Theoretical and Operational Reflections on the Interdisciplinary PBL Simulation for Conflict Negotiation and Communication at the University of Helsinki

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ABSTRACT

An interdisciplinary approach has been adopted for undergraduate Law and Social Science students attending separate seven-week intensive language communication courses run at the University of Helsinki. The challenge has been to anchor this pedagogical development within theoretical frames of reference that contextualise the interdisciplinary PBL simulation. Focus is placed on one of the simulations - Bradford Simulation, based on the 1995 riots involving the Pakistani immigrant community in the English city of Bradford. Conflict encompasses multidimensional problems and synthesising interdisciplinarity with the PBL simulation attempts to create a learning environment in which students can gain an insight into the intricacies of conflict analysis, management and resolution. Considerations of student identity and learning factors are recognised. Key operational management factors requiring advanced organisational and communication skills by the teacher are also broached. Whilst positive outcomes have accrued there are limitations that have compromised the activity.

INSTITUTIONALISATION AND INTERDISCIPLINARITY

In January 2020 the transdisciplinary Helsinki Institute of Social Science and Humanities was established to disseminate research results. This evolution of Helsinki University highlights the intellectual trajectory the university is following in developing the philosophical underpinnings of the search for interdisciplinarity within a policy-oriented framework (Mäki, 2016). Since 1989, I have utilised an interdisciplinary approach in my courses involving Law and Social Science students at the university.

Clearly there is interdisciplinary synergy between the Law and Social Sciences (Sumner, 1973; Weinstein, 1999; Coleman, 2001; Kozakiewicz, 2008; Anders, 2015). Research has shown that

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behind traditional discipline-based departments, interdisciplinarity has been an active component of many courses (Pharo & Bridle, 2012). Neil Smelser observes that "the boundaries of most disciplines have become so permeable and indistinct, and so much exportation and importation has occurred that if one ranges widely in his or her discipline, one is being in effect interdisciplinary" (2003, p. 653).

Obstacles are confronted when embarking on the interdisciplinary path (Berger, 1972; Frodeman, Klein & Pacheco, 2010). Yet research and pedagogical developments at Aalborg University identifies the potential for and pitfalls in integrating Problem-Based Learning (PBL) within an interdisciplinarity framework (Jensen, Stentoft & Ravn, 2019). The challenge facing the teacher who wants to enhance PBL as the constructivist answer to traditional and learning paradigms is to ensure that the 'problem' is carefully chosen (Maurer & Mawdsley, 2014, p. 37).

CONSCIENTIZATION AND THE 'GOOD' CONFLICT PROBLEM

Winne and Nesbit (2010) expanding upon the work of Piaget, see that problems in the guise of contradictions, obstacles, anomalies and conflict, stimulates cognitive disequilibrium that positively impacts on reasoning and learning. The level of complexity in identification, analysis and resolution of conflicts transcends disciplinary boundaries, involving many fields of knowledge requiring "both disciplinary and interdisciplinary specialists to work together, hand in hand" (Weidner, 1973, p. 207).

However, as Petrie (1992) notes, many societal problems do not follow the contours laid down by traditional disciplines. Whilst 'conflict and violence' are intrinsic to the basic DNA of both disciplines it is remarkable how little is understood when it comes to comprehending the dynamic processes and drivers of violence for instance (Kilby & Ray, 2014). Even more damaging is the critique that the study of conflict has been subsumed beneath disciplinary paradigms and has become "specialised and balkanised" (Jackman, 2002, p. 387).

The utility of PBL is linked to the quality of the problem confronting the students because different problems exert different demands on the cognitive scaffolding required by students (Jonassen & Hung, 2008; Walker & Leary, 2009). This linkage may be enhanced if the process of conscientization is assured so that the learner is empowered to become critically aware of the different constituents, dynamics and power relationships within society on all levels of abstraction (inter-individual, inter-group and inter-national). The numerous works of Paulo Freire have resonance here, although the article by Andrew Armitage incisively draws attention to the value of conscientization underpinning the implementation of PBL in a Higher Education Setting (Armitage, 2013). Any student of Law or the Social Sciences should be equipped with multiple tools of analysis for identifying, evaluating and resolving conflict because it is the *sine qua non* of their existence. It is within the classroom that the simulation has the tradition of being the platform where conflict has been scrutinised (Sabin, 2012).

