

Down-to-earth key competencies assessment – a very practical perspective

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Abstract

This report offers a rare insight into the increasingly important area of ‘generic skills’ from a practical implementation and assessment perspective. The approach is based on the experiences of ‘coalface’ educators and students involved in long term action research of a practical *Key Competencies Assessment Strategy*. The very heart of the generic skills challenge, namely ‘explicit assessment’, is tackled head-on.

Revealed are some down-to-earth secrets of a unique and proven generic skills strategy at Torrens Valley TAFE which has evolved over a period of more than 10 years, into a nationally and internationally acclaimed practical implementation strategy. It highlights some practical assessment strategies, tools and processes and includes views of various stakeholders including graduates and employers and the impact it has had on them.

This is an opportunity for practitioners to appreciate what a practical implementation strategy for generic skills might actually look like. It also inspires a level of confidence knowing that the tools and processes identified are founded on comprehensive ‘practical’ trials and evaluation.

Introduction

History – From ‘Enterprise Skills’ to ‘Key Competencies’

‘This is a must!’ was the response of Michael Sachsse, Director of Tea Tree Gully College of TAFE (now Torrens Valley TAFE), following his 1990 visit to Alverno College, USA. Alverno was then, and remains today, the most highly acclaimed international exemplar of generic skills implementation. Significantly, today, Torrens Valley TAFE (TVTAFE) has a strong connection with Alverno.

This Alverno inspiration was evident in the college’s 1990 charter aimed at trialling and developing innovative methodologies in vocational education and training. A very strong culture of collaboration and action research developed amongst the people of this college to explore initiatives including open learning (now flexible learning), competency-based training, new learning technologies, learner-centred methodologies and ‘*Enterprise Skills*’. The college charter was outlined in the *Tea Tree Gully College of TAFE 1990 Annual Report* saying “The special charter of Tea Tree Gully promises to make the new College one of the most exciting and most innovative in Australia. The charter requires the College to ... produce graduates who, in addition to possessing immediately employable knowledge and skills, have acquired a range of *enterprise skills* which will enable them to operate in an enterprising culture. In summary, exiting students will be able to: think laterally, identify and solve problems, take initiative and be self-directive, communicate effectively in verbal and written forms, work by themselves and be able to work as part of a team, adapt to change, make decisions and accept responsibility for those decisions, access and use information”

Also in the report the Deputy Director Bob Wilson, reflecting back over the year 1990, said we "...have experimented with the concepts of *enterprise skills* development... students have had the opportunity to learn and practice these important skills and have them mapped via a personal log book".

The formation of an organisation-wide Enterprise Skills Focus Group was among the strategies initiated to nurture local research and trialling of this initiative. This early focus on generic skills pre-empted the national Mayer Committee introduction of Key Competencies. The uncanny similarity of these two initiatives served to validate the pioneering work on Enterprise Skills at TTG College of TAFE. In the interests of national coherence and recognition, Key Competencies were adopted in place of Enterprise Skills and the group was consequently renamed the Key Competencies Focus Group. A draft report of the Key Competencies focus group in 1993 stated: "The result of the focus group's work was a student record and log book which was trialled in several faculties during 1992. An 'enterprise skills statement' was also developed for graduating students". A document titled *Enterprise Skills Development Program – Faculty Guidelines* was printed in May 1993 providing staff with a framework for implementation including definitions, guiding principles, responsibilities, key elements, performance levels, assessment and reporting. Notably, these foundational principles of implementation remain clearly evident in today's much more developed and improved implementation strategy.

Progress towards practical implementation of Key Competencies then slowed for several years amid implementation of other training reform priorities but it was certainly not forgotten. In 1996 we experienced a great revival in Key Competencies across the nation thanks to a raised national profile and availability of professional development funding. Torrens Valley TAFE made the most of this opportunity undertaking a major 'Teaching & Learning the Key Competencies in VET' Action Learning Project and collaborating in statewide and national networking activities. This was the springboard that first launched the Electronics & Information Technology (E&IT) program into the national arena as a significant player in the Key Competencies implementation initiative. Much foundational work had already been achieved by this time and the focus of the E&IT Action Learning Project was 'Industry collaboration'. An informative outline of the findings is available online at: http://www.tafe.sa.edu.au/vet_div/irsi/key_comp/htm/activities/rob.html (Note the spelling of 'activities' in this web address!)

After 1996, again there followed a period of relative quiet as the VET sector nationally devoted its energies toward grappling with online learning, flexible learning, Training Packages and the competitive training market. However, perseverance and steady progress by the E&IT program through this time led to the very significant formal launch of the comprehensive *E&IT Key Competencies Assessment Strategy* in 2000. This assessment strategy has since continued to evolve, gaining credibility and national and international acclaim.

