

Enhancing The Academic And Social Learning Of Irish Undergraduates Through Emotional And Social Skills Development.*

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Abstract

This paper considers the potential merits of emotional competency coaching for undergraduate students. We outline the findings from our previous work which showed, for example, that a sample of First Year undergraduate students failed to engage with coaching primarily because it was not a mandatory aspect of the curricula. An analysis of the National Framework of Qualifications (NFQ) - which details the specific learning outcomes that must be achieved by all Irish academic syllabi found that this framework makes scant reference to the development of social and emotional skills. Therefore, a revised working model of the NFQ is proposed, which incorporates learning outcomes related to emotional and social development at all levels of academic attainment.

Keywords: Emotional intelligence, emotional competency, student support, education.

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1. Introduction.

The study and measurement of cognitive intelligence, which has been conducted largely within a psychometric framework, has yielded robust and practical results, and a number of studies have found that higher levels of cognitive intelligence are related to academic success across the educational spectrum (Gottfredson 1998, Laidra, Pullmann, and Allik, 2007). However, the concept of intelligence as a unitary construct has been challenged and several authors have referred to 'multiple intelligence', arguing that human intelligence is multi-faceted and comprises a range of separate, yet related, capacities (Gardner 1983, Goleman 1995, Sternberg 1985). In this regard, there is a growing body of evidence which suggests that, in addition to cognitive factors, there is a range of social and emotional factors which impact educational attainment, but which are not assessed by standard IQ tests (Parker and Broderick 2008, Schutte and Malouf 2002, Yost and Tucker 2000). Proponents of the concept of multiple intelligence have begun to refer specifically to 'emotional intelligence' (EI) and recent developments with respect to the design, measurement and application of tests of emotional intelligence, have led their proponents to argue that the impact of social factors on academic performance can now be measured as readily as cognitive aspects.

1.1 The international research context.

A number of studies have found emotional intelligence to be positively correlated with academic attainment (Duckworth and Seligman 2005, Gumora and Arsenio 2002, Petrides, Frederickson and Furnham 2004). These findings have stimulated the development and examination of educational strategies for the promotion of emotional intelligence. The findings, to date, suggest that emotional intelligence can be improved through the provision of coaching or classroom-based activities and that the promotion of emotional competencies can lead to enhanced academic attainment at all levels of education. For example, a large-scale meta-analysis conducted by Durlak and Weissberg (2005), of 270 school-based social and emotional learning interventions at secondary/high school level, found that they led to a wide range of benefits for students and teachers, including decreased anti-social behaviour and increased motivation. These authors further found that students who engage with such programmes are more likely to report that they like school and have better attendance records and higher GPAs than their peers who do not participate.

With respect to third level students, Boyatzis and Saatcioglu (2008) conducted a 20-year review of attempts to embed aspects of emotional competency in the curricula taught to students on an MBA programme in the United States; they concluded that, not only do such efforts impact positively on the development of emotional competencies such as interpersonal and intrapersonal skills, but they also have a knock-on positive impact on the development of cognitive abilities, such as problem solving skills and memory recall. Research also suggests that academic failure accounts for as little as one fifth of cases of drop-out and that students often discontinue their studies for reasons unrelated to their academic attainment, such as emotional and social pressures (Codjoe and Helms 2005). In this regard, Kingston (2008)

found an inverse relationship between drop-out rates and coping skills for a sample of students at a teacher training college in the UK. Such findings suggest that working with students at all levels of academic attainment to help them increase their level of emotional intelligence/competence, may be of benefit to them academically and particularly those who are most at risk of 'drop-out'.

Although there is much evidence to suggest that enhancing students' emotional and social skills can lead to increased academic attainment, there is also some debate as to the exact relationship between EI and academic performance (Bastian et al 2005, O'Connor and Little 2003). For example, Bastian et al (2005) found that EI is a poor predictor of life skills including academic achievement. EI is a relatively new field and it is possible that, as further research findings emerge in this area, more refined measurement techniques and methodologies may help to further improve our understanding of this complex area. For example, until recently, none of the tests of EI commonly employed in this field had been adapted for use with children, which means that children's EI scores cannot be easily computed or compared. However, the recent publication of a version of the Trait Emotional Intelligence Questionnaire which has been adapted for use with children, the TEIQue-Child Form (Mavroveli and Petrides 2008), may help to address this gap. Thus, whilst there is not yet a consensus as to the exact nature of the relationship between EI and academic attainment, a considerable body of evidence exists to support the utility of developing students' EI with a view to increasing academic attainment and reducing drop-out, thereby justifying its importance and the potential for investing resources therein. Furthermore, whilst international research points toward the value of developing emotional competencies in educational contexts, very little is known about this field in Ireland.