Simulation and Conflict PBL

Savin-Baden & Major, (2004) recognises the diversity of practice that has unfolded in different institutions. Robert Sternberg (2008) emphasises that PBL and simulations may find a natural fit with interdisciplinarity because he sees them as essential platforms for evaluating the major problems facing society, such as instances of collective violence.

Anderson and Lawton observed that simulations "can effectively serve as the 'problem' in a PBL designed course" (Anderson & Lawton, 2004, p. 28), and in divergent fields there have been attempts to integrate PBL and simulation. Research by Roh and Kim (2015) indicates that simulation combined with PBL enables increased intrinsic goal orientation, efficiency of learning and performance, task value, problem solving and autonomous learning. Murphy et al., (2011) merged simulation and PBL in their research concluding that:

> although PBL and simulation in isolation have educational merit, merging these pedagogies has the scope to link aspects of learning that further enhance and transform knowledge. Together with the necessary resources, merging PBL and simulation is feasible within a variety of curriculum models. (p. 146)

If a simulation centres on an outbreak of public disorder, then it is important to be sensitive to the dynamic shifts between conflict and violence and the perspective one takes. To some, the act may be glorious, to others it may be depraved (Scheper-Hughes. & Bourgois, 2004) This multiplicity of frames links to the hybridity value of the simulation (Sjoberg, 2014). Herein different levels of comprehension and understanding are accessed by simulation participants who are engaging with differing interpretations of processes and outcomes observed and experienced in the conflict simulation.

In the Bradford simulation, the 'problem(s)'ensue when the legal codes of public order are contravened. This legalistic perspective (Gurr, Grabosky & Hula, 1977) is imbued with notions of 'injustice,' whereby those in the crowd confront this perspective because the police are perceived as the architects of violence (Munkler & Llanque, 2003). It is this tension in the problem conceptualisation that is the centripetal force of the simulation.

The simulation is primarily human-to-human interactions, with computer assisted elements employed to open and maintain channels of communication between the different teams during non face-to-face interactions (Asal & Blake, 2006). The simulation

> is an interactive representation of the system to be studied, based on a model of the system…a model is a simplified representation of a real or imagined system, and a system is a collection of different elements whose combination yields results that are unobtainable by the elements alone (Landriscina, 2013, p. 6).

The Bradford simulation system is the problem-based environment of conflict observed during the riots. The model is a simplified representation of possible conflict resolution scenarios involving different stakeholders in the system interaction. The students represent key

stakeholder groups and interact using professional communication skills to analyse and resolve the conflict scenarios.

A successful simulation should encourage student interest and align with the learning concepts and objectives laid down in the course so that the participants can analyse and resolve the problem(s) they are faced with (Borstad, Forchhammer & Gabrielsen, 2017). Research has shown enhanced comprehension of processes and increased utility in terms of enjoyment when simulations have been employed, and they have also been seen to increase collaborative learning (Schick, 2008). Meanwhile, Harper (1985) asserts that there are "far-reaching and longer-term social and psychological benefits that can be attributed to the use of simulations" (p. 219).

The simulation also confronts many of the frustrations seen by teachers using traditional methodologies when "students were simply repeating the information taught in lectures without any critical consideration of the material, thus they were not engaging in deep learning and considered thought, the intrinsic level of motivation that educators strive for when designing programmes" (Clough & Shorter, 2015, p. 278). This introduces the challenge of being sensitive to the target group to whom the simulation is directed.

Identity Considerations

There has been definitional confusion over whether role play is ether a form of simulation or an activity distinct from simulation. Some authors integrate the two platforms (Waters, 2016) while others espouse the relative virtues of role play in promoting higher levels of learning (Fliter, 2009).

The extent to which a student takes on the persona of another party obviously decreases the sense of realism associated with the activity, but it does allow for the student to 'hide' behind the persona adopted. They see their role as a theoretical participant rather than as a student and may lure them out of their restrictive learner identity (Crookall, 1978). Conversely, if they apply their own persona to the simulation then the degree of artificiality is reduced. This allows the student to access their own repertoire of perceptions and here the simulation is exploiting the reality intrinsic to the classroom itself. But this also exposes them to counter arguments that they may feel uncomfortable with, a criticism that Claire Fox (2016) lays at the door of present-day academia.

It is important to realise that the communicative interactions of the negotiation do not mean "how faithfully the situation created reflects the relevant factors in a 'real world' situation, but rather on how realistically and credibly from the students' point of view it does so" (Crookall 1984: 262). This is determined by the learners themselves and research shows distinctive characteristics in the Finnish environment where:

- Active participation may mean delayed attempts at turn-taking, clumsy gambits, disfluency, slow speech and silent observations of ongoing discourse,
- Silent participation is often utilised,
- Entire withdrawal from the discussion is adopted (Lehtonen and Sajavaara 1985).

