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Submission to the INQUIRY INTO THE FUTURE OPPORTUNITIES FOR AUSTRALIA'S FILM, ANIMATION, SPECIAL EFFECTS AND ELECTRONIC GAMES INDUSTRIES

HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON COMMUNICATIONS, INFORMATION TECHNOLOGY AND THE ARTS

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Summary

This submission from Canberra Institute of Technology (CIT) and Academy for Interactive Entertainment (AIE) addresses the advantages of collaboration between Industry and Private and Public Education and Training providers in building skill capabilities for Australia's Film, Animation, Special Effects And Electronic Games Industries.

In particular it addresses the following sections of the inquiry:

- f) the skills required to facilitate future growth in these industries and the capacity of the education and training system to meet these demands;
- h) how Australia's capabilities in these industries, including in education and training, can be best leveraged to maximise export and investment opportunities; and
- i) whether any changes should be made to existing government support programs to ensure they are aligned with the future opportunities and trends in these industries.

This response draws on the experiences of CIT and AIE over a period in excess of five years. This represents a time-frame extending from the emergence of Electronic Games Development as an industry when no formal recognition was given to its existence in either local or National Industry Training Advisory Boards. Currently many training programs exist for film, animation, special effects and electronic games related specialisations at all levels - from commercial non-accredited short training courses through to graduate studies in a variety at Universities. Many aspects of training are now covered by training packages as well as in accredited VET and Higher Education courses. Private and Public VET Registered Training Organisations (RTOs) as well as by Universities are now all involved in providing some aspect of training appears to respond only to student demand and is relatively unconnected to genuine needs of new industries. Such training is inevitably unable to provide the skills that are highly valued and sought by industry and consequently providing graduates who are not appropriately equipped for the industry they aspire to enter.

This submission advocates a process for nationally consistent accreditation of education and training for film, animation, special effects and electronic games industries. This accreditation would be primarily available for higher education courses, in particular the new associate degree likely to be introduced as a higher education award within the Australian Qualifications Framework. It should also include degrees, graduate certificates and graduate diplomas. These courses would be accredited for delivery primarily by appropriate VET providers.

Also advocated is a model where accreditation for courses leading to occupational destinations in film, animation, special effects and electronic games industries is contingent on the demonstration of integrative involvement in course delivery from reputable industry participants with production knowledge and experience.

The need is identified for accredited curriculum either in VET or HE to formally contexturise the learning to the industry and include:

- f) generic and specific skills of reasoning and work process management;
- g) personal values and attitudes such as motivation, discipline, judgement, leadership and initiative,
- h) creativity, innovation, problem solving, and entrepreneurship
- i) interpersonal skills in communication and team-working
- j) accredited authentic work experience

This submission also draws attention to the significant economic positioning Australian Education has established in export revenues through international students. It also identifies the particular attractiveness of sunrise enterprises emerging in industries such as those covered in this inquiry, to international students. Further this submission advocates the establishment of an innovation fund that supports a network of education and training providers for the film, animation, special effects and electronic games industries and rewards those that demonstrate leadership in:

- k) Working with employers locally, regionally and nationally; to meet their needs for a skilled and capable workforce.
- I) Building cross-sectoral partnerships and qualification recognition between VET & HE providers
- m) Working to establish and support industry start up enterprises.
- n) Sharing knowledge, resources and expertise with other providers.

The Academy of Interactive Entertainment (AIE)

Background

In 1998 a cooperative Venture between Canberra Institute of Technology (CIT) and Microforte Pty. Ltd. (MF) established the Academy for Interactive Entertainment (AIE) to provide the ACT with support to develop a plausible interactive digital entertainment industry.

The venture drew on the combined expertise available in the Canberra Institute of Technology as the Canberra region's largest provider of tertiary education and training and the industry credibility of Microforte as an emerging leader in interactive computer games development to underwrite the education and training credibility of the AIE.

The synergies evident in the relationships between a significant Industry leader and a highly reputable and innovative public sector Education and Training Institute have resulted in the AIE becoming a highly influential and effective provider of skilled personnel to the animation, digital effects, and electronic games Industries. Now an independent not for profit Registered Training Organisation (RTO), it has taken an industry leadership role in establishing the annual *Australian Game Developers' Conference (AGDC)*, and is working as founding member and driving force behind the *Game Developers' Association of Australia (GDAA)*, the industry's peak professional body.