1.2 National and international frameworks and approaches.

Each individual member country of the European Union (EU) - including Ireland - has developed its own national framework of qualifications (NFQ). However, there is also an overarching framework of educational qualifications that has been developed for use throughout the EU. This European Qualifications Framework for Lifelong Learning (EQF) aims to enable the recognition and comparison of learning outcomes across educational curricula throughout the EU by listing the principal learning outcomes that should be achieved by graduates at each stage of their educational attainment (http://ec.europa.eu/eqf/home_en.htm). It is particularly notable that no explicit reference is made in these descriptors, or elsewhere in this framework, to the development of emotional competencies beyond the use of, arguably vague references, to concepts such as 'responsibility', 'autonomy' and 'integrity'.

In an Irish context, all nationally approved academic courses must adhere to The National Framework of Qualifications (NFQ) which is published by the National Qualifications Authority of Ireland. The NFQ consists of ten award levels ranging from an ordinary certificate to a doctoral degree and for each level, there are indicators relating to specific learning outcomes that must be achieved in order to complete a course of study at that level. These learning outcomes are further subdivided into eight sub-strands, organised under the broad headings of

'knowledge', 'know-how and skill', and 'competency' (see Table 1). As with the EQF, the NFQ makes only scant reference to the development of social and emotional competencies and whilst 'self-awareness' and 'solidarity with others' are incorporated within the 'insight' sub-strand of the competence category, many aspects of EI, such as empathy, stress tolerance, reality testing and optimism, are not referred to in any way.

Despite the lack of focus on emotional learning in the NFQ, a number of Irish school-based programmes do promote aspects of EI. For example, the core curricula of Irish students at both primary and secondary level include the teaching of 'Relationship and Sexuality Education' (RSE) at primary level and 'Social, Personal and Health Education' (SPHE) at secondary level. The RSE syllabus is a mandatory element of the educational curricula taught to all Irish students. It is taught throughout the primary stream from junior infants (aged 4-5 years) to sixth class (aged 11-12 years) and includes modules pertaining to 'My friends' and 'Showing feelings' for younger students, as well as other more advanced modules in the final years of primary education, such as 'Resolving conflict' and 'Me and my aspirations.'. At secondary level, the SPHE curriculum is taught to junior cycle students only (aged 12-15 years) and is also mandatory, although it is not examined formally. This syllabus builds on the primary school syllabus and includes modules on 'Self-management' and 'Emotional health'.

A review of the implementation of the SPHE curriculum was conducted by the SPHE support service in 2008. The findings suggest that both teachers and students find this subject worthwhile and valuable, but that because it is not examined, insufficient time is given to it in the curriculum. Specifically, the report found that 'students express the view that SPHE is helpful to them in dealing with difficult situations' (p7) and that this curriculum promotes self-esteem and contributes to students' emotional health. The review further found that, although the syllabus is taught only to junior cycle students, parents and teachers all supported the continuation of SPHE through the senior cycle of secondary education.

With respect to third level education, emotional development is not formally or consistently promoted in Irish curricula, at least not explicitly so. However many colleges do offer guidance through induction and support programmes, particularly to First Year students. For example, a Centre for Teaching and Learning has been established at NUI Maynooth which seeks to influence and lead excellence in staff and student teaching and learning. Likewise, Dublin City University has developed both a Learning Innovation Unit to support academic staff and to research new and innovative teaching methods (<http://www.dcu.ie/liu/index.shtml>) and a Student Support and Development Centre (<http://www.dcu.ie/students/index.shtml>) that offers mentoring and support to students.