Within the Finnish context, the introduction of the simulation may be compromised by such patterns. This is not to denigrate such traits as they may be an important component of the socio-cultural profile of the students, but an awareness of learner types is essential in simulation design. Kolb identifies personality types having preference for certain learning styles that are often predisposed towards specific disciplines (Kolb, 1984). But the teacher needs to be sensitive to the possibility that simulations may induce higher levels of stress and anxiety (Yockey, 2015).

If the traits seen by Lehtonen and Sajavaara are encountered, then this may deter the teacher from using simulations. However, the benefits accruing from the use of simulations should be considered because they may extend beyond the confines of the classroom itself and seep into the cultural and professional fabric of the different communities.

Previous attempts in my courses at introducing role play into simulations with students allocated specific detailed roles were met with frustration. They could not engage with the role allocated and the suspension of disbelief necessary was unattainable by many students. This was compounded when the simulation was run with students interacting with each other from the same course because "if participants think that the simulation is comprised of like-minded individuals then they do not challenge each other's positions, thus reducing the need to defend their own position and so appreciate the logic behind it" (Usherwood, 2014, p. 56).

Group association and identity is important when working in teams and the cultivation of the 'in group' based upon course participants and their bonds of friendship are an important reflection of reality. But when placed in conflictual interactions then such attributes may be a hinderance to the inculcation of realism into the interaction because as friends they could not envisage taking on the mantle of adversaries in conflict scenarios. By introducing 'interdisciplinarity' into the classroom, this allowed me to devise a creative learning platform to address these demands.

LEARNING FACTORS

Drawing upon Stephen Krashen's (1982) monitor model, Taylor believes language acquisition and communicative competence requires the learner to be exposed to "real, comprehensible input provided in communicative settings that actively engage the learner" (1982, p. 35). This acknowledges the simulation fidelity continuum scale developed in the Health Sciences ranging

from 'low fidelity' where there is artificiality to 'high fidelity' invoking actual real-life situations (Doolen et al. 2016).

The primary objective of interdisciplinarity is moving the learning paradigm to higher levels of creativity as formulated in Bloom's Taxonomy of Learning Objectives (Bloom et al. 1956). Because "given the increasing complexity of modern society, the number of complex problems is likely to increase in the future so that interdisciplinary approaches will be required to an ever greater extent" (Mudroch, 1992, p. 46).

To get to these higher levels of creativity necessitates raising awareness of the value of the use of interrogatives in inter and intra-group encounters. The use of questions gives control over the interaction and they give information which allows the individual or group to have a competitive advantage if so desired. They perform essential social functions in easing the flow of communication. And, according to philosopher Jaakko Hintikka at a 2011 Helsinki Collegium for Advanced Studies presentation they lie at the heart of philosophical genius (personal communication).

Interdisciplinary platforms require what Lana Ivanitskaya et al. (2002) terms a "more personal construction of knowledge," by developing connections among ideas and the "interpretation and application of knowledge across several contexts" (p. 98). This crossing of contexts means students need to come to terms with higher levels of complexity (Spelt et al., 2009). This immersion of the student into unfamiliar surroundings echoes the words of John Stuart Mill:

> It is hardly possible to overrate the value… of placing human beings with persons dissimilar to themselves, and with modes of thought and action unlike those with which they are familiar…Such communication has always been, and is particularly in the present age, one of the primary sources of progress (1870, ch. 17-14).

Zygmunt Bauman calls for positive learning outcomes that accord with wider societal needs that go beyond the remit of university education and proposes the concept of liquid modernity (Bauman, 2000, 2004). This perhaps underpins Kek and Huijser's (2017) call for an 'agile PBL ecology' for learning. Yet research has identified that Finnish language centres for example, have placed more emphasis on academic language skills than professional communication skills (Lehtonen & Karjalainen, 2008). Subsequent research in a survey of Finnish Law graduates showed a deficiency gap between the skills taught at university and those needed at work (Lehtonen, 2017).

If the graduates of Social Sciences and Law are to be professionally engaged in their chosen career, then constructive alignment between what is taught and learnt at university should be in accord with the professional obligations after graduation (Biggs, 1996). However, the degree of complexity and the management of change that students face upon graduation may not have been given sufficient attention during their studies if constrained within a traditional disciplinary background (Bratt, 1977).

