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### Innovation with change: developing a community of practice to help teachers move beyond the 'honeymoon' of pedagogical renovation

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1 **Innovation with change: developing a community of practice to help teachers move**  
2 **beyond the ‘honeymoon’ of pedagogical renovation**

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23

24 **Innovation with change: developing communities of practice to help teachers move**  
25 **beyond the ‘honeymoon’ of pedagogical renovation**

26 Structured Abstract

27

28 *Background:* Physical education has long been caught in a time of ‘innovation without  
29 change’. Yet, despite a wealth of pedagogical innovations and policies, which encourage  
30 a reconsideration of the ‘traditional pedagogy’, teachers rarely move beyond the  
31 honeymoon period of implementation.

32

33 *Purpose:* The purpose of this paper is to explore how communities of practice emerge,  
34 develop and support innovation that results in pedagogical change.

35

36 *Participants and Setting:* Six secondary school teachers from a comprehensive secondary  
37 school in the UK used the Cooperative Learning model, which was identified as the  
38 pedagogical innovation, to teach physical education for a minimum of four units of  
39 activity (6-8 lessons each). Teachers were supported by a researcher who acted as a  
40 boundary spanner.

41

42 *Research Design:* To support their understanding and use of Cooperative Learning the  
43 teachers’ engaged with action research through a) the analysis of their observations and  
44 reflections, b) dialogue with the boundary spanner and colleagues, and c) negotiation  
45 with their students. Multiple sources of data informed the study including: teacher  
46 reflections, a field journal, a Verification Tool, interviews, teacher observations,  
47 professional learning meetings, and discussions on social media.

48

49 *Data Analysis:* Data were analysed through constant comparison, inductive analysis and  
50 peer examination.

51

52 *Findings:* The boundary spanner was a catalyst for the adoption and sustained use of  
53 pedagogical innovation, facilitating teachers’ use of action research, driving social  
54 energy, and the subsequent emergence of a community of practice.

55

56 *Conclusion:* If physical education is to move beyond the traditional pedagogies, then  
57 communities of practice are a professional learning strategy that can support pedagogical  
58 innovation with change, especially when boundary spanners help to get them started.

59 *Keywords:* Action Research, Communities of Practice, Pedagogical change, Innovation,  
60 Cooperative Learning.

61

62

## 63 **Introduction**

64 Great ambition, the desire of real superiority, of leading and directing, seems to  
65 be altogether peculiar to man, and speech is the great instrument of ambition  
66 (Smith, 1759)

67  
68 In his treatise on ethics the philosopher and economist Adam Smith suggested  
69 that the ‘podium’ seemed to be a natural place for those who wished to lead and direct.  
70 Taking this observation forwards it has been argued that education is not the exception,  
71 in favouring the podium as the natural position for the teacher, but the rule (Dewey,  
72 1929). Nothing seems more telling in this argument than the origins of the word ‘lecture’.  
73 Drawn from the Latin *Lect* (*read, chosen*), the word represents the medieval academic  
74 tradition of reading from original sources and notes, and has come to represent a notion  
75 of schooling centred on the one-way conveyance of information from expert to novice.  
76 The term has also come to mean “a long serious speech, especially one given as a  
77 scolding or reprimand” (Oxford English Dictionary). The irony of this dual definition is  
78 such that ‘lecture-style’ delivery has been heavily criticised by exponents of critical  
79 pedagogy and yet the ‘lecture’ has remained the mainstay of educational practice for  
80 hundreds of years.

81 In physical education the dominant practice of lecturing from the front of the  
82 class has not been significantly altered since the days of the drill sergeant in the late 19<sup>th</sup>  
83 Century (Kirk, 2010; Tinning, 2010, 2012). Indeed, such a militaristic, teacher-led ‘do-  
84 as-I-do’ (Casey, 2010) approach has, for more than a century, been the key means  
85 through which schools and teachers have managed, organised, manipulated and  
86 ‘schooled children’s bodies’ to produce members of an orderly society (Kirk, 1999).  
87 Such an approach to teaching holds little relevance to young people in the 21<sup>st</sup> century  
88 and perhaps should be regarded as an obsolete means for learners to explore the socio-  
89 cultural significance of human movement (Tinning, 2010, 2012). Drawing upon the lack