1.3 The Irish context.

Although research evidence suggests that the development of emotional competencies may be of benefit to students at all levels of academic attainment, until recently there remained two significant gaps in knowledge pertaining to emotional intelligence and academic achievement. Firstly, no previous research had been conducted in an Irish context, to ascertain the impact of the provision of EI coaching on academic attainment for undergraduate students, and,

secondly, no national or international research has explored the reasons why some students choose not to avail of EI coaching when available. In order to address these limitations, the authors recently conducted two studies at an Institute of Technology (IoT) in Dublin,, one of which has been previously published in this journal (Carthy, McCann and McGilloway 2010, Carthy et al 2012). The aim of the current paper is to consider these results and their implications in the context of the NFQ with a view to identifying how the challenge of social and emotional skills development in this framework might be addressed. Each study is summarised briefly below.

2. The Research: An Overview.

Our first study (Carthy, McCann and McGilloway 2010) was a randomised controlled trial involving the provision of EI coaching on a voluntary basis to a sample of First Year undergraduate students (n = 304) at the IoT. All participants (N=304) had their emotional competencies assessed using the Bar-On EQ-i and were then assigned to either a control (n=151) or experimental group (n=153). Participants in the experimental group were invited on an individual basis, to attend an emotional intelligence coaching session at which their EI scores were outlined and explained to them and a personalised EI development plan presented to them. Three months after the coaching sessions took place, participants in both the control and experimental groups had their EI re-tested. In order to allow for measurement of any intervention effect, participants in the control group did not receive their EI scores or coaching until after the study had concluded. The results from this study indicated that, although the provision of emotional intelligence coaching did not impact grade point averages, it led to significant increases in EI scores. Students who attended for coaching were also statistically less likely to drop out.

A second qualitative study was then undertaken with a sample of students (n = 20) who chose not to participate in the above study (Carthy et al 2012). A series of semi-structured interviews was conducted, the principal aim of which was to assess participants' understanding of the term 'emotional intelligence' and to ascertain the reasons why students chose not to avail of coaching. The results of our second study indicated that participants articulated four principal reasons for non-engagement: (1) failure to appreciate the value of developing emotional skills in an academic context; (2) time pressures due to a perceived heavy academic workload; (3) fear that engagement with coaching may highlight potential emotional weaknesses; and (4) that engagement with emotional intelligence coaching was not mandatory. It is worth noting that a majority of participants indicated that EI coaching should, in fact, be a mandatory aspect of the academic curriculum.

3. Implications Of The Research.

An important question raised by our previous research findings and one that is inconsistent with the international literature (e.g. Boyatzis and Saatcioglu 2008, Myers and Tucker 2005), relates to why, in this instance, EI coaching did not impact GPA. We would argue that this

finding may be explained, in large part, by the fact that the NFQ makes only scant reference to a small number of elementary emotional and social competencies. Thus, the development of such skills would appear to be under-valued in Third Level educational institutions in Ireland. Indeed, the findings from our qualitative study support this assertion. Participants in that study articulated a commonly held belief that employers value emotional competencies and that better stress management could help in the achievement of higher grades. However, due to time constraints, these students did not engage with the opportunity to receive EI coaching.

These findings suggest that the academic work of students is predominantly curriculum- and assessment-driven; that is, when students are busy, they are likely to focus their efforts on the indicative syllabi for the programmes that they study, as these are the areas that are formally assessed. Thus, emotional competencies are not highlighted as being of importance to students and are not formally assessed as part of the official syllabi. Ironically, it seems from this research that students are less likely to engage with EI coaching when they have busy study schedules, yet this is exactly when coaching may be of greatest benefit to them.

A simple and potentially very effective means of promoting emotional skills development for undergraduate students would be to ensure that a range of relevant emotional competencies is incorporated within the NFQ. In this regard, a reworking of the NFQ is proposed (see Table 2) which incorporates specific reference to emotional competencies in the learning objectives for all nationally approved syllabi at all levels of educational attainment. The proposed revised learning outcomes grid expands the number of categories from four to five and the number of sub-strands from eight to nine. As the 'knowledge and know-how' and 'skill' categories do not refer directly to emotional competencies, no amendments are proposed to these; however, changes are recommended to the 'competence' category. In order to create space for more extended reference to emotional competences, it is proposed that the competence category be removed and replaced by two new related categories which refer to: (1) 'procedural competence', consisting of the sub-strands 'context', 'role' and 'learning to learn'; and (2) 'emotional competence' consisting of the sub-strands 'intrapersonal skills' and 'interpersonal skills'.