The AIE provides industry specific training that sets it apart from other training organizations in Australia. The AIE has been active in maintaining contact with members of the games industry, providing students with an accurate and up-to-date insight into the needs of our industry. David Giles, Director of Development, Infogrames Melbourne House

The AIE bridges the gap between academia and industry. You can't get the sort of games specific training AIE delivers in any other educational facility anywhere in the world. Adam Lancman, President, Game Developers Association of Australia The following schedule identifies the current scope of activities for the AIE and provides the context for synergistic benefits to each of the contributors.

Academy for Interactive Entertainment Activities	Canberra Institute of Technology benefit Assists the development of CIT's status as an advanced Technology Institute.	Games Partners benefit Development of new local talent enables the growth of core business.
 Specialised training in digital media including: 3D Graphics- High End and Real time Game Design and Development Visual FX Software Development AI, Interfaces and 3D environments Digital special effects Programming Sound & audio Scripting and Concept Art Project management Production E-commerce 	Enables new fields of study to be developed in parallel, serviced by the resources of the academy	Expansion into new fields with the availability of more highly skilled workforce
 E-commerce Expansion of alternate funding sources to provide growth independent of CIT's protoconstraints. Includes: Industry support Scholarship sponsoring Commercial projects Sponsored R&D Technology donations 	Rapid launch into highly credible adv. tech area with growth untied to CIT profile constraints. Associated links to industry suppliers	R&D growth
Subcontract delivery of CIT accredited modules and courses in creative digital modules disciplines	Supports new profile opportunities	Increases the available talent pool
Recognition of the graduates capabilities.	 Sponsored student places Graduate placement Incubator Skill centre establishment and support 	 R&D support Development of a pool of subcontractors or employees.

Future Plans

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The AIE is building its programs in four aspects of its business in order to provide a skills base in the ACT to support the establishment of a viable Interactive Entertainment Industry.

Talent Identification.	Entry level training	Transition to employment	Industry development
Supporting Yr 11 and 12 accredited studies in media specialisations	Accredited courses including Cert IV, Diplomas, Advanced Diplomas Degrees Grad Certs Grad Dips	Establish an incubator program Promotion of student profiles	Sponsoring & mentoring start up subcontractors Sponsorship of local digital industry association Management of industry development grants
Short courses in specific skills.		Short courses in specific skills.	Project sourcing
Open days			Skills brokerage Manage the industry conference and academic summit R&D providers Industry developers and suppliers network
Revenue sources			

The AIE derives its operational budget from revenues generated from the following activities:

- Short courses
- Subcontracted delivery of specialist aspects of CIT profile
- TAE profile from the contestable funds for
 - Training needs
 - Capital Infrastructure development
- Special project funding for targeted skills development
- Rentals of space and specialist equipment
- Commercial project revenues
- Sponsorships from industry suppliers and developers including MicroForte and Sony Interactive Foundation
- Student fees (local & international)

Since its establishment in 1998, The Academy for Interactive Entertainment has provided around 400 graduates to the film, animation, special effects and electronic games industries with qualifications extending from Cert 2 through to diplomas.

Resourcing for these programs has come from a variety of places including:

- CIT
- special ACT government assistance relating to Industry development priorities
- VET in Schools
- special programs to encourage participation by designated groups including women, indigenous and physically disabled.

The experiences derived from establishing the AIE provide the context for this joint submission from the Canberra Institute of Technology (CIT) and Academy for Interactive Entertainment (AIE) that addresses the following sections of the inquiry:

- f) the skills required to facilitate future growth in these industries and the capacity of the education and training system to meet these demands;
- h) how Australia's capabilities in these industries, including in education and training, can be best leveraged to maximise export and investment opportunities; and
- i) whether any changes should be made to existing government support programs to ensure they are aligned with the future opportunities and trends in these industries.