90 of dichotomy between past and current practice, Kirk (2010, 2012) recently cautioned  
91 that unless a pedagogical change can firstly pervade and secondly survive in teachers'  
92 classroom practices, then physical education may no longer hold a legitimized place in  
93 education and could become extinct. It is against this background that this investigation  
94 is set. At this juncture it is worth noting that this paper is nested within a longitudinal  
95 study exploring pedagogical change, and addresses one research question from the  
96 overarching project i.e. how do teachers' learn to use a pedagogical innovation within  
97 and beyond their initial experiences?

98         In his discussions about pedagogy, Evans (1985) suggested that we live in a time  
99 of "innovation without change" – a point that we reiterate now. Whilst a number of  
100 alternatives have been proposed to help practitioners use alternatives to the 'traditional  
101 pedagogy' (from Mosston's spectrum, and Maulden and Redfern's reconsideration of  
102 games teaching in the 60s, through Sport Education and Teaching Games for  
103 Understanding in the 80s, and curriculum, instructional, and pedagogical models in the  
104 early part of this century and beyond), coupled with the introduction of policies which  
105 sought to promote innovative practice and high quality teaching and learning (Flintoff,  
106 Cooke and Squires, 2006; Kirk, 2010, 2012), the teacher-led approach has remained  
107 'THE way to teach' physical education (Tinning, 2010, 42). Casey (2012a) held that  
108 although teachers demonstrate a willingness to use pedagogical alternatives they rarely  
109 move beyond the initial point of implementation (or honeymoon period). In this regard,  
110 pedagogical innovations, policies and strategies have failed to unsettle the do-as-I-do  
111 approach (Kirk, 2010, 2012; Tinning, 2010, 2012).

112         Despite this period of innovation without change, shifting the expectations around  
113 teaching and learning in physical education is not easy, for change lies not only in the  
114 desire of the teacher to change but also in the extraneous expectations about the subject,

115 especially what it does and how it does it (Bechtel and O’Sullivan, 2006; Casey, 2012b;  
116 McCaughtry, 2006). Flintoff et al. (2006, 5) argued that no curriculum reform would be  
117 significantly useful in promoting better practice without mechanisms “to help teachers  
118 critique the nature and relevance of their practice to today’s students”. Indeed a number  
119 of authors claim that teacher change is evidence-bound, where a shift in teachers’ beliefs  
120 and practice is often dependent on teachers’ understanding of their students’ responses to  
121 their pedagogy (Armour and Yelling, 2007; Deglau and O’Sullivan, 2006; Patton and  
122 Griffin, 2008). Thereby, it seems reasonable to suggest that in order to create innovation  
123 with change a reconceptualization of teacher professional learning is required (Armour,  
124 2010; Armour and Yelling, 2007; Casey, 2012a; Kirk, 2010).

### 125 **Professional Learning**

126 In physical education a number of curriculum theorists have called for teachers to work  
127 together in communities of practice (CoP) with university/teacher collaboration to aid  
128 pedagogical change (Armour and Yelling, 2007; Casey, 2012a; Deglau and O’Sullivan,  
129 2006; Harvey and Jarrett, 2013; O’Sullivan, 2007; Patton et al. 2005; Parker et al. 2010).  
130 Quite often in a CoP, teachers work together to inquire into their respective practices and  
131 to develop their understanding of how to use a new pedagogical approach (Atencio, Jess  
132 and Dewar, 2012; Calderón, 1999; McLaughlin and Zarrow, 2001). A CoP creates  
133 ‘space’ for meaningful, worthwhile and frequent discussions between teachers, which in  
134 turn facilitate the development of their own and others’ pedagogy (Calderón, 1999;  
135 Deglau and O’Sullivan, 2006; Parker et al. 2010; O’Sullivan, 2007). Parker et al. (2010)  
136 suggested that this method of professional learning broke down feelings of isolation,  
137 which empowered teachers to discuss their own practice and support their colleagues’  
138 learning. Importantly, through participation in a community teachers have developed a  
139 deeper understanding of their practice and in some cases the use of a pedagogical

140 innovation has been sustained (Calderón, 1999; Deglau and O’Sullivan, 2006;  
141 O’Donovan, MacPhail and Kirk, 2010, 2012).

