

## **Access space and digital outreach trainers case study**

WALTON, John

Available from Sheffield Hallam University Research Archive (SHURA) at:

<https://shura.shu.ac.uk/5085/>

---

This document is the author deposited version. You are advised to consult the publisher's version if you wish to cite from it.

### **Published version**

WALTON, John (2011). Access space and digital outreach trainers case study. In: HAMBACH, Sybille, MARTENS, Alke and URBAN, Bodo, (eds.) eLearning Baltics 2011. Rostock, Die Deutsche Bibliothek, 52-62.

---

### **Copyright and re-use policy**

See <http://shura.shu.ac.uk/information.html>

# ACCESS SPACE AND DIGITAL OUTREACH TRAINERS CASE STUDY

John Richard Walton

Department of Computing  
Faculty of Arts Computing Engineering and Sciences  
Sheffield Hallam University  
Howard Street  
Sheffield S1 1WG, UK

J.R.Walton@SHU.ac.uk

**Abstract:** This paper evaluates a situation where two organisations, in the field of encouraging digital inclusion, targeted the same population with the same intent, but with different modes of engagement. This entailed reaching outward, making contacts with those to whom the benefits of the digital realm could make a significant difference to their lives. It was the aim of the Digital Outreach Trainers to enable the articulation of the tacit knowledge of that part of the population that was considered 'hard to reach'. Success would be deemed to be the number of challenged individuals who became learned as a consequence. The two ways in which this process was conducted is the subject of this paper.

Keywords; Problem based learning; Digital inclusion

## 1. Introduction

Historically, a large proportion of South Yorkshire's employment has been in the manufacturing and extractive industries. Industrial change has left a significant proportion of the workforce jobless, without key digital skills to engage with emerging creative and digital industries. South Yorkshire has had a low uptake of ICTs, and digital inclusion has been defined as a key sub regional priority for economic and social regeneration.

One response has been to use central government finance to provide the region with very high speed broadband via an infrastructure development programme known as *Digital Region*. At the time of writing, 96% of the

population have access to this network; despite available access, significant groups are excluded from the benefits of this initiative.

The types of technologies we are concerned with in this case are those that generate information that is convenient to transmit, integrate, manipulate and duplicate at minimal cost [Land 1988].

It has to be understood that information technologies will only make a positive difference to individuals if they are able to operate them. Digital developments which neglect the agency of the user, characterising the individual a subject or content, are unlikely to effect positive social or economic transformations [Wallbank 2010].

Some groups of people are particularly hard to reach. These include those who are unemployed with skill-sets in manual or manufacturing work, and those from cultures that do not traditionally engage in life long learning.

Two organisations are examined in this paper; one a council, *Barnsley Metropolitan Borough Council* and secondly a 'third Sector' body *Access Space Network*. Both have recognised that the most effective way to reach people is through their peers. Such local people, embedded in the community with similar backgrounds, experiences and culture to their own are most likely to be able to introduce the digital realm in such a way that the interest, utility and value are clear. Subsequently digital skills can be passed on to 'hard to reach' groups.

Although the structure and scale of these two providers are very different the super ordinate goals [Waterman *et al* 1979] of both organisations of increasing Intellectual Capital [Roos *et al* 1998] and Social Capital [Coleman 1988] are highly congruent.

It is the conception of the path *towards* these shared values that is investigated here.

## **2 Peer Learning**

To address the situation of those who unable or unwilling to engage with the opportunities presented by the digital region suggests an extremely large scale task of advocacy and learning which is neither financially or organisationally feasible to deliver through structured teaching.

***Making IT Personal, Joining the DOTs*** is an initiative developed by Barnsley Metropolitan Council (BMBC). To address the challenges of peer learning as discussed above, BMBC has developed the concept of “Digital Outreach Trainers”, (DOTs). These are volunteers that pass on digital skills to local people. By recruiting and supporting DOTs who are located in deprived demographics and communities, this initiative aims to engage all members of the community so that they can benefit from the internet and the World Wide Web.

