Mighty negatrons and collective knitting: Academic educators' experiences of collaborative inquiry-based learning

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Abstract (236 words)

This chapter explores the ways in which academic educators' experience of collaborative inquiry-based learning can illuminate student behaviours, particularly in relation to assessment and the affective domain.

The facilitator of this IBL, in the setting of academic staff development in United Kingdom Higher Education, uses a reflective story-telling style to detail the learning of an annual cohort of staff at a university in the north west of the UK. Six separate academic staff cohorts enrolled on a unit, as part of an Master of Arts in Academic Practice, to undertake this experiential, humanist way of learning, working with all the principles of collaborative inquiry.

The chapter explores the ways in which the participants' self-reported affective responses altered over the course of the unit, particularly in relation to the assessment. Participant reflections are integrated with pedagogic literature and extracts from the facilitator's contemporaneous notes, assessor's feedback and other material, detailing the ways in which the freedom of an IBL episode moves to anxiety associated with assessment, which can build as the assessment point nears. Reflections on group constitution, cohort characteristics and the role of the facilitator, are considered in relation to the notion of 'success' of IBL episodes. This is interrogated particularly in relation to academic staff responses to the experience of

the emotions of inquiry-based learning, and how this may affect their own practice in designing teaching and learning experiences for students in Higher Education.

There has been increasing interest in how to organise, support and guide autonomous learning in United Kingdom higher education, particularly following the rise in student numbers across the sector (Molesworth, Nixon, & Scullion, 2009; Naidoo & Jamieson, 2005; Yorke, 2003). In some cases, this has renewed interest in techniques of problem-based learning (PBL) and inquiry-based learning (IBL) as a way of developing greater student autonomy (e.g. (Spronken-Smith, Bullard, Ray, Roberts, & Keiffer, 2008). There has been much debate and discussion over the definitions of PBL and IBL, although this chapter does not seek to revisit this. In this chapter, the term IBL is used in the sense of an open inquiry where the participants collaborate to determine the problem/issue as well as their means of addressing it.

The debate over the *efficacy* or value of such learning and teaching methods over more traditional methods (Hmelo-Silver, Duncan, & Chinn, 2007; Kirschner, Sweller, & Clark, 2006; Savery, 2006; Savery & Duffy, 1995) is however, more pertinent. This debate continues to consider evidence and this chapter aims to add evidence by providing one academic staff developer's experiences of IBL with academic staff on a taught postgraduate programme. I use a pragmatic definition of IBL in line with the view of (Bruder & Prescott, 2013) that all forms of learning from teacher-centred to student-centred, exist on a continuum.

The course, Collaborative Inquiry (CI), was an accredited programme providing in-house academic staff development to six annually enrolling cohorts in a university in the North West of England. The episodes described aim to integrate the perceptions of myself (as facilitator) and participants: each audience reflecting on the value of this kind of learning.

Staff development using IBL pedagogies for potential later use in staff classrooms would ideally incorporate experiential learning to model process and allow time for development of the thinking and processing of this learning. This chapter provides an analysis of the experiential learning through IBL for academic staff development. In particular, it considers the perceptions of that learning in relation to assessment and to the potential use of IBL in individuals' own practice. By including myself as one of the learners in this enterprise, I also attempt to interrogate my experience as facilitator and although aware of the pitfalls in doing so, (Savin-Baden, 2003) provide some caveats and pointers for 'success' based on our experiences.

Many authors in writing about IBL, mention staff development in passing, as an element of a successful introduction of these pedagogies into undergraduate or postgraduate classrooms (e.g. (Goh, 2012). Few studies document staff development through experiential learning of a collaborative IBL episode. In common with many academic developers, I regularly see feedback from staff on our courses (principally a Postgraduate certificate in Academic Practice and a Master of Arts (MA) in Academic Practice MA AP)) that indicates how participants often put the highest value on the learning they do from each other, a well-documented phenomenon (Boud, 1999). They also comment on the experience of being in the shoes of their students – as a learner – with all the attendant power dynamics (e.g. (Murray & Savin-Baden, 2000).

In order to analyse the episodes, I have used material from the reflective essays written by participants; my contemporaneous reflections; the submissions made to the university's annual monitoring reports including unit feedback from participants; assessors' feedback to participants; and academic literature. I acknowledge an inherent bias to the analysis insofar as some of these reflections were made directly for the purposes of assessment: reflective writing often being necessarily integral to the learning process in IBL. By this, I mean that reflections have mainly come from submitted coursework assessed for credit, although some email correspondence is included. All participant materials were anonymised prior to analysis using a basic coding framework to surface affective responses. Express permission of the participants was obtained as well as their agreement with the content expressed here. This process enabled validation of my selection of quotes via re-presentation to participants. Identification of specific cohorts is deliberately unclear so that individuals are not identifiable. For me this is a retrospective phenomenological exploration of IBL evidenced by artefacts created at the time.

The IBL unit

As an academic developer in a Centre for Learning and Teaching in a large metropolitan university, I found in early 2007 that I had responsibility for a new unit, Collaborative Inquiry (CI), on a new Master of Arts (MA) in Academic Practice programme. I was new to the Centre and had much to learn about the business of academic staff development. In at the deep end, I began to work with the seventeen participants and learn about the process of facilitating collaborative inquiry-based learning. This unit was initially designed as a ten-credit one, with a three hours per week attendance over ten weeks. For operational reasons, it later became a twenty-credit unit.