142 Despite the reported effectiveness of CoP, they are under-developed in physical  
143 education (Harvey and Jarrett, 2013; O’Sullivan, 2007). Whilst there is encouragement  
144 for the use of CoP there is a paucity of research that explores how they develop and their  
145 ability to support pedagogical innovation with change (O’Sullivan, 2007; Parker et al.  
146 2010). In this paper we suggest pedagogical innovation with change is possible when  
147 teachers are supported in their inquiries and encouraged to engage in dialogue with other  
148 teachers within, and beyond, the honeymoon period of innovation. Therefore, the purpose  
149 of this paper is to explore how a CoP began to emerge and how its emergence  
150 subsequently supported pedagogical innovation that results in change.

### 151 *Communities of Practice*

152 The idea of a CoP is attributed to the seminal work of Lave and Wenger (1991)  
153 and their theoretical perspective of situated learning (Hoadley, 2012). A CoP could be  
154 summarised as a group of people who “deepen their knowledge and expertise in [an] area  
155 by interacting with one another on an on-going basis” (Wenger, et al. 2002, 4). The  
156 assumption is that “learning is an integral and inseparable aspect of social practice”  
157 (Lave and Wenger, 1991, 31) where a person is not seen as an individual but part of a  
158 cultural and community context (Fleer, 2003; Lave and Wenger, 1991; Wenger, 1998a).  
159 Wenger (1988a) suggests a CoP is a group of people who hold three dimensions: mutual  
160 engagement, a joint enterprise and a shared repertoire. In this way, CoPs exist because  
161 each participant occupies a unique identity where their contributions are important for  
162 other members (mutual engagement). Members facilitate the development of each other’s  
163 practice, and the practice of the community, in order to achieve a common and negotiated

164 goal (joint enterprise). Over time the community develops routines, actions, or ways of  
165 doing things that become a sustainable part of their practice (shared repertoire).

166 Communities can take many forms, such as knowledge-building communities,  
167 learner communities or teacher communities (Barab and Duffy, 2012). Building on the  
168 work of Lave and Wenger (1991) and Wenger (1998a), Hoadley (2012) suggested that a  
169 CoP has distinct features which contrast against these other notions of communities.  
170 Firstly, a CoP has a degree of informality (Hoadley, 2012). By this means, a CoP is not  
171 simply an organization or a group of people who work for an organization (Hoadley,  
172 2012). Instead, a CoP has a low level of institutionalization where it sets its own  
173 agenda(s) and establishes its own leadership. A CoP can exist within an organizational  
174 structure, such as a school, and in doing so it can strengthen the outcomes or goals of the  
175 organisation (Hoadley, 2012; Wenger, 1998b). Secondly, Hoadley (2012) held that a CoP  
176 has a high level of connectivity. In other words, the community holds a tight social  
177 network while offering a high degree of individual identification within the community  
178 (Hoadley, 2012; Wenger, 1998b).

179 Although the notion of CoP was foregrounded by Lave and Wenger (1991), their  
180 conception is based upon an anthropological perspective, examining CoP in everyday  
181 society and not environments intentionally designed to support learning (Barab and  
182 Duffy, 2012; Hoadley, 2012). Indeed, Hoadley (2012) suggests that there has been a shift  
183 in the way of thinking about CoP from one which naturally occurs to one where a CoP  
184 can be supported and fostered to situate learning in an authentic context. Whilst Wenger  
185 (1998b) suggests that members may have a tacit way of knowing they are connected to  
186 others, and are an insider in a collective group of individuals who can help nurture their  
187 development, it has been suggested that CoPs emerge from individuals working together  
188 for a particular purpose (Barab and Duffy, 2012; Fler, 2003). The difference between a



