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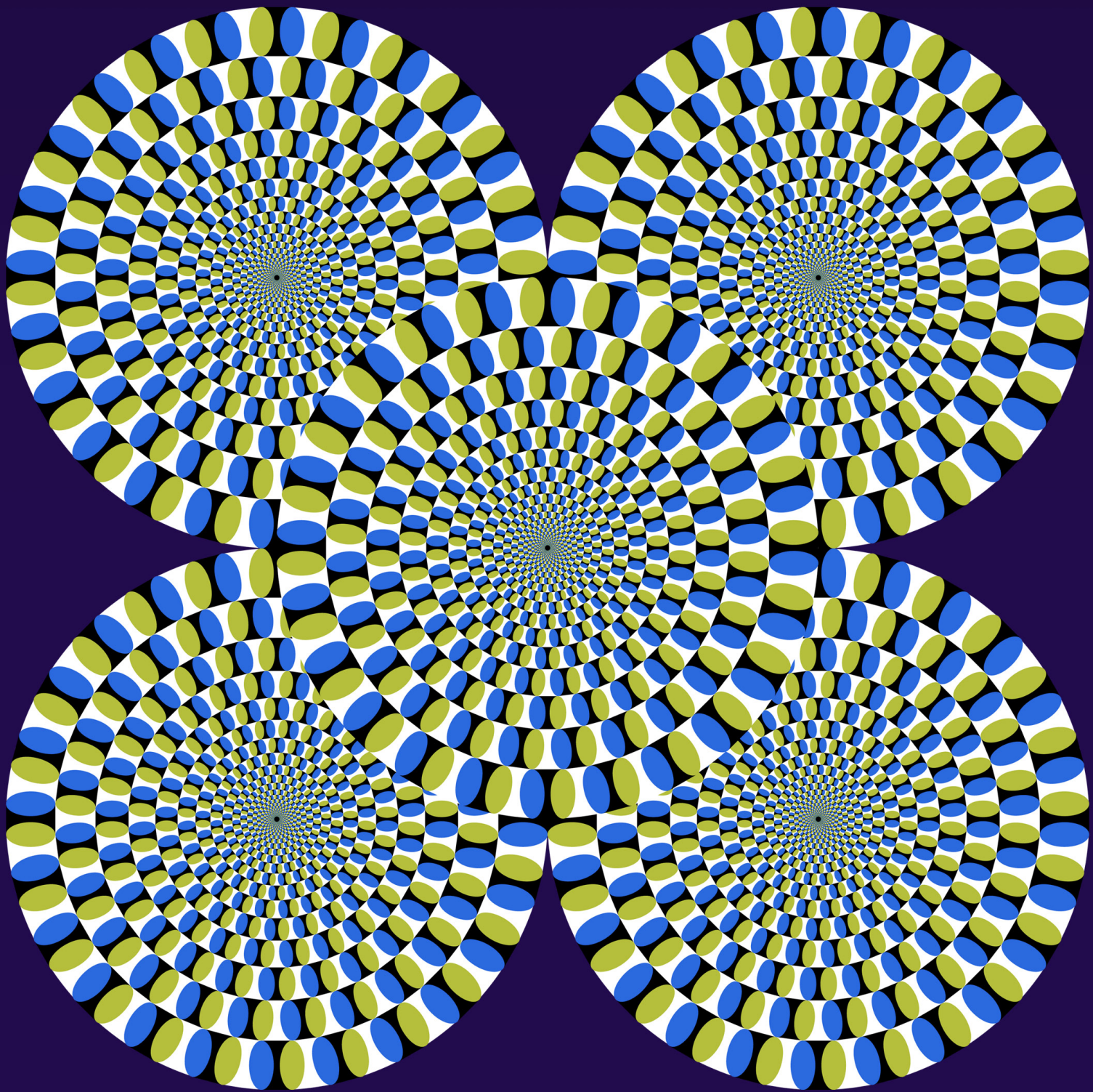

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Abstract

Increasing market-place competition, continuous upgrading of quality standards in both the industry and service sectors and consequent growth in demand for more highly skilled labour has enhanced the importance of cooperative education, that is, education that combines classroom learning with learning at the workplace. Consequently, throughout the world, cooperative education and training are being implemented, albeit in different ways, depending on national and local circumstances, national policies on vocational education, social and economic structures, historical contexts and school and university systems. Practitioners and researchers are increasingly exploring national and international best practices in the area of cooperative education, with an aim to develop policies for and models of cooperative education that suit national and local circumstances. In this study, the ways in which cooperative education is practised in six different countries is explored through comparisons with the Federal Republic of Germany.

Keywords: cooperative education, work-integrated learning, work-based learning, and dual vocational training.

Work-integrated learning (WIL) programs are now common worldwide, and the way in which learning in an educational institution and learning in the workplace are mixed is continuously being reworked and improved with an aim to improve learner outcomes in terms of the knowledge, skills, and competences acquired by learners. The major benefit of the WIL approach is the extent to which it enhances the employability of programme graduates, an outcome that resonates with the aspirations of students who expect a pay back from their investment in education (Abeysekera, 2006). Cooperative education provides progressive experiences in integrating theory and practice. One of the most important things is that WIL is a partnership among students, educational institutions, and employers, with specific responsibilities for each party (Cates & Jones, 1999).

More recently, the perspective on WIL has expanded, as it is now acknowledged that WIL contributes not only to the development of technical skills and competences but also to the development of skills and competences in communication, teamwork, organisational effectiveness and leadership, information management, creative thinking and problem solving

WIL, which essentially involves combining classroom education and training with workplace learning, manifests itself in two predominant models. In one model, students alternate a semester of academic coursework with an equal amount of time in paid employment and repeat this cycle several times until graduation. In the second model, the day is split between school and work; thus, the co-op model includes school-based and work-based learning and, in the best programs, connecting activities, such as seminars and teacher-coordinator worksite visits. These activities help students to explicitly connect work and learning (Kerka, 1999). Positive results may also be achieved when workers are upskilled in educational institutions. In this type of cooperation, both short-term programs for specific topics and more comprehensive long-term programs may be organised, depending on the requirements of the industry.

According to many authors, learning is neither confined to what happens in a classroom nor is it a one-off experience; rather it is, as Taylor noted, a continuous, lifelong learning activity and takes place when a student is placed in an actual working environment (Taylor, 2002). More recently, the perspective on WIL has expanded, as it is now acknowledged that WIL contributes not only to the development of technical skills and competences but also to the development of skills and competences in communication, teamwork, organisational effectiveness and leadership, information management, creative thinking and problem solving (De Lange, 2002).

Zegwaard, Coll, and Hodges (2003) argued that the success of WIL can be measured and interpreted through the use of sociocultural approaches. Indeed, they conclude that learning within WIL programmes is socially mediated and suggest that the evaluation of learning in work placements should focus on what learning has actually occurred rather than on an evaluation of the WIL program or its operational outcomes.

Given that industry generally recruits its skilled manpower from educational institutions, different strategies and road maps have been developed to educate and train the qualified manpower that industry needs (Tekin, Arslan, & Ulusoy, 2006). For example, the rapidly changing knowledge and skill requirements in the engineering field require that engineers educated mainly in the scientific principles of a broad engineering discipline must develop new skills and acquire specific knowledge to better equip themselves for the different engineering roles that comprise their careers. Meeting the professional needs of engineers and the industry in which they work requires continuous, efficient and flexible delivery of up-to-date, industry-relevant programmes (Ferguson, 1998). Continuous education and professional improvement are critical to ensuring that those who work in the field of engineering technology are equipped with the social and technical skills and competences essential to filling their work roles effectively and rewardingly, irrespective of whether those roles are of a technical or managerial character. In the real world, much of this continuous professional development is delivered in the form of in-house training. Notwithstanding, cooperation between the university and industry in transferring new technological knowledge to the workplace is commonplace.

Interestingly, Taylor (2002) maintained:

> Cooperative education as a strategy for combining classroom learning with workplace training is becoming well known internationally. So too are the concepts of life-long learning and continuous education and in the minds of many authors learning is not confined to what happens in a classroom, neither is it a 'one-off' experience. Cooperative education typically occurs when a learner is placed into the actual working environment. The question arises, what about a working adult entering the academic arena? If this process is formalised could there be a new slant to cooperative education--one of life-long learning and reversal of cooperative education where the world of work sends its adult learner into the education sector? There is some recent research . . . that suggests that there is now a growing trend worldwide-a trend of reverse cooperative education.

Studies on continuous education and alteration are highly significant in order to improve the technical and social abilities of the industry employees. Generally, these kinds of educational facilities are carried on in the range of in-house training. Besides in-house training, it is also possible to improve the abilities of the employees with the projects with the help of the cooperation of the schools and industry. It is obvious that rather than cooperative education, which proceeds from school to industry practice, reverse cooperative education, which proceeds from industry to school practice, can make a significant contribution in improving workplace performance (Arslan, Kus, Mumcu, & Uzaslan, 2008).

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Keeling, Jones, Botterill, and Colin (1998) explored the role of motivation and employer-employee interaction in promoting both participation in and success of work-based learning. In doing so, they use a particular model of motivation to explain the critical importance of communication in stimulating involvement in this type of activity. According to these authors, congruence and dissonance between the employer and the employee perspectives of work-based learning have been identified as major influences that affect motivation and subsequent participation in this approach to knowledge and skill acquisition.

Gohringer (2002) described the acceptance of German Berufsakademie, or University of Cooperative Education, graduates in the job market. This system, which is unique to this type of university in Germany, combines theory and practice in equal parts. The research suggests that these graduates are employable because they are able to successfully carry out workplace tasks shortly after graduation without further training.

Vocational schools and firms that provide in-house vocational training (training companies) have considerable freedom in both organising and conducting dual vocational training programmes. Germany´s Federal Vocational Training (Reform) Act of 2005 provides the overall architecture at national level of the dual vocational education and training system and the principles and procedures to be pursued when applying the system. The Act stipulates the institutional relationships between the main actors in vocational training, the parameters, as well as certification issues and procedures hereto in order to secure at national level a uniformly recognized VET area. The Act deals primarily with the in-company portion of vocational training in all of the 16 federal German states, while school laws and curricula provide the foundations for the portion of the vocational training provided by vocational schools. Although schools have freedoms in designing education for the trainees attending their classes, curricula in vocational schools have to be coordinated with the work-based training delivered via the trainer in the company and in such a way that and education results are complementary in observing respectively achieving the principles, targets and results as defined in the Act.

Our knowledge about how companies and vocational schools currently shape and organise their day-to-day training and how the trainees rate the resultant quality of their training has, to date, been somewhat lacking. To learn more about the way trainees rate their training, the German Federal Institute for Vocational Education and Training (BIBB) surveyed some 6,000 trainees undergoing training in 15 different occupations where training is managed through the dual vocational training system (which combines part-time vocational schooling with practical work experience). This survey revealed the strengths of the dual vocational training system and aspects of the dual system that need improvement (Beicht, Krewerth, Eberhard, & Granato, 2009).

The Federal Republic of Germany's dual vocational training system has received considerable international attention over the last ten years in view of concerns surrounding vocational qualifications and related employment issues in many countries. International

comparative studies (e.g., for the Organisation for Economic Cooperation and Development [OECD]) show a relatively low unemployment rate among young adults in Germany compared with other similarly developed European countries. This fact has been primarily attributed to the main characteristics of the dual system; a system that combines compulsory part-time education with on-the-job training.

The strength of the dual system depends primarily on the quality of on-the-job training. Fracturing of the traditionally close connection between professional qualifications and productive work, as a result of technological and organisational changes, has led to a separation of these distinct elements within the vocational training system. In extreme cases, one type of workplace (company) confines its training process to qualifying young persons to meet its own demand for qualified personnel; whereas, the other type of workplace views its trainees merely as cheap labour. Since 1975, the number of workplaces falling into the first category has remained constant or has even diminished, while the number of training firms that fall into the second category has grown somewhat disproportionately, resulting in a decrease in the average quality of the training being provided to apprentices. This situation holds especially true for young people who, for one reason or another, are already at a disadvantage in the job market. In other words, disadvantage is increased rather than diminished.

Findings

Most countries have some form of internship (work-based learning) as an integral part of their vocational education programmes (both at initial vocational education training [VET] and continuing VET levels), but in all countries, with the exception of Germany, work-based learning tends to be subsidiary to school/college-based learning. Consequently, it is the educational institution that has primary responsibility for the education and training, and the business organisation is subsidiary to the entire process. In this context, the business organisation has neither responsibility nor authority for the provision and certification of the training; it merely provides the trainee with some experience of a working environment. In Germany, however, the trainee is principally based in the workplace (company) and spends one to two days per week in the vocational school.

Most countries have some form of internship (work-based learning) as an integral part of their vocational education programmes (both at initial vocational education training [VET] and continuing VET levels), but in all countries, with the exception of Germany, work-based learning tends to be subsidiary to school/college-based learning.

In England, the main Government-funded training scheme for young people is the Apprenticeship programme. It is available at several different levels: young apprenticeships for 14 to 16 year-olds provide an opportunity for motivated school pupils to spend up to 2 days a week in the workplace learning a trade. Apprenticeships for adults, which cater for those over the age of 25, began to be introduced nationally from September 2007. Learning takes place both in the workplace and with a local learning provider. Apprenticeships for adults belong to the family of apprenticeship programmes available in England (Higginson, 2009).

In Italy, for all types of apprenticeship, regions and institutions involved (ministries, social parts, universities, according to apprenticeship type) are responsible for the definition of the formative profiles. The Individual Formative Plan is a document containing the planning of the formative activities that will be developed by the apprentice during the labour contract. (Scalmato & Angotti, 2009). On the other hand, some new cooperation trends are particularly investing both the local and national level in Italy. The first one is business incubation (traditional technology business incubators and social innovation incubators) linked with entrepreneurship education, and the second one is the recognition and validation of skills and competences acquired out of formal learning pathways (particularly on-the-job).

In Turkey, students who are in Vocational Education Centres get 4 to 5 days of skill education in establishments and companies. Students who are continuing their education at vocational high schools get 3 days of skill education in establishments and 2 days theoretical education at their schools. The vocational/technical schools of higher education are more technical skill and competency oriented whereas undergraduate programs of universities generally provide technical knowledge and analytical skills (Ercan, Saritas, & Kesici, 2007). A university/industry cooperation project, a WIL program called *Integrated Education Project*, between Uludag University and FIAT & TOFAS Company, one of the leading automotive companies in Turkey, has been carried out in since 1987. The main objective of this project is to train technicians of the future so as to have them being in industry in a way that complements their theoretical knowledge (Arslan & Surmen, 2008).

In Slovenia, pupils that have successfully completed elementary school can enroll in three-year vocational programmes (Zver, 2008). These programmes can be provided by vocational schools or in cooperation with employers as a dual system of apprenticeship and in-school education. Trainers in apprenticeships must possess at least a master craftsman qualification, which can be acquired after three years of work experience in the relevant trade or business by passing a special examination. They have a 40-hour weekly workload and must respect workplace regulations.

In Lithuania, vocational training programmes are designed for persons of different ages and educational attainment level (Ministry of Education and Science of the Republic of Lithuania [MESRT], 2010). They are developed in accordance with the relevant VET standards. Practical training comprises 60% to 70% of the total time allocated to teaching vocational subjects, and is usually carried out in school-based workshops and companies. In the case of the latter, they may continue their studies in Lithuanian institutions of higher education on university or college study programmes. The most successful graduates, or those with work experience in the field of the acquired qualification, are awarded additional entrance points when applying to higher education (MESRT, 2010).

The most obvious difference between the German situation and that of Ireland, Wales, Turkey, Lithuania, Italy, and Slovenia is the extent to which business (including Chambers of Commerce) is an equal partner with education and labour unions, not only in the plan-

ning for and design of vocational education programmes, but also in the implementation and certification of these programmes. This situation results in the German vocational education programmes meeting the needs of business to a greater degree than in the other countries. By extension, it also results in graduates of the dual system being more employable than are graduates of school/college-based education/training programmes.

The entire ethos of the German social market economy is one of partnership between the economy as the directly productive portion of the social-economic organisation (industry, services, and so forth) and labour unions, within the legal and institutional framework established by the State. It is important to note that the German State does not generally become involved in market operations but leaves these to interactions between businesses and labour unions. This ethos is lacking, to a greater or lesser extent, in the other participating countries, whereas in post-war Germany, it is based on the political philosophy of *ordoliberalism*.

While the German dual system of vocational training provides trainees with knowledge, skills, and competences that are highly relevant to the needs of the modern workplace, and those who graduate through the system are work-ready and very attractive to employers, the training approach, while designed to be inclusive, is not entirely inclusive in its effects in that it caters to those who are able to obtain a traineeship position in the first place. In other words, the dual system further advantages those who already possess considerable advantages at the moment they leave full-time schooling and ignores the training needs of those who, at the point they leave the school system, neither possess what it takes to obtain a traineeship nor possess, perhaps more importantly, what it takes to become a responsible and fulfilled citizen (see below for reference to other VET pathways in addition to the dual system within the German VET system).

In the Eurpean Union (EU), and indeed throughout the world, one of the key characteristics of education/training policy is a commitment to inclusion that is, providing all young people with the opportunity and support necessary to make the most of their talents and achieve their maximum potential in the workplace, family, and community.

In the Eurpean Union (EU), and indeed throughout the world, one of the key characteristics of education/training policy is a commitment to inclusion that is, providing all young people with the opportunity and support necessary to make the most of their talents and achieve their maximum potential in the workplace, family, and community. From a social policy perspective, it would, therefore, seem that the dual system leaves something to be desired. This weakness may be ameliorated if the State were to require businesses to take on a certain quota of trainees who would not, in a free-market situation, obtain traineeships. The burden of including these disadvantaged young people in the dual system education/training programme could be borne by the State through the payment of training allowances for this additional group of trainees. If these young people remain in the educational system, it would also cost the State to train them.

Most other countries participating in the study visit tend to have more obviously inclusive approaches to the provision of vocational education and training; however, it is acknowl-

edged that the training these countries provide is likely less effective from the point of view of the productive economy than that which is provided through the German dual system.

In discussions of the lack of inclusivity in the German dual system, it was noted, in its defence, that the dual system is only one VET pathway in the German system and that those who, for whatever reason, fail to gain access to this pathway have other VET pathways available to them. That being said, given the efficacy of the dual system pathway, it would seem reasonable to propose that it should be open to as many young people as possible.

With the exception of Ireland and Wales, the participating countries have some type of student selection/differentiation at the gateway to second-level education, but the German selection/differentiation process seems to be too premature, as it comes into play at the age of 10. The participants felt that 10 years of age was far too early to make judgements about the capacity/potential of a young person and that selecting students for different school types at such a young age can amount to what may be termed a self-fulfilling prophecy.

From a progression perspective, it was felt that those in Germany completing dual system traineeships would benefit if there was a more accessible route available to them to either higher technical (Fachhochschule – University of Applied Science) or higher education (once they have completed their apprenticeship), without having to complete the equivalent of an additional year of study.

Challenges Faced By Countries

Currently, the most obvious challenge to reforming the system in several European countries is a lack of resources, mainly due to the economic crisis. Funding for all education and training programmes is being cut, and there is little prospect of new initiatives being funded.

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Additionally, in several of the countries, there is no consensus between labour unions and business and national economies are seen as zero-sum games where one side can only prosper at the expense of the other. In Germany, however, there is, in the context of the social market economy (Soziale Marktwirtschaft), a view that both sides (labour and business) can gain by working collaboratively with one another in growing the economy and that vocational education, which, it must be acknowledged, caters principally to less academic students, is very much integral to this process.

When it comes to education/training (outside of the dual system in Germany), the lack of responsibility sharing between labour unions and businesses can result in suspicion between labour and business in regard to cooperative education programmes. For example,

German unions are prone to see education programmes that involve significant unpaid work placement as opportunities for employers to gain access to cheap or free labour. However, because employers have not been involved in planning the theoretical aspects of educational experience, they may only see it as a means to obtaining free labour and, therefore, lack commitment to the provision of quality training per se.

To work effectively, cooperative education requires real partnership between labour (trade unions), business and education in the planning, implementation and certification of education programmes. In discussions with a particular employer, the group gained the impression that partnerships between business and education in Germany may be diminishing in the context of a move toward greater free-market approaches and that the balance of power has swung in favour of the employer whose evaluation of the trainee's achievement seems to carry more weight than does the evaluation of the vocational school. However, in later discussions with representatives of the Chambers of Commerce and Industry, it became obvious that this is not the case in Germany, even if some employers may feel this way. Indeed, the Chambers of Commerce and Industry (the bodies charged by the State with managing the entire dual system) make it very clear that they consider the role of the vocational school to be critical to the entire process and point out that all trainees, irrespective of how well they do in the workplace, must obtain a passing grade in theory and practical examinations based on subject matter studied in vocational school and in an oral examination/interview covering similar material. In this regard, however, it should be recognised that the German Chambers of Commerce and Industry and the Chambers of Crafts are funded by the business sector through compulsory contributions, and they may, therefore, be somewhat biased in their defence of the business sector at times.

The current economic crisis, with its attendant high levels of unemployment, has also reduced the number of training sites made available by the business community in Germany. This situation is undermining the dual system to some extent, as with the absence of business-based training sites, it is necessary to increase the numbers being educated/trained exclusively in schools/colleges.

Similarly, in countries that may wish to move to a dual system, employers are so busy keeping their enterprises viable that they do not have the time, resources, or inclination to take on trainees. Additionally, trade unions are not well disposed to businesses taking on unpaid trainees, particularly at a time when they may be making employees redundant. For this reason, it does not seem particularly propitious to introduce the dual system at this time. However, its introduction may well be the key to ensuring that businesses have the knowledge, skills, and competences necessary to taking advantage of the economic upturn when it arrives.

The dual system in Germany emerged in a historical context that resulted in a unique partnership between trade unions (representing employees), employers associations (representing businesses) and chambers of commerce and industry or chambers of crafts

(public bodies, which although funded by businesses, represent the State). However, in the other countries (to varying degrees), no such partnership exists between businesses and unions, each of which sees itself in a permanent battle with the other for a share of the national economic cake.

While the relationship between businesses and trade unions was near ideal in Germany for establishing and maintaining the dual system, the differences between businesses and trade unions in other countries would make the establishment and maintenance of the dual system quite difficult. However, some felt that the current economic crisis presented government, unions, and businesses with an opportunity to review and reform the employer-employee relationship and that in the context of such reform, there may be a real opportunity for countries with adversarial industrial relations systems to adopt the German dual system approach to VET in the context of cementing new consensus-based relationships between labour unions and businesses.