Over the six years, the cohort size has varied from 5-17 with more than 60 staff participating in total, most of these studying for credit. All participating staff members were informed at the outset that full engagement with the collaborative aspects was essential. Participants were drawn from discipline areas across the university and a variety of epistemological stances were therefore represented.

I provided inputs on group dynamics and on the underpinning philosophy of CI, framing it as a group participatory action research strategy to investigate a real problem situation that the group articulates (Bray, 2000).

Assessment in IBL

In line with its origins in medical settings, some of the literature on assessment of inquiry-based learning tends to focus, on learning of factual information that can then be tested by standard assessment techniques such as multiple choice tests. Clearly in the setting described in this chapter, that kind of assessment is inappropriate and something more 'authentic' (Boud, 1985, 2007; Wiggins, 1990) was required.

'Meaning making' is one phase of the CI process, described by Bray (2000) as the phase during which communication of the outcomes of the inquiry are prepared for an external audience. Thus, our groups were framed by the need for an overall purpose and endpoint with an outcome ('product') which could synthesise all discussion, action and reflection. This 'product' could then be communicated to an audience outside of the group as a part of the meaning making process. The analysis and evaluation of the complete process was the subject of the assessed written reflection.

As an episode of staff development, the intended learning was analysis of the process with a final evaluation of the applicability of this kind of learning to participants' own discipline-based settings. This adds an extra layer of learning: that of observation of the process

(including learning about facilitation). The ultimate goal of any academic staff development programme is for there to be eventual positive effect on the lecturer's students. To this end, the assessment explicitly required participants to consider the potential for this in their reflections.

Assessment was initially a group presentation (25%), a group project plan (25%) and individual reflection (50%). Over the six cohorts described, this changed so that it became simply a group 'product' (60%) (negotiated and developed with the group at the mid-point as to format, delivery mode, audience and assessment rubric and an individual reflection (40%).

The group product varied according to the nature of the topic under consideration and the group's desire to communicate their outcome in a particular way. The product outcomes that transpired tended to be actively negotiated, creative, reflective and purposeful. These products included:

• an outline course for staff development;

• a group discussion wiki;

• an online platform for sharing good teaching practice;

• a structured roundtable discussion and promotional pamphlet;

• a paper for peer review and possible publication.

The reflective essay required reference to relevant teaching and learning theory and reflection on the process of undertaking an episode of IBL. Participants were encouraged to consider the role of the facilitator, the dynamics of group interactions, their own thoughts and feelings about their role in the process and their consideration of this technique within their own context.

One of the major tensions observed in each cohort was between generating and sustaining a genuine group process of IBL where excitement, passion and activity began to coalesce around a common goal, and the need for an assessment point as part of the requirement of masters-level study. My interpretation of this observation is that assessment of an episode of IBL can compromise other outcomes via increased participant anxiety and the interplay of other affective dimensions. The following analysis explores this further including consideration of other factors which could influence affective responses: power dynamics and the role of the facilitator; group dynamics and cohort characteristics. The chapter concludes with reflections on the question of 'success'.

The Affective Domain

The affective domain - which concerns emotions and feelings in relation to values (Krathwohl & Masia, 1984) - is clearly highlighted throughout participants' reflective accounts where 'education of the emotions' (Hyland, 2014) appears to happen through the experience of collaboration in IBL episodes.

In designing the unit, I had attempted to align the assessment with the kind of learning expected in a collaborative IBL episode, (Murray & Savin-Baden, 2000) and I made several changes over time to try to improve this. However, as the general picture of the emotional journey of the participants shows (Figure 1), a typical pattern emerged: initial enthusiasm, a steep decline in relation to assessment anxiety, and a return to more positive emotions, with final reported emotions towards the overall experience mostly, and often overwhelmingly, positive.

In the beginning

In terms of process outcomes, staff often reported early positive feelings such as trust, support, freedom, solidarity, 'limitless possibility' and mutual appreciation:

"I was genuinely interested in others opinions and developed a real trust in this group and knew that the best person for each task would deliver successfully."

"The group's initial discussions energized me and I enjoyed our discussions. It was supportive, cathartic and encouraging to share our experiences as academics."

"Having faith in other people lightens the work load and keeps the project motivated and enjoyable. My colleagues also felt the strength of the bond and there were several expressions of 'love' for the group."

In considering the possibilities for creative outputs, one group even began experimenting with wool as a metaphor for the knitting together of different aspects of their experience and found freedom in allowing themselves room to do this.

"The CI group epistemology created freedom and space to focus upon the question."

"Papert (1996) and Barrett (2005) mirror my personal experience of IBL as challenging with enjoyment, freedom, creativity to think, generate ideas and energy."

One participant also reflected on the element of enjoyment and used Papert's (1996) concept of 'hard fun' to describe the positive, enjoyable and challenging team ethos:

"We made a concerted effort to maintain a light-hearted approach to the weekly meetings. We had an almost coffee shop environment bringing cakes each week and the discussion was conducted in a relaxed conversational manner with the deliberate spread of humour."

FIGURE 1 SHOULD APPEAR ABOUT HERE

The half-way dip

However, all cohorts also reported at some stage, feelings of uncertainty, distrust, abandonment, unease and fear of failure. With each new cohort I observed that there was always a point where negative feelings emerged in relation to the assessment point:

"I was apprehensive….I didn't want to let the group down"

"I became increasingly irritated and distracted…. It took a concerted effort to manage my emotional responses to this developing situation, particularly as the presentation deadline came closer."