189 naturally occurring community and a community which is fostered, is that naturally  
190 occurring communities do not have pre-defined learning goals (Barab and Duffy, 2012;  
191 Hoadley, 2012). Yet importantly a CoP cannot be created. Instead, communities must  
192 have some form of history for them to emerge from, and members must share a form of  
193 history with one another (Barab and Duffy, 2012; Hoadley, 2012). In this way CoP take  
194 time to develop. However, technology and social networking sites can support  
195 communication and can be used to begin to connect people and allow members of an  
196 emerging CoP to understand that they share commonality with each other (Hoadley,  
197 2012). Moreover, having access to an expert or a facilitator who arranges time for  
198 professional dialogue, supports individual and community inquiry and empowers  
199 individuals to have a voice and ownership over pedagogical change can foster the  
200 emergence of a CoP (Calderón, 1999; Goodnough, 2010; Hoadley, 2012; McClaughlin  
201 and Zarrow, 2001; O’Sullivan, 2007; Parker et al. 2010). Thereby, it seems reasonable to  
202 suggest that a CoP can emerge from within a school, if a collective group of individuals  
203 have a shared purpose or learning goal (in this case the use of an innovation) and their  
204 connectivity with each other are fostered.

## 205 **Methods**

### 206 **Participants and Setting**

207 A physical education department consisting of six (3 male, 3 female) qualified physical  
208 education teachers of mixed experience (<1 and >15 years) from a co-educational  
209 comprehensive secondary school (age 11-19) in England participated in the study. The  
210 school’s students were predominantly from white middle class backgrounds, few had  
211 English as an additional language and the proportion of students with special educational  
212 needs or disabilities was below the UK National average.

213 The first author (Victoria), who had experience of teaching physical education

214 through Cooperative Learning and using practitioner inquiry as a teacher, acted as the  
215 ‘boundary spanner’. However it is important to note that she was not a teacher at the time  
216 of this study. The term boundary spanner is derived from the work on organisational  
217 structures by Thompson (1962) and later Aldrich and Herker (1977). These authors  
218 argued a boundary spanner distributes information, filters information and facilitates the  
219 use of information in different organizations (Aldrich and Herker, 1977; Thompson,  
220 1962). By this means, the boundary spanner is a representative of an organisation and  
221 acts to meet their organizations goals by distributing the service or product through  
222 interacting with other agents in society (Aldrich and Herker, 1977; Thompson, 1962). We  
223 use the term boundary spanner to signify that Victoria was someone from a different  
224 professional organisation (a university in this case) who brought in new information and  
225 supported teacher inquiry.

## 226 **The pedagogical innovation**

227         The Cooperative Learning model (c.f. Dyson and Casey, 2012) is positioned as  
228 the pedagogical innovation since, although five out of the six teachers had previous  
229 experience of using other pedagogical models (but not beyond the honeymoon period),  
230 none of the teachers had used Cooperative Learning prior to this study. The study began  
231 with three month period of professional development, to improve the teachers’ use of  
232 action research, and to develop their understanding of how to use Cooperative Learning  
233 to teach physical education (Goodyear, 2013a). Following the professional development  
234 programme the teachers used Cooperative Learning to teach a minimum of four different  
235 units (six-eight lessons) during an academic year to a minimum of one class on their  
236 timetable. The classes chosen by the teachers to participate in this study were all single  
237 sex and ranged from year 7 (age 11-12) to year 10 (age 14-15).

238           The research design was practitioner inquiry through participatory action  
239 research. The teachers engaged with the three key features of action research extolled by  
240 Ax, Ponte and Brouwer (2008): analysis, dialogue and negotiation. *Analysis* occurred  
241 through the observations of their students' learning and the reflections on their practice.  
242 *Dialogue*, with each other, and Victoria, either face-to-face or through the online  
243 community discussion board (Physical Education Practitioner Research Network).  
244 *Negotiation* occurred with focus groups of the students they taught.