The E&IT Flexible Learning Context

It is important to appreciate the E&IT flexible learning context in order to fully understand the Key Competencies implementation strategy as it was specifically designed and developed to integrate into this flexible learning context. Since its inception in 1991, the E&IT program has sought to develop an optimal learning environment for the development of technical skills integral with Key Competencies in order to develop immediately productive graduates for the workplace. In meeting this goal, the E&IT program has created a highly developed flexible learning environment emulating the workplace. It incorporates national training agenda priorities including competency-based, learner-centred, self-directed, flexible learning methodologies assisting students to take progressively more responsibility for, and control of, their learning. Empowering learners in this way allows them (in fact requires them) to develop and demonstrate Key Competencies crucial for effective performance in the workplace and the community. A video highlighting the E&IT Flexible Learning environment can be viewed online at: www.tvtafe.com.au/electronics

Research method

Today's E&IT Key Competencies strategy is the culmination of long term action research and continuous improvement over a period of 12 years. E&IT has always deliberately adopted local, state and national guidelines (wherever possible) for the assessment of Key Competencies to capitalise on the efforts of all others over the years and to ensure greatest relevance and recognition across the nation. The Mayer Committee national recommendations on Key Competencies have been followed closely and further enhanced through the efforts of numerous research and development activities including focus groups, various work-based learning projects, literature reviews, national research projects, international benchmarking and local industry consultation and collaboration.

Prior to 2000, the E&IT flexible learning program offered students a learning experience rich in opportunities to develop Key Competencies in an integral way with technical skills. The problem was finding a way to make these skills explicit in order to give due recognition and to objectively and developmentally improve these skills in a planned way. The solution to this ultimately took the form of the comprehensive *E&IT Key Competencies Assessment Strategy* launched in June 2000. The real strength of this strategy is its strong focus on 'explicit assessment' as a strategy for nurturing learning and development of student Key Competencies in addition to assessing and certifying these crucial skills. The major challenge (universally acknowledged) was always going to be how to achieve a practical and workable implementation.

Some particularly significant action research initiatives that have served to endorse and improve this assessment strategy since implementation include:

National Assessment Awards

The credibility of this assessment initiative was evaluated by the Assessment Research Centre, University of Melbourne as part of the 2000 National Assessment Awards and was awarded the runner-up position. This evaluation considered reliability, validity, uniqueness, cost effectiveness, benefits/outcomes, evidence of practicability, workable strategy, evaluations of use, implementation and potential to improve assessment practices. The panel report provided valuable recommendations for consideration.

“I have worked in the field of assessment for more than 25 years and your [Key Competencies] work is among the best examples I have seen... so much work and creative energy and even brilliance goes into the development of such an outstanding contribution to assessment... congratulations on your exceptional work” (Professor Patrick Griffin, Director of the Assessment Research Centre, University of Melbourne).

International Benchmarking

The opportunity in 2001 to benchmark the E&IT Key Competencies Assessment Strategy against the internationally acclaimed Alverno College ‘Ability-based Learning’ model was a very significant catalyst for continuous improvement. While our assessment strategy was no match for the magnitude and calibre of the Alverno model, which has evolved over 25 years, many fundamental principles and philosophies were common, and that was a great endorsement of the E&IT approach. A range of differences between E&IT and Alverno were identified and prioritised according to the potential benefit they might offer if incorporated into our model. Additionally, some unique strengths of the E&IT model were identified and served as improvement opportunities for Alverno, particularly in relation to Flexible Learning methodologies.

National Research and Development Project

During 2002, an NCVET Research Project titled “The Authentic Performance-based Assessment of Problem Solving” was undertaken as a collaborative initiative between E&IT and The Centre for Lifelong Learning and Development (Flinders University). A major outcome of this was the development of an enhanced assessment instrument for the ‘Solving Problems’ Key Competency. This was validated as an effective assessment instrument through a one semester trial and has now been adopted by E&IT. Similar enhancements are now planned for the other Key Competency instruments.

Findings and discussion

What exactly is this assessment strategy? In a nutshell ...

It is a voluntary opportunity for students to apply for explicit assessment and recognition of one or more Key Competencies (at specified Performance Levels) as part of any existing course assessment (ie it does not involve any extra assessment activities).

Students perform a self assessment of their selected Key Competency using the relevant assessment tool and identify evidence to support their assessment which is presented (in a convenient form) to the module facilitator for validation.