This research paper, based on a case study, examines the manner in which the effectiveness of the (DOTs) can be optimised in two distinct ways.

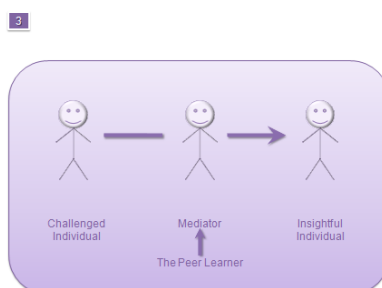
Firstly, the different ideations of *socialisation* that the distinct organisations embrace, when combined in an appropriate manner, can enable a symbiotic relationship to optimise the capability of the DOTs

Secondly, by the *use of technology* to act as a locus of information about the activities undertaken. Two examples from the case study are given; one a server that contains official documents and procedures as well as contacts for the DOTs, the other a Wiki which records the learning events in a less formal and codified manner.

The case study brings into sharp focus the qualitative and quantitative differences between tacit or informal learning and formal, explicit learning. The latter often leads to accreditation while the former does not. The discussion also illuminates the strategic dimensions of the relationship of a Public Sector body and a Third Sector institution.

First, to convince an individual to enter the learner phase and hence become a member of the learner class and second to enable the transition from learner to learned by the acquisition of knowledge. From the above, it seems rational to propose the role of a mediator to enable this transition for certain groups.

Figure 1: The role of the mediator



Again, all the stakeholders agree that this is the way to conceptualise the strategic intent to have a fully digitally literate population.

### 3 Strategies in Action

Given the economic climate in Europe, optimisation of all resources is essential especially for those most vulnerable in society. The five Ps of Plan, Pattern, Ploy, Perspective and Position have often been used as a way of conceptualising strategy [Mintzberg 1987].

It is the outcome of this work that the Third Sector institution's strategy emerges as a *pattern*. This is a consequence of an emphasis on learning from *knowing to doing*. There is a high degree of tacit knowledge in this.

The public sector body on the other hand embraces the concept of *plan*. This is characterised by a significant teleological commitment, together with an explicit knowledge [Nonaka & Takeuchi 2000]. This interplay was also manifest in the role of the information systems that both types of institution deployed.

The notion of *plan* has several ramifications. First, it assumes that objectives or the future desired state can be specified prior to its attainment. Secondly, it has an appeal to rationalism which is of course highly congruent to Central Government thinking.

Third, it separates those who formulate the plan from those who actually deliver it. Finally, plans need to be validated, and this occurs at two stages; when the plan is formulated *id est* when resources are allocated to it and then at the conclusion of the plan when an assessment is made as to the extent to which the objectives have been achieved.

Due to the separation of those who formulate the plan and those who execute it, a great deal of emphasis is placed on explicit knowledge represented by such artefacts as project milestones, the nature of the deliverable, job descriptions representing the division of labour, and budgets complete with variances and projections for the future. Individuals and organisations that espouse planning are prepared to commit physical and financial resources without an immediate benefit because they perceive that the plan itself will deliver delayed gratification. This approach is captured in the famous expressions "Failure to plan is planning to fail" or "Proper planning prevents poor performance".

The concept of pattern is different. Patterns in strategy emerge as the consequence of a complex interaction of behaviours which evolve over time to exhibit coherent and effective action. Since these behaviours are in part a response to the environment in which an organization is located they involve learning which is why they are said to evolve. In addition the response is mediated by all the individuals in the organisation not just those who are decision makers, therefore they are said to be effective albeit from a local, not a global perspective. Such patterns cannot be anticipated or predicted in advance. Clearly the pattern approach to achieving strategic dividend relies heavily on tacit knowledge. Individuals and organisations that consider strategy as a pattern are often very frugal with physical resources. This approach is often expressed as "this is the way we do things round here".

The contrast between pattern and plan is synthesised with the notion of the Generative Dance proposed by John Sealy Brown, the Chief Scientist of Xerox [Cook & Brown 1999]. This is the difference between *knowledge in possession* and *knowledge in action*.