Specific Skills Needs

i) the skills required to facilitate future growth in these industries and the capacity of the education and training system to meet these demands;

The recommendations of the National Multimedia Education and Training Strategy from Arts training Australia in 1995 are worthy of revisiting particularly if the term Interactive Multi Media (IMM) were to substitute for an aggregation of film, animation, special effects and electronic games industries specifically identified in the terms of this inquiry.

One of the continuing pressing issues evident in the 1995 report and continuing today is the provision of appropriate opportunities for skills development for emerging occupations in sunrise industries. In particular this relates to the need for the rapid evolution of responsive curriculum. While VET has a well-established set of protocols surrounding training package identification, development and implementation, these are best suited to established occupations in Industries where change is not fundamentally affecting new business opportunities. There are however critical impediments that prevent VET providers responding appropriately to new and emerging training needs for occupations within transitional or sunrise industries.

The frustrations for emergent industries looking for training support from their State or Territory VET providers include:

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- Inability of a National VET agenda to provide clear evidence of significant emerging national industry trends, particularly in industries that are part of the new economy and have not established conventional employment, representative, and lobbying structures.
- Identifying training priorities in advance of established national consultative processes and training package development
- Ensuring the emerging training issues being identified are responding appropriately to national priorities as well as local needs.
- Finding additional resources for new initiatives within State and Territory funding profiles that are already unable to adequately meet existing training needs for established industries
- Recognising that the existing VET training paradigm for commonly agreed learning outcomes is difficult to accommodate in areas where complex interactive capabilities are required by practitioners in newly evolving specialisations typical of film, animation, special effects and electronic games industries.

Evidencing the dissatisfaction of the delays in National leadership in this area is the Victorian Government's independent investment in developing its "Knowledge and Skills for the Innovation Economy, a statement on the future directions for the Victorian vocational education and training system".

Without a well established industry connected champion at a National level, the response to these emerging priorities will continue at a local level where industry is able to influence State or Territory training priorities. However, identification of an emerging occupation for special training funding in competition with training identified through established industry consultation frameworks, can prove to be an insurmountable barrier in the current VET environment. Even when a champion can be found, the competing priorities inherent in VET funding models, consultative delays in producing meaningful learning outcomes, and promulgation of associated learning packages reduces responsiveness to a farcical level for an emerging industry. While the current Training development model is appropriate for established industries, there are some significant weaknesses in its capacity to identify and appropriately resource experimental training that might be appropriate for sunrise industries and possibly inform the eventual development of a future best practice model.

In higher education environments, the responsiveness is no better. New courses leading to qualifications in particular emerging fields are normally delayed until the higher education demand is clearly identified. When this occurs, lip service is often paid to currency by simply tacking short modules involving Games or Graphics on to existing courses-- usually with no employment outcome. The demands for degree and graduate level courses are often not evident until an occupation gains community recognition and status. Interestingly higher education involvement in this type of provision often emerges well after the risk has been minimised by the enterprise pioneers, many of whom use skills transferred from associated disciplines or use highly applied skills acquired through VET training.

Film, animation, special effects and electronic games industries have specialist sub-sets that are all evolving as a result of rapid changes in technology, new opportunities for increasingly diverse products, and increasing expectations from their markets. Many of these sub-set industries have now moved beyond the emergent phase and are currently establishing their potential within a rapidly evolving information based economy. Their ability to respond quickly to the possibilities presented by new technologies is limited by the size of their workforce with an appropriate range of skills and capabilities. This is a critical education and training issue.

The pressure to continually be creative, competitive and commercially successful requires a continuing progression of new skills and capabilities from workers in these industries. All are experiencing skill shortages as a result of delays in the training market response. The business possibilities are evolving so rapidly that the concern here is not the one of conformity of training outcomes that drives the concepts behind the current training

packages, but for a model that encourages diversity of outcomes. Such a model is needed to ensure that enough genetic diversity exists in the skills market to provide sufficient flexibility for the new industries to respond to different futures.