My own feelings as facilitator, were also recorded, midway through the six years:

"I want to feel like a co-worker, but I am immediately compromised in that role so I have kept in the background. I really do want a good outcome for the group. I think the whole set up of a ten credit unit with masters level assessment sets out a baseline from which it is quite difficult [as facilitator] to proceed when attempting to follow the 'rules' of ceding control and authority – withdrawing to allow freedom whilst not being seen to abdicate responsibility."

Anxiety always seemed focussed on the format and nature of the assessment. This anxiety always had at least some negative effects on the team functioning, with some cohorts experiencing this more strongly than others, perhaps depending on factors such as cohort characteristics. This is discussed more fully later.

The low point in one cohort is articulated by this participant :

"The 'norms' of the group were for me, sanitised with any despair or anger kept in check, although frustration was evident from each of us through non-verbal communication and was, at times more eloquent than the spoken word...whilst I could

see negativity about the process creeping in I struggled to articulate my belief that we were 'doing the right thing'."

Another participant captures the point when high hopes involving creative outputs are lost:

"I felt that I had embraced the 'story telling' aspect of our discussions and wanted to use this but in our collective anxiety to perform for our 'end product' the power of our 'stories' appeared to diminish."

The feelings of a member of another cohort that the assessment cast a shadow over the more interesting and exciting aspects of the collaborative inquiry is embodied by this participant:

"I feel that our discussions flowed freely, encouraged risk-taking behaviour in terms of our nascent ideas and were more interesting than our written submission that was an arguably sterile distillation necessitated by the unit's assignment criteria."

Another participant reflected on the way in which they found the assessment point frustrating:

"My experience of collaborative enquiry feels incomplete because the nature of this enquiry meant that we did not experience initiating an enquiry purely for the purpose of creating or enhancing knowledge (because this was carried out as an assessment)."

The assessment point nears

I felt that when the process of IBL was working at its best it was energising for all concerned. True autonomy, learner confidence and partnership working with little regard for power relationships were all observed features of this. However, this rarely endured throughout the whole period. The time taken to find and agree on common ground, and develop an inquiry question that all could commit to, could be extensive. As a facilitator, I found myself increasingly exhorting participants to pin down their inquiry question.

One participant expressed this:

> "Working as a group was both rewarding and challenging. We shared our frustrations that our understanding of the task ahead, and what we were learning, seemed to shift in and out of focus…"

As groups worked through the low point (Figure 1), the outcome of this was usually much more positive:

> "As the IBL progressed such [negative] comments diminished. Learner development and confidence [were] acquired from the process…at the end we feel very differently about what can be achieved..."

Further the same participant noted:

> "A significant issue noted by the group was the need to validate and 'prove' our inquiry for summative assessment but in this regard I felt that evidence of the process was not in effect the same as proof of validity."

As intended, the major element of learning was most often taken from the process rather than the product, although some felt this was also compromised:

> "I would have preferred more time attending to the process of meaning making within our collaborative enquiry. I felt that we focused too much on the final product at the expense of the process."

One cohort started well but faltered towards the midpoint, when other time claims meant low activity levels. My own emotions and anxieties for the group are also clear, one of my reflections says:

> "I have lost the optimism I started with and wonder what can be achieved by this group. Had a long chat with [group member who was not planning to do the assessment] who talked a lot around the enjoyment of having the space to explore something without the imperative of assessment points."

This informal interaction happened by chance unrelated to the activities of the group but made me think that the freedom to investigate and explore was being sacrificed to the need for an assessment point.

This consideration of anxiety in relation to assessment in IBL does beg the question, what are the alternatives?

1)   Have none and provide all participants with 100% at the outset. Then pose the question, "Now, what shall we do with these ten weeks"?

2)   Allow participants to run the assessment – essentially a self-assessment process.

3)   Use an external assessor – although a second assessor was always involved as part of the assurance process, this was never used as a replacement for the facilitator/assessor role.

Overall, the anxiety of participants around the assessment and my conflicted role as both facilitator and assessor were intertwined problems that remained unresolved. My assumption that participants would remain as 'colleagues' rather than becoming 'students' also needed challenging and I began to consider power dynamics more carefully.

Power dynamics and the role of the facilitator

In the first session of the next cohort, I offered a drink as participants arrived, prepared them and brought them into to the class – my intention was to set the scene for a clearly social process, on an equal footing, from the start. As discussions began there was enthusiasm and excitement about the process, and the possibilities. As the group discussed their focus for an

academic practice-related question, I noted things they said and typed these up as a record for reflection after the session. I also tried to encourage a more scholarly approach, as in both product and process this was necessary for masters level work, beyond some of the provided readings around the underpinning philosophy of CI.

This cohort was exemplary in their openness to new ideas, their willingness to play, and their ability to work with each other although their personalities were disparate and perhaps not complementary. Although they still exemplified the emotional rollercoaster that all cohorts experienced to some extent, their initial excitement included the breaking down of hierarchies, according to this participant:

> "From the outset, although reading around the theoretical methodology of CI was promoted, the facilitation of the unit firmly lacked any sense of academic hierarchy and I think this laid back approach initially supported my personal development and sense of academic curiosity."