#### **4 The case study**

BMBC adopting as they did the strategy of plan had then to find ways in which the Digital Outreach Trainers status could be legitimised. This entailed a relationship with another stakeholder, Sheffield College, who had the knowledge of the specification of learning and a competency in its assessment. In addition to which they had the power to confer awards. In this case they were the UK National Vocational Qualifications at level 2 and 3.

This further created the requirement of a bureaucracy to support it together with a dedicated IT system. Access Space Network (working with The Sheffield College, and directed by the MITP JtD Steering Group) developed the 'Join the DOTS' (JTD) server which recorded the application from an aspiring DOT through to them passing the approval process. Central to this procedure was the concept of Learning Outcomes. This states that it is possible to specify in advance what a learner will achieve, and to what extent this has actually been achieved.

A great deal of time and effort was expended on codifying the information the DOT would have to acquire in order to fulfil the role. The processes

underpinning learning outcomes are that the knowledge that is derived from information is cumulative and successive so that it is quite authentic to consider that an individual is progressing towards an educational goal.

It is important to note that the knowledge here was considered to be explicit, that is capable of being captured and then externalised in written form without the *loss of the utility* of the knowledge.

In parallel of their development with the JTD<sup>1</sup> Server, Access Space Network also developed SOAP<sup>2</sup>wiki, an internal system to monitor and evaluate face to face peer learning at their centre. Comparing the operation of SOAPwiki and the JTD server they were able to contrast their concept of peer learning with that of BMBC.

The approach of Access Space Network is quite different. The organisations centre, Access Space is a physical space. It is the *context* where the learning together with the development of each individual takes place. It does not deploy prescriptive learning as typified by learning outcomes; rather it uses Problem Based Learning (PBL). This is exemplified by a large sign in the space above the computers upon which the following words are written: *Show me how to fix my computer. Please don't do it for me.* This encapsulates the pattern that the staff at Access Space follow. The motivation for engaging with the problem is internal to the participant, not imposed from outside. Therefore each individual will construe and articulate his or her own problem and then marshal the available resources to confront it. Socialisation is therefore essential as no one individual has the static capability to completely specify let alone solve a problem at the extreme end of his or her knowledge horizon.

Emanating from medical schools PBL has been embraced by a number of educational initiatives; the key characteristic being that the learning emerges for the problem situation and cannot be predicted in advance.

SOAPwiki seeks to record the encounters or 'touch points' that occur in the process of peer learning. It is therefore a way of codifying the socialisation so that it is externalised. The fact that there are a variety of routes to this e.g. texting, via twitter or direct entry means that there is the maximum opportunity for capture at the *moment of engagement*.

---

<sup>1</sup> JTD is an acronym for **Join The Dots**

<sup>2</sup> SOAP is an acronym for **Supported Open Access Programme**

## 5 Discussion

Essentially the two case studies illustrate two approaches to education. One is where the objectives (learning outcomes) are specified in advance and the other where they are not. One relies heavily on explicit knowledge [Nonaka 1994] and the other places more emphasis on tacit knowledge [Baumard 1999].

This paper does not champion one approach over another. For example, there are no controls over the population of the individuals who involved themselves (or are involved) in each of the approaches. It is not possible to establish if they are self selecting, or whether other factors such as availability caused an individual to enter a specific route of learning.

What is possible though, is to compare the extent to which the individual directs his or her own learning. In the server/council example the student is placed on a highly structured path. In the SOAPwiki example the path is open.

Although the two approaches represent extremes of provision in this area it may be possible to synthesize aspects from each one. The propositions gleaned from the two examples allow a contrasting view of the learning process in the domain. It is hoped that this can inform subsequent initiatives. However, as Dick [2007: 411] points out, the ideal position is that of the sequence. This is because the *providers* of the educational experience are learning about the learning [Bateson 1973].