Validation involves two aspects:

- (1) that the student has successfully performed the Key Competency to the specified performance level criteria clearly stated on the assessment sheet and
 - (2) that the student is explicitly aware of the Key Competency and their competence in it.
- Certification takes the form of a Statement of Attainment issued by the organisation listing all Key Competencies and corresponding Performance Levels achieved.



All results, along with a comprehensive portfolio of evidence for each student, are maintained in SMART (the local computer managed student resulting system).

To gain formal recognition for a Key Competency Performance Level it must be successfully demonstrated and assessed twice in different contexts (Mayer Committee guidelines).

It is the responsibility of each student to provide clear samples of evidence to address each assessment criterion for the chosen Key Competency Performance Level

Demonstration of higher performance levels does not necessarily indicate an ability to perform at the lower levels. All levels are important and should be demonstrated and validated.

Students seeking recognition for their generic skills are required to work their way through the following process:

1. Find out about the Key Competencies generally through induction, information resources, facilitators and/or the Key Competencies coordinator.
2. Choose a suitable Key Competency to be assessed as part of a module assessment, having discussed the possibilities with the module facilitator if desired.
3. Collect an Assessment Sheet and choose the performance level having read carefully through the associated criteria. Then use the Assessment Sheet to guide them through the assessment.
4. Provide clear evidence to demonstrate how each criterion had been addressed during the module assessment for the facilitator to validate against the criteria.

Making it workable

Absolutely essential for successful implementation is the requirement for a 'workable' system. Our goal is to make Key Competencies more explicit but if implementation is perceived to be difficult and unwieldy, then the tendency will be to try to hide and ignore them making them less visible. Considerable thought, therefore, has gone into designing this strategy to minimise the burden and overheads while maximising the benefits to learners, industry and the community.

Some of the design features making it workable for students, staff, E&IT program and employers include:

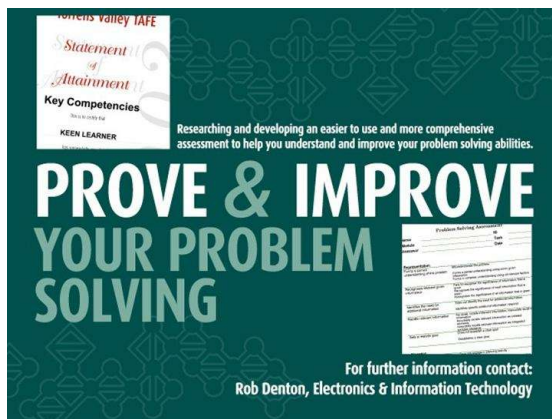
- Comprehensive orientation and facilitated induction
- Clear and comprehensive information in many forms (documents, Powerpoint presentations, videos, brochures, posters, software etc)
- Consistent assessment process for all Key Competencies
- Incorporated as part of existing course assessments – not additional assessments
- Evidence presented in any convenient form
- Assessment criteria clearly stated on Assessment Sheets
- Facilitators don't 'assess' but rather 'validate' evidence presented against the clearly stated criteria (they don't need to search for the evidence, students are required to clearly point-out or provide evidence)
- Results recorded in existing computer-based resulting system (SMART) familiar to staff and students
- Assistance readily available from facilitators and Key Competencies coordinator

- Specific guidance available from learning guides and facilitators
- Actively supported by the E&IT Student Representative Council (SRC)
- Statement of Attainment lists each Key Competency achieved to help prospective employers in recruiting
- The process ensures students are explicitly aware of their Key Competencies and able to discuss them confidently with employers at job interviews
- The process was designed in consultation with industry representatives therefore accommodates their needs

Key principles of the assessment strategy

(1) The PROVE & IMPROVE Principle

‘PROVE & IMPROVE’ is a current slogan used to promote the E&IT Key Competencies initiative. It is intended to emphasise the dual focus of this assessment strategy. Namely,



to provide opportunities for students to PROVE (through formal assessment and certification) and IMPROVE (through ‘assessment as learning’ practices) their Key Competency abilities.

The effort a learner devotes to ‘proving’ Key Competencies is also deliberately harnessed through the design of the assessment process to nurture further learning and ‘improvement’ of these important lifelong skills.

(2) ‘Integral’ Performance – ‘Explicit’ Assessment

Much national debate has revolved around ‘how’ Key Competencies should be performed and assessed in relation to technical competencies – integrated or discrete? The E&IT model takes quite a unique approach incorporating the best of both positions by having Key Competencies ‘performed’ as an integral part of technical competencies while being ‘assessed’ explicitly using specific criteria relevant to each Key Competency. Making each Key Competency performance an integral part of routine tasks as occurs in the workplace contributes to making the learning authentic. Explicit assessment allows these generic skills to be evaluated in detail across a range of activities and contexts, helping students appreciate the generic and transferable nature and value of these skills. Both the technical competency and the Key Competency have separate explicit criteria.