However, in most of the countries, it is acknowledged that much vocational education and training is too theoretical, that the numbers dropping out of such education/training are a problem, and that the training is not sufficiently relevant to the needs of the workplace. There is also a strong perception that the academic education and training that takes place in schools and colleges has a higher social status than that which takes place in the workplace. Young people like the idea of being a student, and the life of the full-time student carries a certain glamour. Additionally, likely for historical reasons, parents like to see their sons and daughters remaining in school as long as possible. Leaving school early, even to participate in highly effective work-based learning programmes, such as the dual system, is seen as second best.

In Turkey, for example, students in a very effective two-year university diploma course in automotive engineering that involved the entire second year spent in the workplace, felt isolated and unhappy about being deprived of the full-time college experience enjoyed by their fellow students (Arslan & Surmen, 2008). Indeed, this sense of isolation and disappointment seemed to colour their view of the workplace in which they spent their intern year, and they tended to not seek further employment in that workplace after finishing their course. It seems that any country seeking to expand its workplace learning, at the expense of full-time education, faces a major challenge in convincing teachers, students, and their parents of the merits of such an approach.

Currently, in most countries, the curriculum and mode of delivery for full-time school- and college-based education and training programmes is reformed at regular and rather lengthy intervals.

Currently, in most countries, the curriculum and mode of delivery for full-time school- and college-based education and training programmes is reformed at regular and rather lengthy intervals. For example, it would not be unusual for such programmes to be reviewed every 5 years. Indeed, given the structures and processes that are in place to undertake such reviews and reforms, it would be extremely difficult to appreciably shorten these intervals. However, the German

dual system is more dynamic in the way it responds to the training needs of the workplace because it is open to continuous improvement through periodic negotiations between trade unions and employers regarding regulations governing professional education at the federal level.

In Germany, all companies are required to join the Chambers of Commerce, which is not the case in Wales and Ireland. Compulsory Chambers of Commerce membership means that all companies can have a voice in relation to VET provision. However, in some countries, such as Turkey, Chambers do not take their training responsibilities as seriously as they could, and if progress is to be made toward implementing a dual system in Turkey, the Chambers of Commerce must change their attitude to education and training and the way in which they can contribute to its implementation.

Some Effective and Innovative Solutions

In Turkey, all vocational education curricula at the second level are designed by the Ministry of Education. In one sense, this is a strength in that it ensures that the same standard is observed across the country. In another sense, this centralisation of curriculum design limits the capacity of individual schools and/or regions to cater to local needs.

In terms of vocational education providers catering to the particular needs of individual students and the communities they serve, Slovenia allows its schools to design 20% of their curriculum content. Similarly, in Italy, schools are allowed to design 20% of their vocational education curriculum. In Turkey, consideration is being given to accommodating students' dissatisfaction at having to spend the second year of their 2 year university course in a motor vehicle construction site. One way of addressing this dissatisfaction among Turkish students may be to adopt the Irish practice of requiring students to spend their summer vacation in the workplace, which could result in VET students spending more of their 2 year course in the university. Alternatively, the period of their work placement may be broken up into shorter periods, which could be spread across the entire 2 years. In Turkey, to encourage employers to offer work placements, the government has agreed to pay the social insurance levy (20% of the trainee allowance) for students on work placement.

In Ireland, the current unemployment rate among males under 25 is very high. The possibility of putting into place a national traineeship programme to upskill young, low-skilled employees through a combination of work-based and school-based learning is being explored. The advantages of using work-based learning for a significant amount of the traineeship programme are two-fold. Firstly, the cost of the programme is reduced significantly at a time when funding is limited for such programmes. Secondly, young, low-skilled learners, particularly males, learn much better in practical situations, while they find it difficult to engage educationally in abstract (classroom-based) contexts.

Beginning in September 2010, the 14 to 19 Learning Pathways programme in Wales (a

Welsh Assembly Government initiative) aims to ensure a minimum curriculum offer for all students at the age of 14 and then again after the compulsory school attendance age of 16. This curriculum offer will provide all students with access to a vocational pathway at both 14 and 16 years of age should such an offer be relevant to their educational and training needs. Furthermore, the Welsh initiative gives all students access to a learning coach for support and guidance. The programme also involves collaboration (including joint timetabling) between schools, further education colleges and work-based learning providers. This highly inclusive approach to education seeks to increase the motivation of students and thus, to improve their skills and capacity to adapt to the challenges of the changing workplace and to reduce the number of young people between the ages of 16 and 18 who are Not in Education, Employment or Training (NEET).

In the convergence regions of Italy, a significant amount of EU funding coming through the Structural Funds within the framework of Regional Operational Plans is allocated to projects submitted by lower and upper secondary schools for the following purposes:

- To facilitate the upskilling of students in IT, maths, reading and foreign languages;
- To reduce the student drop-out rate by involving disadvantaged and/or less motivated students in some practical learning activity in school;
- To open schools to the outside by establishing networks with universities, training centres, local administrations, and so on, with a training offer package specifically addressed to less qualified adults (aged >18), with a view to promoting lifelong learning.

Assessment of the Transferability of Policies and Practices

Insofar as the early selection of students for different types of schools may be seen as relevant to implementing the dual system, a change toward the early selection of students would not be attractive to any of the participating countries. All participants would wish to see student selection delayed as long as possible to ensure that each student has the eventual opportunity to choose a career path that maximises his or her life possibilities.

Opting for the VET pathway can, at times, be seen as limiting a young person's long-term education and career ambitions, even in Germany, due to the lack of clear accessible progression pathways for graduates of VET programmes. In this sense, moves toward expanding VET options may find it difficult to attract both support and resources.

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The particular historical and social context that begot and continues to support the dual system in Germany would be difficult, if not impossible, to recreate in other countries participating in the study visit, given the divisions that exist between businesses

and trade unions in these countries. Additionally, the extent to which labour unions and businesses have the capacity to recognise the long-term benefits that can flow from working collaboratively can limit cooperative endeavours in the short term. However, as mentioned above, the current economic crisis may create circumstances that support the emergence of a dual system. The role of the Chambers of Commerce and Industry in the maintenance of the German dual system of vocational education is critical. However, Chambers of Commerce are not as well developed in the other countries as they are in Germany.

While the entire German dual system may not easily be adopted in other countries for the reasons outlined above, it should be possible for all countries to adopt parts of the system without much difficulty. Ultimately, the German dual system provides for institutionalised collaboration between representatives of workers and employers in the design and implementation of vocational education and training. Each country participating in this study visit has the capacity to facilitate a much greater collaboration between employers and employees in the design and provision of vocational education and training, even if the adoption of the entire dual system would present serious challenges.

Conclusion

The German experience demonstrates that effective vocational education and training can be delivered in the workplace, though such education and training must be supplemented and complemented by a parallel school-based provision. While the formal education system and schools are integral to the process of preparing young people to be effective workers, this goal can only be achieved if the educational institutions work in close collaboration with employers and employees locally and nationally. Many of the weaknesses in vocational education and training outside of Germany are attributable to the extent to which the education system and schools operate in isolation from the real labour market.

While the formal education system and schools are integral to the process of preparing young people to be effective workers, this goal can only be achieved if the educational institutions work in close collaboration with employers and employees locally and nationally.

To ensure that vocational education and training are as relevant as possible to the knowledge, skills, and competences essential to being a productive employee, employers must be closely involved in the design, delivery, and accreditation of education/training. Similarly, employee representatives must be involved in the process for two reasons: (a) because they have a profound appreciation of the realities of the workplace and (b) because their involvement ensures critical collaboration between businesses and labour unions. This collaboration helps reinforce the view that employers and employees can, by working together, produce economic and social outcomes that benefit both sides to a much greater extent than might be possible if both sides spent most of their energy competing for a greater portion of a fixed-size cake. The curent economic crisis may present interested countries with an opportunty to adopt much of what is good in the German dual system of vocational education and training.

Vocational education and training must be appropriately resourced and supported. Currently, outside of Germany, however, the necessary supports/resources are not always available and the current financial crisis has exacerbated this situation. While first, second and third level education is well supported and resourced, vocational education and training is often left to its own devices and to, as it were, make it up as it goes. For example, there are very clearly documented programmes of work (curricula, etc.) at first and second levels. Additionally, first and second level teachers must be appropriately qualified before obtaining employment, and there are a wide range of textbooks and other teaching aids available to facilitate/enhance the work of teachers in these sectors. Similarly, third-level teachers have access to a wide range of textbooks, and their teaching facilities are, generally, updated. Of course, third-level students are also high academic achievers and are, generally, well motivated. However, VET students tend to be less academically able, and a significant proportion have not have had good experiences with formal education. Furthermore, many who teach them would either not have relevant teaching qualifications or, when they have such qualifications, may lack up-to-date workplace knowledge, skills, and competences.

The German system of vocational education and training seems to be well supported and resourced. In particular, the work of both the Federal Institute for Vocational Education and Training (BIBB), the Chambers of Commerce and Industry, and other bodies in informing and supporting the design, delivery and accreditation of vocational education and training seemed very impressive. Ultimately, the fact that so much training takes place in the workplace means that the teaching facilities are, in effect, state-of-the-art laboratories. Additionally, the worksite-based mentors/trainers are up-to-date with the knowledge, skills and competences that the trainees require.

In conclusion, the authors, in order to deepen their comparative research propose to intensify their contacts through site visits in the different countries and to publish a real comparison of the national systems in due course.

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Not All Dimensions of Work Self-Efficacy Are Equal: Understanding the Role of Tertiary Work Placements in the Development of the Elements of Work Self-Efficacy

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Abstract

This paper examines the relationship between a final year tertiary work placement for criminology students at Griffith University in Brisbane and the development of their work self-efficacy. Using a work self-efficacy instrument developed by Professor Joe Raelin at Northeastern University in Boston, a pilot phase in 2006 and a larger study in 2007 investigated the students' responses across seven self-efficacy factors of learning, problem-solving, teamwork, sensitivity, politics, pressure, and role expectations. Both studies utilised a pre- and post-test and comparisons between these indicated that they believed their abilities to participate constructively in their professional work contexts significantly improved as a result of their placement experience except in the areas of learning, teamwork and sensitivity. This finding will allow us to continue to refine the processes of work placements in order to ensure the integrity of this method for student learning.

Keywords: criminal justice education, politics, practicum, pressure, problem-solving, role expectations, self-efficacy, sensitivity, teamwork, work-integrated learning.

Literature Review

Over the past 10-15 years there has been increasing pressure from the Australian Government and employer groups to have graduates *work-ready* (ACNielsen Research Services, 2000, A National Internship Scheme, 2008; Australian Chamber of Commerce and Industry and Business Council of Australia, 2002; Business & Industry and Higher Education Collaboration Council, 2007). The interpretation of the term work-ready is not conclusively agreed upon by both the higher education sector and industry. It is a term that has gathered a range of definitions in order to demonstrate either a process of meeting external agendas by the higher education sector or of trying to explain the qualities, skills, and attributes required for a new graduate to have minimal transition processes into an organisational position.

Work integrated learning (WIL) in its different forms (cooperative programs, sandwich courses, practicum, internships, etc.) is designed to assist a student to make the transition from dependent institutional learner into the role of autonomous, interdependent professional practitioner (A. Bates, Bates, & Bates, 2004). It can be designed to promote personal development, provide exposure to the *realities* of the work environment (including the socio-political elements of organisations, the demands of particular professional requirements, and the responsibilities associated with their future job tasks, to name just a few) and highlight the role of knowledge in the work place. As such, WIL research has provided confirmation that it can increase personal knowledge of the work environment, develop generic skills, and also bring experience that consolidates work-ready attitudes and behaviours (A National Internship Scheme, 2008; Crebert, Bates, Bell, Patrick, & Cragnolini, 2004). On the other hand, if this learning is not made explicit, some students may be left feeling unprepared for the contextual challenges of their first paid professional experience (McDonald, 2007).

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If we accept that WIL is the opportunity that students have to move from dependence to autonomy and interdependence, then we need to understand the important role that self-efficacy plays. Understanding self-efficacy in the context of WIL allows students to build mastery: The success that can come from a well-designed WIL pedagogy can build a robust self-belief that contributes to the quality of perseverance. Exposure to the attitudes and behaviour that are being modelled by the student's direct supervisor and work colleagues can also directly impact their self-efficacy, while verbal encouragement and validation consolidates their growing self-efficacy. Having said this, it is important that the pedagogical experience be set to challenge the learner, but not create an ongoing stressful state that maintains a high state of arousal that creates low self-efficacy (Bandura, 1994). It is important to note that work efficacy is more than just knowledge and skills but also involves a sense of belonging to a particular profession demonstrated by adopting the cultural and behavioural norms of membership (A. Bates, Bates, & Bates, 2007).

Self-efficacy is a critical construct within social learning theory and was introduced by Bandura (1977). He used the concept as a way to describe a personal belief about the ability to perform a particular task or behaviour and believed that this was a significant behavioural determinant of a quality, such as persistence, and in the context of this paper, an indicator of whether or not a person would take a risk to develop a particular behaviour in order to increase the potential of career competency (Bandura, 1982). Bandura argued efficacy development was not static but could be developed through: personal mastery of experience, vicarious learning from modelled behaviour (including seeing people like oneself succeed), being persuaded of one's ability to succeed, and reducing stress that might promote premature failure (Bandura, 1977, 1986, 1997; Gist & Mitchell, 1992). There is a growing research base on self-efficacy and its relationship to worker confidence (Gardner & Pierce, 1998; Raelin, 2008). Additionally, previous research has identified that work placements increase a student's level of self-efficacy (Freudenberg, Brimble, & Cameron, 2010; Freudenberg, Brimble, Cameron, & English, 2011; Coll, Zegwaard, & Lay, 2001; Subramaniam & Freudenberg, 2007). These studies have used a general measure of self-efficacy in a WIL context rather than using a more specific measure of work self-efficacy. Work self-efficacy refers to a set of behaviours and practices used within the workplace including exhibiting teamwork, expressing sensitivity, managing politics and handling pressure.

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In 2005, the first author met Raelin (Northeastern University, Boston) who had been developing a Work Self-Efficacy Inventory (WS-EI). Although there were self-efficacy instruments that investigated specific job skills or career decision-making (Anderson & Betz, 2000; Luzzo, Hasper, Albert, Bibby, & Martinelli, 1999; Paulsen & Betz, 2004), there were no known measures of self-efficacy in the specific context of work. The instrument was not specific to the WIL context but had demonstrated "higher levels of work self-efficacy for each incremental [WIL] experience" in a cohort of pharmacy students (Raelin, personal communication, August 15, 2005). Raelin's paper *Validating a New Work Self-Efficacy Inventory* (n.d.) outlined the process used to authenticate the seven dimensions of work self-efficacy: problem-solving, sensitivity, teamwork, learning, politics, pressure, and role expectations.

Raelin and colleagues (Raelin et al., 2011) have identified that work self-efficacy increases for students with work placement experience between their second and third years at university. However, their paper examined work self-efficacy as a total construct. This study will examine how self-efficacy changes within the seven sub-scales for students that have completed a WIL placement within the criminology context. It was expected that the WS-EI would assist in assessing the value of WIL for developing work self-efficacy in students beginning the process of transition to work. This in turn would contribute to their *work-readiness*.

Method

Participants. The sample comprised 33 final-year undergraduate students from a WIL course in Griffith University's School of Criminology and Criminal Justice (Brisbane, Australia). The majority of participants were female (81.8%; male = 18.2%). The ages of participants ranged from 19 to 38 years (M = 22.8 years; SD = 3.7). The majority of participants had previous work experience (n = 18; 75.0%; missing data = 9)", however, just three participants (12.5%; missing data = 9) had previous work experience in areas relating to criminology and criminal justice. All participants were treated in accordance with the ethical requirements of the Griffith University Human Research Ethics Committee (CCJ/02/07/HREC and CCJ/05/08/HREC) and the ethical principles of the National Health and Medical Research Council.

WIL Course. The School of Criminology and Criminal Justice offers a 1 semester (13 week) work placement course as an elective in students' final year of study. Students who elect to participate in this course attend placement for one day per week for the 13 weeks of the semester (i.e., 100 hours) in an organisation of their choice. Students are assigned a supervisor within the organisational context as well as an academic facilitator from the University. Each student is required to complete a written project or practical task set by the organisational supervisor. A reflective learning journal is also required and complements the development of a learning plan and attendance at four reflective workshops held during the semester. The WIL course has been offered in the School of Criminology and Criminal Justice for more than 15 years. Student placements span traditional criminal justice areas of corrections, police and non-police law enforcement, and intelligence, as well as placements with a focus on social justice, which include youth justice, child protection, homelessness, and issues of mental health and alcohol and drugs. A detailed description of the WIL course is available in M. Bates (2008).

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Materials. The present study utilised a questionnaire design. The anonymous questionnaire had two sections and took between 5 to 10 minutes to complete. The first section assessed participants' demographic characteristics (i.e., age and sex) and students' previous work experience (i.e., full-time or part-time and whether they had undertaken any previous work experience in the field of criminology and criminal justice).

The second section assessed students' self-reported work self-efficacy using Raelin's (n.d.) Work Self-Efficacy Inventory. This inventory consists of 30 items that are classified into seven factors of work self-efficacy: learning (e.g., learn to improve on my past performance; learn from my mistakes), problem solving (e.g., solve new and difficult items; invent new ways of doing things), teamwork (e.g., help build the team as a working unit; manage conflict among group members), sensitivity (e.g., listen effectively to gain information; be sensitive to others' feelings and attitudes), politics (e.g., know

how things "really work" inside an organisation; master an organisation's slang and special jargon), pressure (e.g., work under pressure; work under extreme circumstances) and role expectations (e.g., know what is expected of me as a worker; determine what is expected of me on a job). Participants rated their confidence in their ability to perform each of the items on a five-point scale, where 1 = not at all, 2 = a little, 3 = a moderate amount, 4 = a lot and 5 = completely. Participants' scores for each self-efficacy factor were computed from the mean score of the items for each factor. The overall self-efficacy score was computed using the same computational method. Therefore, each of the factor scores and the overall self-efficacy score ranged between 1 and 5. Previous research has supported the construct validity and internal consistency of the Work Self-Efficacy Inventory (Raelin, n.d.). In the present study, the Cronbach's alpha coefficients were above .7 for all 7 factors and above .95 for the total scale.

Procedure. Participants were recruited through the final-year undergraduate criminology course detailed above. Participants were administered the same questionnaire at two time-points; a pre-test administered prior to the commencement of the placement and a post-test administered upon completion of the placement. A unique identification code was used to match participants' pre-test and post-test results. The response rate for the pre-test questionnaire was 63.2% (n = 24) and the response rate for the post-test questionnaire was 86.8% (n = 33).

Results

The results were analysed using the statistical package SPSS for Windows, Version 15.0. A series of paired t-tests were conducted to investigate whether WIL students' work self-efficacy improved as a result of placement experiences. A series of bivariate analyses were conducted rather than multivariate analyses combining factors (e.g., MANOVAs) on the basis of Tabachnick and Fidell's (2001) arguments supporting this approach for factor/component scores. To protect against inflated Type I errors, Bonferroni's adjustment was utilised with only scores below .007 considered significant (Tabachnick & Fidell, 2001). Prior to conducting the analyses, data were examined to ensure the assumptions specified in Coakes and Steed (2001) and Tabachnick and Fidell (2001) were not violated. Unless noted, all necessary assumptions were met.

Pilot Study. Prior to conducting the main study, a pilot study was conducted on a different sample of 22 criminology professional placement students in 2006 (78.6% response rate). Students completed Raelin's Work Self-Efficacy Inventory once upon the completion of the placement. Here, participants indicated what they believed would have been their level of self-efficacy prior to the placement as well as their perceived level of self-efficacy on the completion of the placement. As both the pre-test and post-test measures were collected at the completion of the placement, it is possible that the pre-test estimates are confounded by other factors, such as students' satisfaction with their placement. Nevertheless, this measure was deemed to be sufficient to provide an estimate of students' perception of the impact of professional placements on their work

self-efficacy for the purpose of piloting the present study. The results of the pilot study indicated that students perceived that their work self-efficacy significantly improved across all of the 7 factors of work self-efficacy, as well as their overall work self-efficacy (see Table 1). Specifically, students generally perceived that they had "little"-to-"moderate" work-related self-efficacy prior to placement, but that this had improved to "a lot" of self-efficacy after the WIL experience.

Table 1.

Differences in Students' Perceived Work Self-Efficacy Ratings Before and After Professional Placements Experiences, as measured on the Completion of the Placement

Self-Efficacy Factor	Pre-Placement[a] *M* (SD)	Post-Placement *M* (SD)	*df*	*T*	*p*
Learning	3.0 (0.8)	4.2 (0.4)	21	-8.58	.001
Problem-Solving	2.6 (0.7)	3.8 (0.4)	21	-10.58	.001
Teamwork	2.8 (0.6)	3.9 (0.5)	21	-9.71	.001
Sensitivity	3.2 (0.7)	4.2 (0.4)	21	-7.37	.001
Politics	2.3 (0.9)	3.9 (0.5)	21	-11.35	.001
Pressure	3.0 (0.7)	3.8 (0.6)	21	-7.12	.001
Role Expectations	2.6 (0.8)	4.1 (0.4)	21	-10.82	.001
Overall Self-Efficacy	2.8 (0.6)	4.0 (0.3)	21	-12.24	.001

Scale: 1 = not at all, 2 = a little, 3 = a moderate amount, 4 = a lot and 5 = completely

[a] Both the pre-test and post-test measures were collected at the completion of the placement

Main Study. To investigate whether WIL students' work self-efficacy improved as a result of placement experiences, students' pre-placement and post-placement self-efficacy ratings were compared for those students who completed the questionnaire at both time-points (n = 22; 57.9% response rate).

Overall Work Self-Efficacy. Prior to commencing WIL placements, students generally reported "moderate" overall work self-efficacy (M = 3.3; SD = 0.5). After completing WIL placements, there was a significant improvement in students' overall work self-efficacy (t [21] = 3.73, p = .001), with students reporting "a lot" of overall self-efficacy (M = 3.9; SD = 0.6). To determine which of the seven work self-efficacy factors improved after WIL placements, pre- and post-placement ratings for each factor were examined individually. These results will be reported next.

Learning. Prior to the WIL placements, students generally perceived that they had "a lot" of confidence in work-related learning (M = 3.7; SD = 0.5). Subsequent to the placements, students' perceived confidence in work-related learning did not change significantly (t [21] = -2.48, p = .022), whereby students still perceived that they had a lot of confidence in work-related learning (M = 4.0; SD = 0.6).