Given the austerity with which educational initiatives of this kind are faced, it is vital not to confuse effort with progress. However, evidence is crucial, because without this any notion of progress cannot be assessed. It has to be acknowledged however that some attributes and benefits of the acquired digital literacy and hence inclusion can be very difficult to measure. Such characteristics include but are limited to: increased self esteem; self actualisation; increased social mobility and increased educational competence.

It has been pointed out that the traditional approach to evidence based practice is shown in the sequence depicted below [Dick 2007]:

*Theory -> Evidence -> Practice*



The evidence emanates from theory but also feeds back into it, which will in turn cause practice to be more effective and hence more 'evidenced' based. This approach is reminiscent of 'single loop learning'. [Argeris 1976] In this conceptualisation the theory itself is not challenged, the evidence 'fine tunes' the theory to increase its efficacy, and removes any non-value adding steps. To adopt a manufacturing analogy - the outcome will be smaller, faster, cheaper.

However, using a Grounded Theory approach [Glazier & Strauss 1967] the telescope is reversed. The practice is examined first and then this is used to generate the evidence of the outcome, from which emerges theory, as shown below

### *Practice -> Evidence -> Theory*

This is because the approach suggested allows a retroductive commitment. In permitting the generation of both case and token, rather than the mere refutation of knowledge, new theories are created. Actually, this is the only way in which new knowledge can be created [Pierce 1935]. As far as the recipient of the educational experience is concerned the proposition is that learning *how it works* is much more significant than *how to work it*.

## **6 Further Research**

There are four areas of further research that present themselves.

First, the extent to which the *actual use* of the digital arena is experienced by those targeted by the initiative as detailed in this paper is still open to question. There could be a tendency to believe that gaining the insights via the approaches discussed, such determinants can be codified. A full discussion of all the factors involved is beyond the scope of this paper. Indeed such factors can be counter intuitive. For example to select just one recent paper, in which some attributes are reported, Social Identity, Telepresence and Altruism are identified as the dependant variables that determine actual use [Kwon & Wen 2010]. This indicates that a wide variety of factors will condition an individual to a position of engagement with the digital world. There are a myriad of opportunities that are available on the WWW, opportunities that can provide a path to self actualisation [Maslow 1946] once the threshold of engagement has been crossed. The possibilities that are available may be limited by the

individuals, if the digital world is then seen as something just to be exploited rather than explored.

Secondly, the very organisation of the Digital Outreach Trainers could give rise to a community of practice [Wenger 2002]. This would enable the *maturing and stewardship* phases [Wenger 2002:69] of development to make the maximum contribution to the local people. For many people, such as the retired or those interested in voluntary work, the attainment of an NVQ, is not in itself a motivation to engage in the programme. But being a member of a community of practice, with the possibility of steering and optimising the process of inclusion could be a strong motivator. Apart from this, building a CoP may combat the sense of isolation that many DOTs feel and also provide a forum for the inevitable experience of emotions of frustration and anxiety that many individuals in such situations encounter. Whichever model is used to address the issue of this paper, extensive demands are made on the tacit knowledge of the DoT. This can be exacting and arduous. In addition to which, it should be possible to abstract the characteristics that make the initiative replicable in other domains making the process more rewarding and life enhancing for all concerned.

Thirdly, for the information to become an asset, it is important to identify and codify the stakeholders in the domain. Initially this could involve the classification of salience of the stakeholders [Mitchell *et al*, 1997]. Once this has been achieved it should then be possible to instantiate the actants, to depict the region as an Actor Network, using the eponymous Actor Network Theory ANT [Latour 2007]. This would further allow the actors to reflexively appreciate the position [Holland and Holland 1999] in order to formulate a comprehension of the centre of gravity of initiatives that can lead to regeneration and the development of the whole community.