Qualifications too are now becoming an issue. The ability of newly established businesses to win international contracts depends on their credibility in the industry. Increasingly as film, animation, special effects and electronic games industries mature, the track record of an enterprise must be supported by the formal credentials of the production team. While VET qualifications are highly applicable to the production needs of new enterprises, the Higher Education qualifications have greater international recognition when describing the capabilities of a production team. The critical issue is the provision of an education pathway to Higher Education qualifications that incorporates and values the essential contribution of both approaches in the provision of a skilled and capable workforce for these industries.

The establishment of a National Skills Council responsible for education and training in film, animation, special effects and electronic games industries and their sub-set specialisations might be a useful start to breaking through this barrier. A National Skills Council could be responsible for:

- establishing a national community of practice for these industries
- nationally accrediting and endorsing HE awards for delivery by non-self accrediting providers
- quality assuring diverse education and training provision
- establishing and maintaining a skills data base and employment prospects network
- managing a national incentive program for encouraging innovative practices
- providing start up project funding for special initiatives
- proliferating best practice knowledge

Membership of the Skills Council would include key industry leaders with advisors from both VET and Higher Education. The National Skills Council should be federal government funded through ANTA as a special initiative and report outcomes through ANTA.

The accreditation model managed by the Skills Council should require integrative involvement in course delivery from reputable industry participants with production knowledge and experience. Accreditation should also be conditional of formal contexturisation of the learning to the industry and include:

- generic and specific skills of reasoning and work process management;
- personal values and attitudes such as motivation, discipline, judgement, leadership and initiative,
- creativity, innovation, problem solving, and entrepreneurship
- interpersonal skills in communication and team-working
- accredited authentic work experience

These attributes are much broader than observable and measurable skills on which the current VET training package paradigm is constructed, but encompass cognitive aspects of learning normally associated with Higher Education in the context of practice that is the underlying strength of vocational education. It is expected that this will be the eventual defining characteristic of the new Associate degree as a higher education qualification delivered by VET providers.

Education delivery models that can accommodate this blending of learning needs that are worthy of consideration should include non-conventional approaches such as Industry Mentoring as well as incubator industry start up activities.

Such programs would formally link education and training provision to local industry that can offer advice, support and access to distribution channels. In the industry establishment phase there is a strong need for well-trained individuals who understand what it takes to develop a world-class product. The Mentoring Program seeks to develop

students with these skills and place them into full-time employment either within an established enterprise or with skills to establish their own enterprise as an independent operator or specialist sub-contractor.

The training model is based on a successful mentor program pioneered by Electronic Arts Canada where industry capacity was rapidly developed with the speedy establishment of a knowledgeable and capable workforce able to supply high demand skills. This model recognises the diversity of people interested in becoming involved in the emerging industries. In many cases the migration from allied creative and technical fields into the new applications of these industries can provide a rich source of talent. The mentor and incubator programs are vehicles whereby this existing talent can be fast tracked into new contexts. The process can often place disparate skills into new associations that provide opportunities for new enterprises.

Specifically, the mentor program is a practical problem based course, supervised by a commercial practitioner managing a genuine commercial project with a team of students (interns). The program is supported by parallel theoretical studies to be contexturised during the project. The industry sponsor contributes both the Mentor and the Project to the training environment. The program is in itself a work experience program giving participants involvement in the development of a credible commercial product that can be credited on their individual resumes. The AIE has already experienced significant success in the application of this model.

Business start-up or incubator programs are a logical progression from the mentor program, specifically oriented to those students or groups of graduates with appropriate levels of skills that can be sub-contracted to major producers. Industry practitioners can provide quality assurance, specific business management skills, technical advice, and access to national and international professional networks. The incubator would engage these practitioners with particular industry expertise, as part time on-call professional advisors.

Such programs do not neatly fit the criteria for publicly funded VET training, nor the philosophical framework of Higher Education. They are more related to industry development models, but clearly have major education and training benefits for those involved.

Maximising export and investment opportunities

h) how Australia's capabilities in these industries, including in education and training, can be best leveraged to maximise export and investment opportunities.

The significance of film, animation, special effects and electronic games industries to Australia's future economic development in the information age is well documented elsewhere and needs no elaboration. The economic value of Australian Education is also well documented, particularly with its capacity to derive revenues through international students.