Problem-Solving. Before commencing WIL placements, students reported "moderate" confidence in work-related problem-solving (M = 3.1; SD = 0.8). After completing WIL placements, there was a significant improvement in students' self-reported confidence in problem-solving (t [21] = -3.51, p = .002), with students reporting "a lot" of confidence in this area (M = 3.7; SD = 0.7).

Politics. Students reported "moderate" confidence in work-related politics prior to beginning their WIL placements (M = 2.8; SD = 0.8). Subsequent to their placements, students' self-reported confidence improved significantly (t [21] = -4.91, p < .001), with students reporting "a lot" of confidence in work-related politics (M = 3.8; SD = 0.7).

Pressure. Prior to commencing WIL placements, students reported "moderate"-to-"a lot" of confidence in work-related pressure (M = 3.5; SD = 0.6). Students' self-reported confidence in work-related pressure significantly improved after completing WIL placements, (t [21] = -3.25, p = .004), with students reporting "a lot" of confidence in this area (M = 4.0; SD = 0.8).

Role-Expectations. Students generally reported "moderate" confidence in work-related role-expectations prior to commencing WIL placements (M = 3.3; SD = 0.8). There was a significant improvement in students' self-reported confidence after completing WIL placements, (t [21] = -3.51, p = .002), with students subsequently reporting "a lot" of confidence in work-related role-expectations (M = 4.0; SD = 0.8).

Teamwork. Prior to the commencement of placement, students perceived that they had 'moderate' confidence in work-related teamwork (M = 3.3; SD = 0.6). Students' confidence in teamwork did not significantly improve after completing their WIL placement (M = 3.7; SD = 0.9; t [21] = -1.72, p = .101).

Sensitivity. Prior to the commencement of placement, students generally perceived that they had "a lot" of confidence in work-related sensitivity (M = 3.8; SD = 0.5). After completing WIL placements, students' perceived confidence in work-related sensitivity did not significantly improve (t [21] = -2.28, p = .033), whereby students still perceived that they had a lot of confidence in work-related sensitivity (M = 4.0; SD = 0.4).

Discussion. The pilot study and the main study within this research identified that work self-efficacy improved for students between the start and conclusion of their placement. These support the findings of earlier research regarding WIL and work self-efficacy (Raelin et al., 2011). However, this paper, by examining the components that constitute work self-efficacy, identified that not all components of work self-efficacy increased over

The results of the main study within this research indicate that, while students' perceptions of problem solving, politics, pressure, and role expectations improved by the end of the placement, they did not report a statistically significant improvement in the sub-scales of learning, teamwork and sensitivity between the pre-placement measurement of these abilities and the post-placement measurement of these abilities.

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This contrasts with the findings of the pilot study, where students completed both the pre- and post- surveys at the same time. The pilot study identified significant differences across all factors. It is possible that the students' satisfaction with their placement experience influenced their perceptions of their pre-placement ratings. It is a positive outcome that students believed that their placements assisted them across all elements of work self-efficacy.

Participants within the main study reported high perceptions of learning, which focuses on confidence in being able to learn productively on the job, at the commencement of the placement period, as well as at the conclusion. Therefore, the lack of improvement in this measure may be because in their role as students, participants had a strong focus on learning, perhaps as a result of the inherent and planned challenges that are inbuilt to the placement. The fact that learning did not decrease is important. A placement program that reduced students' confidence in being able to learn productively on the job would not be beneficial for inclusion in a program of study.

The teamwork factor also did not increase by a statistically significant amount when comparing the pre-placement and post-placement scores. Students within this course complete placements that require them to complete project work, usually in collaboration with their work supervisor. Therefore, the lack of improvement in this score may be related to contextual issues surrounding the study. The information reported by students in their journal was that it is difficult for them to accept that it is okay to have someone assist them with developing their work (L. Bates, 2005; M. Bates, 2008). The educational environment promotes the value of individual work or the work of individuals contributing to a team. The teamwork projects are often fraught with issues of equity in the distribution of the workload, which is a very different concept to the actuality of working collaboratively with a colleague and having them contribute to the work that an individual is completing.

There was not a statistically significant difference in students' self-reported sensitivity between the start and conclusion of the placement. This may be related to students highly ranking their own levels of work-related sensitivity at the start of the placement. Alternatively, it could be related to either the nature of the placement and the work being

expected, or the fact that many students report in the reflective journals, which forms part of the learning process, that their focus is on managing the anxiety they are experiencing and "surviving". This self-focus could inhibit their ability to focus on others by, for example, being able to be sensitive to the feelings and attitudes of others, listening effectively to gain information, concentrating on what someone is saying to them even though other things could be distracting or listening effectively to understand opposing points of view.

The ability to solve problems within the workplace is an essential work skill and placements within organisations offer students the opportunity to be presented with a problem, and overcome that problem, thus enhancing their belief in their ability to problem solve. Within this study, students' perceptions of their problem-solving abilities increased from the start of the placement to the conclusion. This finding is supported by the assertion of other authors who state that work placements assist in the development of problem-solving skills (Coll et al., 2009).

The increase in students' confidence in managing work-related politics and role expectations is probably due to the students' lack of exposure to these elements previously. It is difficult to learn to manage organisational politics or develop an understanding of a work role while a student is at a tertiary institution. However, a WIL placement requires a student to negotiate organisational politics and fully understand their role within the organisation in order to successfully complete the requirements of the placement. By doing this successfully, students are likely to gain confidence that they will be able to do so in future employment roles post-graduation.

Most tertiary students would need to be able to manage pressure in terms of coping with time and schedule demands in managing their studies. This was supported by the "moderate" to "a lot" of confidence in managing work-related pressure ratings prior to the commencement of their placement. However, after the placement, their self-reported ability to cope with work related pressure increased further, suggesting that work placements enhance students' ability to cope with stress. This may be because students on placement are required to manage a range of commitments such as completing coursework requirements, paid employment, and family, in addition to their placement (L. Bates, 2005).

The results of this research are valuable not only for the curriculum of the course examined as part of this research, Professional Practice, *but for other work-integrated learning courses.*

The results of this research are valuable not only for the curriculum of the course examined as part of this research, *Professional Practice*, but for other work-integrated learning courses. This research could assist educationalists to continue to develop their course content in order to develop curriculums that enhance work self-efficacy (Raelin et al., 2011) and thus the capacity of the student to build a robust self belief that contributes to the quality of perseverance.

Given that work self-efficacy can, amongst other methods, be developed through the modelling of behaviour, this research provides information that is valuable when preparing organisational supervisors for their task. Providing supervisors with information regarding the development of work self-efficacy within students on placement will help provide an understanding of the need for placements, context for their role within the placement and assist them in modelling appropriate behaviours to assist the students to vicariously learn.

This research demonstrates the importance of including WIL subjects within tertiary degrees as it provides the opportunity for students to enhance their work self-efficacy, and the various elements of work self-efficacy, prior to graduation. This finding is noteworthy given the importance of self-efficacy in developing persistence and whether an individual will take a risk to develop a particular behaviour in order to increase the potential of career competency (Bandura, 1982). The inclusion of a WIL subject within a degree therefore provides students with the opportunity to gain a critical generic skill, work self-efficacy, which will be invaluable throughout their career.

Further research will enable the development of a deeper understanding of work self-efficacy in placements. For instance, how do students improve their abilities in each of the various components? Do they learn problem solving vicariously by observing how their field supervisors approach issues? The replication of this research across different disciplines and types of placements will help identify how alternative placement structures affect work self-efficacy. Furthermore, this research considers a work placement program that was a voluntary subject within a tertiary degree. Comparing students who elected to undertake the placement and those that did not would provide greater understanding of the potential benefits of such a program in developing work self-efficacy and its various components.

Given the importance of work self-efficacy to the future careers of university graduates, it is important that universities and those that work within them identify how they can improve work self-efficacy. Work placements are one method of increasing work self-efficacy, although, as shown by this research, not all elements within work self-efficacy increase over the term of the placement. While there were improvements in the dimensions of problem solving, politics, pressure, and role expectations, there were no statistically significant improvements in the sub-scales of learning, teamwork, and sensitivity. Identifying which elements of work self-efficacy are developed through WIL programs will enable educationalists to further enhance their programs and increase students' work self-efficacy.

Given the importance of work self-efficacy to the future careers of university graduates, it is important that universities and those that work within them identify how they can improve work self-efficacy.

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The Impact of Fashion Merchandising Internships on Careers

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Abstract

This research describes the exploration, expansion, and enhancement of fashion merchandising internships from 1998-2010 in a small fashion merchandising program of 100 students in a mid-sized southern state university. This study examines the relationship of the college internship and the graduate's current job. Academic departments continuously review curriculum and consider the inclusion, continuation, enhancement, or deletion of a college internship in their programs. Often questions arise, such as, Should the fashion merchandising program curriculum require an internship for credit; what is the value of the internship; is an internship experience measureable? Internship records were kept for 13 years at a United States public university. Number, internship placement sites, and current employment of college graduates was analyzed. The purposes of this study were to examine the components of fashion merchandising internships and assess the impact of factors such as university regulations and small town internship employers on students' careers after graduation. This research study revealed that internships at non-local fashion businesses were positively related to successful current fashion employment. Continuation of an internship program is determined by internship placement sites, graduates' current jobs and locations, local and non-local fashion businesses, and faculty recommendations.

Keywords: Business education, cooperative education, fashion merchandising, fashion marketing, internship, retailing.

Statement of the Problem

Fashion merchandising internships in smaller towns and smaller markets do not afford college students vigorous experience much beyond general sales. Is the internship a valuable experience paving the road for after-graduation employment in fashion retailing?

A commonality of many universities that include fashion, apparel, merchandising, cooperative education, or retail management programs is the offering of an internship experience that counts toward degree matriculation. Strickler (2004) found that 40% of institutions with programs in fashion merchandising or related areas required internships. The study of fashion merchandising (fashion marketing, retailing, apparel marketing, or other deemed appropriate experiential learning names) is administratively located in diverse disciplines and divisions in the United States higher education system. Within those programs internships may be offered for credit or non-credit, may or may not be required in the curriculum, and may be found by the individual student or with the guidance of an internship coordinator.

Relevant Literature Review

The collaboration of colleges and businesses acting as a team to enhance professional education first started at the University of Cincinnati in 1906 (Hartley & Thiel, 1997). Research studies confirmed that internships are advantageous for college graduates by increasing their monetary compensation, reducing the time sought for first positions in careers, and enhancing overall job satisfaction (Gault, Redington, & Schlager, 2000). Burnseed (2010) reported that university officials and employers almost universally maintain that partaking in an internship sets a student apart from his or her peers and is integral to finding meaningful employment in today's job market. The general objectives of an internship experience are to prepare students with realistic career expectations, provide opportunities to polish career search skills, and gain on-the-job experience (Sheldon, 1985).

Internships have varying degrees of purposes and effectiveness and provide students with opportunities to apply classroom knowledge. Internships further aid students to reflect on their individual strengths, weaknesses, and interests. The intern experience helps students form a network in the professional arena (Paulins, 2008). Some internship programs are designed to empower students and to build collaborative relationships with the local community (Angelique, 2001). Some researchers believe a retail management internship is a means for students to find career-oriented employment (Callanan & Benzing 2004). Internships also allow the employer to get a feel for the intern's abilities before hiring permanently (Burgess 2005).

Depending on the university program, internships may or may not be required for graduation, may be elective, and may be worth college credits of varying amounts.

There is division in academia whether the internship experience is worthy of course credit (Young & Baker 2004). Depending on the university program, internships may or may not be required for graduation, may be elective, and may be worth college credits of varying amounts.

Internship, co-op, and experiential learning programs vary among universities. Decisions in academia need to be made regarding credit/no credit, required/optional, length, full-time/part-time, among other considerations. The specifications of what is

required for an internship also vary. Often junior management level activities are required for a college level fashion merchandising internship, such as scheduling, inventory analysis, supervision, display, opening/closing registers, direct customer contact, advertising/promotion activities, sales analysis, order handling, buying, store operations, expense control, and assortment strategies.

Grade point average (GPA) is a criterion sometimes used to determine the preparedness of students prior to their internship placement. GPA might be one measure of success, but does not necessarily embody determination or career success as found by Beard and Morton (1999). Although Beard and Morton found that GPA was a less important predictor of internship success, Bacon (2006) found that GPA was a valuable indicator of job success.

Internship opportunities in the fashion field are typically of three types: 1) store-based; 2) corporate office; and 3) others, such as assistant to a stylist, fashion director, vendor, and so forth (Paulins, 2008). Faculty and/or program administrators decide on acceptable types of internship experiences. In Paulins' research study other types of internships were more satisfying to students because there was enough variety of activities when compared to store-based and corporate office internships.

Overview of the internship program. A six credit internship course is required of every fashion merchandising student. The internship course is taken after the junior year (after 90 semester credits) during the summer between junior and senior year, or the fall or spring semester of the student's senior year. Most of the internship jobs were local (83%) and part time (85%) while the student continued their on-campus studies during the fall or spring semester. Students obtained their own internship position. Students were provided basic guidelines for internship positions: Work experience should involve junior management level activities such as scheduling, inventory analysis, supervision, display, opening/closing registers and the store, direct customer contact, advertising/promotion activities, sales analysis, order handling, buying, store operations, expense control, assortment strategies, among others.

The internship course was required for students to: 1) Practice and apply concepts learned in the classroom in a retail setting; 2) learn by doing; 3) network; and 4) explore the continuance of working in the fashion retail world. No measurements of student learning outcomes are reported in this research study. Researchers drew inferences from students' responses while collecting data on their current job. After completing an internship students prepared a written report and an oral VHS/DVD presentation of their internship experience. Faculty reviewed the reports and presentations and discussed past internship experiences with future internship students.

The community setting and retail shopping availability. The university is located in a smaller city with a population of 122,000 with a regional population of 224,000 (U.S. Census, 2013). There is one major shopping center (enclosed mall) with smaller

franchise tenants that are anchored by four full-sized department stores (Dillard's, J. C. Penney, Macy's, Sears) and 50 specialty stores (Ann Taylor, Banana Republic, Buckle, Cache, Coldwater Creek, Express, Gap, Talbots, and Victoria Secret, among others). There is a central business district (a downtown), where boutique locally-owned stores are the only fashion businesses. There are secondary and neighborhood business districts, strings, and isolated locations for fashion retailing within a 10 mile radius. The nearest larger city with multiple, planned shopping centers is 60 miles away. The nearest city where buying offices or headquarters are located is 450 miles away.

The university: classification, student profile. There are 15,000 undergraduate students at the university in this study. The majority of the university's students come from a 75 mile radius while the students usually remain in or near their home town after college graduation. Approximately 25% of enrolled students live at home while attending the university. Of the fashion merchandising students, 98% are female.

Internship criteria and placement. Since 1990 the fashion merchandising program at the 4 year, public, southern university has required students to complete a 6 credit semester internship for a Bachelor of Science degree. Internship prerequisites include a 2.5 GPA, minimum of 90 earned credits, minimum grade of "C" in Promotion, Advanced Buying, and Retailing. Students must find their own paid or unpaid internship with junior management activities.

From AY 98-2008 faculty were not paid to teach the internship course during the summer session due to low enrollment; the occasional summer internship was unsupervised, the student paid extra tuition for the course, there was no faculty remuneration. Students usually enrolled in internships during the fall or spring semesters because their scholarships covered internship class tuition and they could concurrently enroll in other classes at the university. In academic year 2008 administrative changes were made at the program level: 1) A new internship faculty member urged students to seek non-local internships and mandated that local internships be more than sales associates; 2) the internship class would no longer be offered in the fall semester; 3) faculty would be paid to teach summer internship. In summer of 2008 eight students enrolled in summer internship.

Most students chose to enroll in a local internship (within a 30 mile radius). If a student wanted a non-local internship during the fall or spring semester they were essentially electing to stay in school an extra semester. In the 13 year period of time 21 students (13%) opted to do a non-local internship. Fifteen of the 21 students (71%) obtained their non-local internship during academic years 2009 and 2010 when there was a change in administrative policy.

Local internship opportunities available in the community were store-based in department, specialty, or boutique stores. Department store opportunities included Dillard's, J.C. Penney's, Macy's, and Sear's. Specialty store opportunities included nationally recog-

nized stores such as Abercrombie and Fitch, Banana Republic, Cache, GAP, Hollister, and Talbots, among others. A third type of fashion retail store internship found by the majority of students in this study was in locally-owned, small boutiques. The last type of internship allowed for credit was a non-local internship. Students found positions as assistants-in-training, apprentices, junior managers, and so forth in major cities such as Chicago, London, Los Angeles, and New York. Examples of firms included Anthropologie, Burberry's, Dolce and Gabanna, Elie Tahari, and Links of London.

National events. During this thirteen year period of study there were several major national events potentially impacting the internship program. Students were hesitant to leave the community and the nearness of their families due to the 9-11 crisis and multiple hurricanes, primarily Katrina in 2005. The national recession and soaring fuel prices impacted the community in the latter half of the 2000 decade.

Sociological makeup. The vast majority (98%) of students enrolled in the fashion merchandising program were from local high schools, had long standing family occupancy in the geographic region, and were southern in tradition and upbringing. Students generally remained in the geographic region after graduation.

Internship study at a southern public university. From the academic year (AY) 1998 through AY 2010, student internships were monitored and recorded in a fashion merchandising program at a southern public university. There were a total of 169 fashion merchandising internships during the 13 academic years, with a low number of four in AY 1999 and a peak of 24 internships in AY 2008. Factors influencing internships included the community, university, internship program criteria, national events, and sociological makeup. These factors are discussed as they relate to this research.

Research Model

We propose to demonstrate a relationship between after-graduation careers and college internships. Past research explored internship relationships with the retail industry, fashion merchandising curriculum, apprenticing, mentoring, career development, job satisfaction, and job preparation. No research study was found that studied a graduate's current job and their undergraduate internship. This research model compared the type of undergraduate internship to the graduate's current employment.

From an employer's perspective the success of a student intern in a firm prompts the manager to hire more of the same university's students. From the student's perspective, if an intern had a negative experience in a store then that was shared with future internship students; hence, the pool of desired retail stores for internship narrowed.

The fashion merchandising faculty at this university questioned the importance of a required internship for credit in the curriculum. The researchers were aware that southern families believe that "their children could leave for a short time, but they have to come home." They were also concerned that the small community of retailers was in constant need of

minimum wage sales labor and that upward mobility in any retail firm was almost non-existent. Junior management experiences were often promised by area retailers, but in actuality students reported that their internship experience was sales. There was a discrepancy in what a retail supervisor thought was managerial experience and what the students and faculty recognized as management experience.

From an employer's perspective the success of a student intern in a firm prompts the manager to hire more of the same university's students. From the student's perspective, if an intern had a negative experience in a store then that was shared with future internship students; hence, the pool of desired retail stores for internship narrowed.

Methodology

This research study examined the relationship of the college internship and the graduate's current job. Many questions were formed, such as: Is the local internship as valuable as a non-local internship with regard to current job placement? Does it matter what the internship experience by store type is regarding the current job? Did it matter what national events were taking place that might have impacted the college internship placement? Did that have an effect on current job? Did students really immerse themselves in a fashion business during internship or were they just gaining college credits as required for their degree? Thorough analysis of the internship program components, internship placement, student, employer, faculty feedback, and statistical analysis of numbers gave insight to the impact of student internships and graduates' current jobs. The following research questions and hypotheses were developed based on existing literature review and researchers' questions about validity of the internship.

Questions and hypotheses to be tested.

Question 1: ***Did the internship location (whether it was done locally in the community or away from the community, a non-local internship), affect the student's current job (are they currently in a fashion job or not)?***

H_{10}: Current employment in a fashion job is independent of internship location.

H_{1A}: Current employment in a fashion job is dependent on internship location.

Question 2: ***Did the internship location (local or non-local) affect the location of the student's current job location?" Is the current job location local or non-local, regardless of whether that job is in fashion or not?***

H_{20}: Current local employment is independent of internship location.

H_{2A}: Current local employment is dependent on internship location.

Question 3: ***Did the internship type (local department, local specialty, local boutique, or away) have a direct effect on whether you currently have a fashion job? Did the type of internship (local department store, local specialty store, local boutique store, or non-local any kind) influence current job type (local fashion job, local non-fashion job, non-local fashion job, non-local non-fashion job)?***

H_{30}: Current job is independent of internship type.

H_{3A}: Current job is dependent on internship type.

Question 4: ***Did the internship term (fall, spring, or summer) affect the student's current job (fashion or non-fashion)?***

H_{40}: Current employment in a fashion job is independent of internship term (i.e., the distribution of fashion jobs is uniform over the semesters).

H_{4A}: Current employment in a fashion job is dependent on internship term. Did the term (fall, spring, or summer) that the students did their internship impact whether they currently have a fashion job.

Question 5: ***Did the internship period have a direct effect on whether one currently has a fashion job? Is there a significant difference between Internship Period 1 (1998-2007) and Internship Period 2 (2009-2010) in terms of employment in fashion jobs?***

H_{50}: Current employment in a fashion job is independent of internship year.

H_{5A}: Current employment in a fashion job is dependent on internship year.

Research instrument and data collection. Internship placement records were kept for 13 years (1998-2010). Academic year and term (fall semester, spring semester, or summer term), and internship placement and location (local department store, local specialty store, local boutique, or non-local fashion business and location) were recorded. All fashion internship student graduates were contacted via email, texting, Facebook, Linked-in, Google, telephone, personal interview, and/or reference from alumni. Not all graduated students could be located and some students did not want to share their current job status. Student graduates' current job and location were recorded.

In the 13 year period of time (AY 1998-AY 2010) there were 169 internships. One hundred and eleven responses were ascertained yielding a 66% response rate. Contingency tables were made of all data and further separated into summarized frequency tables for each hypothesis. Chi square tests were applied to data for hypotheses 1-4 and a two proportion Z-test was applied to data for hypothesis 5.

Results and Discussion

The importance of a non-local internship. Of paramount importance was the questioning by the researchers as to whether a local internship was beneficial to students (questions/hypotheses 1, 2, 3). Other researchers have documented the importance and the benefits of an internship (Hegert, 2009; Knight, Crutsinger, & Kim, 2006; Knouse & Fontenot, 2008), but none have specifically addressed the benefits of a small town internship in regard to employment in the fashion field after graduation. The National Association of Colleges and Employers (NACE) posts annual reports on college graduates and businesses responses regarding employment and hiring practices. Reported in the 2012 survey of college graduates was that 55% had internships and of those 51% were offered a job (NACE, 2013).