Finally, the potential of the context based approach of Access Space required further consideration. The modus operandi encompasses a number of theoretical approaches. Since it is situated in a social context, it provides a fertile ground for the socialisation, externalisation, combination and internalisation of knowledge [Nonaka *et al* 2000]. The authors also assert that the knowledge spiral that is proposed will flourish in an environment they call Ba. Ba is a place where 'information is interpreted to be knowledge' [Nonaka *et al* 2000:14]. Ba is characterised by love, trust and commitment as a basis for reflection and action as a result of dialogue. The location that provides an institution with Ba is crucial to their work where they discuss the optimisation and promotion of the SECI spiral [Nonaka *et*

*al* 2000:16 *et seq*]. In addition to this, the Social Learning Cycle [Boisot 1998: 22] is also in operation. The Social Learning Cycle (SLC) describing as it does the stages of scanning, problem solving, abstraction, absorption, impacting and adoption, should allow the optimal approach to learning.

The central question is can this be replicable? To this end an action research project could be initiated at relatively low cost to determine if this is the case, and if so what factors would influence such future duplication of the space that has served the city of its inception for a decade.

## 7. Conclusion

This paper has concentrated on two roles; that of the disciple and that of an apostle. A disciple is a student; an apostle is a messenger.

In the first model of prescriptive learning the student can indeed welcome the apostle who has a valuable message from which he or she can learn from, benefit and develop. The disciple's perceptions and experiences can therefore be enhanced but they *cannot* surpass or exceed those of the messenger.

In the second model, the disciple encounters another disciple. With the meeting of minds, and in the creative rejection of ideas in the consciousness of them both a new world is brought into focus. In this case it is possible that the newcomer to the field may become a true peer to the one who is the teacher. A good and true teacher knows and believes that in giving the utmost for the highest to the disciple, the latter could *transcend* him or her. And that is what justifies and legitimises the role of teacher.

Therefore it is posited that there are *two* learning cycles operating: that of the participant engaging with the domain, and second, that of the trainer as he or she become more competent at conveying the ability to engage with digital technologies.

Indeed the learning about the learning will have more impact than the learning itself. The *learning* is the signal; the *learning about the learning* is the amplifier.

## References

- ARGYRIS, C., 1976. Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly*, **21**(3), pp. 363-375.
- BATESON, G., 1973. Steps to an Ecology of Mind, Frogmore, St. Albans, *Paladin*.
- BAUMARD, P., 1999. *Tacit knowledge in organizations*. Sage Publications Ltd.
- BOISOT, M., MACMILLAN, I.C. and HAN, K.S., 2007. *Explorations in information space: knowledge, agents, and organization*. Oxford University Press, USA.
- COLEMAN, J.S., 1988. Social capital in the creation of human capital. *American journal of sociology*, , pp. 95-120.
- COOK, S. and BROWN, J., 1999. Bridging Epistemologies: The Generative Dance between Organizational Knowledge and Organizational Knowing. *Organizational Science*, **10**(4), pp. 381.
- GLASER, B. and STRAUS, A., 1967. The discovery of ground theory: strategy for qualitative research.
- HOLLAND, R., 1999. Reflexivity. *Human Relations*, **52**(4), pp. 463.
- KWON, O. and WEN, Y., 2010. An empirical study of the factors affecting social network service use. *Computers in Human Behavior*, **26**(2), pp. 254-263.
- LATOUR, B., 2005. *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press, USA.
- MASLOW, A.H., 1946. A theory of human motivation. *Twentieth century psychology: recent developments in psychology*, **22**.
- MINTZBERG, H., 1987. The strategy concept I: Five Ps for strategy. *California management review*, **30**(1), pp. 11-24.

NONAKA, I., TOYAMA, R. and KONNO, N., 2000. SECI, Ba and leadership: a unified model of dynamic knowledge creation. *Long range planning*, **33**(1), pp. 5-34.

ROOS, J., EDVINSSON, L. and ROOS, G., 1998. *Intellectual capital: Navigating in the new business landscape*. New York University Press New York, NY, USA.

WALLBANK J, Private Communication, October 2010

WATERMAN, R., PETERS, T. and PHILLIPS, J., 1980. Structure is not Organization. *The McKinsey Journal*, pp. 2.

WENGER, E., MCDERMOTT, R.A. and SNYDER, W., 2002. *Cultivating communities of practice: A guide to managing knowledge*. Harvard Business Press.