245           Victoria's role throughout the study was multi-faceted and included being a  
246 critical friend, facilitator, supporter, and researcher (Goodnough, 2010). She observed the  
247 first lessons and last lessons of each unit taught (by every teacher) and some additional  
248 lessons when she visited the school to see other teachers. 63 lessons were observed in  
249 total. She also conducted pre- and post-lesson, and unit interviews with all six teachers.  
250 The interviews were semi-structured and used the Sunday Afternoon Drive Model  
251 (Sutherland, 2012) which uses the fundamental questions of "what happened", "so what",  
252 and "what now" (Sutherland, 2012) to inform current and future practice. On average  
253 Victoria visited bi-weekly.

#### 254 **Data Gathering**

255           As this paper is nested within a longitudinal project multiple sources of data  
256 informed this study. The data gathering tools are represented and explained in table 1. It  
257 is important to acknowledge that social media was an emergent, and unpredicted data  
258 source. Data was gathered from 49 private message through Facebook and 76  
259 conversations (defined as two tweets or more) through Twitter over the course of the  
260 academic year between the teachers and Victoria. There were 125 separate conversations  
261 on social media over 203 days (including weekends and holidays) that involved five of  
262 the teachers. Their preferred time for contact varied but the conversations often occurred

263 when Victoria had not seen the teachers for a period of time or in response to Victoria's  
264 tweets or status updates (on both Facebook and Twitter).

265 [Insert table 1 here]

## 266 **Data Analysis and Trustworthiness**

267 Inductive analysis and constant comparison were used to analyse the data  
268 (Lincoln and Guba 1985). The process started with the analysis of the video recorded  
269 lessons using the Validation Tool and the transcription of interviews and teachers'  
270 reflections. Once this was complete Victoria approached the data through an inductive  
271 lens. In Morse's (1994) terms she began comprehending the data by reading the texts and  
272 writing analytical memos. The analytical memos allowed her to reflect, document her  
273 understandings and maintain a level of reflexivity in the analytical process (Phillips and  
274 Carr, 2007). Once these processes were complete descriptive codes were developed and  
275 then used to identify and group interesting statements and events from all data sources.  
276 For example, some of the codes included: working together, student impact and informal  
277 and formal discussions. This formed the first-order of analysis, which as a result  
278 produced thematic descriptions of the key features that supported teachers' use of the  
279 pedagogical model, and the factors that motivated them to continue to use the model. The  
280 themes identified from this process were, *support from the researcher, learning*  
281 *communities* and *evidence of effectiveness* (Goodyear, Casey and Kirk, 2012).

282 The second stage of the analysis was undertaken to increase the validity of the  
283 findings. In keeping with the work of Gall, Borg and Gall (1996), and Merriam (1995),  
284 the peer examination strategy was used to member check and pass comment on how  
285 items were coded, categories were defined and findings were developed. To achieve this  
286 the second author independently reviewed the overarching content themes that had  
287 emerged, in addition to analysing samples of data, to determine if they had been placed in

288 appropriate categories. When the analysis from both researchers was compared no major  
289 discrepancies were found. However, whilst the first author had considered the conceptual  
290 links between these themes in accordance with constant comparison and inductive  
291 analysis (Lincoln and Guba, 1985), the second author identified that further consideration  
292 of the relationship between them was needed. Furthermore, the second author challenged  
293 the themes and their interrelation with the CoP literature. In this way we sought to ensure  
294 the data had theoretical sensitivity since we had identified that without the wider  
295 consideration of CoP the themes represented mundane descriptions of the data  
296 (Charmanaz, 2008).

297         The third phase of analysis involved the reconceptualization of the original  
298 themes to explore the relationship between them and their connection with the literature  
299 on CoP. The two authors discussed the original themes and pinpointed on a timeline  
300 when the original themes were most prominent within the four units taught and  
301 subsequently, how these themes were then related to the dimensions of a CoP (Wenger,  
302 1998a). Whilst the analysis began inductively we later transferred to a deductive  
303 approach to understand how a CoP emerged and supported pedagogical innovation with  
304 change. Four themes were subsequently identified: ‘*sustained support from the boundary*  
305 *spanner,*’ ‘*dialogue, analysis and negotiation,*’ ‘*dialogue with each other*’ and ‘*the*  
306 *departmental approach.*’