She also noted the way that initial interactions of the group were polite, agreeable and with a "tacit agreement that we would be supportive of each other". With this group, I instigated use of artefacts as triggers to prompt discussion and suggest alternatives to paper-based communications. I suggested the group, me included, bring an artefact or picture to illustrate "What is an academic?" These, according to participant reflections, provided stimulus for 'passionate and invigorating' discussion:

> "Our initial task was to provide an artefact or image…The images we brought developed into powerful metaphors representing different dimensions of learning and response to the group enquiry…This was a powerful process, in which multiple perspectives and insights developed as we researched our enquiry question, and which underpinned the entire process of learning."

In later runs of the unit, I used part of a pre-unit MA course induction to introduce trigger questions which also helped to provide a sense of common ground between myself and participants. A participant noted:

> "The group process began well with introductions quickly followed by a question – what makes you get out of bed in the mornings? The response of each member … told the rest of the group not only about their background and current role but also about their personality, their work ethic and their passion and enthusiasm for their work. I was immediately struck by how much we had in common…"

The facilitator role was also something that I encouraged participants to observe, consider and reflect upon:

> "I did notice a difference when the unit leader was present. Savin-Baden and Howell Major (2004), when commenting on the processes involved in problem-based learning, note that dynamics play a crucial role in the operation of groups and I feel this was the case for our CI group."

Some participants made constructive suggestions. One participant described how an 'induction' to the process of CI could be provided which covers:

> "the role of the facilitator, (Edelson (1999) in Kahn and O'Rourke 2004) makes explicit some of the difficulties which groups can face and looks ahead to how any issues can be tackled by group members and facilitator."

She continued:

> " Our facilitator helped when we were stuck.   She provided direction when we were uncertain by re-focusing us on returning to the process of group discussion…I preferred it when the facilitator took notes allowing me to focus on the discussion.

I certainly felt that I learned from both the participants and my observations. My feedback to a participant on their reflective piece reads:

> "Your reflection on the role of the facilitator is insightful and thought provoking for me: I love how the learning…continues to reverberate back and forth. I think you are right that the facilitator could have more of a role in the meaning making stages, however, the concerns of the group and the looming focus on the point of assessment made it feel difficult to intervene too much … but perhaps this would have been helpful."

The role of the facilitator and the tensions created by the presence, absence, intervention or *laissez faire* embodied in this role are also summed up by this participant's insight:

> "Although Bray et al (2000:39) suggest that the instigator of the CI is the person with the most 'problematic role' due to the need to quickly 'concede authority' this aspect of CI caused a great deal of anxiety within the group with regular deference to the 'leader's' opinions. With hindsight this role had overtones of parental responsibilities, with clear attempts to wean us away from our self- positioning as 'the student' who needs guidance and reassurance that we were 'doing the right thing'. The refrain, 'what does she want us to do' was echoed on a regular basis, ironically mirroring our ongoing discussions surrounding our [inquiry] question around the role of the lecturer and student expectations."

One of my feedback comments on the above included:

> "I would definitely agree with your analysis that there were some complex things that happened in this group and your exploration of the tensions between democracy, authority and the need for guidance are really fascinating particularly in the context of

the mirroring of discussion you were having around the role of the tutor and student

expectations."

In one early cohort, there were some expressions of frustration with an open, negotiated

process:

"…I feel that the major problem with this work was not the group work but the lack

of course direction… I feel we wasted a lot of time and effort and learnt much less

that [sic] we could have done. Further, if an essay was not appropriate for submission

this should have been made clear weeks earlier. This made the whole experience un-

enjoyable because I was so frustrated."

This group had problems with attendance due to work commitments and were keen to decide

on an assessment mode at the outset. In trying to steer them towards a less constrained

process, in their eyes, I had, myself become a constraining factor. Another participant from

the same group reflected:

"I and others in my group had extremely negative reactions to the initial and ongoing

process of collaborative enquiry... the general feeling of my group towards the whole

process of collaborative enquiry [agreed with] the observation that students often

suspected the [facilitator's] reticence as a duplicitous choice of action which masked

his or her true aim. My group struggled to determine what was expected as an end

result of what we saw as an extremely nebulous process and this led to many negative

feelings towards collaborative enquiry as a learning method.

Affirmative feedback from the facilitator could also become part of a positive cycle:

"Our tutor was proud of our working style and this added to our sense of

achievement."

Although these reflections focus on the facilitator, it should be noted that many participants tended to seek explanations for perceived failings within their own group's processes, or to spread the blame evenly. While I was careful not to give opinion, it was regularly sought. A perception that I was withholding a secret answer that I was not willing to share, became less apparent in later cohorts.

Group constitution and dynamics

As some authors have acknowledged, much of what occurs in facilitating IBL is related to the learners themselves (Savin-Baden 2003; {Clegg, 2008, Academic identities under threat?}Clegg, 2008). Because of this focus on human interaction (learners *and* facilitators) the degree of applicability of learning from one setting to another is arguable. That said, this section considers group formation and behaviours as well as individual cohort differences in order to try to tease out some points of interest. Each cohort were encouraged to consider the group's dynamics and constitution, either formally or informally, and were provided with readings around group dynamics (e.g. Belbin, 2012) and academic assertiveness (Moon, 2009). Although suggestions were made around ground rules and group contracts, participants tended to eschew these as perceived formalities.