The 'procedural competence' category, as its name suggests, reflects the practical nature of the learning outcomes which are associated with it, whereas the 'social competence' category reflects emotional learning. A simple comparison of the verbs which are assigned to the learning outcomes in both categories highlights the distinction between them. Within the 'procedural competence' category, verbs such as 'act' and 'utilise' are commonly employed, whereas verbs such as 'assume', 'communicate' and 'reflect' are employed within the 'social competency' category. Although each of the categories and sub-strands within the learning outcomes grid measures specific capacities, they are not mutually exclusive and learning in one domain will naturally impact learning in others. Therefore, some degree of overlap between sub-strands is to be expected. For example, within the 'role' sub-strand, the level 10 learning outcome includes the ability to 'Communicate results of research and innovation to peers.' which requires social interaction, thereby necessitating a certain amount of social skill.

These proposed revisions to the NFQ framework and learning outcomes grid would allow for the infusion of aspects of emotional intelligence into the curricula that are taught at all educational levels whilst also allowing for such skills to be formally assessed. However, given that social and emotional skills have not previously been formally assessed in an Irish context, there is no consensually agreed means of assessment and further research is required to ascertain the effectiveness of different forms of instruction with various student groups. For example, whereas a mandatory curriculum may be necessary with younger students, there is a growing consensus, particularly at third level, that there should be a reduction in teacher control and an increase in level of learner autonomy (O'Neill 2010, Ornstein and Hunkins 2003).

Kanoy, Lee and Dillon (2009) outline one novel three-tiered approach which may offer considerable potential as a model of good practice designed to incorporate emotional and social learning across an undergraduate degree programme. First, a 'Survey Model' is proposed for use with First Year students whereby a generic introductory emotional skills module is delivered. Second, an 'Infusion Model' is employed with more senior students, which would aim, as the name suggests, to infuse concepts related to emotional intelligence into the curriculum of established courses and to help students appreciate how emotional intelligence can be related to core course topics. The final strategy, the 'Application Model', adopts an applied perspective and demonstrates how emotional and social skills can be useful in resolving specific problems that pertain to a particular subject area or core topic; this strategy could be employed with final year students.

It is important to note, though, that the implementation of the changes proposed here may be impacted by logistical and financial constraints. For example, staff training may be necessary in some instances which may create a financial burden for schools or colleges. This is particularly relevant in Ireland which has been experiencing an economic recession since 2008 and, as a result, a number of public sector unions, in agreement with government, have committed to the 'Croke Park Agreement' (2010-2014) (<http://per.gov.ie/croke-park-agreement/>) and the 'Haddington Road Agreement' (2013-2016) (<http://www.lrc.ie/documents/2013/Haddington-Road-Agreement.pdf>). These agreements mandate cost reductions and decreases in staffing levels across all public service bodies, including the education sector. This has led to increased workloads for teaching and lecturing staff coupled with decreased budgets for schools and colleges/universities. All of these kinds of developments may create logistical as well as financial pressures with respect to the timely and effective provision of EI coaching initiatives and/or the revision of course curricula.

Notwithstanding, the infusion of emotional and social skills into academic curricula could lead to many benefits for students through the promotion of healthy social interactions and effective stress management, whilst also benefiting both students and educationalists by increasing student engagement and reducing attrition rates. Employers are also increasingly seeking graduates who possess not only academic, but also social competencies, as part of an increasing range of desirable graduate attributes. Indeed, previous research has shown that higher levels of emotional intelligence tend to convey advantages across a range of organisational settings (Cherniss 2000, Cherniss and Goleman 2006, Stanley 2001).

Therefore, promoting the development of students' emotional competencies could also benefit employers by ensuring that graduates possess the kinds of diverse skills which have been linked to increased productivity, amongst other things (Cherniss and Goleman 2006).