Yang Wong called for the harnessing of PBL in legal education because of the shortcomings of the traditional focus on disciplines (Wong, 2003). Stephen Nathanson stresses that problem analysis is central to the legal profession (Nathanson, 1997) whilst Stephanie Boys et al. (2015) was recognising this synergy of purpose in the interdisciplinary law and social work course she was running.

Taking these factors into consideration has influenced the rationale and design of the simulation.

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OPERATIONAL MANAGEMENT

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The simulation objectives are: to enhance student professional communication and negotiation skills, especially the use of interrogatives, to ensure that students have at least B2 level according to the Common European Framework of Reference for Languages and refine student competence in conflict analysis and resolution.

Recent insights look at integrated learning platforms (Fisher & Fisher-Yoshida, 2017). Petranek, Corey and Black (1992) subdivide the simulation into 'preparation,' 'interaction' and 'debriefing' phases. The preparation stage of the Bradford simulation in weeks 1-3 focuses on the use of interrogatives in interactions and the self-realisation by students that the power of the 'question' is infinite in conflict management. Micro activities raising awareness of communication and negotiation strategies are used, with lexical and conceptual awareness tasks being introduced. Lockstep teaching strategies are replaced by student-centred tasks to sensitise and empower them to take responsibility for their own learning. Tasks are introduced reflecting Levels 1 – 3 (Recognising, Understanding and Applying) of Anderson and Krathwohl's taxonomy (2001). This is the start of the 'marketing' of the simulation that prepares them for the full simulation commencing in week 4. During weeks 1-3, the Law and Social Science students are taught separately, it is only until the simulation is introduced when they engage with students from the other faculty.

Over the weekend of the 9-11th June 1995, riots broke out in Bradford resulting from police intervention during a street football game involving local Asian youths. In week 4 of the simulation, students are introduced to the Bradford simulation subject matter and stakeholder perspectives they represent. The students of Law represent the police and the Social Science students are community leaders representing the rioters from the Pakistani Kashmiri community. No specific roles are allocated, only that they represent either the authorities or the community and they can decide themselves if they want to make this more specific. However, to assist the students, general team objectives are provided but these are for guidance only and can be amended by the teams although this must be confirmed with the teacher. For example, the police want adherence to legal procedure whilst community representatives want legal procedure to be suspended. The objectives highlight mutually exclusive positions and rigid adoption of these positions exacerbates the conflict. It is the realisation of this outcome and the

shift away from these 'positions' towards an understanding of 'interests' (the motivations behind the stated positions) that empowers the students to realise the basic principles of integrative bargaining (Fisher and Ury1983).

In some simulations I have reversed these representations to give students an insight into differing perspectives. This reversal enhances the interdisciplinary fusion of the groups requiring higher levels of creativity and more exacting analytical skills. However, the sense of realism in the simulation was diluted with this additional layer of complexity and some students simply could not embrace the change in perspective.

The riots broke out on Friday evening and negotiations between the police and community representatives took place during and afterwards. On Saturday there was a lull in the riots whilst negotiations took place. Riots then broke out in a second successive evening only to recede on the third day when further negotiations were proposed. The topography of the real events is reflected in the simulation, only the simulation negotiations take place over a period of weeks and allow for negotiations to take place on three different occasions.

I try to make the start as interesting as possible, utilising audio-visual input (Renninger, Hidi & Krapp, 1992). Newspaper articles are a vital reference point, as is the testimony from those involved in the event itself and observers. These are accessible by students via a cloud-based system - Google Drive. This reflects the differing learning styles that students employ (Honey & Mumford, 1992) and is an explicit recognition of a blended learning approach (Bersin, 2004).

In the faculty within the two groups of twenty, students are allocated to teams of four. They stay within their teams and interact only with a designated team from the other discipline. Chinese walls are established so that teams do not engage with other teams from their own discipline to garner information. Allocation to teams is not done randomly (Work & Mauffette, 2018), but is based on their assessed performance during the first three weeks identifying their content knowledge and communicative competence. Sensitivity to the challenges and opportunities of mixed ability and background groups is recognised (Engen et al., 2018).

After the precipitating event of the riots is presented via video format in week 4, the Social Science students compose a letter expressing their concerns at the arrests of the youths who are placed in police detention. This is sent to their counterparts in the Law team and the latter respond via Google Drive as the first point of contact. The session is taken up with teams processing the information input, drafting the correspondence and deciding appropriate communication and negotiation strategies.