Optimum group size for IBL has been discussed elsewhere (Cleverly, 2003) but in this context I found that group sizes greater than eight became unwieldy if only in terms of speaking time per person, while fewer than four did not make a viable group, particularly if there were absences. However, specific constitution of the group is also important. For example, some of the most influential individuals, (at least, from the facilitator perspective) were not studying for credit but simply wanted to see what they could learn.

The degree of disruption caused to the group by having people either join late, or, more damagingly, leave or under-commit to the process, was clearly evident. In later cohorts all

participants were informed prior to enrolment that full engagement with the collaborative aspects was essential.

> "In my view we did not work very effectively together, for a variety of reasons, and our final product was not really a group work project at all but a series of individual efforts that were very tenuously connected."

Others realised a lack cohesion resulted from an insufficiently shared purpose, which had undermined the process:

> "… the fundamentally flawed nature of the project we eventually managed to agree on did not inspire any enthusiasm in me at all…I don't think any of us had any real commitment to the enquiry question that we eventually came up with."

In the early cohorts, late arrivals, unexpected departures, erratic attendance and (especially) non-attendance at the final (assessment) session were all visibly detrimental to group identity, cohesion, focus and to eventual success. I addressed this by devising new trigger questions, developing different ways of encouraging participants to find common ground (e.g. asking open questions (Hmelo-Silver et al., 2007)) and working with the course leader to set expectations from the outset that attendance at all sessions was expected, and, for the final session, required. Part of my entry in the annual monitoring report for 2011 reads:

> "Introducing the unit during the second half of the MA induction session worked well and there were fewer later arrivals/drop outs to disrupt group dynamics than has been the case in previous years."

The process of group formation was generally allowed to either flow from interests of the individuals or, in smaller cohorts, a group formed and had to find common ground via

discussion. Some participants recognised that just being part of the group immediately began to provide value:

> "Participatory epistemology is embedded in ontology and the premise of learning and existence where participation at whatever level is fundamental to our being (Heron 1996). This was a significant moment of learning for me. That all participation on some level has a value."

More often, participants commented on the reluctance of the team to confront problems or on politeness prevailing even after initial stages, especially where some members were seen as not providing satisfactory levels of participation:

> "The group had avoided the 'courageous conversation' (DOH 2008) and I was certainly aware that I too avoided it."

Similarly, reflecting on the cultural norms affecting honesty within groups, there was a perception that elements of groupthink occurred:

> "The group actively engaged with each other, and feedback became an essential component. However, critical feedback was not a feature of this enquiry."

Others saw that individual characteristics and a commitment to collaboration were vitally important to both the process and the product:

> "The group, our ideologies, principles and philosophies, political and social influences of education, work and culture, consciously or otherwise, exerted a powerful presence in the collaborative inquiry…"

> "My understanding of this environment in Vygotskian terms, was that through our collaboration we were able to support each other's 'Zone of proximal development'"

Participants were encouraged to reflect on their group working skills and academic assertiveness and engage in metacognition and discussion around group and individual behaviours. Sometimes participants reflected on the positive ways in which others were capable of challenging established patterns of thought:

> "…it was the 'interplay between individual and group reflection conducted through dialogue' (Bray et al, 2000) that produced the criticality that disrupted my own 'knowledge."

Another participant who missed the first session reflected on the importance s/he perceived of the process of group formation:

> "I was amazed how much concern this caused me – would anyone want to work with me, would I be 'left out' having missed a session?"

In any group working situation, the subtle interplay of personalities, experiences and a range of other factors inevitably collide in more or less positive ways. The perceptions of some of these characteristics are discussed below.

Cohort characteristics

The six cohorts of staff participants undertaking this unit varied greatly in terms of their personalities, dispositions, experiences, disciplinary and educational background and readiness to engage with less traditional forms of learning. In addition, as facilitator, my experience of facilitating this kind of learning developed over the six years.

In the most energised and positive groups there tended to be key individuals or particular combinations of individuals that seemed to aid focus on both group process and task.

From a facilitator viewpoint, I observed the influence of these key individuals, and this influence often went unremarked by their co-workers, occasionally, participants felt these contributions to be noteworthy:

"It was the quietest member rather than the most vocal that we looked to for security."

Sometimes, key individuals brought a particular idea to the group – here, an idea for group functioning, which was embraced and used to great effect:

"The clever idea of 'coaching' brought decorum to the group, giving time for individual points of view and a clear working structure."

The 'team coach' idea was rotated amongst the group on a weekly basis and helped build confidence and trust.

In some cases, participants were able to see that personality, dispositions and prior experience could impact significantly on the inquiry and some participant reflections tried to articulate the reasons for an unhelpful group dynamic. In some cases, this included personal reactions to others:

"When the group first formed, I noted in my reflective log that two of the group were fairly quiet but seemed nice, one was a 'mighty negatron' bent on personal catharsis, and the other seemed like someone good to be in a group with because she seemed to have a lot of dynamism which I felt I would not necessarily bring to the group. By the end of the period… I found that I still liked the first two, had got used to the negative one, but had started to find the dynamic one's detachedness and total confidence bordering on arrogant."

Some participants thought that lack of group cohesion or personal commitment to a group resulted from the mix of personalities or from lack of direct contact:

> "Due to the nature of some of the personalities within the group I know that I was reluctant to fully commit myself and sensed that others felt the same.

> "…we simply didn't have enough direct contact with each other over the course of the project to really get to know each other, …our lack of interaction meant that we never really engaged fully."