(3) Assessment as the Major ‘Learning and Development’ Strategy

Many debate HOW and IF Key Competencies can be taught. Some believe they can be taught explicitly while others believe it is simply a process of osmosis. We believe Key Competencies are not ‘taught’ but rather ‘learned and developed’ and that ‘assessment’ is the most effective strategy for achieving this. Assessment is used as a means of forcing the processes and practices of Key Competencies to become explicit in order that they may be learned and developed. This fundamental principle is also employed by Alverno

College in their international best practice work with generic skills and very aptly titled 'Assessment-As-Learning'.

Assessment is 'learner-centred' with the learners undertaking 'self-assessment' and facilitators performing a crucial validation and developmental support role in the process. We term this 'Validated Self Assessment'.

(4) Validated Self Assessment

'Validated Self Assessment' is the key strategy for achieving the PROVE & IMPROVE principle. It is possibly the single most crucial element of the whole assessment strategy.

Self Assessment is a major means by which learners are empowered in the assessment process in such a way that helps them develop or 'improve' their generic skills.

Validation provides the quality assurance and formal recognition for the learner to 'prove' their capabilities. Validation is also crucial for establishing credibility and applying defined standards to otherwise uncontrolled and uncertified self assessment practices. Consistent with the Assessment-As-Learning philosophy, this validation process is also an important opportunity for 'validators' to provide feedback and support to nurture development of the learner through the assessment process.

Key Competency Assessment Sheets for each Key Competency are used to guide the assessment process. They contain the criteria for each performance level for learners to self assess their performance and for staff to validate student performance based on the evidence that is presented. The evidence may be presented in any form (written, verbal, demonstrated). A learner's ability to effectively self assess their performance...

- (1) raises their awareness of the processes involved
- (2) identifies where they are at with a particular Key Competency
- (3) provides a pathway for improvement
- (4) establishes a framework of understanding to help them apply these skills in different contexts (ie reinforcing transferability) and
- (5) equips them with the confidence and ability to convincingly describe and discuss their skills to others such as at job interviews

(5) Voluntary Nature

This strategy of **explicit** assessment and formal recognition of Key Competencies is offered as a voluntary opportunity for learners. This is consistent with the empowered learner focus of Flexible Learning. However, this voluntary nature is responsible for the greatest difficulty posed by this initiative: generating significant levels of interest and participation amongst students. This prompted a concerted effort in publicising this strategy and promoting the benefits it offers. Consideration is now being given to **mandating** this assessment to increase participation and to reinforce the importance of Key Competencies. At the same time it is important to preserve the benefits of empowered learning by retaining substantial learner choice and control in this process.

Support mechanisms

This strategy derives great strength from being totally integrated into the educational program. As a result it benefits from comprehensive program-wide support mechanisms including:

(1) Student Induction

Student induction is an absolutely crucial requirement which has been carefully planned, instrumented and resourced. Induction includes Powerpoint presentations, videos, posters, brochures, information, software resources, discussions, tutorials. A recent survey of E&IT students found that 90 per cent of students who had participated in Key Competencies assessment and 88 per cent of students who had not participated believed that they were well informed about the Key Competencies Assessment Strategy.

(2) Professional Development

The Key Competencies Coordinator takes primary responsibility for professional development for all E&IT staff. The student orientation resources are used to inform staff about Key Competencies from a student's perspective. In addition, processes and resources have been put in place to ensure staff members are adequately inducted into their roles as 'validators' of student Key Competencies assessments.

(3) Quality Assessment Instruments

The quality of the assessment 'process' is paramount and has already been emphasised (such as the validated self assessment process) but it is also important to have quality assessment instruments. Assessment instruments have been developed for each of the Key Competencies based directly on the Mayer Committee guidelines to support the self-assessment and validation process for students and facilitators.

The recent NCVER Research Project titled "The Authentic Performance-based Assessment of Problem Solving" focussed on the development and validation of a new enhanced assessment instrument for the Solving Problems Key Competency paving the way for similar upgrades of the assessment sheets for the other Key Competencies.

Perhaps the most valuable feature of these assessment instruments is their suitability as *developmental tools for learners* helping them learn more about Key Competency processes and building a framework of understanding to help them continue to develop these skills throughout their lives. The new Problem Solving tool is a substantial improvement in this area making it a significant enhancement over previous assessment sheets.

