

MANAGING THE SUSTAINABILITY OF EXPERIENTIAL LEARNING THROUGH STRATEGIC ALLIANCES BETWEEN ACADEME AND BUSINESS

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ABSTRACT: The Knowledge Transfer Partnership Scheme (KTP) has become one of the most successful business-academe strategic alliances which supports innovation and creativity relating to evolving technologies and systems leading to progressive business growth across the UK industry and commerce. A case study of the KTP is discussed to show the role of associates, the company, the knowledge based partner who work together to deliver innovative projects integral to the business plan of the company. The value of the workplace learning environment provided by the business partner is considered in relation to providing acceptable experiential learning for the associates where tacit based knowledge can be developed and integrated with explicit knowledge to stimulate sustainable learning alongside delivering effective knowledge transfer and business solutions. The theories and processes associated with experiential learning are discussed in relation to achieving sustainable learning in the workplace. Keywords: Knowledge Transfer, strategic alliances, experiential learning, sustainable development.

1. INTRODUCTION

The KTP scheme [1] is one of the United Kingdom's leading programmes to help businesses improve their innovation, competitiveness and productivity through the more effective use of leading edge knowledge, technology and skills that reside within the UK knowledge base. It also involves high quality graduates being recruited to take forward strategic projects while completing a postgraduate experiential learning/training programme. It is designed to enhance career prospects and give graduates the competitive edge regards sustainable employability.

The KTP involves a strategic alliance between a UK based enterprise and an academic establishment offering an effective integration of academia and industry. It was originally set up in 1975 as The Teaching Company Scheme and has grown to be one of Europe's largest graduate learning programmes. Over 3000 businesses have participated and more than 140 knowledge partners have participated, leading to about 6000 graduates from the Scheme. Each partnership employs one or more associates who work in the enterprise but are employed by the educational establishment and are core to the strategic development of the business in subject areas which can range from sciences, business and engineering to areas of social sciences. It is intended to sustain a two way transfer of knowledge between businesses and universities, colleges, or research organisations. Associates achieve high quality experiential professional development in a real world environment thus establishing sound foundations for their future careers as leaders in industry and commerce.

Development involves specialist skills development alongside relevant management training and business "know how". Integration of businesses with knowledge base partners has been shown to provide is an effective method for stimulating creativity and innovation in business while at the same time supporting increasing interaction between academe and industry and commerce where at the termination of a KTP it is intended that the alliances established will be sustained with the knowledge based partner continuing to support innovation, business development and experiential learning in the company. However many factors can affect this sustainability and these are discussed within the paper.

2. THE KTP PROCESS-A CASE STUDY

A KTP [2] is initiated through the business defining project(s) which are core to their business development and then a knowledge base partner is sought with disciplines relevance to the project(s) to enable the company to draw on relevant academic expertise which can be directly applied to the business development required. The agreed project(s) can involve a period from one to three years and can involve a number of associates. The scheme is unique in terms of combining training/learning in a real world environment with the delivery of required outcomes specified by the company involved. The knowledge base partners gain a range of business relevant explicit and tacit knowledge which can underpin their future applied research, improve the relevance of their teaching and also provide valid case studies which support the teaching. Where applicable the results of the research can be published. This however depends on

company confidentiality requirements and knowledge base partners have to accept the realism of commercial practice where some developments are market sensitive. Associates and supervisors must be carefully selected to ensure that they have direct relevance to the areas which a business wishes to develop otherwise effective knowledge transfer may not be established. KTP's are business led and are normally initiated by a company approaching one of the KTP regional offices in the UK where they are advised which knowledge based partners may be relevant.

It is critical that the enterprise and the knowledge base partner select associates with the required motivation to deliver the project solutions desired by the company. The latter point is particularly important as while the associates are employed by the knowledge base partner they work within the company for most of the time. Associates are made aware that they will build up knowledge through a work based learning approach where the focus is on the delivery of the outcomes desired by the company alongside their personal and professional development.