Once the Law students have replied, in the intervening week between weeks 4 and 5, materials input shows an escalation in the conflict with youths congregating outside the police station. This provides the context for the first negotiations to take place in week 5 that represent the negotiations that took place on the Friday evening. The teams are allocated 90 minutes per

negotiation during that week and arranged with the teacher who observes each negotiation. These negotiations centre on the call by the community to free those who have been arrested and the reluctance of the police to comply with this demand. The inherent tension then feeds into the systemic distrust of the community towards the police and the latter's rigid adherence to protocol and security considerations. Towards the end of the time allocated for the team negotiations, irrespective of what has been agreed in the negotiation, new input from the teacher shows that rioting has broken out, as it did on the first night of the disturbances and that the negotiations be suspended.

In the intervening period between weeks 5 and 6, the students are in further correspondence with each other with the aim of meeting for more negotiations in week 6. During week 6 the second negotiations take place; 120 minutes being allocated for each team negotiation and this represents the negotiations that took place on the Saturday afternoon during the riots. The negotiations evolve from a focus on the flashpoint the previous evening to questions of community grievances swirling around a sense of injustice where the community experiences high levels of multiple deprivation. In contrast is the police resorting to security issues and frustration at the unwarranted demands of the community. Towards the end of the negotiation, information input shows riots have broken out again and negotiations are suspended. The point at which the riots emerge and bring an end to the negotiations are carefully orchestrated by the teacher so that it fits in with the negotiation dynamic taking place. The negotiations are staggered throughout the week so that the teacher can observe and the interactions are recorded and transcribed focussing on salient issues and used as the basis for feedback to the students in the debrief session. Video extracts from the recordings are not shown for teaching purposes as some students are sensitive to their portrayal in public.

The last part of the simulation is in week 7 and this concentrates on feedback to the students. The riots culminated on the Saturday night and the next day, Sunday, the two parties were waiting in abeyance for the other to make the first move. Negotiations were expected to continue, and the students are expecting to further engage with the other team. In the disturbances, the confrontation was defused when a group of women from the Interfaith Women for Peace group intercede and the attention is taken off the rioters. In the simulation, the teams are awaiting the appearance of the other team, instead the teacher takes control and meets the teams separately for debriefing. Previous attempts at joint debriefing sessions with the teams from the two faculties were very successful in most instances, however, there were some sessions that became acrimonious and this approach was terminated.

During weeks 4-7, teams complete a reflection journal showing their strategy and their impressions of the other team. This is written into a formal memorandum by each team and forms part of the students' assessment which is a simple pass/fail categorisation. Part of the memorandum, where the students give their impression of the other team is used to give feedback to the opposing teams.

Teacher feedback to the students concentrates on the objectives set for the simulation and this alignment is central to the simulation experience (Duffy & Savery, 1994). The type of feedback transforms throughout the simulation. During weeks 5 and 6 when the face-to-face negotiations are being enacted, feedback to the students is given in the form of reflective interrogatives compiled by the teacher and not statements of performance to help students realise the potential strengths / weaknesses of their performance and strategies. This allows the student to take more responsibility for their learning experience and incorporates some of the basic tenets of autonomous learning (Clifford, 2006).

Because the students are often interacting online, teams are required to sign up the teacher to their respective groups and I have access to the dialogues between and within the different teams. The students have the flexibility to decide the learning environments within their own teams to more closely meet their learning needs (Craig & Hale, 2008, p.172). In previous courses where an institutional VLE platform (Moodle) was available it was not used by students for inter/intra team interactions. The favoured *modus operendi* by students is setting up a social media group team for interactions which is a natural exploitation of the learning environment (Lieberman, 2014). When the teacher has real time access to the student interactions between the negotiations, then feedback and innovative assessment mechanisms can be put in place to assist the student learning experience (Clegg & Bryan, 2006).

TEACHING AND LEARNING IMPLICATIONS

Course feedback from students consistently placed the interdisciplinary element of the course as the most engaging and motivational part of the course, although they found it demanding. 90% of all student feedback found the interdisciplinary experience to be the most positive. They reported having to invoke skills and strategies that they would not normally utilise in more traditional learning environments. They felt that interdisciplinary practice exposed them to creative thinking and breaking the disciplinary paradigms. One team couched it in less academic discourse: "the other team were idiots, but they had good points and to understand the problems and the solution we had to consider their point of view." This highlights some of the key principles espoused in negotiation theory requiring them to defuse the emotional capital and to think of creative options (Ury, 1991).