Question 1: ***Is a local department, specialty, or boutique store internship experience more beneficial than a non-local any type internship experience with regards to a current job in fashion merchandising?*** Students in this study had boundaries for their internship: 1) The internship was required for the program degree with specific requirements and pre-requisites; 2) the student population was such that financially an in-town internship was deemed prudent; 3) the community had limited retail opportunities beyond sales jobs; 4) the university administration placed obstacles on faculty regarding internships that were passed on to students; and 5) national and regional events placed pressure on students to remain close to home.

Considering these boundaries, it was expected that the majority of student internships in this sample were done locally (92 out of 111 = 83%). This research sought to measure the benefits of the internship by assessing students employed in the fashion field. As Paulins stated (2008, p. 105), "An internship's objective is to prepare students for their future careers." Hegert (2009) found that students place a high value on the internship experience. Wesley and Bickle (2005) argued that the internship increases the probability of securing a full-time position upon graduation. The intent is that the future career, the value of the experience, and securing a job upon graduation will be in the degreed discipline.

College students' intern experiences impact their future job satisfaction and career intentions (Knight, Crustinger, & Kim 2006). Students want emotional satisfaction from their work experiences and supervisory support. Educators can serve as a conduit between student interns and their supervisors by aiding emotional satisfaction and providing support. While weekly interaction occurred between student intern and faculty supervisor, the university could not demand that the work supervisor change their actions or activities. A student performed as his or her supervisor demanded, which usually was to increase sales.

Students want emotional satisfaction from their work experiences and supervisory support. Educators can serve as a conduit between student interns and their supervisors by aiding emotional satisfaction and providing support.

Test on Null Hypothesis 1: ***Current employment in a fashion job is independent of internship location.*** To test H_{10} against H_{1A}, a chi-square test was used on a 2 X 2 contingency table. Out of 92 local internships 32 were currently in fashion jobs (32/92= 0.3478). Out of 19 non-local internships 15 were currently in fashion jobs (15/19= 0.7895). The P value of the test = 0.0003895, substantiating that a current job in fashion is impacted by the location of the internship. There was a high probability that non-local internship students were currently in fashion jobs. Local internships yielded fewer current fashion careers than did non-local internships (see Table 1).

Table 1.

Chi Square Analysis of Internship Location versus Type of Current Job

	Current 2012 Job Type		
Internship Location	Fashion Job	Non Fashion Job	Row Total
Local	32	60	92
Nonlocal	15	4	19
Column Total	47	64	111

P value = 0.0003895

Question 2: ***Is internship location (local or non-local) impacting current job location (local or non-local)?*** Although students reported on their internship journals, papers, and oral presentations how well they liked their fashion merchandising internship they found employment in the community after graduation to be scarce. The boutiques that hired them for internship had a low pay scale and a flat organizational chart. Many of the boutiques were owner-managed with less than three employees. There was no upward growth or mobility for student graduates. Graduates tended to remain in the community, therefore limiting their fashion retailing career opportunities.

Test on Null Hypothesis 2: ***Current local employment is independent of internship location.*** To test H_{20} against H_{2A}, a chi-square test was used on a 2 X 2 contingency table. Out of 92 local internships 70 are currently employed in the local community (70/92= 0.7609). Out of 19 non-local internships 9 are currently employed in the local community (9/19= 0.4737). The P value of the test = 0.01187, substantiating that current employment is impacted by the location of the internship. H20 is rejected and the alternative hypothesis H2A is accepted. Internship location does impact employability at the local level. There is a greater likelihood that non-local internship students are currently employed outside the local community. Local internships yield local jobs, but not necessarily in fashion. Out of 92 local internships 60 are in non-fashion local jobs (65%) and 32 are in local fashion jobs (35%). Students remain in the area whether or not they obtain employment in the fashion field (see Table 2).

Table 2.

Chi Square Analysis of Internship Location versus Current 2012 Job Location

	Current 2012 Job Location		
Internship Location	Local	Nonlocal	Row Total
Local	70	22	92
Nonlocal	9	10	19
Column Total	79	32	111

P value = 0.01187

Question 3: ***Is a local department, specialty, or boutique store internship experience more beneficial than a non-local any type internship experience with regards to a current job in fashion merchandising?*** In Paulins' (2008) study a major differential factor between store-based internships and other site types was the level of variety of tasks offered in the experience. Store-based interns indicated significantly less tendency than others (corporate headquarters or other internships such as stylists, sales representatives, fashion offices) to recommend their location types to other students. Store-based internships are less likely than other internship sites to be associated with job characteristics that produce satisfaction. The majority of internships in this study were local, store-based internships.

Test on Null Hypothesis 3: To test H_{30} against H_{3A}, a chi-square test was used on a 2 X 4 contingency table with 3 degrees of freedom. The P value of the test is 0.0001045, indicating that the internship location influences the current job. Non-local interns had a higher probability of currently holding fashion jobs in non-local locations. Local interns had a higher probability of currently holding non-fashion jobs in the local community (see Table 3). If a local internship at a department, specialty, or boutique store was acquired it fell short of the rigor of an out-of-town, non-local internship, whether that non-local internship was in a store, in a showroom, or of some other nature. This finding helped substantiate Paulins' (2008) study that *other* types of internships were more satisfying to students.

Table 3.

Chi Square Analysis of Internship Location versus Current 2012 Job Type and Location

	Current 2012 Job Type and Location				
Internship Location	Fashion Local Job	Fashion Nonlocal Job	Non Fashion Local Job	Non Fashion Nonlocal Job	Row Total
Local Department Store	4	3	5	2	14
Local Specialty Store	8	3	21	3	35
Local Boutique Store	10	4	22	7	43
Nonlocal Store	5	10	4	0	19
Column Total	27	20	52	12	111

P value = 0.0035, df = 9

The importance of an internship with regard to term, faculty, and administration. Another issue of importance to the researchers was whether summer internships were more valuable than academic year internships. Also questioned was did enforcing criteria of the internship make a difference in students' jobs after graduation? Hypothesis four and five addressed the answering of these questions.

Question 4: ***Did the fall, spring, or summer term in which an internship was experienced effect whether the students' current job would be in fashion merchandising?*** Previous research in the field documents that internship activities can be categorized into the five types of visual merchandising, selling, inventory management, buying related, and education (Burgess 2005). In this research study students predominantly participated in selling activities. These researchers posed the same question as Burgess, as to whether employers are providing a true internship or do they view student interns as a means of free or cheap labor? These researchers thought that a local internship done during the fall and spring semesters would probably be just a sales job, in reality. Stretch and Harp (1991) concluded their research study with the question of whether the academic community will view internships as a potential differential advantage or a time-consuming, problematic endeavor. These researchers reiterated the thought, "Was there an advantage to a student in their future career if that internship was local?"

Test on Null Hypothesis 4: To test H_{40} against H_{4A}, a chi-square test was used on a 3 X 2 contingency table. Out of 28 fall term internships 8 were currently in fashion jobs (8/28= 0.2857). Out of 43 spring term internships 16 were currently in fashion jobs (16/43= 0.3721). Out of 40 summer term internships 23 were currently in fashion jobs (23/40= 0.5750). The statistical value of the chi-square was 6.4034 with 2 degrees of freedom, producing a p-value of 0.0407 (see Table 4). At the 5% level of significance this small p-value rejects the null hypothesis in favor of the hypothesis. A current job in fashion is dependent on the term of the internship. Summer interns landed in fashion jobs at a higher proportion. Most fall and spring internships were done locally and those graduates were less likely to be in fashion careers compared to summer interns. Most summer internships were done non-locally and were more likely to be in fashion careers.

Table 4.

Chi Square Analysis of Internship Semester versus Current 2012 Job Type

	Current 2012 Job Type		
Internship Semester	Fashion Job	Non Fashion Job	Row Total
Fall	8	20	28
Spring	16	27	43
Summer	23	17	40
Column Total	47	64	111

P value = 0.0407, df = 2

Question 5: Did the year in which an internship was experienced effect whether the students' current job would be in fashion merchandising? Changes were made to the internship program over the 13 years that were studied. Some changes were minor (increase GPA from 2 to 2.5; add a course pre-requisite); but there was a major difference in 2008 when internship faculty changed and demands were made that internships be more than sales jobs. Students were also strongly urged to obtain internships outside of the community and administration paid faculty to teach summer internships. Internship frequencies were grouped into 2 periods indicative of before and after the substantial changes.

Period 1 included years 1998-2008. This period of internships was relatively of the same nature. Internships were offered every semester and students usually found a local internship. The internship faculty mentor supervised fall and spring interns as an un-paid overload. If a student did a summer internship, they were on their own without any supervision, correspondence, or follow-up. AY 2008 was a transition year when internship changed. There were 58 interns in period 1, and 18 graduates are currently employed in the fashion field (18/58=0.3103).

Period 2 included years 2009-2010. During this period of internship supervision was considered part of the faculty load in the spring semester (fall internship was no longer offered), summer internship supervision was paid, students were urged to consider out

of community internships, the criteria of no sales jobs for credit was enforced. There were 32 interns in period 2, and 23 graduates were currently employed in the fashion field (23/32=0.71888).

Students often reported to college supervisors that what was promised as an internship activity did not materialize once on the job.

Students often reported to college supervisors that what was promised as an internship activity did not materialize once on the job. Students and faculty coordinators were told that students would have the opportunity to learn buying functions and work with vendors, only to find out that the store needed sales help. There appeared to be a misunderstanding of terms between the local fashion businesses and the university. This university faced the question of whether the internship practice was a means of strengthening community relations between the university and businesses. Also questioned, were the internships just a disguise for obtaining sales help.

Test on Null Hypothesis 5: To test H_{50} against H_{5A}, a two proportion Z-Test was applied to the data testing the equality of two population proportions. Interns were grouped by academic year into period 1 or period 2. Population 1 was the number of internships in current 2012 fashion jobs in the time period 1: 1998-2007. Population 2 was the number of internships in current 2012 fashion jobs in the time period 2: 2008-2010. The P-value of testing H_{50} against H_{5A} is 0.000196, rendering the null hypothesis unacceptable. Period 1 was significantly different than Period 2. There was a greater likelihood that students would be in fashion jobs if they had an internship with more stringent criteria as maintained in Period 2 internships (see Table 5). Internships with more vigor, specifically larger firms with varied responsibilities, were predominant since 2008. Those internships had a greater impact on current jobs in fashion compared to those before 2008.

Table 5.

Two Proportion Z – Test of Equality of Two Population Proportions

Academic Year Of Internship	Number of Interns Per Academic Year	Number of Graduates in Current 2012 Fashion Jobs
1998	5	2
1999	3	1
2000	5	0
2001	6	2
2002	5	0
2003	3	1
2004	4	0
2005	9	6
2006	7	3
2007	11	3
2008	21	6
2009	14	11
2010	18	12
Total	111	47
Percent of Total		42%

P = 0.000196

Limitations and Conclusions

There were 169 students in internship over a 13 year period. This study was limited to a sample of 111 of those students (66%). Fewer students responded from the early years of the study. College students' internships impacted their current employment. This research study posed five questions regarding fashion merchandising internships and all five questions were answered with extremely high statistical validity.

A fashion merchandising college internship in larger cities provides graduates jobs in fashion. Students that intern non-locally presumably receive more varied experiences, better training and preparation and perhaps are more motivated to continue in fashion retailing careers. Interns that met the stringent requirements of junior management (skills and duties beyond sales clerks) and were in larger cities were more likely to currently be employed in fashion careers. When students chose larger markets and retailers their opportunities for advancement increased.

Those students electing to have a local internship regardless whether that job was in a department, specialty, or boutique store, tend to remain in the local area in various types of jobs, not necessarily a fashion merchandising job.

Those students electing to have a local internship regardless whether that job was in a department, specialty, or boutique store, tend to remain in the local area in various types of jobs, not necessarily a fashion merchandising job. Most students in this study lived within 100 miles of the university and were very family-oriented. The social culture and norm for this region is for students to live near their parents and family. This norm is then demonstrated in their careers with 71% of students in this study currently employed within 100 miles of the university.

Summer internship experiences for the students studied were more likely to be currently employed in fashion careers. One distinct advantage of students completing internships in the summer is that they are not enrolled in other classes and have more time for concentrating on a career culture at the intern site. Understanding the sociological makeup of an internship program's student enrollment and the community's resources specific to available retail experiences, pay, and upward mobility better afford a program to correctly assess the viability of an internship program in their curriculum. Smaller communities' internships impact graduates' fashion careers negatively.

Understanding the sociological makeup of an internship program's student enrollment and the community's resources specific to available retail experiences, pay, and upward mobility better afford a program to correctly assess the viability of an internship program in their curriculum.

NACE reported in a 2012 Internship and Co-op Survey (2013) that for the past 5 years that a job offer rate converting interns to permanent employees has decreased. Of the 280 businesses comprising the survey, 218 firm names were identified. Of those businesses reporting on recruiting and hiring interns, only two were fashion retail businesses, Macy's and Sear's. The quality of the internship impacts the employment of a college

graduate in the fashion field. If students obtain their fashion retail internship in a small town they are less likely to be employed in fashion than those obtaining internships non-locally, in larger cities and corporations offering more vigorous (non-sales) fashion merchandising experiences.

Recommendations for Future Research

The findings of this study reinforced the need for more research to better understand the importance of a required fashion merchandising internship in smaller markets and how it influences academic and career achievement. Replication studies are warranted at other mid-sized universities in same-size cities to determine whether those internships yield the same results. Another possibility for future research would be the study of internships in different disciplines. The fashion merchandising internship may be decidedly different than an accounting, computer, or science-related internship.

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Cooperative Education Through a Large Scale Industry-School Partnership

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Abstract

In most of the advanced economies, students are losing interest in careers especially in engineering and related industries. Hence, western economies are confronting a critical skilled labour shortage in areas of technology, science and engineering. Decisions about career pathways are made as early as the primary years of schooling and hence cooperation between industry and schools to attract students to the professions is crucial. The aim of this paper is to document how the organisational and institutional elements of one industry-school partnerships initiative — The Gateway Schools Program — contribute to productive knowledge sharing and networking. In particular this paper focuses on an initiative of an Australian State government in response to a perceived crisis around the skills shortage in an economy transitioning from a localised to a global knowledge production economy. The Gateway Schools initiative signals the first sustained attempt in Australia to incorporate schools into production networks through strategic partnerships linking them to partner organisations at the industry level. We provide case examples of how four schools operationalise the partnerships with the minerals and energy industries and how these partnerships as knowledge assets impact the delivery of curriculum and capacity building among teachers. Our ultimate goal is to define those characteristics of successful partnerships that do contribute to enhanced interest and engagement by students in those careers that are currently experiencing critical shortages.

Keywords: Industry-school partnerships; curricular reform, knowledge transfer, professional education, transforming schooling,

Introduction

Although this study is situated in Australia, it concerns a compelling problem faced by many countries seeking to ensure that their economy is competitive in a knowledge age. New knowledge including the processes that creatively transform and adapt knowledge for

deployment in economic activity needs to connect with those organisations involved in education in new ways. Policy initiatives are encouraging educational institutions such as schools, colleges, universities and the community to collaborate to ensure that educational organisations are creating, acquiring and transforming knowledge in ways that prepare their students for the new economy (Kapitzke & Hay, 2009a, 2009b). In a global knowledge economy, knowledge that is critical for economic sustainability is assumed to move through networks that link key production nodes in global production chains (Castells & Cardoso, 2006). The challenge is to ensure that this knowledge is made available and influences educational practices. The aim of this paper is to analyse the operation of a partnership program in which a range of industries in the minerals and energy sector have collaborated with over 30 secondary schools across Queensland to provide work-integrated learning experiences that are aligned with economic priorities.

The aim of this paper is to analyse the operation of a partnership program in which a range of industries in the minerals and energy sector have collaborated with over 30 secondary schools across Queensland to provide work-integrated learning experiences that are aligned with economic priorities.

In 2004, the State Government of Queensland, as part of an overall strategic initiative to build a knowledge economy instigated the Gateway to Industry Schools program. The Gateway initiative was a key policy strategy aimed at knowledge transfer and featured 1) a public system-wide approach, 2) multiple sectors (i.e., state, Catholic and Independent schools) and global industry partners, and 3) an inclusive focus on student learning including for those transitioning into higher education or directly to skilled employment. The initiative was a workforce development strategy to support the long-term growth of a highly skilled workforce by providing opportunities for industry and schools to collaborate on the delivery of relevant and contemporary learning experiences. A range of activities were designed to support students and teachers to explore work learning opportunities complementing formal school learning.

Gateway partnerships represent a significant deviation from traditional models of school-industry partnerships especially through the existence of an overarching organisational structure. They comprise 1) a system-wide approach, 2) multi-sector and global industry partners, and 3) an inclusive focus on student learning including for those transitioning into higher education or directly to employment (Hay & Kapitzke 2009). Significantly there exists a formalised partnership between the Queensland Resources Council, the peak industry association with responsibility for strategic labour force planning, and the Queensland Government through a statutory authority, the Queensland Minerals and Energy Academy (QMEA). The QMEA coordinates and supports activities in more than 30 Gateway to Industry schools associated with the project. Funding and in-kind support is provided by both government and industry.

Theoretical Framework

Our analysis is informed by program theory (see Suchman, 1967; Weiss, 1997). Suchman (1967) discussed two kinds of reasons for an unsuccessful program: failure of the program

to put the intended activities into operation (implementation failure) and failure of the activities to bring about the desired effects (theory failure). Program theory provides explicit explanations of how change processes in an intervention occur and how they contribute, or do not, to desirable outcomes. It attempts to articulate the links between goals, activities and outcomes. Proponents argue that program theory incorporates a theory of change and a theory of action (Funnell & Rogers, 2011). Theories of change attempt to explain how stakeholders appreciate the drivers for change and engage with the intervention while theories of action represent how different strategies are implemented to facilitate the change.

Program theory has appropriated the logic model of evaluation. The logic model (Weiss, 1997) provides a way of representing the mechanisms that lead to change and action. Hence the logic model provides a lens for examining the Gateway initiative implementation and analysing its strategies and outcomes. Insights into the overarching design of the Gateway initiative as it unfolded has been explored through retrospective mapping and reported elsewhere (Hay & Kapitzke, 2009; Kapitzke & Hay, 2011). However, the focus in this paper is on the early phases of implementation. The model thus enables us to describe and analyse the activities and outcomes of a program (e.g., Cooksy, Gill, & Kelly, 2001). The outcomes can be described in terms of short-term outputs that are associated with the activities embedded in the project. Such outputs might be new curricular materials, teacher professional growth or resources that facilitate student learning, student placements for School-Based Apprenticeships and Traineeships (SATs) and work experience placements. The longer-term outcomes are seen in the impact of these outputs on the engagement and career trajectory of students including student post-school destinations. A central activity of the project that we explore in this paper is work-integrated learning.

Methodology

This study adopted a case study approach. Although 20 schools and training organisations from a possible 111 were selected across six Gateway School programs, we concentrate this report on four schools associated with the minerals and energy industry. Schools were selected as representative of the three sectors providing school education in Australia (government, independent and Catholic geographical location (e.g., rural or urban) and demography. First, a detailed analysis of documents relating to the establishment and development of each of the Gateway Schools programs (e.g., partnership agreements, policy documents) and socio-demographic data for each school participating in the study was undertaken. These data were entered in a matrix identifying key features and the relationships between the features. Second, a semi-structured interview (40-60 minutes) was conducted with the project managers involved with the establishment of the minerals and energy Gateway School project to identify governance structures, roles and relationships established between schools and workplaces within the project, government and industry support, strategies for facilitating knowledge sharing and perceived benefits and limitations. Third, schools were visited and semi-structured interviews (60-120 minutes) were conducted with key stakeholders (Principals, Teachers). Resources and documents relevant to each school

site were also examined. Analysis of data followed normal qualitative analytical practices with transcripts being coded and themes identified abductively informed by relevant theoretical frameworks (Saldaña, 2009). Coding was undertaken by the team of researchers using Nvivo and differences in codes and thematic categories reconciled by discussion (e.g., Bazeley, 2007; Richards, 2009).

Findings

We profile four case schools that we call: Dragline State High School (DSHS), Black Rock State High School (BRSHS), Western Plains College (WPC) and Metropolitan College[1] (MC). Table 1 provides a profile of the activities that these four schools including those curriculum initiatives that are aligned with the Gateway project. The two state high schools are centrally located in mining districts whereas the two colleges are located in large economically diverse cities. These four schools are part of a network of schools aligned to the Minerals and Energy Project and spread throughout the state. Networking among participating schools is limited but stronger networks, brokered by the Minerals Academy exist between major industry partners and individual schools through the various activities supported by the QMEA.

Regional project coordinators work closely with each school to broker activities, share information, develop curriculum materials and courses and provide moral support.

Thus, the partnerships are to some extent instigated and maintained by a top-down approach by the QMEA. The QMEA coordinates the partnerships through four "hubs" which correspond to key mining regions across Queensland. Queensland High Schools located within these hubs are partnered with participating companies in the minerals and energy industry. These include large scale multinational corporations with operations in Queensland including BHP Billiton, Rio Tinto, Anglo Coal and Xstrata. Regional project coordinators work closely with each school to broker activities, share information, develop curriculum materials and courses and provide moral support. Limited financial support for activities conducted by partnership schools is also provided from the Academy. The strength and depth of the partnership networks vary depending on a wide range of factors including the level of personal commitment of teachers at the school level, time available for teachers to commit to project activities, geographical location of the school including proximity to mining activities, and the socio-demographic characteristics of the school population. For instance, Dragline State High School is in a relatively small town and solely exists to service children of people who work in the local coal mines and related support industries. There is a relationship where support in terms of resources and direct teaching by mine staff is significant. In this case, vocational education and training (VET) for some students was delivered by a technical-trades person from the partner mining company during one day per week. Furthermore, knowledge transfer in this instance was reciprocated though close contact among key stakeholders namely frontline technical staff in the major mining companies and teachers in the school.

1 High Schools provide for students in Years 8-12 (approx 13-17 years of age. Colleges provide both primary and secondary education usually Years 5-12. Colleges are non-government schools.