### 307 **Results**

308 This section explores how a CoP began to emerge and how this emergent community  
309 developed and supported pedagogical change beyond the honeymoon period. In  
310 accordance with reports that creating change in schools is a timely and messy process  
311 (Atencio et al. 2012; Patton and Parker, 2012), we argue that the first manifestation of  
312 this CoP took the better part of six months to emerge. It was only at this point, and

313 beyond the anticipated point of this study, that the social framework was capable of  
314 supporting the teachers' use of the innovation. Yet the very emergence of the CoP was  
315 dependent on the boundary spanner, who supported and encouraged teacher learning. The  
316 first theme, 'sustained support from the boundary spanner', is an overarching theme that  
317 explores the pivotal role Victoria played throughout in fostering the emergence of a CoP  
318 and pedagogical innovation with change. In the second and third themes, 'dialogue,  
319 analysis and negotiation' (Ax et al. 2008) and 'dialogue with each other' we explore how  
320 the boundary spanner and teachers' use of participatory action research facilitated  
321 teachers understanding of their practice, afforded them the opportunity to explore the  
322 commonalities that they had with one other, and how as a department their collective use  
323 of an innovation was situated within their organisational boundary i.e. the school. The  
324 final theme, 'the departmental approach', suggests that a CoP was emerging and through  
325 mutual engagement, a shared repertoire and a joint enterprise, teachers' use of the  
326 pedagogical innovation was supported.

### 327 **Sustained support from the boundary spanner**

328 To enhance teachers' ability to use innovations it has been acknowledged that an  
329 outsider can facilitate the process of teacher change (Parker et al. 2010; Patton and  
330 Griffin, 2008; Patton and Parker, 2012; Patton et al. 2005). We argue that the main  
331 catalyst for change, and the emergence of the CoP, was 'the boundary spanner'.  
332 Accordingly, we feel it is important to embody her role within the process of pedagogical  
333 innovation with change.

334 Throughout the four, five or six units taught, Victoria facilitated teachers'  
335 engagement with the model through both formal and informal conversations. In response  
336 to their immediate reflections, she helped to develop the teachers' understanding, through  
337 the post-lesson interviews, of their own and each other's practice, and helped them to

338 gain insights into their students' learning. The informal conversations that took place in  
 339 the staff room, in the department office, or through social media, only began once  
 340 teachers had engaged with an extended contemplation of their use of the model. On most  
 341 occasions the teachers initiated these conversations and, in the main, they appeared  
 342 simply to want someone else to talk to about their units or lessons, or to ask questions. A  
 343 significant advantage of using social media in this study was that the teachers had regular  
 344 support – most particularly from Victoria. These interactions often occurred when she  
 345 had not visited the school or seen the teachers over a period of time.

346           Twitter and Facebook have proven an effective way for me to communicate with  
 347 teachers this week... For instance, Miss Scholes and Miss Collie spoke to me on  
 348 Friday night about how their lessons went. Mr Minns spoke to me on a Thursday  
 349 night about how the rain was affecting his lessons and what he could do in terms  
 350 of resources....Miss Keeping contacted me through Twitter on Sunday night  
 351 about what she could do in the next unit. (FJ Unit 1)

352           In this 'virtual space' Victoria reassured teachers, challenged their reflections,  
 353 gave them ideas, and encouraged them to use the insights they gathered from their use of  
 354 action research. The following twitter discussion is an example of how this occurred.

355           @ Miss Keeping: massive ownership being seen by pupils now within my CL  
 356 lessons

357           @Victoria: really interesting!!! Down to all the hard work and planning u have  
 358 put in☺

359           @Miss Keeping: think it's more on the pupils understanding and now they have  
 360 choice on roles and responsibilities instead of me choosing them

361           @Victoria: what's your next challenge for them

362           @Miss Keeping: not too sure at this point something I need to think over.  
 363 Suggestions?