There are limitations when following an interdisciplinary path within a PBL context (Bursztyn & Drummond, 2014). Despite the overwhelming positive feedback there were still some students who found the experience stressful and reacted by looking inward and limited their interaction. These students took advantage of the 20% absence policy which allows them to be absent from the course. This constrained some teams and raises questions on students' intrinsic and extrinsic motivation, it also highlights the 'producer-scrounger' spectrum of student application (Vickery, 2013). Sometimes this resulted in complaints being made by other team

members forcing the teacher to set up a 'grievance policy framework' in later simulations. Conversely there were occasions when emotions took precedence within the negotiations and then overflowed into the team discussions. The teacher had to then be the mediator and raise individual student awareness of their responsibilities of being a team member. This again required more time investment by the teacher.

Despite these reservations, the introduction of the interdisciplinary perspective negated the oft-quoted criticism of simulations that students do not take them seriously (DiCamillo & Gradwell, 2013). The majority embraced the interdisciplinary feature and student feedback confirmed research observations that simulations enhance student learning and increase interest in abstract theories and concepts (Shellman & Turan, 2006).

Students reacted positively to feedback from the teacher, many often remarking that they receive no personalised feedback in other courses. Sensitivity to differing student personality types is important and because feedback may be misconstrued by students, the form and type of feedback given to students should be carefully considered (Gibbs, 2006). There is a triangulation of feedback approaches involving participant-led feedback in terms of student self-reflection, observations of interactions by the teacher and documentary evidence such as the memorandum.

Based on student feedback, the Bradford simulation accords with the following PBL outcomes:
− Development of decision-making skills,
− Problem-solving contextualises learning,
− Development of student autonomy,
− Development of collaborative learning skills (Martin 2003).

In addition, there was an increased awareness of conflict resolution and enhancement of professional communication skills. This was an implicit recognition that the interdisciplinary component facilitated the advance towards higher levels of learning (Biggs & Tang, 2009). For instance, students often remark that their strategy and actions in the second negotiation were influenced by their experience in the first negotiation. The 'realism' of the interdisciplinary simulation exposes the students to a key success factor in negotiations and this is separating the 'people' from the 'problem.' The focus of undergraduate Law study in Helsinki University is on refining skills to adapt to an adversarial environment in court and the students often transfer this outlook into the simulation. Engagement with the Social Science students reveals the possible consequences and limitations of such an approach within the framework of negotiations.

This is also revealed in the increased use of interrogatives by the students during the simulation. The activity engendered an atmosphere in which the use of questions was an absolute requirement. Students are often faced with lectures and seminars in which lockstep pedagogy prevails and do not often have the opportunity to refine their questioning skills. In contrast, the

simulation necessitated the active use of interrogatives in all encounters. Herein lies the paradox for the Finnish learner- if they realised there is a compromise between being silent and being garrulous and that lies in the use of questions, then their recourse to reduced participation in interactions might be mitigated.

Moreover, whilst there are increased moves to autonomous learning in Helsinki University, it is unclear how this addresses some of the stereotypical communication attributes of Finns. The interdisciplinary PBL simulation counters this trend and whilst encouraging some degree of student autonomy, this is synergised with active teacher and peer-group input in all stages of the learning experience.

Teacher investment, especially in outside classroom operational matters is high and resource intensive. Workload increases dramatically and requires teachers to have skill sets that transcend the traditional classroom environment. Institutional deficiencies are encountered, notably the lack of rooms as highlighted by Usherwood (2014) because the simulations are often placed into constrained temporal and physical slots that compromise their utility.

CONCLUSION

The interdisciplinary PBL simulation requires students to invoke a portfolio of skills processing differing levels of information and interactional communicative input/output. The simulation allows for the hybrid nature of multi-layered tasks to be employed so that participants have to initiate and react to different learning environments. This is juxtaposed with the elevation of the conflict problem as the conduit between the learning platform and an insight into the complexity of real-world critical scenarios. In this respect the interdisciplinary PBL simulation allows for the fusion of hybridity and conscientization that may suitably equip students for their future roles in society.

The 'conflict' problem has attendant risks, not least because students are placed in environments where their world view may be questioned. But surely the essence of intellectual development is not found in the answers discovered but the questions asked. The simulation platform has the potential for encouraging safe emotional responses and invoking different communication strategies. It promotes a collective view in which 'we' and not 'I' become the norms of learning. Where using questions become a natural part of communication and the students evolve professional skills that they can transfer to the workplace.

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