The findings are discussed in terms of outcomes for three sets of stakeholders: teachers, students and the local community. In this phase of the study, outcomes for industry as the fourth stakeholder were not explored. Many of these activities are core business and not unique to Gateway schools. Indeed, teachers at the Gateway schools are often uncertain which activities are direct consequences of partnerships with industry or the outcome of other initiatives This uncertainty suggest that initiatives emerging specifically from the Gateway schools program often articulated with pre-existing programs in a way that made the distinction between the two, and thus the unique contribution of Gateway schools project, difficult to ascertain. For instance, the VET coordinator at Dragline explained how her school became part of a network associated with minerals and energy in the Gateway program:

> ***every area was experiencing skills shortages and so they realised then that the only way that they're going to fill it is to be putting programs in schools, it's too late to wait for kids to just do whatever they were doing at school, come out and hopefully go into a career in the mining industry or the energy industry.***

Schools have been encouraged to engage in many projects involving school-industry partnerships, some of which are federally funded and some state particularly in relation to trade training (Hay, 2009). However, schools are assuming a role that is unfamiliar and for which few teachers and school leaders have been trained to broker and manage. The teaching of content relevant to most of the trade certificates generally requires specialist trade or industry experience. The implication is that schools are operating in dual systems offering trade or workplace training (VET) as well as traditional school curricula (Higher Ed).

Table 1

School profiles and partner industry related activities.

School name	Students	Major Industry Partners	Workplace relevant courses/units
Black Rock SHS	524	Coal mining industry* BHP Billiton Mitsubishi Alliance Anglo Coal	1. Get Set for Work 2. Australian Brick & Blocklaying Course 3. Construction 'Blue' Card 4. Generic Induction Program 5. Advanced Skills Training program for high quality trade students 6. Certificate I & II in Resource & Infrastructure Operation (RIO) 7. Certificate II in Workplace Practices Context based School subjects Year 11/12 Physics unit
Dragline SHS	187	BMA (BHP Billiton Mitsubishi Alliance)	8. Certificate I & II in Resource & Infrastructure Operation (RIO) 9. Certificate II Engineering (Mining focus) 10. Integrated mathematics science curriculum 11. Context based school subjects Engineering studies
Western Plains College	740	QMEA	12. Cert I Engineering
Metropolitan College	1250	QMEA	Context based school subjects Engineering Technology 13. Engineering Technology 14. Earth Science

As noted above, there is a regional strategy linking schools to the various mining areas identified in Academy documentation. New schools were brought into the project as requested by industry partners in response to the growth areas of the minerals and energy industry.

Outcomes for Teachers

Teacher Capacity Building represents a short-term outcome, but one which is regarded as a key outcome for Queensland's industry-school engagement strategy. Through teacher capacity building initiatives the various Gateway projects seek to align curriculum content and pedagogical practices to ensure that learning outcomes are congruent with the human capital needs of particular industries. Two subthemes could be identified from the data: (1) re-engaging teachers with contemporary subject area knowledge in new ways, and (2) acquiring practical industry-relevant skills.

Through teacher capacity building initiatives the various Gateway projects seek to align curriculum content and pedagogical practices to ensure that learning outcomes are congruent with the human capital needs of particular industries.

Reengaging: The interview data pointed to an underlying assumption that teachers were out of touch with potential applications of their subject knowledge to authentic problems. To address this deficiency, administrators saw a need for teachers to engage in some learning activity or experience that linked school curriculum to knowledge applied in workplaces. For example, several key school principals or project leaders identified the importance of sending teaching staff to industry sites to renew their professional knowledge with applications for their teaching area. One school administrator from Metropolitan College, an elite non-government school, noted the importance of providing opportunities for teachers to attend camps organised by the Project:

> ***So to go on a camp, to have your again, your feet on the ground in a mine site, in a truck, in a ute, staying, living on campus, talking to engineers about their pathway from school to uni and then taking those stories back to students is really powerful and we know that our teachers are learning real stories is the most powerful tool really.*** (DPMC)[2]

Camps were held annually at a major mining site.

The goal valued in this activity was to enable teachers to provide prospective engineering students with insights into the life of an engineer and the relevant job prospects and pathways. This orientation is aligned with likely career destinations of many students at this particular private school. The interviewee continued elaborating on the theme and the advantages of participating in camps:

> ***Where we do benefit, and we need to continue to benefit, is the gap between being a teacher in a classroom and pointing in directions for students and then where does your knowledge stop and being an expert on those pathways and what it's like to be in industry is the challenge for many teachers and young teachers.***

2 Deputy Principal Metropolitan College

Practical workplace skills: A second theme emerged in relation to participation in the Academy Professional Development Workshops. The benefits of participating in this program were clearer for some participants than others. For instance one Academy Project Officer responsible for coordinating a number of schools in central Queensland emphasised the practical industry based knowledge that teachers gained in the workshops:

> ***We are sending our manual arts teacher and so he goes to that week and they are going to take him through the workshops and say this is what our industry is and this is when we talk safety, this is what it is. So that when he comes back to his classroom, "You need a c-drive down and the button up, why?" That's why he's on site, that's the requirement, that's the standard and that's … the benchmark. So what we do in the school should reflect what is happening in the industry.*** [Academy Project Officer]

The rationale was to up-skill teachers, particularly "young and new teachers", on competency based assessment and how to plan for it. The importance of linking teachers with industry was seen as a key activity and actioned through "industry evenings": "We bring all the industry in and we say to teachers to come along and these are people in your neighbourhood out here, talk to them about what they do" (Academy Project Officer). This represents a shift in educational responsibility for mainstream high school teachers assuming a greater role in the provision of vocational education and workplace training and liaising with local industries to facilitate this reorientation.

At Western Plains College, greater curriculum emphasis was placed on engineering and construction rather than the core minerals and energy focus that the partnership was intended to foster. This school was already committed to partnership programs in Manufacturing and Engineering with large local manufacturers as they were located in an agricultural geographical location. The responsible staff at the College reported that they felt peripheral to the project in part because of irregular contact with the regional Field officer whose focus was on the minerals and energy industries. Thus they remained unclear about the aims of the QMEA and the role of the school within the project. Hence, the focus at that school was on upskilling teachers in academically oriented engineering subjects. The Gateway coordinator at the school admitted how the school capitalised on workshops provided by the Academy: "we are doing Engineering Technology as a subject next year. So, three industrial tech teachers have gone down for a two-day in-service in Brisbane, which was wonderful, absolutely wonderful." However, the experience was discussed in conjunction with a range of other professional activities including upskilling senior mathematics teachers without acknowledgement or awareness that these in-service workshops were specifically instigated as part of the Gateway initiative targeting the mining industry. It would seem that teachers and schools took advantage of a range of initiatives without clearly recognising that the activities were associated with the partnership arrangements. Thus, in those schools not geographically located in the minerals and energy industry areas, such as Western Plains High School, and Metropolitan College the partnership assumed a minor but important role in building teacher capacity in advanced academic subjects. In those schools closely associated with the minerals and

energy industry the outcomes contributed to teachers' knowledge but also students benefited from direct contact with industry personnel with a greater focus on vocational education.

Outcomes for students

Emerging outcomes seen to be relevant to students included: (1) Authentic Career Experiences (2) Industry readiness, (3) scholarships and (4) new curricular resources.

Career Experiences: Affirmation of career directions was a theme that emerged in several interviews. The relationship and activities of the mining Academy was raising the profile of mining and mining related occupations. One administrator saw this as of mutual value to the economy and to the profile of the school.

> ***I can see the benefit to Queensland and I can see the benefits to us I think, to get the boys thinking about their careers. As I said, you know the long term strategic thinking we want the boys to do.*** (Deputy Principal MC)

The opportunity for students to participate in the mine camps was seen to have limitations in that only a small number of students from each school could attend but at the same time for those who could it was deemed very useful:

> ***the best and most genuine camps around, in the state probably in any profession because you're just not doing menial tasks and they make a big effort to get you connected with a real engineer in a real job. … but those boys will often come back and say the words directly to me, "Sir I can't wait to finish now and get up there", you know they really – they love it and the experience*** (Deputy Principal MC)

Providing opportunities for students to "connect to a real engineer" was singled out as the major benefit of the program for one school.

For this school, the perceived benefits related to the practical experiences of working on a mine site in a variety of roles and engaging in authentic problem solving with the mine staff. Providing opportunities for students to "connect to a real engineer" was singled out as the major benefit of the program for one school. Students attending Metropolitan College are unlikely to have had much experience of workplaces, especially remote mining operations and were generally oriented towards professional careers. Although participation was by a very small number of students from this school, the experience was lauded as authentic and relevant to the needs of those students who were able to participate.

Similar sentiments were expressed by the Head of Department at one mining town high school in relation to undergraduate engineers:

> ***[the mining company] does their vocation programme so in their second year at university they can come here and work in their Christmas holidays and get you know some money and see what it's like and so it's, I guess it's opening up their eyes to what is out there.*** (DLSHS)

Industry ready workers: In Australia, school students can complete a trade apprenticeship whilst they are still at school. This is known as an Australian School-based Apprenticeship (SBATs) scheme. The Australian Qualifications Framework, managed federally, authorises trade qualifications. Apprenticeship training is recognised through the award of Certificates from level 1-4. A Certificate 1 is a base level qualification that assumes graduates have knowledge and skills of a particular topic for initial work and/or community engagement. In one school, the principal saw school based apprenticeships as pivotal to the relationship with local industry with spinoffs for social stability in the local community.

> ***They're getting quality training. Quality apprentices that are really well prepared for the mining industry and the advantages for them is that you know out here accommodation and workforce, if they can secure these young guys now, keep them here in town, they don't have accommodation issues, they have families who are iving here, the kids want to stay here helps to sustain the town.*** [Principal BMSHS]

Opportunities to do school based apprentices at remotes sites and for extended periods of time were valued by one school because of the continuous experience albeit with some concerns about providing a duty of care to young students being away from home in an adult environment:

> ***definitely school based apprenticeships because we have kids who do school-based apprenticeships in Longreach, so they need to do 48 days a year and they don't do it one day a week, they do it in blocks when they go home.*** (Teacher WPC)

It was also claimed that school had introduced courses in response to claims from industry that first year apprentices struggled with fitting into the work place. One Head of Department described her program:

> ***So this course is a work preparation mine readiness course that gets them ready for the industries. So by the time they leave that course, they are completely conversant with toolbox talks, safety shares, risk assessments, standard operating procedures, communication systems.***

Provision of industry experiences also helped develop generic understandings of workplace etiquette and practices. Outcomes related to issues around safety, work practices, and broad understanding of what is expected of workers in a mine site were emphasised by the teacher at Black Rock SHS who argued that industry claimed that these pre-apprenticeship experiences were valued by industry as a preparation for work — "nurturing grounds for the apprentices for the mines". It was also reported that students attending the partnership school were given priority in the appointment of new apprenticeships.

Scholarships and prizes: Although limited in scope to a handful of students, scholarships were also identified as an outcome that supported students to pursue academic careers. In some partnerships, industry provides scholarships up to $50000 per year over four years (total) to cover living costs for up to 10 students per region. However, these were

not wide spread and were industry specific. Limitations in awarding scholarships were identified. For instance, a teacher at BMSHS suggested that negotiations had been undertaken to encourage industry to provide scholarships to more academic students to undertake university studies but to return to the community on completion. However, issues around return on money appear to constrain these initiatives. Industry would appear to prefer to support students who would immediately take up work positions in the mines.

Outcomes for the community

A strong theme emerging from the two mining town participants was the role of partnerships in supporting the community. At one level as described above industry is supporting local employment or using the local community as a reservoir of labour. However, the partnerships are also providing community benefits. In part, this was being achieved by sharing resources. For example, a teacher at Dragline SHS commented:

> ***So I think we're trying to be more community focused and create the high school as more of a community type training, learning centre and that has only happened through our Partnership, yeah so we've moved away from being solely focused on ourselves to what can we, what will benefit us but then benefit the community which then in turn benefits BMA because they will get the employees that they need.***

These comments were further supported by evidence of substantial funding to the school to upgrade turf on the school's playing field which could be used as a community resource.

Curriculum outcomes

It is unclear what specific curriculum outcomes have been achieved. In response to a direct question, a teacher at Western Plains College commented:

> ***I would say that we have not had yet a sufficient enough support or I mean opportunity, unit writing it takes time. After saying that, Barb in Science, she went out to a day at Dalby and someone from QMEA had written a unit. Those teachers looked at those units and gave advice on them for embedding into grade 7 to grade 12 I think it was.***

Other respondents were able to identify specific activities or topics such as "robotics in mining", embedding "careers education" into syllabus documents, Certificates in Resource Management developed by industry partners, and an integrated curriculum package (ICP). ICP was developed at one mining community school and as described by the principal at Black Mountain State High School:

> ***we offer ICP which is their Maths and Science curriculum and that's been run here, so that's where they advise a curriculum but let's say what goes on in the Blue shed certainly is influenced by, we have things we have to do to meet the requirements of the certificates but it's about them saying yeah this is how we do it in industry.***

To support the delivery of this curriculum, the trainer from an engineering consultancy company undertakes work experience to update his skills.

Discussion

The aim of this study was to explore how industry and schools can collaborate through school-industry partnerships to support teachers and industry to share content and pedagogical knowledge; resources; and develop curriculum and assessment procedures relevant to contemporary work needs. We assumed that the establishment of the minerals and energy project was based on some theoretical position that by engaging schools and industries in partnerships there would be reciprocal knowledge transfer. A clear emerging broad conclusion is that for some schools the partnerships signify a transformation in the way schools and their communities engage. This approach signifies a new way for schools in this jurisdiction to engage with their communities given the broader neoliberal policy which has emphasised partnerships. However, what has occurred in some places particularly such as Rock Hill and Dragline State High Schools is a contemporary rebranding of relationships which already existed between schools and industry. Schools had been working with their local major industry to address immediate career opportunities for students particularly in the trades. Nevertheless, the Gateway project could be seen as an attempt to reconfigure the relationships between schools and industry to establish networked spaces and social relationships that provide opportunities for enriching the experiences of students and teachers. According to Castells' organisational theory (Castells, & Cardoso, 2006), individual schools function as nodes in a flexible network. Those nodes that are misaligned with the logic or purpose of the network are eventually excluded. The policy objectives stated for the project namely to address long-term skills shortages in traditional and emerging industries were understood by most of the principals and teachers in the project but often expressed in terms of building knowledge to gain access to careers related to mining. These have always been central considerations in the curricula of schools located in the mining industry regions.

A clear emerging broad conclusion is that for some schools the partnerships signify a transformation in the way schools and their communities engage.

Thus, Gateway was seen as one of a number of initiatives some funded through the State government and some through the Federal government aimed at providing support and infrastructure to achieve greater cooperation between schools and potential employers. The visibility of the initiative was substantially higher in Black Rock and Dragline State High Schools as both of these schools serviced the mining community and there was close proximity to the mines. The nature of engagement of industry and schools was more intense with direct contact between industry and school personnel. In contrast, the visibility and significance of the initiative for Metropolitan College and Western Plains College was low and primarily the initiative provided an opportunity for a small number of students to experience work conditions in mines as potential

professional engineers or to receive scholarships for further study. One finding is that the physical proximity provides no guarantee that organisations will be incorporated into knowledge networks in meaningful and productive ways. What is more significant is the common understanding of purpose of the relationships and the coherence of the networks.

The major beneficiary so far appears to be a range of teachers who are directly involved in curriculum related to minerals and energy — primarily science and technology. These teachers have benefited from professional development and up skilling. This is essential but also a problem in that the two mining schools are in remote locations and subject to rapid turnover of staff.

The primary benefit or outcome for students is that some students in these schools appear to have gained work place skills that position them well in terms of employability. Whether the program would have made any difference is an issue as in the mining towns the industry would appear to prefer to give priority to local school graduates in any case.

To what extent has this approach in which knowledge is contextualised provided a contrast to past approaches? Past approaches assume that teachers have the capacity or at least the schooling sector has the capacity to facilitate knowledge transfer. Historically, teachers were trained to deliver standardised curricula based on well defined subject matter in accordance with the goal of preparing all young people to be active and reflective citizens capable of participating in the social, economic and political life of the community. To this end, compulsory education provided opportunities for students to become literate, numerate citizens with a general knowledge of social and natural sciences and the arts. Students who wished to pursue trades or manual work exited the school system at the conclusion of compulsory education in year 10. They either went directly into employment or entered Technical Training Colleges to acquire an apprenticeship to a trade. Post-compulsory education as the stepping stone to higher education provided more in-depth specialised educational experiences in the various disciplines. This clear demarcation in the past decade has become blurred in that approximately 80% of students in this jurisdiction are completing year 12. Of these a substantial proportion, in places the majority, are undertaking vocational education programs. Programs such as the Gateway initiative appear to be a reaction to the limitations of the school sector to provide vocational education instruction. Gateway Schools may be seen as a response to the general broadening of education beyond the academic curriculum which is inadequate in catering for the large numbers of students who are now required to remain in schooling to year 12. Retaining students at school to they are 18 years of age is both a state and national policy possibly to camouflage youth unemployment statistics. However, a necessary response is the need for providing training opportunities and up skilling teachers who are not trained for this in their degree programs. Few traditionally trained teachers have the experience or knowledge to provide the knowledge that is required for vocational training especially in the areas of focus of the Gateway initiative.

Ghost (2002) argues that, to ensure the relevance of learning in school education, educators need to understand how workplace skills are continually changing. At the same time, industry needs to understand the school environment and how to contribute to skill formation in schools. Traditional research into curriculum innovation has examined the process from the perspective of hierarchical diffusion of knowledge from centralised curriculum planning agencies through schools to classrooms within educational institutions (Fullan, 2001). The Gateway initiative is significant because it adopts a system-wide approach to documenting the uptake and translation of ideas across multiple industry sectors, across school sectors (public and independent), and within and across local schools to generate theoretical frameworks for informing national and international partnership strategies (see Griffiths & Zammuto, 2005).

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"Managing with my Heart, Brain and Soul": The Development of the Leadership Intelligence Questionnaire

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Abstract

A new Swedish leadership theory of "leadership intelligence" (Ronthy, 2006; 2013) is characterized by a work integrated learning approach. This theory arose from analysis of the experiences of managers trained in performance appraisals, and describes the balance between being a leader and being a manager. A leader develops and uses, in an integrative good balance, leadership intelligence, which comprises emotional intelligence, rational intelligence and spiritual intelligence. The aim of this study was to further develop the Leadership Intelligence Questionnaire (LIQ) created by Ronthy (which has been developed to measure leadership intelligence), and to examine its reliability. Over 400 leaders, aged 21 to 69 years completed the 71-item LIQ. A shorter, 32-item version of the LIQ was developed by confirmatory factor analysis thorough excluding psychometrically "poor" items. The internal consistency measured by Cronbach's alpha was high (> .80), and we conclude that leadership intelligence may be reliably measured with both versions of the questionnaire. Future studies should examine the internal and external validity of the LIQ before its introduction into education or into managerial practice.

Keywords: emotional intelligence, intelligence, LIQ, leadership intelligence, rational intelligence, spiritual intelligence

INTRODUCTION

The study of work integrated learning concerns all forms of learning and development at work, such as learning processes, conditions, content and consequences for individuals in the workplace, and the change in processes that may occur in different types of business. Our university offers several programs related to the education of leaders (such as Human Factors or Human Resource Development and Labor Relation), and several research teams carry out research and development to study and advance professional development in the workplace. Intelligence is a research topic shared by several disciplines, such as educational science, informatics, and psychology. Many people experience so bad leadership at the workplace that they decide to move, and it is thus important to study leadership intelligence. This article presents a new Swedish theory of leadership intelligence developed by organizational psychologist Marika Ronthy (2006; 2013) within a context of other intelligence theories, and examines the reliability of a questionnaire that is believed to measure this quality.

Definition of Intelligence

The study of intelligence is highly relevant to exercising leadership skills, because it comprises an outer and an inner understanding of the employees. The word "intelligence" is *intellegentia* in Latin, and has its origin in *intellegere*, which means "to discern, comprehend", or literally "to choose between" (*legere*: "to choose"). Definitions of intelligence include the ability to carry out abstract thought, understanding, self-awareness, communication, reasoning, learning, having emotional knowledge, retaining information, planning and problem solving. A typical definition of intelligence is: "a person's ability to adapt to the environment and to learn from experience" (Sternberg & Detterman, 1986). Sternberg (2011) emphasizes that intelligence is measured not only by the levels of different abilities, such as analytical, creative or practical abilities, a person possesses, but also by "(1) the ability to achieve goals in life, given one's sociocultural context, (2) by capitalizing on strengths and correcting or compensating for weakness (3) in order to adapt to, shape, and select environments (4) through a combination of analytical, creative, and practical abilities" (pp. 504-505). Sternberg underlined the importance of wisdom, and the importance of positive ethical values, "towards a common good" (p. 505).

Emotional intelligence. Emotional intelligence has been defined as "the ability to monitor one's own and others' emotions, to discriminate among them, and use to the information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). Gardner's (1983) concept of intrapersonal intelligence comprises the awareness of emotions. Goleman's (1995) book on emotional intelligence has been a best-seller. This book summarizes also the idea of Salovey and Mayer that emotional intelligence may contribute to increasing the

Emotional intelligence is a predictor of academic performance, job performance, negotiating skills, leadership, emotional labor, trust, work-family conflict, and stress

well-being of people's life and society. Emotional intelligence is a predictor of academic performance, job performance, negotiating skills, leadership, emotional labor, trust, work-family conflict, and stress (e.g., Ashkanasy & Daus, 2002; Fulmer & Barry, 2004; Humphrey, 2002; 2006; Humphrey, Pollack, & Hawver, 2008; Jordan, Ashkanasy, & Hartel, 2002). Mayer, Salovey, Caruso, and Cherkasskiy (2011) provide a historical overview, and describe measurement models and recent research in emotional intelligence. O'Boyle Jr., Humphrey, Pollack, Hawver, & Story (2011) have recently reviewed research in emotional intelligence in relation to job performance, and shown that all methods of measuring emotional intelligence predict job performance equally well.

Organizational spirituality. It has become popular in recent years to postulate the existence of organizational spirituality, and many organizations use this concept in order to improve employees' performances and organizational effectiveness (Karakas, 2010). "Spirituality" in organizations has been defined in about 70 different ways (such as "inner consciousness", "work feeling that energizes action", "self-enlightenment", "unique inner search for the fullest personal development through participation into transcendent mystery") (Karakas, p. 91). Zhurayleva-Todarello and More (2009) presented an evolutionary-frame perspective on the development of the construct of spirituality, and suggested that the origins of this construct are present in the longer evolution of organizational and management thought.