The predecessor to the KTP scheme was The Teaching Companies Scheme (TCS) which was launched in 1975 and became a highly successful academe-industry partnership which was replaced in 2003 by the Knowledge Transfer Partnership (KTP). While the earlier TCS was primarily aimed at engineering and technology, the KTP model operates across a wide range of businesses using an increasingly wide range of academic disciplines which support interdisciplinary and trans-disciplinary approaches to project solutions. Thus the associates could be joining marketing, engineering, environmental studies or working with the NHS, thus underpinning and sustaining a much wider range of UK businesses and as a consequence effectively supporting the social, technological and economic framework of the UK.

Associates gain business based experience and personal/professional development alongside experiential learning deriving from delivery of the project in the workplace. They are able to obtain a nationally recognised qualification which is awarded by the Chartered Management Institute. This is supported by having 10% of their total work time devoted to training and development relating to subjects such as leadership and finance which supports associates in playing a key role in managing the strategic development in the business organisation. Fundamental to the programme is that

all associates participate in what is described as a KTP Associate Development Course which develops the management and business knowledge to support effective management of the company projects and to sustain their future development and career in business. This course alongside the experiential learning in the workplace leads associates towards achieving the Diploma in Management at level 5. This course is off-workplace with associates attending modules which relate to personal development and project management, marketing, effective communication and finance and performance management. Associates are supported by a KTP adviser who provides coaching and mentoring independent from the knowledge based supervisors who concentrate on the supervision of the solutions to the company projects and ensure appropriate knowledge transfer. Associates can also register for a higher degree which is related to their field of study and which can be delivered through the experiential work based learning which is achieved and supported by the off-workplace courses completed. Typical of the type of projects taken forward by associates are development of new products, introduction of new processes, reorganisation of manufacturing facilities, developing and introducing new quality systems, introducing new technologies, marketing developments relating to new and existing products and introducing information technologies and materials developments.

3. USING EXPERIENTIAL LEARNING IN THE KTP

The case study of the KTP scheme shows it to be essentially a paid work based learning alliance between an educational establishment (the knowledge base) and an organisation where postgraduates (associates) deliver strategic company projects while at the same time achieving new knowledge and learning which is mainly experiential by nature. However this form of alliance does much more to support sustainable learning than if a graduate was simply in paid employment in a company. While the graduate would be in a similar work based learning situation the conditions would be completely different where completing the work plan would be the prime aim of the employee and the company would be very much in control as the employer and in such situations many of the benefits which can be derived from experiential learning are lost to the graduate. In contrast the KTP strongly supports sustainability and this is due to the innovative nature of the alliance developed in this scheme where it is based on a four way partnership

involving the company, the KTP adviser, the knowledge based partner and the associate(s). With the company project carefully planned over the time period of the alliance and regularly reviewed at each quarterly management meeting the balance of project delivery and the personal and professional development of the associate(s) is under continual review with the associate able to control much of their learning which is key to the success of experiential learning. Of fundamental importance to sustaining the learning is the fact that associates while spending most of their time in the company workplace are employed by the knowledge based partner thus linking associates directly to where the leadership is provided for the learning which takes place. However the company are also involved in the supervision but as could be expected emphasis is on supervision of the company project. The KTP adviser also has a key role in the training and development of the associate(s) while at the same time monitoring the delivery of the company project. The nature of the alliance is thus to create a balanced and sustainable equilibrium where both the company and associates achieve their desired outcomes. Sustainability is a prime objective of the scheme with the intention that once the formal government supported alliance completes that the alliance will however continue to be sustained by the partners taking forward training and development built around company projects. In a normal company situation employees have none of these benefits and while some companies are supportive of work based learning the prime drive is delivery of the work-plan priorities where an employee can at any time be redirected to other priorities according to changing company requirements. Unless the company is collaborating with an knowledge based partner who can take forward the facilitation and mentoring and learning requirements related to experiential learning of the employees then much of the value of the work based leaning will almost certainly be lost. It is a fact that many of the alliances are sustained and the associates employed by the company. The effectiveness and sustainability of the KTP can be best understood by an examination of the underpinning theories which support such forms of off-campus learning. By understanding the theories further effective developments of sustainable learning can be achieved leading to improvements in the scheme for future generations of graduates.

