited is responsible for ensuring this work is consistent with and leverages collaborative work already undertaken for EdNA Online and the National Careers Information Service.

13.2.8.3 Joint Venture

The joint venture of Curriculum Corporation and **education.au limited** will include the use of a single site, a common management structure and a management committee comprising the CEOs of both companies. The Secretariat Director has been invited to attend this group as observer.

13.2.9 Suppliers

The demand that this Initiative will create for developers and suppliers of other services once it is into production stages may outstrip current supply of developers with expertise in the education sector. The strategy for the Initiative also suggests the need to nurture a growing market of commercial product for schools online curriculum content. The joint venture will maintain a database of suppliers and also undertake the provision of information to suppliers regarding progress of the Initiative, emerging standards and quality assurance processes. Supplier briefings will be held in line with demand.

This Initiative is collaborative and national. Development work will reflect this and is expected to occur in all states and territories.

13.3 Governance Beyond the Development Phase

Governance beyond the development phase will be determined by MCEETYA.

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