Spiritual intelligence. Zohar and Marshall (2000) describe spiritual intelligence as dealing with "What I am". It is the ability to access higher meanings, values and abiding purposes, and should be the ultimate component of intelligence in a visionary leader. Zohar and Marshall (2004) defined spiritual intelligence as "the intelligence with which we access our deepest meanings, values, purposes, and highest motivations" (p. 3), while Vaughan (2002) defined it as "a capacity for a deep understanding of existential questions and insight into multiple levels of consciousness. Spiritual intelligence also implies awareness of spirit as the ground of being or as the creative life force of evolution" (p. 19). She stated that "We rely on spiritual intelligence when we explore the meaning of questions such as 'Who am I?', 'Why am I here?', and 'What really matters?'" (p. 20). Wiggleworth (2012) proposed that spiritual intelligence is "about how we behave and how we make decisions and act with other people and complex situations" (p.124); how to live one's life with a purpose. Spiritual intelligence is values driven, and enables us to understand people with very different points of view, sustain faith during challenging times, and recognize the voice of the "higher self". Wiggleworth believes that this kind of intelligence develops over time, and requires practice to develop. Zohar and Marshall (2004) described a set of principles (such as self-awareness, which they define as knowing what one believes in and what one's values are) that characterize spiritually

Spiritual intelligence is values driven, and enables us to understand people with very different points of view, sustain faith during challenging times, and recognize the voice of the "higher self"

intelligent leadership. They suggested that spiritual intelligence makes people "whole" through a striving to achieve integrity. Spiritual intelligence allows one to hope and dream, to visualize, to connect to a purpose in life in order to seek meaning and a greater good by differentiating between good and evil. This involves asking fundamental questions. Lynton and Thøgersen (2009) found culturally specific techniques for reaching spiritual intelligence in western and Chinese leaders. Vaughan (2002) suggested that spiritual intelligence is related to emotional intelligence because "spiritual practice includes developing intrapersonal and interpersonal sensitivity" (p. 20). Spiritual intelligence is measured by self-reported scales, and research into the reliability and validity of such scales is at an early stage; the results have been presented in npublished technical manuals and conference presentations to date, with one exception. PleThe exception is a study of King, Mara and DeCicco (2012) that demonstrated a positive significant association between spiritual intelligence and two self-reported measures of of emotional intelligence.

Ronthy's Theory of Leadership Intelligence — the Three Kinds of Intelligence (Emotional, Rational and Spiritual) Viewed Together in a Good Balance between Being a Manager and Being a Leader

Ronthy's theory of leadership intelligence (2006; 2013) has grown from her experiences in training more than 4,000 managers in how to conduct performance appraisals. The theory expresses a balance between being a leader and being a manager. It has been inspired to some extent by the concepts of intelligence described above. *Leadership intelligence* arises when one can manage one's own and others' emotions effectively (emotional intelligence), when one experiences a deeper desire and willingness to see the meaning of what one is doing (spiritual intelligence), and when one possesses advanced logical and analytical skills (rational intelligence). Spiritual intelligence belongs to the existential query field and answers the question "Why?". A leader should possess all three intelligences and should be able to maintain them in an integrative good balance. Table 1 summarizes the model of leadership intelligence.

Table 1.

The three types of intelligence that form leadership intelligence

(Ronthy, 2006; 2013)

Kind of intelligence	Ability
Emotional (*how*)	To acquire a good self-knowledge. To manage one's emotions and those of others. To achieve empathy by using one's heart. To manage relationships with others (social skills). To deal with relationships with others. To reflect the information of others' emotions on their relationship with oneself (i.e. introspection of emotions).
Rational (*what*)	To apply logical and analytical skills. To achieve one's goal, to solve the task, in other words, to determine *what* is to be done, mainly using one's intellect, logical capacity and problem-solving skills.
Spiritual (*why*)	To deal with vision and positive ethical values. To find a sense of purpose and meaning at work. To discover context by taking a comprehensive view. To answer the question *why*, using one's soul, in the process of adapting to, shaping and selecting from and within environments. To achieve self-awareness. (Self-awareness means more than "simply" self-knowledge.)

Ronthy (2006; 2013) claims that managers today focus on *what* they have to do, and rarely on *why* or *how*. This means that they focus too much on the task, and too little on relationships with the coworkers and too little on the "relationship" within themselves (introspection of values and ethics). Ronthy visualizes the process of developing good leadership skills in a conceptual model, which she denotes "the comfort border" (a line that is visualized between rational intelligence on one hand, and emotional and spiritual intelligences on the other hand) (Ronthy, 2006). A manager can develop good leadership intelligence by crossing the comfort border. A leader who desires to maintain high-quality leadership faces a complex task of handling his or her own comfort border, and the comfort borders of others. It is a tempting easy way out to fail to cross the comfort border, and focus solely on the task, objectives and results (the "what" questions, Table 1). Further, this strategy does not require the investment of much time. A focus on the "why" and "how" questions, in contrast, may be time consuming, and sometimes complex, and requires higher levels of emotional intelligence and spiritual intelligence, according to Ronthy. A manager uses a lot of rational intelligence, which is necessary, but if one wants to include all the personnel in the organization and ensure that everything works when needed, it is necessary for the leader to possess both emotional and spiritual intelligence.

The Aim of This Study

The aim of this study was to further develop the Leadership Intelligence Questionnaire (LIQ) created by Ronthy (which is believed to measure leadership intelligence), and to examine its reliability. We have concentrated on developing a relatively short, practical, and reliable self-reported measure of leadership intelligence.

METHOD

Participants

Participants were 425 managers (33% men) in various positions (36% CEOs, 29% middle managers, and 35% other managers), aged 20 to 69 years (M = 45, s = 9), from service providers, local government, governmental agencies (such as prisons, municipalities, universities and other educational organizations), and industrial companies. The demographic variables of men and women did not differ significantly.

The Instrument

Leadership intelligence was measured using a self-reported questionnaire, the LIQ, created by Ronthy (2006; 2013). The majority (43) of the 71 items had been adopted and rewritten from an existing instrument, based mainly on the transformational leadership model (Bass, 1999), and validated in Sweden by Larsson (2006) and by Larsson, Carlstedt, J. Andersson, L. Andersson, Danielsson, A. Johansson, E. Johansson, and

Robertsson (2003) in a population of military managers. We believed that the items selected were appropriate (after rewriting), because, according to Bass (1999), transformational leaders "uplift the morale, motivation, and morals" of their coworkers (p. 9), and because such a style of leadership elevates the coworker's "level of maturity and ideals as well as concerns for achievement, self-actualization, and the well-being of others, the organization, and the society" (p. 11). We believed that the items cover some aspects of leadership intelligence, as defined by Ronthy. The remaining 28 items were written for the LIQ by Ronthy (see Appendix). The 71 items of the scale measure (1) *emotional intelligence* (22 items), examined by such items as: "I demonstrate understanding of the needs of others"; (2) *rational intelligence* (18 items), such as: "I specify strategies to achieve the goals set"; and (3) *spiritual intelligence* (31 items), such as: "I demonstrate a moral approach". Responses were given on a seven-point scale ranging from 1 (*Strongly disagree*) to 7 (*Fully agree*). Three items are reversed. The items are presented in randomized order.

Procedure

Visitors to the company website of the second author were invited to participate in the study by completing the questionnaire and providing some demographic data. They were told that the information was being collected within a scientific project, and would be used for research purposes. The first sub-sample of 121 managers comprised the second author's personal social networks (colleagues, friends, participants taking further education in management, and other managers who had expressed interest in the instrument). Our aim was to administer the questionnaire to a sample that was sufficiently large to allow us to conduct a confirmatory factor analysis. Subsequently, replies from a further 185 managers, were collected via the same homepage. Replies from a further 125 managers who were participants in a study of managers taking further education in management were collected by the third author. Data from six persons who completed the questionnaire were excluded, because they stated that they were not managers.

Data Analysis and Statistics

We aimed to identify as low a number of items as possible for each domain of intelligence content, and used well-established methodology for this (Eysenck, 1958; Lewis, Francis, Shevlin, & Forrest, 2002). One latent factor for each domain was generated using Structural Equation Modelling (SEM) analysis. Confirmatory factor analysis (CFA), a SEM technique, was then carried out. Mplus (Muthén & Muthén, 1998-2010), with maximum-likelihood estimation, was used for the analyses. We considered items that met the following criteria across the sample to be candidates for the short version of the questionnaire: (a) loaded relatively strongly (defined as a loading factor greater than .50; McDonald, 1999; Tabachnick & Fidell, 2012) on the common "broad intelligence" factor (e.g., in order to include the "best" emotional intelligence items among the 22 items that most strongly measured the "broad emotional intelligence" factor and to justify

summing the items that were included to yield a total score for Emotional Intelligence); (b) had an estimated *R* squared of at least .25, indicating outstanding performance; and (c) were not synonymous (reworded) items (to increase the diversity of the content). Measures of internal consistency were computed for each intelligence measure from the Cronbach (1951) alpha reliability coefficient (for which values above .70 are generally considered acceptable). Homogeneity was determined by examining the mean inter-item correlations (for which values above .30 are generally considered acceptable (while some researchers (such as Briggs & Cheek, 1986) consider a value of .20 to be acceptable).

Ethics

All data collected during the study was obtained in compliance with general ethical regulations. The participants were informed of the ethical issues associated with the study (confidentiality, voluntary participation) before the study was carried out. This information was given in writing, and the participants gave their written consent that the results of the study may be used for research purposes.

RESULTS

Cronbach's alpha for the total 71-item LIQ was .93. Cronbach's alpha for the items related to the three types of intelligence were: (a) .86 for emotional intelligence; (b) .80 for rational intelligence; and (c) .87 for spiritual intelligence. The mean inter-item correlations for the three intelligences ranged between .19 and .25, which suggests that some items were not adequately correlated to the respective intelligence factor.

The short version of the LIQ was developed by excluding "poor" items from the long version. Table 2 *(next page)* presents the short version of the questionnaire, along with item statistics.

Table 2.

Items and their estimated standardized factor loadings in the short version of the LIQ

Item No.	Emotional	Rational	Spiritual
Emotional intelligence			
2	.50		
5	.55		
6	.54		
9	.60		
10	.58		
12	.67		
13	.65		
14	.70		
15	.54		
19	.62		
21	.66		
22	.63		
Rational intelligence			
26		.55	
28		.60	
31		.62	
32		.59	
33		.68	
34		.59	
37		.55	
39		.58	
Spiritual intelligence			
43			.62
44			.55
45			.51
46			.53
49			.58
50			.50
51			.51
55			.59
56			.52
57			.51
59			.56
63			.60

The items are listed in the appendix.

Table 2 shows that the reliability estimates indicate high internal consistency, and that the numbers of items in the different kinds of intelligence are more balanced in the short version than in the full version. Cronbach's alpha for the total 32-item short-version LIQ was .92. Cronbach's alpha for the items related to the three types of intelligence were: (a) .87 for emotional intelligence; (b) .81 for rational intelligence; and (c) .84 for spiritual intelligence. The mean inter-item correlation coefficients were higher than those in the full version, ranging between .31 and .36.

DISCUSSION

The aim of this study was to further develop the LIQ and to examine its reliability. This instrument is based on a new leadership theory of "leadership intelligence", characterized by a work integrated learning approach. We have shown that Ronthy's theory (Table 1) has some conceptual similarities with other theories with established definitions of intelligence, and with other, validated, theories of different kinds of intelligence. We have shown that the concept of leadership intelligence can be reliably measured by the LIQ. The questionnaire has high internal consistency and homogeneity, and is adequate for research purposes.

The Short Version of the LIQ

It is an established tradition in psychology to develop short versions of questionnaires (e.g., Lewis et al., 2002), and we have psychometrically developed the 32-item short version of the LIQ in the present study. We have concentrated on developing a relatively short, practical, and reliable self-reported measure of leadership intelligence, whose validity in industrial and applied workplaces can be examined in more detail. The short version is a reliable measure and has relatively high values of homogeneity. The number of items used to measure each of the types of intelligence is more balanced in the short form than in the full questionnaire.

Discussion of Method — Strength and Shortcomings of the Study

The strength of the work presented here is that we have applied an academic approach to examine empirically a theory that had been derived by a practitioner. This work is different from the huge body of non-science based management literature.

The study is subject to some limitations. We have shown that the questionnaire is reliable, but not that it is valid. This study could have been improved by measuring the cognitive abilities of the participants and relating these to their measured rational intelligence. Further studies should include already validated instruments of related concepts. We had, for example, no data from which we could estimate relationships among personality variables, nor to estimate cognitive ability and job performance. Intelligence is not related to personality. Ekegren (2011) has used the LIQ and shown that there are no significant correlations between scores obtained by the questionnaire and the majority of personality traits.

We have used only an objective self-reported questionnaire, which Ronthy had developed on the basis of a new theory. We have not used it in combination with peer-reported measures, nor with other ability-based measures (such as measures based on the "four branch" model of emotional intelligence, or measures based on "mixed models" of emotional competencies (Mayer et al., 2011; O'Boyle Jr. et al., 2011)). O'Boyle Jr. et al. have shown that the overall validity of emotional intelligence is good independently of the measures used, and this leads us to believe that the validity of our measure is also good.

We have not assessed the predictive validity of leadership intelligence. It is possible, however, that such a prediction would have been affected by range restriction (our study probably includes only very skillful persons, which may have led to low variance in the test scores, where almost all participants scored high) and by measurement error. Such an analysis, consequently, would require correction for both the restriction of range and measurement error (Guilford, 1950).

Another limitation is a possible risk of using a biased sample. The majority of participants have all indicated an interest in this way of defining leadership intelligence by voluntary visiting a certain home page. Others comprised participants taking further education in management. It is possible that this sample is not representative of managers. We don't believe that this possible risk of a biased sample influenced our results, because reliability of the LIQ is high.

New Findings and What they Mean for Education and Practice

We believe that the theory and measure described in the present study can contribute to leadership research within a work integrated ideology. Working life is continuously changing, and education must also change. It is very important to integrate work-related experiences in the development of new theories, to examine these theories within research projects by allowing students to sample data in real environments, and to stimulate them in this way to critical reflection on the real conditions of working life. Students have already used the LIQ in work presented as B. Sc. and M. Sc. theses, and have investigated it using data collected in real environments. Students have also reflected on the relationship between their academic knowledge and reality (Bäckman & Ekegren, 2010; Ekegren, 2011; Frändesjö & Johansson, 2013; Gustafsson, & Ronæss, 2012). These studies have confirmed the findings presented here of the reliability of the LIQ. Preliminary validation results, using internationally validated instruments (Cliffordson, 2002; Dåderman & Basinska, 2013), are theoretically sound. A short, user-friendly and practical measure is now available to measure the emotional and social skills of leaders and managers, from which strategies to develop these properties can be proposed.

We believe that the theory and measure described in the present study can contribute to leadership research within a work integrated ideology.

Conclusion and Next Steps

This study is the first quantitative study to investigate the reliability of the LIQ. We conclude that leadership intelligence can be measured reliably with both the long and the short versions of the questionnaire, but more validation studies are needed in order to examine whether the intelligence concepts are one-dimensional or not. Future studies should examine the internal and external validity of the measure that has been developed, before it is implemented into education or into managerial practice with the aim of developing leaders. We recommend that the questionnaire is used for research purposes in order to examine its validity and factor structure in different populations and cultures.

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Appendix

*LEADERSHIP INTELLIGENCE QUESTIONNAIRE (LIQ)**

Emotional intelligence

1. I value feelings more than logic.
2. I find it easy to talk to people.
3. I am a person with many ideas.
4. I find it easy to socialise in any situation.
5. I demonstrate understanding of the needs of others.
6. I take the time to listen to my colleagues when this is necessary.
7. I always listen to the opinions of my colleagues.
8. I can interrupt a conversation in order to present my ideas (reversed).
9. I give constructive feedback to others.
10. I regularly provide feedback to my colleagues.
11. I can manage awkward people.
12. I create enthusiasm for a task.
13. I inspire others to be creative.
14. I make others feel significant.
15. I find it easy to make contact with people.
16. I always take action when something goes wrong.
17. I can disagree with others without being unpleasant.
18. I am flexible in my dealings with others.
19. I make others feel responsibility for the development of the group.
20. I can act in an insensitive manner (reversed).
21. I inspire others to try new ways of working.
22. I contribute to job satisfaction in the group.

* This questionnaire has been developed by Marika Ronthy, and translated into English by George Farrants. Requests for permission to use the questionnaire for research purposes should be addressed to Marika Ronthy, E-mail: m.ronthy@gmail.com

Rational intelligence

23. I value logic more than feelings.
24. I am a practical person.
25. I have expertise within my field.
26. I set measurable goals.
27. I keep up-to-date in my field.
28. I follow up how the goals of the operations are met.
29. I make sure that my colleagues are kept informed.
30. I reward only colleagues who carry out the tasks we have agreed on.
31. I structure operations in an effective manner.
32. I complete tasks that I start.
33. I always have a plan to achieve the goals set.
34. I specify strategies to achieve the goals set.
35. I accept only goals that are compatible with the operations.
36. I use our budget as an instrument to motivate my colleagues.
37. I always deliver on the schedule specified by the goals set.
38. I have difficulty in achieving my goals (reversed).
39. I always follow up agreements.
40. I can usually find a solution to problems that arise.

Spiritual intelligence

41. I can keep calm in stress-filled situations.
42. I am satisfied with myself.
43. I take responsibility for the operations, also when the going is tough.
44. I find it easy to promote others.
45. I am prepared to learn from my mistakes.
46. I am prepared to reconsider my thoughts and ideas.
47. I aspire to use long-term working methods.
48. I obtain inspiration from fields outside of my work.

49. I enable colleagues to understand how the various parts of the organisation are related.
50. I lead in an exemplary manner.
51. I am receptive to feedback from others.
52. I am aware of my strengths.
53. I am aware of my weaknesses.
54. I acknowledge my mistakes without trying to explain them away.
55. I demonstrate an ethical approach.
56. I demonstrate a moral approach.
57. I act in accordance with my values.
58. I always allow time for reflection before important decisions.
59. I am a good example for my colleagues.
60. I act in accordance with my opinions.
61. I believe that I determine what happens in my life.
62. I can balance my professional life and my private life.
63. I encourage colleagues to understand how the company or organisation works in its entirety.
64. I am prepared to fight for my opinions.
65. I aspire to measurable beliefs that are part of the psychosocial work environment.
66. I aspire to promote compassionate values as a component of success.
67. I do not allow myself to be controlled by the opinion of the majority.
68. I have the ability to see the whole picture.
69. I encourage others to express their individuality.
70. I listen to the opinions of all others and consider these before taking a decision.
71. I contribute to the company or organisation that I belong to taking social responsibility.

Perceptions of Risk in Co-operative Education

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Abstract

Off-campus university activities, including co-operative education, offer huge rewards but also have the potential to expose students, employers, and universities to significant risks ranging from physical harm and financial loss, to reputational damage. While risk management and risk awareness in university activities worldwide appears to be growing, there is little discussion of the risks inherent in co-operative education in the literature. This qualitative descriptive case study examines co-operative education coordinators' perceptions of legal and ethical risks in co-operative education programs in Canadian universities and offers a first glimpse into how risk is understood, assessed, and managed by university representatives at an operational level. Coordinators' understandings of risk and liability, and the decisions that they make predicated on this knowledge, are influenced by many factors and thus are individualized, idiosyncratic, and inconsistent. Seemingly, university administrators and risk managers are doing little, if anything to participate in risk communication with the great majority of this population of coordinators; hence coordinators rely primarily on their own tacit knowledge and judgement to assess and manage risk rather than relying on expert advice from risk professionals or senior managers. When so much is assumed and so little is explicitly defined, the potential for misunderstanding, conflict, or injury is strong. As a result university managers, coordinators, students, and employers need to collaborate to develop appropriate policies and guidelines for each of the partners involved in co-operative education.

Keywords: Co-operative Education, Duty of Care, Internships, Liability, Risk, Risk Communication, Risk Management, Qualitative Research, University Risk Management, Work Terms

Co-operative education is defined by the unique tripartite relationship between the student, the employer, and the university, each of which has certain legal and ethical rights and responsibilities in that relationship. It is not simply employment any more than it is simply education and thus carries with it the legal and ethical considerations of both. While there is little or no Canadian case law dealing with liability and negligence in co-operative education, there is an increasing awareness in higher education of the legal vulnerabilities of universities.

While risk management and risk awareness in university activities worldwide appears to be growing, there is little discussion of the risks inherent in co-operative education in the literature.

The purpose of this qualitative case study research was to explore co-operative education coordinators' perceptions of risk in co-operative education, to examine how coordinators understood their role in assessing and managing risk, and to determine how coordinators perceived their university's role in preparing and supporting coordinators in risk management. This research sought answers to the following questions: How do coordinators understand risk and institutional liability in general? What do coordinators feel they are personally responsible or liable for? How do universities prepare coordinators to reduce risk? Do coordinators feel they are supported (or not supported) by the policies of their institution?

Literature Review

University risk management. Researchers generally agree that organizations are increasingly concerned with managing their exposure to risk (Brewer & Walker, 2010, p. 19; Katter, 2002; Lupton, 1999, pp.10-11; Mark, 2001, p. 33; McWilliam, 2007, p. 311; Power, 2007; Power, Scheytt, Soin, & Sahlin, 2009), which is likely spurred on by fear of litigation, financial loss, and loss of reputation. Huber (2010) goes further stating that contemporary social theorists view "the growth of risk to be the distinguishing feature of modernity" (p. 114). Beck (1992), in his seminal publication on risk, also argued that modernity is about the eradication of risk or minimizing exposure to risk. Indeed many researchers argued that risk is emerging as a key organizing concept for regulatory regimes and extended governance systems in a multitude of settings (Beck 1992; Edwards, 2012; Garland, 2003; Moran, 2002; Power et al., 2009; Smith; 2004).

Institutionalized forms of risk management refer to the formal, integrated, strategic, enterprise-wide systems of identifying potential risks, the management of risks in line with the enterprise's level of acceptable risks, and the provision of assurances toward achieving the objectives of the enterprise (Fraser & Simkins, 2010, p. 3). Risk management is founded on the belief that "probability can reduce the uncertainty of the future to known risks and probabilities" (Arnoldi, 2009, p. 34). Risk managers argued that when successfully implemented, risk management involves balancing opportunities, hazards, and uncertainty in order to advance the mission of the institution. Institutions maintain legitimacy by demonstrating that they are applying rational, knowledge-based standards and

risk assessments to their operations, and as such "a 'good' organization is one which manages risk in accordance with established frameworks" (Power et al., 2009, p. 305).

Huber (2011) identified several sources of risk in university settings including teaching risks, research risks, organizational or delivery risks and external risks, each of which is linked to financial flow and to reputation. Indeed Power et al. (2009) argued that reputational risk is the pervasive logic of organizational attention on risk management in general and that this conceptualization of risk management is strongly influenced by the phenomena of legalization, whereby organizations are increasingly creating internal procedures that follow the principles of due process and the law.