If Australia can develop appropriate education and training for relevant skills leading to occupations in sunrise industries such as those covered in this inquiry, then it will be possible to develop synergies in both these areas to leverage new capabilities that maximise export and investment opportunities in these industries.

Australia is not unusual in having difficulties finding an appropriately responsive education and training model for film, animation, special effects and electronic games industries. Internationally, training models have inevitably concentrated on technical skills development surrounding the new technologies. The applications have been learned by trial and error by the innovators in the industry, with rewards going to those who stay at the forefront of innovation.

The experience of the Academy for Interactive Entertainment has proven that technical skills and creative application can be developed in the context of industry skill priorities.

The experience has also shown that this mix of skills is what industry needs to ramp up its capabilities. Considerable interest has been shown in the AIE skills training model by educators in Australia and internationally. To date very few have been able to imitate the required synergies between educational integrity and commercial reality that underpins the Academy's capability. Consequently opportunities arise for franchising this training model both nationally and internationally. Given sufficient capacity to enrol international students, a substantial Asian market has been identified for the skills provided through the academy.

A range of impediments exists to the effective internationalisation of programs. These range from the limitations and time lines associated visa restrictions and conditions placed on international students wishing to study VET programs compared with the relatively less restrictive conditions for those wishing to enter Higher Education programs.

Another significant limitation for VET RTO's delivering higher education programs is the restriction that exists in delivering beyond their State or Territory. Current legislation requires these courses to be concurrently accredited in the States and Territories in which they are to be delivered or if an existing course, reregistered in for delivery in those jurisdictions. While these requirements relate to State and Territory registration and accreditation requirements that affect a small number of VET providers delivering Higher Education programs, this situation will become more common if the proposed Associate Degree becomes a Higher Education qualification.

If the UK experience in its foundation degree is to provide a guide, this level of qualification is likely to be the most attractive to film, animation, special effects and electronic games industries. As identified earlier, the employment of a workforce with Higher Education qualifications improves the competitive abilities of the enterprise. This is starting to affect training demand. Unless the agreements that surround mutual recognition of VET awards between States and Territories can be extended to cover Higher Education programs delivered in VET, the VET sector will be unable to respond to the industries growing demands for these qualifications in an effective manner.

In comparison, the self-accrediting Higher Education providers have fewer restrictions in firstly establishing courses and secondly delivering them across geographic boundaries.

If a National Skills Council were to be established along the lines previously mentioned, then the ability for that body to nationally accredit Higher Education courses for delivery by VET providers involved in education and training for film, animation, special effects and electronic games industries would ease the current restrictions inherent in state registration and accreditation of Higher Education courses.

Suggested government support programs

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i) whether any changes should be made to existing government support programs to ensure they are aligned with the future opportunities and trends in these industries.

The establishment of an innovation fund that supports a network of education and training providers for the of film, animation, special effects and electronic games industries and rewards those that demonstrate leadership would be beneficial in providing incentives for the rapid development of an appropriate skills pool from which a viable industry can grow. The National Skills Council, advocated in the earlier part of this submission, would appropriately manage this incentives program.

The National innovations incentive program would specifically encourage and reward best practice education and training innovation that assist the rapid development of underlying capabilities required for industry viability. Characteristics of these best practice innovations are identifiable in activities that proliferate benefit through approaches such as:

- Working closely with industry
- Developing innovative and flexible education and training opportunities

- Building cross-sectoral partnerships in learning
- Sharing knowledge and expertise

Working closely with industry

Education and Training providers need to be aware of the practical learning outcomes associated with their programs. Working closely with employers, locally, regionally and nationally, is an essential precondition to meeting their needs for a skilled and capable workforce.

Close consultation starts with the identification of particular need and extends to the development of the learning program. It extends to delivery of the learning experience and assists the successful transition of the learner into meaningful employment.

The close association with industry also assists in meeting their continuing need for maintaining a relevant skills set and formal qualifications for people within those industries. It also provides opportunities to identify skills shifts that enable those wishing to move their occupations by enhancing their specific skills emphasis or developing associated or new skills.

Developing innovative and flexible education and training opportunities.