Epstein [1994] [3] has identified the defining characteristics of the experiential and rational systems and his belief in the value of experiential learning is well illustrated as, "Failing to understand

the operation of the experiential mind and its influence on the rational mind, try as we may to be rational, our rationality will be undermined by our inherently experiential nature". This makes a strong case for learning through experiential learning where it is supported by facilitation and mentoring to develop key aspects such as critical reflection as a continuous process to support the experiential knowledge creation. The approach taken in the KTP is well illustrated by the following comment, "Experiential learning – occurs when individuals engage in some activity, reflect upon the activity critically, derive some useful insight from the analysis, and incorporate the result through a change in undertaking and/or behaviour". Kolb (2007)[4].

Based on our examination and analysis of the KTP scheme these quotes are illustrative of the core nature of what the KTP aims to achieve particularly taking into account the knowledge transfer associated with tacit knowledge rather than simply explicit written knowledge. Academic learning on-campus does little to develop an understanding of tacit knowledge whereas company workplaces which provide for experiential learning facilitate the integration of tacit with explicit knowledge leading to a more in depth learning experience. In the paper the authors examine and consider experiential learning modes to demonstrate their underpinning of the KT Alliance approach for work based learning where the experiential learning does not simply apply to the associates but also to the participating team from the companies involved and the knowledge base partner. The company team can expand their understanding of the value of theory interpreted into experiential development and the knowledge based partner can gain insight into the value of combining tacit knowledge with explicit knowledge. The authors believe the resultant modes of learning related to these theories have direct in relevance to the KTP model and it is shown how experiential learning underpins the capacity for mental self management, a competence which is core to producing future business leaders who can sustain their knowledge development throughout their careers which is the longer term focus of the KTP.

3.1. The Nature of Experiential Learning

Carl Rogers (1902-1987) [5] recognised two general forms of learning as cognitive and experiential. His books, "Freedom to Learn" and "Client Centred Therapy" established the basis for the concepts of student centred learning and experiential education. Rodgers was one of the first to recognise the need

for the role of the lecturer to become that of facilitator/mentor which is what is desired of the knowledge based supervisors for the major part of the workplace project studies in the KTP model. Roger's (1969, 1964) [6] experiential learning ideas evolved as part of the humanistic education movement where the learners participate in, control and direct the learning process and where the activities involved are based on direct interaction with learning environments and where self evaluation is fundamental to the assessment of the learner. These early views are very much reflected in the approach to the KTP where knowledge base supervisors require to take on the role of facilitating/mentoring and associates from the beginning evolve as taking charge of their own leaning and use self evaluation and reflective analysis to assess their progress and learning.

Experiential education as a philosophy has been supported from early 20th century where John Dewey (1938) [7] strongly promoted the idea of learning through direct experience involving action and reflection. Dewey's ideas on educators requiring to immerse the learners in action, followed by learners reflecting on the experience is in line with the professional development approach taken forward for associates in the KTP model. Kurt Hahn's thinking also had a significant effect on progressive experiential education development in the United Kingdom [8]. Paulo Friere (1993) [9], a Brazilian educator, was yet another philosophical voice which contributed to the philosophy of experiential education where he saw the process of reflection as an essential component in a similar fashion to Dewey and Hahn. The type of alliance generated by the KTP model as developed and operated can easily be seen to have its roots and origins in these early philosophical developments taken forward by John Dewey, Kurt Hahn and Paul Friere and many of the experiential theories which explain the basis of experiential learning put forward by them are modified derivatives of their earlier thinking. The KTP model has become an excellent illustration of the experiential educational approach where its operation in the real world environment sustains delivery of innovative and creative knowledge and learning through knowledge transfer mechanisms involving a broad range of businesses, academic establishments, and other relevant knowledge based partners.

Associates involved in this alliance need to be made aware of the mechanism of prior experiential learning which is of key importance as they will be concentrating on the delivery aspects of the

company project and they need at regular intervals to involve themselves in the essential process of in depth reflective analysis involving a transitive process between the knowledge based supervisors and the associates to ensure that unconscious learning achieved during delivery of the project becomes explicit as valid knowledge development. The learning being achieved in most work related KTP environments will be through the experiential education process where the associates, the educators, the KTP adviser and the businesses involved will have jointly agreed on what is to be achieved including the possible submission of the material for a postgraduate qualification.