4. Conclusion.

It is important to examine emotional competencies in different cultural contexts but, to date, very little is known about the relationship between emotional competency and academic attainment in student populations in Ireland. The working model proposed here is intended to stimulate important debate and to provide an important first step towards the production of a robust means for promoting crucial social skills development amongst students attending Third Level institutions in Ireland and elsewhere. Therefore, the research on which this paper is based, represents an important addition to the international literature whilst also providing a strong foundation for further more large-scale research designed to examine emotional competency training and its practical implementation on a national basis. Our proposed working model for a new version of the NFQ offers the opportunity, at a minimum, to assess the impact of the provision of EI development on learning at all levels of educational attainment.

It was beyond the scope of our research to consider the most effective ways of delivering EI training (or the resource implications therein), but previous international research suggests that this might include a stand-alone module dedicated to social and emotional learning, or alternatively, the infusion of aspects of EI into existing curricula. For example, the current RSE and SPHE curricula could be revised to include more emphasis on emotional learning and a 'personal development' module could be included as a mandatory aspect of the first year curriculum for all undergraduate students. Alternatively, concepts related to emotional and social development could be infused into the curricula through the use of case studies, role play, and/or the addition of relevant texts on reading lists and class discussions (Nelis et al 2011).

Importantly, there is sufficient evidence, both from our work and from a small but growing pool of international research, to consider implementing a novel pilot study (e.g. with First Year students in the first instance) in one or more Third Level institutions in Ireland. This would be crucial in ascertaining how EI training might work in practice and in so doing, to lead the way in producing potential 'cutting edge' innovation in teaching and learning that will help, not only to broaden the Third Level curriculum in a positive way, but also to improve student engagement and increase the range of graduate attributes that appeal to future employers. However, this needs to be tackled creatively and in a way that does not impact negatively on existing resources, particularly at a time when the Higher Education sector in Ireland is suffering under the austerity measures of the last number of years.

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6. Appendices.

Table 1: The learning outcomes for each of the ten levels of the NFO

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Knowledge - Breadth	Elementary knowledge	Knowledge that is narrow in range	Knowledge moderately broad in range	Broad range of knowledge	Broad range of knowledge	Specialised knowledge of a broad area	Specialised knowledge across a variety of areas	An understanding of the theory, concepts and methods pertaining to a field (or fields) of learning	A systematic understanding of knowledge at or informed by the forefront of a field of learning	A systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of a field of learning
Knowledge – Kind	Demonstrable by recognition or recall	Concrete in reference and basic in comprehension	Mainly concrete in reference and with some comprehension of relationship between knowledge elements	Mainly concrete in reference and with some elements of abstraction of theory	Some theoretical concepts and abstract thinking, with significant depth in some areas	Some theoretical concepts and abstract thinking, with significant underpinning theory	Recognition of limitations of current knowledge and familiarity with sources of concepts across a variety of areas	Detailed knowledge and understanding in one or more areas, some of it at the current boundaries of the field(s)	A critical awareness of current problems and/or new insights, generally informed by the forefront of a field of learning	The creation and interpretation of new knowledge, through original research or other advanced scholarship of a quality to satisfy review by peers