Others reflected how their (negative) responses might lead to positive gains. One of my feedback responses to a participant's reflection reads:

> "Interesting that unintended learning was quite powerful for you. Particularly the group dynamic that yielded unexpected benefits from the occasional 'irritating' or 'unhelpful' behaviour of other group members.

Although sometimes challenged by the mix of personalities, in general the social learning aspects of the CI were very much a positive outcome of the experience. Most groups, with strong enough social bonds and an agreed focus on common ground enjoyed the overall experience, their reflections noting gains which could count as 'success'. The following section examines participant responses to the overall experience of IBL and the way in which they see this learning in terms of their own practice.

Measuring 'success' of IBL in staff development

The notion of success as used here, is firmly set in the context of my own reflections on these particular episodes of IBL, with these students, and with myself as both facilitator and one of the two assessors. Thus, as Savin-Baden (2003) suggests, these reflections are simply offered on this basis, and it is not the case that any direct applicability of these factors to other contexts, is necessarily claimed.

One measure of success could be the degree to which participants felt that they would use this technique in their own teaching. Some felt that they would only use IBL with modification (usually around managing the process more tightly) but nearly all said they perceived value both for themselves as learners in having completed the process, and potentially for their students (often with caveats).

Taking the learning from what was sometimes an intense experience back into their own practice was something participants were specifically asked to reflect on. The philosophical basis of collaborative inquiry as defined by Bray (2000), include a non-hierarchical and democratic approach underpinned by the firm idea of research *with* others, not *on* others, a premise participants tended to embrace.

As participants reflected on this, they also began to think more about their own discipline-based practice:

> "The theory practice divide has never seemed as wide as it does currently in the small, personal sphere of my teaching."

> "The process encouraged a heightened awareness of the lived realities of my students who often fail to maintain reflective diaries and the implications for my expectations of student engagement."

These two participants represent the caution typically expressed by many in their response to the practice of IBL with undergraduate students:

> "Whilst collaboration is both positive and pedagogically sound, I am committed to a cautious approach to the leaderless focus of collaborative inquiry with new inexperienced students…"

"On a personal level this study has inspired me to implement collaborative enquiry

methods (slowly) into my undergraduate units."

Another participant took learning specifically relating to the affective domain and considered

how this could affect her own practice:

"I can now see, for example, that the emotional connection of feeling part of a group

is a valuable part of the experience and this can benefit my students by enabling them

to see other members of their group dealing with similar insecurity and anxiety to

their own and coming to realise that they are capable of studying successfully and

completing their degree."

Personally, I have learned a great deal about facilitation and this has had lasting effects on

how I teach. It has also made me consider the notion of "success" in relation to learning and

the way my measures of this notion are helpful or not.

A recurring conclusion for participants was that caution should be exercised in using IBL

with the participants' own students. This outcome could also be considered a 'success' factor.

IBL seems to require a degree of experience in both the facilitator and the participants for the

most positive outcomes to occur. However, in two notable cases, participants have

specifically related their learning to an introduction of IBL with their own students.

"I was so inspired by the CI unit that I have decided to do my independent study unit

on the use/impact of [IBL] in [subject area]."

The same participant emailed a year later:

"I just wanted to thank you for your encouragement when I phoned you a while ago thinking about presenting about Collaborative Inquiry at a conference. Myself and a colleague were successful in applying to chair an interactive workshop using the principles of CI for a conference and I am also presenting a paper on my thoughts following from the unit about the expectations of the academic to fill up students with knowledge and the restrictions of the current curriculum format, from my perspective…"

This participant took a year to 'gestate' the idea of using CI with students or with others and then to act on this. As some have suggested (Webb, 2013), this is an indication of the period of time needed to allow for the kinds of 'profound change' in thinking required to use IBL - a day of staff development cannot simply be given and curriculum change immediately occur. It takes time to find a suitable context and explore a change of mind-set:

"As I read more about collaborative enquiry I responded emotionally to the concept of being allowed to be a 'guide on the side', (Salmon 2004 in Edwards and McKinnell 2007) not a lecturer."

A member of staff from one of the earlier cohorts responded to my email re: permissions to use materials in this chapter with this:

"I use what I gained … in most if not all of my own teaching, learning and use it specifically in my [Level 6] enquiry-based assessment."

One participant in reflecting on the use of IBL in his own setting suggested that this required a considerable shift in mind-set:

"My own experience suggests that with wise facilitation, a good reading list and a group of students who are motivated to learn such a shift in mind-set is not impossible."

Reflections on the shift of mind-set needed, tended to be hopeful and perhaps slightly surprised:

"It could be argued that this [method of teaching and learning] could leave elements of the curriculum to chance and at risk of not being covered. However, my reflective diary revealed that questions I had noted were answered unintentionally as the enquiry progressed. The process of enquiry was thus able to deliver more than a linear understanding of the enquiry question."

"I learnt a great deal more than I anticipated in the CI"

Another participant reflected on the way in which contribution to the outcomes of the IBL could increase personal learning even when this goes largely unacknowledged by anyone other than the participant.

"This was almost intangible to the observer of the presentation. I found it invaluable in terms of understanding personal paradigms in participatory action research, team work, group process and, as an example of the emancipatory power of critical thinking within a collaborative enquiry, it demonstrates that it all counts, just not necessarily when you think it should!"