3.2. Experiential Approaches

Itin (2007) [10] reports what forms the basis of experiential education as follows; "...carefully chosen experiences supported by reflection, critical analysis and synthesis are structured to require the learner to take initiative, make decisions, and be accountable for the results, through actively posing questions, investigating, experimenting, being curious, solving problems, assuming responsibility, being creative, constructing meaning and integrating previously developed knowledge. Learners are engaged intellectually, emotionally, socially, politically, spiritually and physically in an uncertain environment where the learner may experience success, failure, adventure and risk taking. The learning usually involves interaction between learners, learner and educator, and learner and environment."

Itin's model of experiential education relates intimately to the basis on which the KT alliance operates and provides an accurate model for the theory and practice of experiential learning. As can be seen this theory underpins a much more in depth learning process than can be achieved in academic classrooms integrating tacit and explicit knowledge with development of core competences which can be self sustaining over the career of the learner. It supports the importance of learning in the uncertain "real world" environment and this is at the core of the KTP model and the authors, from their own experience of the KTP and former TCS observed that associates develop capability and a range of sustainable competencies through dealing with knowledge transfer at the leading edge where learning from success, failure and through risk taking is the norm in the delivery of a company's development projects. Itin's theory and practice includes all the essential concepts required to

achieve effective experiential learning integrated with delivery of company outcomes.

As was noted earlier Epstein (1994) [3] has identified two independent, yet interactive modes of human information processing as experiential and rational. The rational system is described as analytically driven by logic, symbols, language and sequential information processes. The experiential system however is more driven by emotional, perceptual, intuitive and simultaneous information processes. Double-loop learning involves both the rational and experiential systems and for leading edge knowledge production it is essential that double-loop learning is employed such so that associates can deal effectively with key drivers such as innovation, creativity and change to achieve new knowledge production and business solutions. The authors believe that this approach to theory and practice is also highly relevant to underpinning the KT alliance and have observed the success of the Epstein mode (1994) [3] and approach to double loop learning while supervising in the earlier teaching company model and more recently in the operation of the KTP model. In particular the authors are of the opinion that Epstein's (1994) [3] ground breaking theory of intelligence (Cognitive Experiential Self Theory) is of fundamental importance to the development of associates as this mode underpins the work based environments characteristic of the KTP model where the interaction of the experiential and rational minds provides a powerfully balanced approach to whole brain learning which becomes the basis of sustainable lifetime learning in any off-campus life-place environment.

Sternberg (1998) [11] also made major contributions to theories relating to experiential learning where he defined intelligence as the capacity for mental self management which the authors indicated earlier to be an essential core competence needed for associates to be successful in the KTP and in sustaining their experiential learning throughout their subsequent careers. He also showed that interactive experiential techniques could be effectively used to develop practical and creative intelligence. The experiential sub-theory described by Sternberg (2007) [11] is characterised by the quest for originality/novelty, uniqueness, innovation and insight and his contextual sub-theory indicates that to stimulate intellectual performance the learning environment needs to be socio-culturally relevant to the individual learner and provide links between the knowledge being given and "real world" behaviour. Again these theories correlate to

strongly underpinning the experiential development of the associates in the KTP scheme with "the capacity for mental self management" It is the authors' view that this type of approach is highly relevant to the experiential learning which takes place in the KT alliance. Chisholm (author) has observed the development of the capacity for mental self management while facilitating experiential learning using problem based learning, laboratory based learning and structured work-related learning in a number of postgraduate learning schemes including the earlier Teaching Company Scheme. At the core of the KTP model is the need for the associate to be involved in novel knowledge delivery while responding to a range of new situations which arise in the organisational environment set up between the knowledge base partner and the business involved. The capacity for mental self management is a core overall outcome for associates giving them the basis to sustain their work related learning throughout their careers.