(4) Recording System

The existing computer based resulting system (called SMART) used by this program was customised to make recording of Key Competencies assessments very easy and reliable. It has been designed to collate a comprehensive database or portfolio of evidence of student performance. This, combined with a Key Competencies Statement of Attainment, equips students with a strong package to present to, and discuss with, prospective employers.

Stakeholder views

A wide range of formal and informal evaluation processes have been implemented to capture the views of stakeholders in this initiative. These have been overwhelmingly

supportive of the strategy and have helped verify and refine our directions. Below is a brief snapshot of some stakeholder perspectives.

(1) Students

The E&IT Student Representative Council (SRC) provides a major means of consultation and collaboration between staff and students. Their active support and involvement with implementing various Key Competency activities including surveys, industry guest speakers, luncheons, publicity, forums and newsletters is evidence of their strong support for this initiative. The results of student surveys administered by the SRC have been very supportive. Student comments include:

“I did find my first attempt the most difficult and time consuming but now there is greater information available and I have completed a few more I find them an easy way to improve my ‘soft’ skills and analyse my methodologies”.

“I have found that the assessments are easily incorporated into my studies, and it doesn’t take long. I’m glad I’m studying in a program where this opportunity is available”.

“Very helpful in breaking down the problem solving method into identifiable sections. Helped me better understand the process.”

(2) Graduates

Comments from recent graduates now working in the industry ...

“I can see now how really focusing on Key Competencies and especially evaluating my performance against the criteria has helped me get this job, improve my performance, monitor and improve what I do and perform better in other areas of life as well as work”

“The transition to the workplace from my previous course of study in the E&IT Flexible Learning Program was very easy due to the similarities.

My employer promotes an innovative work culture where everyone is made to feel important in achieving the goals of the company. This means everyone needs to be able to work well in groups, to independently research, analyse and present information as well as problem solve and use technology. These Key Competencies are imperative to meeting the company’s strategic objective. So I was extremely pleased to find that all the key competencies I developed fitted in so well with this culture.”

“I got the job because of it!”

(3) Employers

An early survey concluded that 92% of industry respondents considered Key Competencies to be highly desired and that certification of these skills would be useful in the process of recruiting. More recently feedback has been received from employers who have recruited students since the introduction of the Key Competencies Assessment Strategy. A company manager talking about two E&IT students undertaking an industry R&D project said...

“This is probably their first ever experience in a real Electronics & IT workplace so all they have had is the training from your program and they are performing admirably. You have provided them with a suitable methodology to learn to be effective in the workplace”.

The HR Manager of a local ‘award winning’ E&IT enterprise said they selected an E&IT graduate specifically on the basis of evidence of demonstrated and certified Key

Competencies over a number of more technically qualified applicants. They are extremely pleased with this graduate's performance, diverse capabilities and work-readiness – and have established a strong link with TVTAFE as a result.

(4) Management

“Since the formation of our Employment Service Unit in 1996 we have been able to gather feedback from employers who frequently comment that it is these skills (Key Competencies) that make our graduates ‘work ready’ and ‘able to hit the ground running’”. Nancye Stanelis, Assistant Director TVTAFE

“...a national information technology recruitment firm stated that E&IT graduates were preferred by employers because of their ‘work-ready’ skills and wanted to know how this was achieved ...” Peta Pash, E&IT Educational Manager.

Conclusions

The E&IT Key Competencies Assessment Strategy has proven itself as a valid and valuable model. At this point it is worth pondering the future directions of this initiative. Two issues are likely to have an impact in the immediate future.

First, the development of a mandatory assessment framework for Key Competencies, while still maintaining the benefits of learner choice and control, is being considered. This has significant implications for the practical implementation within the E&IT program. It would transfer the major focus and effort from promoting and encouraging participation to engaging in validation and developmental support. This may be a much more efficient and effective use of physical and human resources.

Second, the growing recognition of the Employability Skills Framework proposed by the Australian Chamber of Commerce and Industry as a possible successor to Key Competencies is likely to influence future directions in the E&IT strategy. This new framework does not conflict with our Key Competencies assessment model but will call for some refinements. It brings with it some enhancements including a much broader set of skills and attributes. A major concern, however, is the lack of reference to performance levels. The performance levels of the current system are a crucial element for effective assessment and provide a developmental pathway for these skills in the current E&IT model.

Further information

(1) NCVET: <http://www.ncver.edu.au> (soon to be published...)

E&IT Key Competencies Assessment Strategy (Research readings: generic skills)

The Authentic Performance-based Assessment of Problem Solving by David Curtis and Rob Denton (Research Report)

(2) E&IT, Torrens Valley TAFE: www.tvtafe.com.au/electronics

(3) Alverno College, Ability-Based Curriculum: <http://www.alverno.edu/>