Knowledge – and skill – Range	Demonstrate basic practical skills and carry out directed activity using basic tools	Demonstrate limited range of basic practical skills, including the use of relevant tools	Demonstrate a limited range of practical and cognitive skills and tools	Demonstrate a moderate range of practical and cognitive skills and tools	Demonstrate a broad range of specialised skills and tools	Demonstrate a comprehensive range of specialised skills and tools	Demonstrate specialised technical, creative or conceptual skills and tools across an area of study	Demonstrate mastery of a complex and specialised area of skills and tools, use and modify advanced skills and tools to conduct closely guided research, professional or advanced technical activity	Demonstrate a range of standard and specialised research or equivalent tools and techniques of enquiry	Demonstrate a significant range of the principal skills, techniques, tools, practices and/or materials which are associated with a field of learning; develop new skills, techniques, tools, practices and/or materials
Know-how and skill – Selectivity	Perform processes that are repetitive and predictable	Perform a sequence of routine tasks given clear direction	Select from a limited range of varied procedures and apply known solutions to a limited range of predictable problems	Select from a range of procedures and apply known solutions to a variety of predictable problems	Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems	Formulate responses to well-defined abstract problems	Exercise appropriate judgement in planning, design, technical and/or supervisory functions related to products, services, operations or processes	Exercise appropriate judgement in a number of complex, planning, design, technical and/or management functions related to products, services, operations or processes, including resourcing	Select from complex and advanced skills across a field of learning; develop new skills to a high level, including novel and emerging techniques	Respond to abstract problems that expand and reframe existing procedural knowledge
Competence – Context	Act in closely defined and highly structured contexts	Act in a limited range of predictable and structured contexts	Act within a limited range of contexts	Act in familiar and unfamiliar contexts	Act in a range of varied and specific contexts, taken responsibility for the nature and quality of outputs; identify and apply skill and knowledge to a wide variety of contexts	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts	Use advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making; transfer and apply diagnostic and creative skills in a range of contexts	Act in a wide and often unpredictable variety of professional level and ill defined contexts	Exercise personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent contexts
Competence – Role	Act in a limited range of roles	Act in a range of roles under direction	Act under direction with limited autonomy; function within familiar homogeneous groups	Act with considerable autonomy	Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple complex and heterogeneous groups	Accept accountability for determining and achieving personal and/or group outcomes; take significant or supervisory responsibility for the work of others in defined areas of work	Act effectively under guidance in a peer relationship with qualified practitioners; lead multiple, complex and heterogeneous groups	Take significant responsibility for the work of individuals and groups; lead and initiate activity	Communicate results of research and innovation of peers; engage in critical dialogue; lead and/or organise complex social processes
Competence – Learning to learn	Learn to sequence tasks; learn to access and use a range of learning resources	Learn to learn in a disciplined manner in a well-structured and supervised environment	Learn to learn within a managed environment	Learn to take responsibility for own learning within a supervised environment	Learn to take responsibility for own learning within a managed environment	Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs	Take initiative to identify and address learning needs and engage effectively in a learning group	Learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently, professionally and ethically	Learn to self-evaluate and take responsibility for continuing academic/professional development	Learn to critique the broader implications of applying knowledge to particular contexts
Competence – Insight	Begin to demonstrate awareness of independent role for self	Demonstrate awareness of independent role for self	Assume limited responsibility for consistency of self-behaviour	Assume partial responsibility for consistency of self-understanding and behaviour	Assume full responsibility for consistency of self-understanding and behaviour	Express an internalised personal world view reflecting engagement with others	Express an internalised personal world view, manifesting solidarity with others	Express a comprehensive, internalised, personal world view manifesting solidarity with others	Scrutinise and reflect on social norms and relationships and act to change them	Scrutinise and reflect on social norms and relationships and lead action to change them