Critics of a risk-based approach to university management argued that when risk is the key organizing feature in higher education, institutions are more risk averse and as a result less innovative and creative (Power et al., 2009; SQW, 2008, p. 57; Tennant, 2008). Risk-focussed management and organizational systems also resulted in undue focus, time, and resources on expensive and lengthy audit trails and the pervasiveness of due process in the texture of organizational life (Power et al., 2009, p. 317).

In England university risk management is mandatory following a decision in 2000 by the Higher Education Funding Council of England (HEFCE) requiring all universities to introduce risk management as a governance tool (Huber, 2011, p. 2). HEFCE argued that:

> ***When used well it [risk management] can actively allow an institution to take on activities that have a higher level of risk (and therefore could deliver a greater benefit) because the risks have been identified, are understood and are being well managed and the residual risk is thereby lower. Risk management is not just negative (ensuring that bad things are less likely to happen) but also positive (making it more likely that good things will happen).*** (HEFCE, 2001, para. 9)

Australian universities have also recently had a risk-based approach to governance imposed on them by government (Commonwealth Government of Australia, 2009). University accreditation and audit processes are risk-based; universities must demonstrate that their functions are underpinned by formal risk assessment at the institutional level (Edwards, 2012, pp. 295-296). A risk-based approach has become the foundation of public policy in Australian higher education.

A cursory review of virtually every Canadian university directory presents a Risk Management Office charged with reducing the university's exposure to risk as part of an integrated, strategic, and enterprise-wide approach to identifying and reducing risk. Clearly risk management has a strong foothold in most, if not all, Canadian universities. This focus on risk may not have penetrated beyond senior administrative levels into the routine operations of staff and faculty members according to a recent survey on work-integrated learning (including co-operative education) in Ontario post-secondary institu-

tions. The survey showed that only "one-quarter of university faculty reported providing training and support for employers/site supervisors on coordinating risk management and insurance details" (Peters, 2012, p. 43), despite the apparent expanding focus in universities on risk management and the exposure to risk that co-operative education programs specifically bring to universities, students, and employers.

Litigation, liability, and duty of care. Litigation is more commonplace in the commercial world than it is in higher education, but it can be argued that as universities become increasingly competitive and operate more and more in line with business principles with neoliberal agendas (Jones, 2004, p. 44; Snowdon, 2005, p. v), students increasingly perceive themselves as clients or consumers of services and are thus more willing to litigate for perceived or actual infractions of the university's duties (Katter, 2002, p. 390). Canada's neighbour, the United States of America, is widely recognized to be a more litigious nation than Canada, but recent events reported in *University Affairs* (Mullens, 2008) and *Macleans On Campus* (Deehas, 2012) suggest this may be changing.

Peak and O'Hara (1999) stated that out of the three parties in the co-operative relationship the student is the least likely to be held primarily liable for the unfavourable outcomes of his or her actions in the workplace (p. 68). Their conclusion was that primary liability rests with the university, the employer, and the faculty supervisor (or by implication the co-operative education coordinator), in that order (p. 68). Middlemiss (2000) arguing from a British context, suggested that universities have a duty of care for students participating in external activities that form part of the student's course of study and which are controlled by university staff (p. 79). Consequently co-operative education coordinators have a duty of care for students before and during their work terms, but how far does that duty of care reach? What is the extent of the co-operative education coordinator's role and responsibility in exercising duty of care for students? This question has yet to be tested in Canadian courts but should be considered by institutions who wish to understand their exposure to risk and liability and possibly pre-empt litigation with potentially great cost, both financially and in terms of reputation.

Consequently co-operative education coordinators have a duty of care for students before and during their work terms, but how far does that duty of care reach? What is the extent of the co-operative education coordinator's role and responsibility in exercising duty of care for students?

Co-operative education and the law in Canada. Hannah's (1998) detailed examination of all Canadian court cases up to 1998 between post-secondary institutions and students, as well as a review of cases beyond that date on the Canadian Legal Information Institute database showed that a serious legal action has never been brought by a student from a co-operative education program against a university in Canada. There is no body of case law or any direct legal precedents to draw from in a discussion of serious legal risks in co-operative education.

A small number of disputes related to co-operative education students have been before the courts since 2000 on a variety of issues, two of which are noteworthy. One case in-

volved a student enrolled on an engineering work term who died in a car accident when driving home from his workplace (CanLII 48208 [BC WCAT], 2009). The student had worked 96.5 hours over the previous eight days. The employer reneged on the offer for nearby accommodation meaning that the student had a two-hour commute each way to work. His family claimed that his poor working conditions were the cause of the accident. The Workers' Compensation Board of British Columbia claimed it was unable to investigate the matter because the crash was offsite. The family did not pursue a case with the university (not named in the court documents). However, this case raises questions about the university's role in ensuring safe working conditions for co-operative education students. What can coordinators reasonably be expected to know and what reasonable action can they be expected to take to protect their students? If the coordinator was aware of the working conditions could the family have claimed the coordinator was negligent in his or her duties?

The second notable case was against an Ontario co-operative education student Suresh Sriskandarajah who was arrested on terrorism-related charges in Toronto in 2006 and extradited to the United States in December 2012 (2012 SCC 70 [CanLII]). Sriskandarajah pleaded guilty in New York in July, 2013 to being part of a terrorist procurement cell securing sophisticated military technology for the Tamil Tigers, including submarine and warship design software, and laundering money. He used students as couriers to smuggle prohibited items into Tamil Tiger-controlled territory in Sri Lanka (Humphries, 2013). As a result of the allegations the university ordered an external audit of the university's Tamil student club (CBC News, 2006). It was later reported in the *National Press* (Bell, 2012) that "the audit of the Tamil student group found no financial irregularities but a review of the university's work placement program recommended closer monitoring by campus and diplomatic officials of students who conduct their co-ops abroad" (para. 6). The recommendation implies that if coordinators had been monitoring him more closely, they may have been able to prevent his alleged involvement with the Tamil Tigers. While the audit is not part of a legal action it does demonstrate that the reviewer finds co-operative education coordinators at least partly responsible for student actions on work terms abroad.

Risk: The researcher's perspective. There is a great divide among risk researchers, some of whom characterized risk as positivistic, acknowledging facts and causality, while others viewed risk subjectively in terms of perception and understanding tempered by beliefs, opinions, and values (Lofstedt & Boholm, 2009, p. 4). This research study focused on perceptions of risk and viewed understandings of risk in idealistic terms rather than strictly realistic terms, following the dominant view in sociology and anthropology that risk is a concept that is constructed in reference to social, historical, and cultural conditions (Arnoldi, 2009, p. 15). A social constructionist approach was taken, that argued that risks are never fully objective but are constituted through an individual's knowledge, experiences, and relationships and are therefore dynamic, contextual, and historical

(Tulloch & Lupton, 2003, p. 12). Perceptions of risk are therefore constantly changed and negotiated through social interaction, understanding, and meaning.

Methodology

The research design used a qualitative approach with case study as the methodology. Case studies represent a bounded unit, a phenomenon, or social group that can be readily seen as a single entity or a unit around which there are clear and defined boundaries (Cohen, Manion, & Morrison, 2011, p. 289; Creswell, 2008, p. 476; Merriam, 2001, p. 191; Merriam, 2009, p. 40; Stake, 2000, p. 436). More specifically, this research is a descriptive case study, meaning that the end product is a rich and thick description and account of the coordinators' perceptions and experiences with risk that illustrates the complexities of the situations and the differences of opinion and experience of risk in co-operative education.

Coordinators from multiple universities with long standing co-operative education programs in multiple disciplines were invited to take part in this research in order to achieve a rich and thick understanding of how coordinators perceived risk in co-operative education across Canada

Site and population selection. A criterion-based purposeful sampling technique with a quota or maximum variation was used in order to include a roughly representative subset of the given population. Coordinators from multiple universities with long standing co-operative education programs in multiple disciplines were invited to take part in this research in order to achieve a rich and thick understanding of how coordinators perceived risk in co-operative education across Canada. The Canadian Association for Co-operative Education (CAFCE) provided assistance by sending an email to its membership to introduce the research agenda and to provide legitimacy to requests for interviews. This email invited interested coordinators to identify themselves to the researcher directly or to their directors. Once CAFCE members were contacted the researcher followed up by email with the directors of co-operative education programs in select universities. Directors were asked to identify coordinators who might be appropriate research participants, using both reputational and ideal-typical sampling strategies.

Data collection methods. A total of 14 guided-semistructured one-on-one interviews were held with Co-operative Education Coordinators from a total of 10 universities across Canada. The participants represented coordinators from a range of co-operative education programs from a number of different disciplines. Three interviews took place over the phone while 11 interviews were held in person. Interviews ranged in duration from 20 minutes to approximately 1 hour. All interviews were audio-recorded and subsequently transcribed.

Data analysis. Preliminary data analysis began during the data collection phase, although early interpretations were free-formed hunches and educated guesses. These speculations and hunches informed the next interview, and so on. An intensive analysis stage followed data collection, in order to construct the categories and themes that be-

came the research findings. The transcribed data was read and re-read in order to make meaning from the data or to code the data resulting in the identification of the themes presented in the following section. To protect the anonymity of the participants, they have been assigned the following pseudonyms: Alice, Amanda, Clare, David, James, Julia, Nancy, Natalie, Paul, Patricia, Rachel, Sarah, Susan, and Tanya.

Results

All coordinators were asked to qualify their understanding of the risks associated with co-operative education as strong, weak, or any other qualifier that they were comfortable using. The responses were varied, with half identifying themselves as having a moderate understanding of risks associated with co-operative education and the other half evenly divided between a strong and a weak understanding of risk. Coordinators' self-assessment of their understanding of the risks associated with co-operative education was not necessarily correlated with their length of service in co-operative education, with some seasoned coordinators identifying themselves as having a weak understanding of the risks. The coordinators who assessed their understanding of the risks as strong had all worked as co-operative education coordinators for 12 years or longer.

Coordinators were also asked to assess their understanding of institutional liability and institutional risk, again qualifying their understanding as strong, weak or another qualifier they were comfortable using. The responses were very evenly distributed between strong, moderate and weak understandings of institutional liability and risk, and were not necessarily reflective of the seniority of the individual in a coordinator role.

All coordinators were asked the following question: Given that students on work terms are employees and adults, what is the extent of your responsibility in risk assessment and risk management? In general coordinators felt that risk assessment and risk management was part of their role as a Co-operative Education Coordinator; however, the extent of that responsibility and their perceptions of the boundaries of their responsibility varied considerably.

Clare, Tanya, David, Sarah, and Rachel felt a strong sense of responsibility for assessing and minimizing risks, expressed clearly in the following statement by Clare:

> ***I think the keyword is that they're still students. And while they're adults and employees, they are students of our university. And I have been put in a position whereby I'm expected to take a great deal of responsibility, I think, in assessing risk and managing it, as much as possible. So I think my responsibility is huge.***

Conversely Susan and Paul did not feel a strong sense of responsibility for assessing and minimizing risks. "I don't feel that we have that much responsibility [in risk assessment and risk management] because the moment the student goes to a work term it becomes the responsibility of the employer" (Paul).

Natalie, Alice, Nancy, and Patricia expressed how their understanding of their responsibility in risk assessment and risk management was not clear to them. Natalie in particular noted that the boundaries of her responsibilities were not well articulated to her by her employer in her initial training. Alice discussed this topic at length. She expressed the uncertainty she felt about the extent of her responsibility in risk assessment and risk management in terms of a balance between supporting and helping her students, but not taking on too much responsibility and undermining their ability to develop decision making skills:

> ***I am not sure honestly how far to go. I hope that that helps with your research because I think that that's an honest answer. Part of me believes that students are adults and they have to learn how to act like adults by acting like adults and suffering consequences if they have made bad decisions. . . . If you are trying to make all the decisions for the students, if we go to extremes, you're kind of undermining their ability to develop those skills for themselves. So I try to balance that.***

Alice also connected the extent of her responsibility in risk assessment and risk management to questions of her own liability, "what if I don't catch something? How much am I liable if something happens to a student? The other part of me thinks how much can we cover off? Where is that boundary where our role can stop?"

The balance of who is responsible was reiterated by a number of coordinators. Julia, Nancy, James, and Sarah all noted that responsibility for risk assessment and risk management is to some extent shared between the three partners: the university or coordinator, the employer, and the student, although each interpreted the balance in a different way. Julia acknowledged the unique status of the co-operative education student as both a student and an employee in her response:

> ***I like the question because in many ways it implies that it's not just our responsibility, right and it's true. They, co-op students, are kind of straddling two spheres at the same time, they are a student. . . . but they're also employees of the organization.***

James and Sarah's sentiments were very similar in this regard, and both perceived the employer to be the party primarily responsible for risk assessment and risk management, although they both acknowledged that as the coordinator, they also had an important role in this.

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The great majority of coordinators felt that their university had prepared them poorly or had not prepared them at all to assess and minimize risk. The following comments illustrate the general accord that coordinators presented in response to the question of how their institution prepared them to assess and minimize risky situations. "They don't" (Patricia). "Poorly. I don't know, we haven't had any training on this" (Paul). "I don't think it does a great job" (Nancy). "I don't think there's any preparation at all" (David). "I would say minimal preparation" (Alice). "To be honest not a whole lot. . . . my institution

really doesn't do a lot to prepare me" (Amanda). "I don't know, I think we've done it pretty organically to be honest. . . . I wouldn't say that we've had, we have not had formal training on risk management or risk assessment in any capacity" (Julia). "I really don't feel like I have a good amount of training in the area" (Natalie). "I think the institution can do a lot more in terms of preparing co-op advisors or internship advisors. I just don't know exactly how" (Rachel). "I don't think they've done anything to prepare us" (Sarah). "I'm not sure that I have been prepared. Not by the university" (Clare).

Tanya stressed the availability of the risk management office at her university as a resource as well as the clear guidelines established for coordinators in her unit, but noted her concern regarding the availability of time to be diligent in assessing situations for risk and reiterated the question heard from many coordinators: What is due diligence and how much is enough? James also commented that his institution prepared him to assess and minimize risk through its policies. He noted that anything not covered by those policies was to be passed up the management line.

Despite the majority of the coordinators noting that their institution does little, if anything, to prepare them to assess and minimize risk, they mostly identified that they felt supported by the policies of their institution. Rachel noted she felt supported, but elaborated on the importance of collaboration in developing and evaluating university policy:

> ***I feel supported. I think there can be more done in terms of support networks so while the policies and the procedures exist, I think it's important also to make sure that the people within the institution are discussing policies and procedures and monitoring them and evaluating them to make sure that it works.***

Despite the majority of the coordinators noting that their institution does little, if anything, to prepare them to assess and minimize risk, they mostly identified that they felt supported by the policies of their institution.

Similarly, Susan wondered whether a more collaborative approach to developing policy related to risk management would be beneficial to her unit.

Natalie felt strong support from policies within her division and from the leadership in her group. James made similar comments, "we have some really good policies that are tried, tested, and true. We're always updating them." Julia also replied that she feels supported by the policies of her university and qualified that by stating that the policies support her because they were developed collaboratively from a bottom-up approach rather than being imposed in a top-down approach. Susan and Clare both stated that they felt supported by their institution and that they felt the institution supported the decisions that they made. Nancy had mixed feelings about whether she felt supported or not supported by the policies of her institution.

Paul, David, and Sarah all commented that policies at their institutions were either unclear or that they did not know them. "I must say I am not aware of the policies, if they

exist in regards to the co-op work terms" (Paul). "I don't know what they are. Nobody's ever told me what they are. So I wouldn't know how to answer the question. Scary isn't it?" (Sarah). "I think the policies are unclear" (David). Patricia implied that her understanding of the policies was not strong "of what I know of them I feel supported. Clearly I need to know more."

Three coordinators noted the general lack of guidelines or procedures laid out for coordinators in terms of risk assessment and the extent of their responsibilities. Alice stated that the lack of guidelines leads to a lack of consistency between what coordinators do to assess and minimize risk. Nancy and Natalie also expressed a need for more clarity and written procedures to provide guidance.

Discussion

The purpose of this research study was to understand qualitatively how Co-operative Education Coordinators perceive risk in co-operative education in Canada. It seeks to fill an important gap in the existing literature related to risk in co-operative education as well as to contribute to the existing discourse on risk in general.

How do coordinators understand risk and institutional liability in general?

Coordinators' understanding of risk and liability is important because it is this knowledge plus situation specific information that forms the basis on which coordinators make decisions on behalf of their students. Their understanding of risk and liability forms the context in which they make decisions.

Coordinators self-identified as having a range of understandings of risk and institutional liability in general, with good representation across the scale of weak to strong. The variability in understandings of risk and liability is linked to coordinators' questions about the extent of their responsibility. More than half of all coordinators expressed that they were not clear where the boundaries of their responsibilities lay and that they often used their own judgment to determine what they were and what they were not responsible for rather than being guided by institutional policy. It is likely that the subjectivity in coordinator responsibility and the variability in understandings of risk and liability result from unclear or poorly articulated formal policies and procedures in many cases.

More than half of all coordinators expressed that they were not clear where the boundaries of their responsibilities lay and that they often used their own judgment to determine what they were and what they were not responsible for rather than being guided by institutional policy.

Interestingly, coordinators self-assessed understandings of risk and liability in co-operative education were not necessarily connected with their length of service as a coordinator or other work experience, suggesting that personality or other external factors were strong influences on their understandings of risk and institutional liability and thus on decision-making. Factors involved in decision-making and risk assessment is the subject of much research, which articulates that cognition, emotion, intuition, and mood all play a role (Böhm & Brun, 2008; De Vries, Holland, & Wit-

teman, 2008; Khatri & Ng, 2000). Coordinators' understandings of risk and liability and the decisions that they make predicated on this knowledge are influenced by many factors and thus are idiosyncratic and likely inconsistent.

What do coordinators feel they are personally responsible or liable for?

Coordinators' opinions varied considerably when asked about the extent of their responsibility in assessing and minimizing risk. Generally coordinators understood risk assessment and risk management to be part of their role but the extent to which they were responsible (more so than the student or the employer) was variable.

Giddens' (1999) discussion of the relationship between risk and responsibility made explicit the link between decision-making and risk:

> ***The relation between risk and responsibility can be easily stated, at least on an abstract level. Risks only exist when there are decisions to be taken, for reasons given earlier. The idea of responsibility also presumes decisions. What brings into play the notion of responsibility is that someone takes a decision having discernible consequences.*** (p. 8)

Hence the decision-maker is responsible for consequences. In the case of co-operative education, decisions are made by all of the partners and therefore they all have the opportunity to expose one another (and themselves) to risk. The difference between the decisions that these players make is that students and employers are making decisions for themselves while coordinators are making decisions on behalf of others. Recent research (Charness & Jackson, 2009) set out to determine how feelings of responsibility influence decisions to take on risk in a strategic environment. Charness and Jackson's experiment found that a sense of responsibility for the welfare of others has an effect on decision-making; participants were more likely to choose a risky option when choosing for themselves only and less likely to choose a risky option when making decisions for a group. Reynolds, Joseph, and Sherwood (2009) also found that people are more risk averse when making decisions that affect others, especially in large publically owned firms. The influence of feelings of responsibility on risk-taking and decision-making suggests that coordinators, who routinely make decisions on behalf of employers and students as part of their work, are the most cautious decision-makers in the partnership and likely to be more cautious and less risky in making decisions on behalf of their students and the participating employers.

Most coordinators did, however, agree that responsibility for minimizing risk should be shared between the coordinator, the employer, and the student, but the balance of who was more and who was less responsible varied considerably. How the coordinators interpret their responsibilities is in many cases a personal decision rather than an institutional one. In other words the institutions are in many cases not properly defining the coordinators' responsibilities in terms of risk management and assessment. The result is that coordinators are deciding for themselves what they are responsible for and acting

according to their own understandings of risk and liability, which in a lot of cases as demonstrated in this research, is not a strong understanding. The potential for misunderstanding, conflict, or injury is strong in situations where so much is assumed and so little is properly defined.

How do universities prepare co-operative education coordinators to reduce risk and do coordinators feel they are supported (or not supported) by the policies of their institution?

Coordinators answered almost entirely that their universities had done nothing to prepare them to reduce potential risks in co-operative education and that largely their abilities to do so were learned from colleagues or resulted from common sense and previous work experiences. Coordinators rely, in large part, on their own tacit knowledge to reduce risk rather than relying on expert advice from risk managers. Seemingly university administrators and risk managers are doing little, if anything, to participate in risk communication with the great majority of this population of coordinators. Current concepts of risk communication take for granted that messaging about risk must be an interactive exchange of information and opinions (Sellnow, Ulmer, Seegar, & Littlefield, 2009, p. 5), which evolved from a linear one-way approach to risk communication. Sellnow et al. provide a number of best practices in risk communication including infusing risk communication into policy decisions and understanding that risk communication is a process of communication and dialogue over time, not simply a one-time injection of information in order to produce the desired outcome. Coordinators and university administrators should be collaborating in order to incorporate their respective experiences and expertise into policy development. Unfortunately it is apparent that university administrators are not interacting with the majority of this group of coordinators and are not engaging in effective risk communication.

Surprisingly, however, coordinators largely felt supported by the policies of their institution, although there was a strong sense that coordinators sought clarity or more information on policies related to risk. These positions seem at odds with one another. How can coordinators acknowledge that their institution has done nothing to prepare them to assess and minimize risk but still purport to feel supported by the policies of their institution? Is it possible that coordinators do not see the connection between risk assessment and risk minimization and university policy? It is difficult to explain otherwise. It is likely then that as a result of ineffective risk communication coordinators lack awareness of the relevant policies and are unaware of the connection between risk and university policy.

Implications and Recommendations

As indicated by the literature and this research, coordinators' understanding of risk and their decision-making processes are influenced by many factors. By their own admission most of the coordinators participating in this research perceive that universities have not done anything to prepare coordinators to assess and minimize risks. As a result, *it is*

recommended that university risk managers and policymakers collaborate with co-operative education coordinators to identify and assess risks and develop appropriate policies to minimize risks to students, employers, and the institution. Their collaboration should be dynamic, iterative, and long-term to ensure policies are developed, evaluated and modified effectively with input from all parties.