4. DISCUSSION AND CONCLUSIONS

While the knowledge based supervisors can bring knowledge transfer to the business projects in the KTP, this does not mean that they in combination with the associates are always able to find solutions at the leading edge of the technologies involved. Thus an accepted way forward is to seek out subject discipline experts who can provide the needed expertise. It has been shown that core to the success of the KT alliance is the appointment of associates who have the requisite portfolio of academic qualifications, competencies and skills relevant to the company's requirements and have a high motivation to succeed in a "real world environment". Selection of appropriate associates is seen as fundamental to the success of the alliance and this means appointing associates who are not only acceptable to the knowledge base partner but who are also approved by the senior staff in the company. It is essential for the partners to work closely together and be prepared to wait for the right calibre of associate rather than select at interview just to be able to move on with the partnership projects. Associates need at the interview stage to be given an in depth understanding of what project areas will be investigated so that from the beginning an associate knows what is required as company outcomes. In this way an associate who accepts an appointment has already bought into the company requirements reducing any possibilities of conflicts.

The authors believe that the success of the scheme is partly due to the integrative team approach where

the associate continuously interacts with staff from the knowledge base and company partners, who in turn advise, facilitate and mentor and facilitate knowledge transfer. It is a useful way for academic disciplines at the leading edge to be integrated as trans-disciplinary work-based studies thus providing a highly effective and sustainable postgraduate model for knowledge production and learning. More effective knowledge production in subject disciplines can be achieved as a result of their consideration and development where the experiential learning environment facilitates interdisciplinary and trans-disciplinary approaches to problem solving and finding solutions to company requirements. Clearly the KT partnership can, from the analysis shown, be effectively understood and taken forward through the experiential learning theories discussed where creative and innovative development translates to effective personal and professional development and where associates develop the core capacity for mental self management leading to sustainable competencies which underpin them becoming future business leaders. As was shown there is significant evidence to show the importance of the learners (associates) being in control and taking responsibility for their learning with educators taking alternative roles as facilitators and mentors. This approach has been consistently resisted by generations of academics but the work based approach of the KTP has been highly successful in gradually breaking down this resistance with work related learning approaches now being given recognition on a global basis. Again Dewey's ideas of having learners become immersed in action followed by in depth reflection underpins the desired approach which associates need to take. The need for in depth reflection by associates is fundamental to the success of the work based experiential approach used in these approaches as tacit knowledge developed in the workplace needs to be integrated with explicit theory knowledge through using such reflective techniques.

Fundamental to the success of the KTP are associates who become engaged emotionally and intellectually to tackle failure, success and risk taking in their professional development as evidenced by Itin (2007) [9]. The KT alliance is highly effective as a paid work based learning model as the associate is employed by the knowledge based partner but operates for the major part of their studies within the company workplace environment. This aspect makes this work based approach quite different from most others where learners are normally employees of the company and the

learning may be controlled to suit the needs of the company with no knowledge base partners involved. Even approaches where a knowledge base partner becomes involved with a company, the learning taking may still be closely controlled by the company with knowledge transfer to the benefit of the company being the prime driving force. The KTP approach has the advantage that it is a strategic alliance between the knowledge based partner, the company and the associate(s) where it is clearly understood that associates have a recognised programme of personal and professional development to complete alongside delivering the projects agreed with the company and this is monitored both by the knowledge base partner and the academic adviser from the KTP who attends all the quarterly management meeting for the duration of the KTP. This approach ensures access for associates to whatever resources are needed to facilitate knowledge production and transfer. From the analysis completed to date it can be concluded that associates need to be involved in double loop learning if they are to achieve leading edge knowledge production where innovation, creativity and emotional intelligence are core to delivery. Epstein's model (1994) [3] described earlier, underpins the development of critical learners who can deal with high levels of risk, continuous change and uncertainty which constitutes the workplace learning environment of the KTP scheme.

The authors believe from their studies that the KTP model is clearly underpinned by the theories and experiential modes examined, particularly by Epstein's cognitive experiential self theory and Sternberg's domains of intelligence which support "the capacity for self mental management". This in turn depends on achieving successful integration of tacit with explicit knowledge which provides a much more comprehensive and valid for of learning for future career success. It is concluded from the analysis of the operation of this type of strategic alliance that sustainable experiential learning can be effectively achieved through delivery of real company solutions in a real world workplace The success of the KT alliance is also related to the development of the associates as learned work based workers where integration of discipline and generic driven knowledge leads to trans-disciplinary business solutions for UK businesses. It is also viewed that the KTP as a sustainable learning alliance has transferability to Europe and worldwide where governments and educators could adapt the model to be effective in their own cultural environments.

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