New and emerging creative industries require innovative ways to create a diverse but essential skills base that underpins growth in film, animation, special effects and electronic games industries. Neither conventional skills training as typically found in VET nor highly abstracted learning as typical in Higher Education models are entirely suitable for achieving the skill sets and other attributes required of workers in these industries.

Innovations in devising integrative learning models that include authentic and realistic simulated projects that draw on directly on practitioners knowledge to assist learners contexturise their learning experiences, should be rewarded as leaders in best practice. Their programs would typically demonstrate the ability to devise structured learning experiences that also accredit work experiences, devise opportunistic collaborations with industry practitioners, provide opportunities to undertake commercial projects, and ensure integrative involvement in course delivery from reputable industry participants with production knowledge and experience. These learning experiences would integrate technical skills development with contexturised key employability capabilities.

Incubator and mentor models are representative of innovative best practice models in teaching/learning that directly support States and Territories regional business development priorities providing support for industry start up enterprises in these creative industries.

Building cross-sectoral partnerships in learning

Cross-sectoral partnerships involve more than qualification recognition between Secondary Schooling, VET & HE providers. It refers to supporting each sector with the specific skills and knowledge uniquely available in each. Ideally VET and HE provide access to industry intelligence and industry relevant qualifications for Secondary Schools. Collaborative arrangements can also make resources and expertise available to secondary students. In return, Secondary Schools provide a talent identification program and possible talent that has already commenced relevant skills development. The relative strengths of VET and HE can provide complementary benefits in sharing resources and expertise. Appropriate collaboration can provide integrative involvement in designing and delivering alternate qualifications pathways.

The imminent introduction of an associate degree likely as a higher education award within the Australian Qualifications Framework will cause concern for VET providers. The accreditation of these Higher Education courses for delivery by VET providers is likely to be managed on an individual state and territory basis. If under the current

provisions, the accreditation will only be valid in the state or territory of the accrediting authority. Extension into other states and territories will require reaccreditation by that state or territory accreditation agency.

For instance where a higher education course, say at associate degree level might be accredited by the ACT Accreditation Agency for delivery in CIT, that same course would not be available for delivery in another state until the course was reaccredited by their accreditation authority.

Universities on the other hand are relatively unconstrained in their ability to deliver their self-accredited Higher Education courses and awards across geographic boundaries.

For VET providers the required concurrent accreditation or reaccreditation associated with delivering higher education programs interstate, creates unnecessary duplication of effort, delays in training response and needless additional costs associated with lengthy consultation process, travel and extra fees. This consequently reduces the flexibility and responsiveness of VET in meeting particular training needs of geographically distributed businesses that film, animation, special effects and electronic games industries are typical of.

The extension of the existing mutual recognition by States and Territories of each other's accredited VET programs to include accredited Higher Education programs delivered by VET RTO's, may provide one answer to this problem. So too would a National Skills Councils with authority to accredit courses at a national level.

Lifting the current constraints of state and territory higher education accreditation processes would permit the growth and development of National VET consortia that can share resources, expertise and knowledge to deliver common curricula that are responsive and timely for the skills needs of emerging industries.

Sharing knowledge and expertise

While competition has recently become a feature of education and training in Australia, the benefits for partners in communities of practice outweigh the competitive disadvantages. Education and training practitioners who collaboratively share knowledge, resources and expertise with other providers should be rewarded. Without this knowledge transfer process, Australia will be limited in its capacity to grow and collectively develop appropriate strategies for fast tracking the development of a skilled and capable workforce for new and emerging creative industries.

The concept of a National Skills Council would provide an ideal independent sponsor of a national enterprise specific learning network, bringing together industry practitioners, suppliers, innovators and education and training specialists.

Conclusion

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A National Skills Council for film, animation, special effects and electronic games industries may be an appropriate strategy for creating a nationally unified and informed voice that could influence and accelerate the national capabilities in these emerging and economically significant industries.

With a representative membership of key industry leaders with advisors from both VET and Higher Education, the National Skills Council should be federal government funded through ANTA as a special initiative and report outcomes through ANTA.

Its roles and responsibilities should extend from national advocacy for the industry through to direct influence in the identification of skills development needs, accrediting and quality assuring courses, and managing incentives and rewards for best practices in the industry and for its training providers