Table 2: Amended learning outcomes grid for the NFO

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10
Knowledge e – Kind Breadth	Elementary knowledge	Knowledge that is narrow in range	Knowledge moderately broad in range	Broad range of knowledge	Broad range of knowledge	Specialised knowledge of a broad area	Specialised knowledge across a variety of areas	An understanding of the theory, concepts and methods pertaining to a field (or fields) of learning	A systematic understanding of knowledge, at or informed by the forefront of a field of learning	A systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of a field of learning
Knowledge e – Kind	Demonstrable by recognition or recall	Concrete in reference and basic in comprehension	Mainly concrete in reference and with some comprehension of relationship between knowledge elements	Mainly concrete in reference and with some elements of abstraction of theory	Some theoretical concepts and abstract thinking, with significant depth in some areas	Some theoretical concepts and abstract thinking, with significant underpinning theory	Recognition of limitations of current knowledge and familiarity with sources of concepts across a variety of areas	Detailed knowledge and understanding in one or more areas, some of it at the current boundaries of the field(s)	A critical awareness of current problems and/or new insights, generally informed by the forefront of a field of learning	The creation and interpretation of new knowledge, through original research, or other advanced scholarship, of a quality to satisfy review by peers
Know-how and skill – Range	Demonstrate basic practical skills and carry out directed activity using basic tools	Demonstrate limited range of basic practical skills, including the use of relevant tools	Demonstrate a limited range of practical and cognitive skills and tools	Demonstrate a moderate range of practical and cognitive skills and tools	Demonstrate a broad range of specialised skills and tools	Demonstrate a comprehensive range of specialised skills and tools	Demonstrate specialised technical, creative or conceptual skills and tools across an area of study	Demonstrate mastery of a complex and specialised area of skills and tools, use and modify advanced skills and tools to conduct closely guided research, professional or advanced technical activity	Demonstrate a range of standard and specialised research or equivalent tools and techniques of enquiry	Demonstrate a significant range of the principle skills, techniques, tools, practices and/or materials which are associated with a field of learning, develop new skills, techniques, tools, practices and/or materials
Know-how and skill – Selectivity	Perform processes that are repetitive and predictable	Perform a sequence of routine tasks given clear direction	Select from a limited range of varied procedures and apply known solutions to a limited range of predictable problems	Select from a range of procedures and apply known solutions to a variety of predictable problems	Evaluate and use information to plan and develop investigative strategies and to determine solutions to varied unfamiliar problems	Formulate responses to well-defined abstract problems	Exercise appropriate judgement in planning, design, technical and/or supervisory functions related to products, services, operations or processes	Exercise appropriate judgement in a number of complex, planning, design, technical and/or management functions related to products, services, operations or resourcing	Select from complex and advanced skills across a field of learning, develop new skills to a high level, including novel and emerging techniques	Respond to abstract problems that expand and redefine existing procedural knowledge
Procedural Competence e – Role Context	Act in closely defined and highly structured contexts	Act in a limited range of predictable and structured contexts	Act within a limited range of contexts	Act in familiar and unfamiliar contexts	Act in a range of varied and specific contexts, taking responsibility for the nature and quality of outputs, identify and apply skill and knowledge to a wide variety of contexts	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts	Utilise diagnostic and creative skills in a range of functions in a wide variety of contexts	Use advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making; transfer and apply diagnostic and creative skills in a range of contexts	Act in a wide and often unpredictable variety of professional level and ill defined contexts	Exercise personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent contexts
Procedural Competence e – Role	Act in a limited range of roles	Act in a range of roles under direction	Act under direction with limited autonomy; function within familiar homogeneous groups	Act with considerable autonomy to responsibility and autonomy	Exercise some initiative and independence in carrying out defined activities; join and function within multiple, complex and heterogeneous groups	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within multiple, complex and heterogeneous groups	Accept accountability for determining and achieving personal and/or group outcomes; take significant supervisory responsibility for the work of others in defined areas of work	Act effectively under guidance in a peer relationship with qualified practitioners; lead multiple, complex and heterogeneous groups	Take significant responsibility for the work of individuals and groups; lead and initiate activity	Communicate results of research and innovation of peers; engage in critical dialogue; lead and organise complex social processes
Procedural Competence e – Learning to learn	Learn to sequence tasks, learn to access and use a range of learning resources	Learn to learn in a described manner in a well-structured and supervised environment	Learn to learn within a managed environment	Learn to take responsibility for own learning within a supervised environment	Learn to take responsibility for own learning within a managed environment	Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs	Take initiative to identify and address learning needs and interact effectively in a learning group	Learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently; professionally and ethically	Learn to self-evaluate and take responsibility for continuing academic/professional development	Learn to critique the broader implications of applying knowledge to particular contexts
Emotional Competence e – Intrapersonal awareness	Begin to exercise emotional self awareness and formulate independent role for self	Exercise emotional self awareness and formulate independent role for self	Assume limited responsibility for consistency of self-understanding and behaviour and the exercising of impulse control	Assume partial responsibility for consistency of self-understanding and behaviour and the exercising of impulse control	Assume full responsibility for consistency of self-understanding and behaviour and the exercising of impulse control	Express an internalised personal world view	Express a comprehensive internalised personal world view	Recognise and respond appropriately to symptoms of mental stress	Display emotional resiliency and the ability to take preventative measures to minimise potential future stress	Lead action to promote healthy intrapersonal development in professional contexts
Emotional Competence e – Interpersonal awareness	Begin to demonstrate awareness of the emotions of others	Demonstrate awareness of the emotions of others	Effectively communicate one's emotional state to peers or colleagues	Begin to develop and maintain healthy interpersonal relationships	Demonstrate the capacity to develop and maintain healthy interpersonal relationships	Begin to work cooperatively, consistently and constructively in social groups	Work cooperatively, consistently and constructively in social groups	Display the capacity to adjust emotional responses to changing situations and conditions	Scrutinise and reflect on social norms and relationships and act to change them	Scrutinise and reflect on social norms and relationships and act to change them