Many coordinators expressed concern about the extent of their responsibility and through the interviews with coordinators it became clear that there is not a clear or uniform understanding of coordinator responsibilities versus those of the employer and those of the student. In order to make clear what each of the participating partners are responsible for *it is recommended that Co-operative Education Managers, in collaboration with coordinators, employers, and students, establish and distribute clear guidelines delineating the responsibilities of each of the partners.* It is not enough that each individual understands his or her own responsibilities, he or she must also understand the responsibilities of the other parties involved.

CAFCE is the voice for post-secondary co-operative education in Canada and the accrediting body for Canadian co-operative education programs. CAFCE's Accreditation Council "is important in that it establishes criteria which are accepted as standards for programs and their delivery, and in maintaining or adjusting those criteria as the needs and demographics of society, employers and students evolve" (CAFCE, 2006, p. 1). In addition "accreditation criteria may be used as the vehicle to support policies and procedures established for your operation and as a reference point when dealing with student and employer issues" (CAFCE, 2009, para. 1). CAFCE could take a leadership role and incorporate the need for explicit policies related to risk and guidelines that outline the division of responsibilities between the institution, the employer, and the student in their accreditation process.

Further Research

The topic of risk in co-operative education represents new ground in academic research. There is no existing body of literature on this topic, hence areas for further research related to risk and co-operative education are too numerous to list completely. However, now that there is research outlining how coordinators perceive risk, it would be valuable to complement this with research on co-operative education managers' perception of risk, as well as those of students and employers. In addition, this research has exposed issues concerning university policy and risk communication. Further research on risk communication and effective risk policy development in university settings in general as well as in co-operative education specifically would be beneficial to the partners in co-operative education.

Conclusions

This study sought to understand how coordinators perceive the risks in co-operative education in Canadian universities. Coordinators' comments on the sometimes ambiguous nature of their responsibilities are reflective of the dual status of the co-operative education student, both as student and employee at once. As such who is responsible for what is often a question that is answered idiosyncratically by coordinators. University policy-makers should take a leadership role in engaging in risk communication with their employees in co-operative education in order to collaborate on best practices and policies that will guide coordinators and enable them to provide consistent and effective risk management strategies in order to support student learning and development.

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Investigating what constitutes an effective workplace learning environment: A scoping review of the role physical and material elements play in student learning

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Abstract

The purpose of this article is to report on a scoping review of the literature on workplace learning in order to understand what is known about the impact the physical material dimensions of workplace learning environments have on enhancing students' learning. The experience of workplace learning in authentic workplace settings is perceived as invaluable for undergraduates as a preparation for professional practice. With growing participation rates, there is an increased demand for universities to offer work placements. Although universities have no direct control over workplace environments, they can be astute in selecting workplaces that offer effective workplace learning environments for students. In order to undertake this selection it is important to understand what key features of workplace learning environments enable students to learn effectively. Using Arksey and O'Malley's five step scoping review strategy, the researchers found that the physical material dimensions of the workplace learning environment and their influences on student learning have to date been neglected. The researchers also found that conceptualisations of workplace learning environments were often limited to a common sense understanding of the term environment. What constituted an effective workplace learning environment was mostly defined in relational terms through the quality of interaction between student and supervisor neglecting the physical material potential of workplace learning environments for learning. The researchers draw some implications for university capacity to select appropriate sites for student placements and make some recommendations for further research.

Keywords: learning environments; learning space, placements, professional education, workplace learning

With global trends of increased participation rates in university education and the need to prepare students for the world of work, there is an increased demand for workplace experiences (Coll & Zegward, 2011). There is a concern that scarcity of work placements could force universities to accept placing students in workplace learning environments (WPLE) that are of low quality or even unsafe. It is therefore important to make the most efficient and effective use of available WPLE.

Authentic experiences in the workplace make an invaluable contribution to preparing students for work (Higgs, Barnett, Billett, Hutchings, & Trede, 2012) and cannot be replaced altogether by simulations, project work, role-play, or other non in situ activities of practice-based education. Key differences between academic classroom, virtual settings, and workplace environments are that in the latter students are exposed to and/or immersed in the socio-cultural, physical, and material dimensions of work. Rather than just focusing on the student-supervisor relationship, the workplace exposes students to its specific organisational hierarchies and culture, professional conducts, artefacts and materials, as well as to notions of professional responsibilities and consequences of actions.

There is a vast literature that conceptualises WPLE as interdependently influenced by socio-cultural, physical, and material dimensions. This literature mostly draws on Vygotsky's zone of proximal development concept to theorise about the ways in which people interact with these dimensions as manifested in organisational structures (Engeström, 2001) and people's positions within communities of practices (Lave & Wenger, 1991) or functions and levels of expertise (Billett, 2001). Within this body of literature, there remains a strong focus on the student-supervisor (subject-subject) relationship, although the role physical places and material artefacts, including their invitational qualities, play in students' learning (subject-object) to explore and develop their practice knowledge and skills is examined (Billett, 2010; Fenwick, Nerland, & Jensen, 2012; Nerland & Jensen, 2010).

Focusing on the physical and material dimensions of WPLE and their role in enhancing students' learning is not an easy task when the effect a WPLE has on learning is complex and not well understood. It is, nonetheless, essential for academics, workplace learning supervisors and students to understand what constitutes an effective WPLE if universities are to ensure that students can make the most of knowledge sources in the workplace, beyond the student-supervisor relationship (Jensen, Lahn, & Nerland, 2012).

From experience, the researchers have found that although the physical and material dimensions of the WPLE and their scope to enhance student learning are mentioned in university workplace learning programs, however, their integration and potential influence on student learning has mostly been neglected or overlooked. The researchers were, however, interested in finding out what is known in the literature of practice-based education and workplace learning about the role the physical and material dimensions of workplace environments play in enhancing or hindering students' learning. The purpose

of this scoping review was, therefore, to identify peer-reviewed articles that contribute to the debate about the theoretical underpinnings of workplace learning, with a particular focus on the physical and material dimensions of the workplace as a learning space to enhance student learning and work-readiness.

Method

This study adopted a scoping review method to identify, map, and summarise what is known in the pertinent literature about what constitutes an effective WPLE to enhance student learning while they are on placement, with a special focus on physical material dimensions. Unlike systematic reviews that have a strong focus on assessing quality, a scoping review allows for capturing and analysing different study approaches. The scoping review methodology used was Arksey and O'Malley's (2005) five-step strategy. The five steps are: identifying the research question; identifying relevant studies; study selection; charting the data; and collating, summarising, and reporting results.

The study's research question was developed with the aim of capturing breadth and different methodological approaches (Arksey & O'Malley, 2005) to exploring physical material dimensions of effective WPLE. The research question was: What is known in the pertinent literature about what constitutes an effective WPLE that can support and enhance student learning while they are on placement? The researchers did not reduce the search to physical material dimensions, because the intention was to explore how these dimensions were integrated into concepts of WPLE.

As the second step, relevant articles were identified. As there is no global terminology for WPLE, an understanding of WPLE was articulated around six core terms: workplace, experience, student, effective, higher education, and environment. From this list of terms, the following clusters of search terms were defined:

1. Workplace, Work;
2. Experience, Field, Internship, Placement, Training, Learning;
3. Student, Undergraduate, Recruit, Trainee;
4. Effective, Good, Positive, Quality;
5. Higher Education, University; and
6. Environment, Practice.

This list was used to conduct a series of Boolean searches where *or* was used as a relating denominator within a cluster (e.g. Workplace OR Work) *and* was used to relate each cluster (e.g. Work *and* Environment).

In order to embrace the breadth of different approaches and academic disciplines and occupational fields 20 search engines were used to locate relevant articles. The databases searched included ALTC, CSU Library catalogue, DEhub, EBSCO, EdITLib, ERIC, Expanded Academic ASAP, Google scholar, Informit, Ingenta Connect, LSAY, Medline, NCVER, Ovid, Project MUSE, Proquest, VOCED.

The third step was to establish the boundaries of the search to ensure articles pertinent to the research question were retrieved. For this purpose, a list of inclusion and exclusion criteria was developed to refine the search (see Table 1).

Table 1.

Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Time	January 1991 to December 2011	Any articles outside of this timeframe
Type of article	Original peer-reviewed articles published in a journal	Books, book chapters, reports, unpublished work (e.g. PhD thesis)
Language	English	Non-English
Study focus	WPLE obstacles or enablers to students' learning.	Teaching strategies, evaluation of learning and teaching, benefits of workplace learning, types of learning in the workplace or the range of workplace learning activities.
Setting	University professional entry courses.	Employees, staff

The initial search produced 188 articles. After reviewing abstracts against the inclusion and exclusion criteria, these were culled to 76. The 76 articles' abstracts and keywords lists was reviewed by the research team to rank them as high (exact match to search terms and inclusion and exclusion criteria), medium (all but one or two clusters of terms and inclusion and exclusion criteria) and low (the remaining articles) in relation to the way in which they addressed the study's research question and matched the inclusion and exclusion criteria. This resulted in 16 articles being found to be addressing the scoping review's question, matching the search terms and inclusion and exclusion criteria.

For the fourth step of the scoping review strategy, data was charted from the article set by providing information about the following WPLE related issues: practice tradition, socialisation, quality of activities, quality of learning outcomes, WPLE, private versus public settings, rural and remote settings, range of activities, and quality of interactions. The ways in which each article addresses or does not address these issues are outlined in Table 2.

Table 2.

Information from the Identified Articles

Article	Occupational setting	Research design	Theoretical framework	Recommendation for future research
Ashton, (2004)	Engineering	Empirical	Draws on Koike and Darrah's work with a focus on organisational structure's and culture's impact on learning processes	"What are the implications of changes in the structure of organisations for the process of learning?" (p. 52).
Deketelaere, Kelchtermans, Struyf, & De Leyn, (2006)	General medicine	Empirical	Elements of action research using a conceptual model about the "components that constitute the experience of learning during clinical internship" (p. 40)	"More large-scale research should be carried out to further corroborate the model, and to analyse the different configurations in which the components and tensions constitute practical learning experiences."
Ellström, Ekholm, & Ellström, (2008).	Care work	Empirical	Draws on Billett (2001), Ellström (1997, 2001) and Fuller and Unwin's (2004) notions of informal learning in the workplace. As well as Dymock (2003) and Watkins and Marsick's (2003) notions of learning culture	None
Engeström, (2001).	Paediatrics	Conceptual and empirical	Theory of expansive learning, based on Vygotsky's cultural-historical activity theory framework	None
Fuller, & Unwin, (2003).	Steel industry	Empirical	Community of practice and activity theories	None
Kirke, Layton, & Sim, (2007).	Occupational Therapy	Empirical	Not stated	None
Konkola, Tuomi-Grohn, Lambert, Ludvigsen, (2007)	Occupational Therapy	Empirical	Activity theory	Longitudinal studies that describe and analyse how different activity systems interact and create possibilities for developmental transfer
Lyon, (2004).	Medicine	Empirical	Symbolic interaction theory Community of Practice	An examination of the usefulness of the model in other settings that are dynamic and multidimensional
McMahon, & Quinn, (1995).	Hospitality industry	Opinion piece	Not stated	None
O'Toole, (2001)	Funeral services	Empirical	Not stated	None
Papp, Markkanen, & von Bonsdorff, (2003).	Nursing	Empirical	Phenomenology	None
Pollard, (2008).	Health and social care	Empirical	Not stated	None
Powell, (2001).	Engineering	Empirical	Not stated	A cost-benefit analysis of placements
Price, Miflin, Mudge, & Jackson, (1994).	Rural medical education	Empirical	Adult learning theory by Knowles and Candy	None
Robinson, Andrews-Hall, & Fassett, (2007).	Aged care nursing	Empirical	Not stated	None
Sato, (2003).	Police	Conceptual	Organisational theory network theory	None

For the final step in Arksey and O'Malley's framework, the final set of articles were summarised and interpreted according to the following questions that centred on definitions and conceptualisations of WPLE:

1. Do the articles offer a definition for WPLE?
2. What theoretical framework (or theory) does the article draw on?
3. What does the article contribute to integrating a physical material dimension into the understanding of what an effective WPLE is?

Results and Findings

The majority of the articles from the final set were published in health and education journals (seven in health journals and eight in higher education/training journals). The one exception was an article published in a policing journal. Of the eight education journals, only two articles were published in the same journal, (the *Journal of Education and Work*). The final literature set was located within four different academic disciplines: education, psychology, architecture, and management. This literature drew on case studies conducted in the UK, Europe, Scandinavia, Australia, and New Zealand. The range of occupational disciplines included nursing (Papp, Markkanen, & von Bonsdorff, 2003; Robinson et al., 2007), medicine (Deketelaere, Kelchtermans, Struyf, & De Leyn, 2006; Lyon, 2004; Price, Miflin, Mudge & Jackson, 1994), care work (Ellström, Ekholm, & Ellström, 2008), paediatrics (Engeström, 2001), occupational therapy (Kirke, Layton, & Sim, 2007), health professions (Pollard, 2008), funeral services (O'Toole, 2001), engineering (Fuller & Unwin, 2003; Powell, 2001), steel processes, business, administration, and accounting (Fuller & Unwin, 2003), hospitality industry (McMahon & Quinn, 1995) and police (Sato, 2003).

None of the literature reviewed explored the complex interdependent socio-material, physical, and cultural dimensions that together make up the WPLE. Rather, authors paid closer attention to some selected elements within a WPLE in relation to their chosen research focus in supporting student learning outcomes or in relation to the ways in which it addressed particular issues of a given profession. Most articles focused on profession-specific issues of WPLE. For example, Price et al. (1994) focused on increasing medical practice in rural settings, while Robinson, Andrews-Hall, and Fassett (2007) focused on nursing students in aged care facilities.

Although all articles acknowledged the WPLE to be an important dimension that influences learning in the workplace, they rarely included conceptual frameworks to articulate what constitutes a WPLE and an effective workplace learning experience. Most of the selected articles affirmed the importance of a *good* WPLE without either problematising or theorising the concept. Furthermore, no authors made recommendations for future research into WPLE. Instead most offered supervision specific recommendations for improving workplace mentoring, supervision, or assessment by providing checklists about how the placements should be organised by the academic institution.

Definitions for WPLE. Within the set of articles, there was a dearth of explicit definitions of what constitutes an environment. Most authors argued that good learning environments were important, but often used as *common sense* understanding of WPLE, that mostly remained taken-for-granted and with a latent understanding that effective WPLE embrace physical and material dimensions and their arrangements within the organisation, as the following examples illustrate.

Papp et al. (2003) equated the clinical environment with the WPLE and listed its various elements: "The clinical environment encompasses all that surrounds the student nurse, including the clinical settings, the equipment, the staff, the patients, the nurse mentor, the nurse teacher" (p. 263). The clinical environment was described as hard to control with no further explanation as to why or description of the critical environmental features.

Ashton (2004) provided more detail when he discussed the delicate reciprocal relationship between organisational constraints and students' motivation to learn. Though he acknowledged the importance of students' own motivation in learning, he placed responsibility of *good* WPLE on student exposure to learning new skills:

> ***[T]he individual's motivation to engage in the process of learning is seen as determined by their previous experiences, but these interact with organisational constraints in four main areas: in the extent to which the organisation facilitates access to knowledge and information; in the opportunity it provides to practice and develop new skills; in the provision of effective support for the learning process and in the extent to which it rewards learning.*** (p. 45)

O'Toole (2001) also made a strong argument for the interconnection between the physical and cultural environments and students' intention to learn. She stated that the physical environments of a workplace are "manifestations of culture" (p. 12) and asserted that "people create the physical environment around them, so influence the environment, but the environment in turn influences people" (p. 11).

Ellström et al. (2008) defined learning environments as conditions and practices that shape learning. More specifically, they wrote that "In practice, we assume that a certain learning environment may include conditions that are enabling for learning as well as conditions that may constrain learning. Thus, in practice many learning environments are presumably of a mixed type" (p. 86).

Lyon (2004) explored the operating theatre as a WPLE and described it as a "confronting, unpredictable and disorientating place for the medical student as learner, and a challenging place in which to teach" (p. 1280). She also stressed the intersubjective complexity of the WPLE by stating that "Surgeons and teachers in their actions together constitute a learning environment" (p. 1285).

Theoretical frameworks for WPLE. According to our article set the most prominent theoretical framework used to analyse WPLE was activity theory (Ashton, 2004; Engeström, 2001; Fuller & Unwin, 2003; Konkola, et al. 2007; Sato, 2007). Activity theory proponents that have applied this approach to learning in the workplace (Engeström, 2001; also see Fenwick & Edwards, 2010; Fenwick et al., 2012) asserted that to learn people interact, directly and indirectly with people in the workplace, and that learning is mediated through objects and signs. For example, by focusing on who, what, why, and when do subjects learn, Engeström (2001) discussed the role of objects and how subjects engage with them.

Though these scholars are concerned with the workplace as a socio-material environment, their learning focus remains on the *what* (learning outcomes) rather than on the *how* (the relationship between learners and the material world). Billett (2001) defined the social and physical environment of the workplace as including "interactions with other workers, observing and listening to other workers, objects and artefacts" (p. 35). These interactions are dependent on the ability to interpret objects and their not yet fulfilled potential. Diverse engagements with material and physical dimensions of WPLE build a repertoire of workplace learning experiences. The scope of this repertoire depends on the interpretations that the student and workplace supervisor make in *sizing up* the WPLE they are operating within (Lyon, 2004).

Within this framework, the physical and material environments (the tools, signs, and physical layouts, etc.) are understood as mediating elements for learning in the workplace. A point in case is Fuller and Unwin's (2003) second type of learning opportunities in their conceptualisation of expansive learning environments. The first type of opportunities were around "engaging in multiple and overlapping communities of practice at and beyond the workplace," the second were around "access to a multidimensional approach to the acquisition of expertise through the organisation of work and job design" and the third were around pursuing "knowledge based courses and qualifications relating to work" (p. 149).

Understanding effective WPLE. The oldest paper included in this study (Price et al., 1994, p. 244) added to the understanding of effective WPLE a discussion of the various workplace settings in health and related activities that are performed in each of them. They argued that each setting, such as ward rounds, patients' homes, lunch rooms, and operation theatres, invites different professional activities and, thus, offers students different engagements with learning.

In line with Price et al. (1994), O'Toole (2001) noted "organizational members draw messages from their environment that supports their learning" (p. 10). Moreover, O'Toole argued that the interpretative and subjective perspectives that learners bring to participating in the workplace influence their ability to interpret physical workplace environments, how they shape the physical environment around them, and the effect the physical environment has on them. Further, by bringing together learning and architec-

tural theories about social and physical place/space, O'Toole argued that "the physical surroundings of an organization such as the building, layout, machinery, equipment, and uniforms may have a significant impact on the way people work and therefore the way they learn" (p.10). With her concept of *place identity* O'Toole stated that certain places at work are used to create different spaces that enable or constrain different types of teaching and learning as well as shape people's roles and tasks.

Another way of understanding effective WPLE was by focusing on the elements within workplace environments that enable learning. Ellström et al. (2008), and Fuller and Unwin (2003) understood an *enabling* learning environment as the outcome of a dynamic interplay between user demands, work content, the educational background of the care workers, their task orientation, management support, and learning readiness. "The complex interplay between these factors appears to have the character of a virtuous circle, where the different factors reinforce each other positively" (Ellström et al., 2008, p. 95). Fuller and Unwin (2003) distinguished between objective-structural and subjective aspects of WPLE, asserting that although structural aspects hinder or enable learning, it is learners and their subjective engagement with structural aspects that enables learning. Writing from a police training perspective, Sato (2003) found that a commitment to ethical practice within an organisation greatly enhanced effective WPLE.

Other authors have focused on the elements within WPLE that negatively impact on students' learning. Robinson et al. (2007) examined the levels of stress in staff and how these impacted on students' learning. Pollard (2008) emphasised the importance organisational systems had on students' and staff's learning. Powell (2001) explored how market driven policies impact on the education system and in particular how they shaped WPLE.

Discussion and Conclusion

The reviewed literature highlights a number of interactive dimensions that are constitutive of an effective WPLE. Affirming the findings from the article set, the researchers propose that an effective WPLE is determined by three dimensions and the quality of the interactions between them: individual participation; educational activities and scaffolded arrangements (e.g. orientation, supervision, feedback and assessment); and the socio-cultural, physical, and material environment of work.

It is the third of these dimensions, and more specifically the physical and material dimensions of WPLE, that has been given less attention. The researchers found that most articles in this scoping review placed more emphasis on people than on material, objective, physical, and organisational aspects of the WPLE. There was little discussion of developing effective WPLE by tailoring them to address students' learning needs, but rather students needing initiative to engage with what they found on a relational level. Also, the notion of reciprocity between students and WPLE was an aspect that was not explored. Indeed, whether focusing on the physical or material enablers or the obstacles

to learning in WPLE, most authors argued that effective WPLE relied on the learner and/or the teacher/facilitator's capacity to make sense of WPLE and seize opportunities whether intentionally designed as learning activities or not. For example, McMahon and Quinn (1995) discussed the responsibility of universities to alert students to the diversity of work settings in their chosen industry and raise their awareness to particular possibilities that a placement can offer. Ashton (2004) acknowledged the importance of students' motivation to learn, but placed responsibility of good WPLE on the invitational qualities of the organisational structure and culture. Kirke et al. (2007) placed responsibility for *good* WPLE with the supervisors within the host organisation to provide scaffolded orientations, and give constructive feedback that would allow students to learn.

In the search for effective WPLE academics need to work with a conceptual model or a framework that allows them to identify not only the essential components of effective WPLE in relation to individual participation and educational arrangements, but also in relation to the physical and material dimensions. Including these latter dimensions will allow them to better prepare students to engage with the full potential of a WPLE.

Deep learning rarely happens spontaneously within the workplace. It requires intention, design and promotion at organisational as well as at individual levels (Ellström et al., 2008). Further, within workplaces there are many different places that invite different modes of learning and for different types of knowledge and skills. Identifying the range of opportunities these places offer can be beneficial when placing students. For example, beyond the narrow professional technical skills and knowledge, palliative care settings can provide an invaluable opportunity for students to learn about ethical and emphatic dimensions of medical practice; and a court room can foster learning about ritual and rhetoric dimensions of law practice.

Further research on WPLE needs to focus on developing a better understanding of the physical and material environment of workplaces as a space not only shaped for work, but also as a space that shapes learning for work. This can be addressed by bringing research in sociology, cultural studies, and human geography that explore concepts of space and place, including a special mention for digital spaces, to help theorise about students' learning in the workplace. A better understanding of the invitational learning qualities of the physical and material dimensions of WPLE will enable students and teachers to engage more deliberately with their full potential. It could also assist educators in selecting suitable environments for placements and provide accreditation bodies with an evidence base for monitoring the quality of placements.

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