364           @Victoria: see after next week if there are any themes in your reflections before  
 365 next unit - team comps may challenge socially further (Twitter Conversation  
 366 26.4.12)

367           However, whilst some teachers still preferred face-to-face dialogue with Victoria  
 368  
 369 (such as Mr White, the most experienced teacher, who only spoke with Victoria once  
 370 through Facebook) social media served as available platform if they chose to use it.  
 371 Considering Victoria's facilitation further, some teachers preferred support from her

372 rather than their colleagues. For example, although towards the end of the study Miss  
373 Collie began to share her resources and discuss her practice with her colleagues, she  
374 preferred to talk to Victoria about her actual practice and the decisions she might make.  
375 However, regardless of whether the teachers discussed ideas with each other or with  
376 other teachers in their school, it was the year-long support from Victoria that they saw as  
377 important. All teachers reported that the “constant dipping in and topping up of  
378 Cooperative Learning skills” (Mr White YE Interview) enhanced their understanding of  
379 how to use the model and gave them a form of moral support.

380 Victoria engaged with the teachers in their classes, the physical education  
381 department, and their ‘virtual worlds’. As we discuss in the following themes, in these  
382 contexts, she brought in new information, facilitated practitioner inquiry, initiated  
383 professional dialogue between teachers, and subsequently provided a ‘scaffold’ for  
384 getting this CoP started (McLaughlin and Zarrow, 2001; O’Sullivan, 2007; Tannehill,  
385 2011). Moreover, through the juxtaposition of the virtual and the real worlds, she  
386 developed a trusted and supportive relationship where teachers felt comfortable to  
387 confide in her and seek her advice. Therefore, she played a vital role in encouraging and  
388 developing teachers’ understanding that professional learning needs to be situated, but  
389 also that learning does not only occur in a ‘workshop’ or professional development  
390 course. The support she provided in spanning the boundary between theory and practice  
391 was sustained, frequent and easily accessible, which we suggest facilitated the teachers’  
392 pedagogical understanding of the impact of the model, the dialogue between one other,  
393 and was the foundation of the emerging CoP. Yet this was not a simple or  
394 straightforward process and the next three sub-sections of the paper will explore how  
395 Victoria supported teacher learning and the emergence of the CoP.

396 **Dialogue, Analysis and Negotiation**



397           Following the professional learning programme there was a ‘buy in’ by the  
398 teachers, seen through their willingness to use the innovation (McCaughtry et al. 2004,  
399 p.137). Yet there is a strong indication in both the professional development literature  
400 (Armour and Yelling, 2007; Deglau and O’Sullivan, 2006; Patton and Griffin, 2008), and  
401 the models-based practice literature (Casey, 2012a) that teacher change is evidence-  
402 bound. This was certainly the case in this study, as before teachers could ‘accept’ the  
403 model as something which could be a ‘permanent fixture’ in their practice, and before  
404 they reflected on and supported their colleagues’ use of the model, they needed to  
405 determine whether it had impact on their students’ learning. However, the teachers did  
406 not always seek evidence themselves. The gathering of evidence, which encouraged them  
407 to move beyond their initial use of the model, often fell to Victoria. For example, the  
408 teachers questioned whether their use of the model was more beneficial than their  
409 teacher-led approach. Mr Churchward reflected, “he [indicating a student] is making  
410 improvements, he [indicating another student] is not making as many improvements to  
411 his technique...would it be any different if I was teaching him as like I normally would?”  
412 (PL Interview, Unit 1). Victoria helped the teachers to reflect and provided interview  
413 questions for them to explore their students’ learning and develop an understanding of  
414 the impact of their innovative pedagogy.

415           In the first and second unit, post lesson interviews with Victoria were often where  
416 teachers expressed their concerns about the impact of the model on students’ learning.  
417 These interviews were an important time for Victoria to further teachers’ understanding  
418 of the model and encourage them to reconsider their immediate thoughts on students’  
419 learning. For example, Miss Scholes said: “it’s really hard because I wanted them to do  
420 all three fitness tests... it was better than I thought it would be but not as good as if I was  
421 leading it myself” (PL Interview, Unit 1). Following the description of events (“what