In several cases, reflection on process-based issues often provided the key learning:

"Despite the poor quality of the group's final product, I do think I learned an enormous amount from the experience of carrying out the project, both 'knowledge-based and process-based' (Savery, 2006). I learnt a great deal about the 'emergent

concept' of IBL, I learnt more about myself from observing how I behaved as a

member of a group and by reflecting on the whole experience in the light of the

theoretical knowledge [than] I gained from the course-related reading."

Finally, one participant explains how initial scepticism over what could be achieved, became

recognition of value derived from the experience:

I was also unsure how the group members, from quite disparate professional

backgrounds could possibly completed [sic] a challenging piece of work. That

uncertainty has been firmly quashed by the recognition that we did create some

semblance of order from an initially vague premise and work together effectively."

In the most 'successful' IBL cohorts a large part of the 'success' was the positive group

feeling and ethos. Table 1 shows the various positive elements the facilitator observed in the

more successful groups, together with facilitator guidance that appeared to encourage these

elements and an attempt to develop 'success' factors from these. Other authors (e.g. (Anstey

et al., 2014) have also begun to develop these kinds of guidance.

TABLE 1 GOES ABOUT HERE

In relation to the final points in Table 1, with one cohort, when I had found myself largely

superfluous to group discussions and had left the group to continue their weekly session, the

group approached me after the session and asked to interview me. They thought I might have

some useful knowledge of institutional resources to contribute – the group saw me at this

stage, as a resource to draw on, not as a member of the group or as the 'assessor'.

Our six-year journey took me as facilitator from IBL ingénue to someone with first-hand

experience of learning, feelings, attitudes and reflections on the process. While I made errors,

(too hands-on, too hands-off) I think we learned how to make this work and all cohorts

experienced some elements of a functioning learning environment. I also believe that sometimes it worked in spite of anything I tried rather because if it. As a facilitator, I tried improving triggers, using open questioning at key points, encouraging challenge and devils advocacy, supporting scholarly approaches, suggesting ideas around group management scaffolding and then withdrawing but I never shook off the feeling that my very presence was a destabilising one that always related to the assessment point.

Assessment of the IBL episode, however disruptive in some respects, did provide clear structure, and even the most autonomous group found the assessment point was vital in seeing work completed to a timescale, and in the production of creative and potentially impactful outputs. The assessment point helped inspire creative 'hard fun' (Papert & Negroponte, 1996) and a sense of working towards a useful outcome. Many other factors were in place for this including: a complementary mix of personalities / group working roles; a member with previous knowledge of IBL; and members who shared their ability with online collaborative tools. As various authors have acknowledged, introducing elements of self or peer assessment (e.g. Savin-Baden, 2003; Boud & Falchikov, 2007) can help to address anxiety by ceding control of the assessment to the participants and this would be my priority in future IBL teaching.

Over 2000 articles have cited Kirschner, Sweller and Clark's article that claims constructivist pedagogies of discovery with minimal guidance are a failure (Kirschner et al., 2006). The kind of IBL that is represented in this chapter is not discovery learning, but is definitely more toward this end of the continuum, compared with, say, traditional forms of PBL. There have been a number of responses to Kirschner's central claim including arguments around teacher stance (either fundamentally student-centred or fundamentally teacher-centred) and how this drives choice of methods of learning and teaching. More recently some authors have suggested this dichotomous orientation could be framed instead in terms of seeing learning as

acquisition versus learning as participation (Wegner & Nückles, 2013). Perhaps one use of IBL as experiential staff development is to allow personal exploration of this dichotomy, with 'success' being the degree to which the experience helps staff to rationalise or explain their approach.

In considering different facilitation styles for IBL, Landeen, Jewiss, Vajoczki, & Vine, (2013) conclude that more experienced facilitators and their students had higher 'tolerance of ambiguity' (p.277) which helped them to work through some of the more chaotic stages of the process. This certainly is my experience of the process, and this tolerance of ambiguity links strongly to the ideas of learning for an unknown future (Barnett, 2012) for which inquiry-based learning is surely apt.

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References

Anstey, L. M., Michels, A., Szymus, J., Law, W., Edwin Ho, M. H., Qu, F., . . . Chow, N. (2014). Reflections as near-peer facilitators of an inquiry project for undergraduate anatomy: Successes and challenges from a term of trial-and-error. *Anatomical sciences education, 7*(1), 64-70.

Barnett, R. (2012). Learning for an unknown future. *Higher Education Research & Development, 31*(1), 65-77.

Belbin, R. M. M. (2012). *Management teams*: Routledge.

Boud, D. (1985). Problem-based learning in perspective. *Problem-based learning in education for the professions, 13*.

Boud, D. (1999). Situating academic development in professional work: using peer learning. *The International Journal for Academic Development, 4*(1), 3-10.

Boud, D. (2007). Reframing assessment as if learning were important. *Rethinking assessment in higher education: Learning for the longer term*, 14-25.

Boud, D., & Falchikov, N. (2007). *Rethinking assessment in higher education: Learning for the longer term*: Routledge.

Bray, J. (2000). *Collaborative Inquiry in Practice: Action, reflection and meaning making*. London: Sage.

Bruder, R., & Prescott, A. (2013). Research evidence on the benefits of IBL. *ZDM, 45*(6), 811-822. doi: 10.1007/s11858-013-0542-2

Clegg, S. (2008). Academic identities under threat? *British Educational research journal, 34*(3), 329-345.

Cleverly, D. (2003). *Implementing inquiry-based learning in nursing*: Psychology Press.

Goh, K. L. (2012). A Staff Education and Development Programme to Support PBL. In G. O'Grady, E. H. J. Yew, K. P. L. Goh, & H. G. Schmidt (Eds.), *One-Day, One-Problem* (pp. 259-281): Springer Singapore.

Hmelo-Silver, C. E., Duncan, R. G., & Chinn, C. A. (2007). Scaffolding and Achievement in Problem-Based and Inquiry Learning: A Response to Kirschner, Sweller, and Clark (2006). *Educational Psychologist, 42*(2), 99-107. doi: 10.1080/00461520701263368

Hyland, T. (2014). Mindfulness-based interventions and the affective domain of education. *Educational Studies, 40*(3), 277-291. doi: 10.1080/03055698.2014.889596

Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching. *Educational Psychologist, 41*(2), 75-86. doi: 10.1207/s15326985ep4102_1

Krathwohl, D. R., & Masia, B. B. (1984). *Taxonomy of educational objectives, Book 2: Affective domain*: Addison Wesley Publishing Company.

Landeen, J., Jewiss, T., Vajoczki, S., & Vine, M. (2013). Exploring consistency within a problem-based learning context: Perceptions of students and faculty. *Nurse Education in Practice, 13*(4), 277-282. doi: http://dx.doi.org/10.1016/j.nepr.2013.03.013

Molesworth, M., Nixon, E., & Scullion, R. (2009). Having, being and higher education: The marketisation of the university and the transformation of the student into consumer. *Teaching in Higher Education, 14*(3), 277-287.

Moon, J. (2009). Making groups work: Improving group work through the principles of academic assertiveness in higher education and professional development.

Murray, I., & Savin-Baden, M. (2000). Staff Development in Problem-based Learning. *Teaching in Higher Education, 5*(1), 107-126. doi: 10.1080/135625100114993

Naidoo *, R., & Jamieson, I. (2005). Empowering participants or corroding learning? Towards a research agenda on the impact of student consumerism in higher education. *Journal of Education Policy, 20*(3), 267-281. doi: 10.1080/02680930500108585

Papert, S., & Negroponte, S. (1996). *The connected family: Bridging the digital generation gap*: Longstreet Press Atlanta, GA.

Savery, J. R. (2006). Overview of problem-based learning: Definitions and distinctions. *Interdisciplinary Journal of Problem-based Learning, 1*(1), 3.

Savery, J. R., & Duffy, T. M. (1995). Problem based learning: An instructional model and its constructivist framework. *Educational technology, 35*(5), 31-38.

Savin-Baden, M. (2003). *Facilitating problem-based learning: Illuminating perspectives*: McGraw-Hill International.

Spronken-Smith, R., Bullard, J. O., Ray, W., Roberts, C., & Keiffer, A. (2008). Where might sand dunes be on Mars? Engaging students through inquiry-based learning in geography. *Journal of Geography in Higher Education, 32*(1), 71-86.

Webb, G. (2013). *Understanding staff development*: Routledge.

Wegner, E., & Nückles, M. (2013). Knowledge acquisition or participation in communities of practice? Academics' metaphors of teaching and learning at the university. *Studies in Higher Education*, 1-20. doi: 10.1080/03075079.2013.842213

Wiggins, G. (1990). The Case for Authentic Assessment. ERIC Digest.

Yorke, M. (2003). Formative assessment in higher education: Moves towards theory and the enhancement of pedagogic practice. *Higher Education, 45*(4), 477-501. doi: 10.1023/A:1023967026413

References as used in students reflective accounts:

(reproduced verbatim from participants' reflective accounts)

Barrett, T., MacLabhrainn, I., & Fallon, H. (Eds.), (2005). Handbook of enquiry and problem-based learning. Galway: CELT.

DOH (2008). Unspecified document from the Department of Health.

Douglas, T. (2000). Basic groupwork [electronic resource] London; New York : Routledge retrieved from http://netlibrary.com/nlreader/nlreader.dll?bookid=61009/

Edwards, E. & McKinnell, S. Moving from dependence to independence: the application of e-learning in Higher Education in Campbell, A. & Norton, L. (2007). Learning, teaching and assessing in higher education: Developing reflective practice exeter: Learning Matters

Heron, J. 1996 Co-operative Inquiry: Research into the Human Condition, London, Sage

Kahn, P. and O'Rourke, K. (2004) Guide to curriculum design: enquiry-based learning, University of Manchester [online] Available from:

http://www.campus.manchester.ac.uk/ceebl/resources/guides/kahn_2004.pdf

Kahn, P. & O'Rourke, K. 2005, Understanding Enquiry-Based Learning in Barrett, T, MacLabhrainn, I. & Fallon, H. (Eds) The Handbook of Enquiry & Problem Based Learning, Galway: CELT pp1-12

Papert 1996 An exploration in the space of mathematics educations; Technology, knowledge and learning; International Journal of computers for mathematical learning, Vol: 1;1 pp 95-123

Savery, J. R., 2006, Overview of Problem-based Learning: Definitions and Distinctions, in The Interdisciplinary Journal of Problem-based Learning, Vol 1, No. 1, Spring 2006, pp9-20 http://docs.lib.purdue.edu/ijpbl/

Savin-Baden, M. and Howell Major, C. (2004) Foundations of Problem-Based Learning. Berkshire. Open University Press.