422 happened?" (Sutherland, 2012)), Victoria would question the teachers on their aims and  
423 objectives for the lesson and try to focus their attention on what they were trying to  
424 achieve ("so what?" Sutherland, 2012). In response to Victoria's questioning the teachers  
425 began to better understand the impact of their changing pedagogies and could consider  
426 the wider aspects of their students' learning and how this could transfer into subsequent  
427 lessons ("what now?" Sutherland, 2012)). At the end of an interview, in which she  
428 expressed her frustration with her students' lack of physical competence in the lesson,  
429 Miss Scholes came to the conclusion that "they [the students] probably got more from it  
430 because they know what they are doing now because they had to learn how to do the test  
431 and in fact the second test they did I had to have little input in" (PL Interview, Unit 1). It  
432 is clear from these discussions that Victoria played a primary role in facilitating teachers'  
433 understanding of their students' learning and in challenging their beliefs that learning can  
434 only occur in the physical domain as most likely seen in their do-as-I-do approach.  
435 Instead, the teachers came to see that learning could occur in multiple domains when  
436 certain pedagogical decisions were made and then enacted.

437         The student focus group interviews also helped to develop teachers'  
438 understanding of their students' conceptions of learning. Victoria had provided the  
439 teachers with sample questions to use in these interviews, but the teachers began to ask  
440 additional questions in order to understand their practice from their students'  
441 perspectives.

442         Mr White: So do you think your skills have improved?

443         Rick: I think I have improved quite a lot actually, especially in trampolining,  
444 because before my seat drop wasn't very good but now I think I am actually quite  
445 good at it

446         Mr White: So do you think that is a result of how you were taught in the lesson  
447 i.e. teaching each other?

448         Rick: yeah (sic)...I think I have learnt that we work better in groups and that  
449 working in groups is sometimes better than the teacher, because the teacher can  
450 tell you what to do, but then working in groups you can have different ideas from  
451 different people

452  
453  
454

(U1 FG Interview)

455           The confirmation from students that they were learning, and that they enjoyed this  
456 way of learning, coupled with Victoria's discussions re-enforcing learning in multiple  
457 domains, went some way to encouraging the teachers to move beyond their initial use of  
458 the model. For example, when Victoria asked Mr White what the most positive thing  
459 about the unit was, he responded:

460           Listening to the students and them saying that they enjoyed that method of  
461 delivery as opposed to what they had experienced of PE in the past. Not  
462 necessarily with me as such, but their experience of PE has always been teacher  
463 leads the practice, teacher leads the differentiation, teacher leads the progress and  
464 the next steps, whereas what they found, and what they enjoyed was that they  
465 liked having that ownership and deciding where the lesson went next and they  
466 liked that approach as well (U1 Interview).

467           The teachers also analysed students' learning in their Cooperative Learning  
468 lessons compared with others taught through do-as-I-do. For example, Mr Churchward  
469 compared his year seven (age 11-12) classes. At the end of the year he commented:

470           "The amount of progress was probably as good and if not better as when I did the  
471 old school teacher led approach...if this style of learning is going to create an  
472 improved progression rate in the pupils, then surely you should use this over  
473 traditional methods" (YE Interview).

474  
475           By talking with Victoria, negotiation with students in focus groups, and the  
476 analysis of students' learning in Cooperative Learning and in their do-as-I-do approach,  
477 the teachers developed an understanding that their use of the model was a 'success' in  
478 terms of student responses, learning and motivation. As a result the teachers were  
479 motivated to continue using the model.

480           "If it hadn't of been a success you wouldn't want to continue with it, but I have  
481 had success with two groups...you try little things out and you see that the kids  
482 respond quite well to it." (Miss Keeping, YE Interview).

483

484   **Dialogue with each other**

485 Whilst the teachers investigated their students' responses to the model in the first and  
486 second units, they were very reluctant to discuss their teaching with other teachers in  
487 their department. Although they knew that other teachers were teaching through the  
488 model 'they didn't know the ins and outs' (FJ, Unit 2). In the following section we  
489 discuss how the department began to share their experiences with each other during the  
490 later units without encouragement from Victoria. Although we cannot be certain, and our  
491 interpretations are based upon ontological assumptions of sequential events, the  
492 professional learning meetings initiated by Victoria, the in-school recognition for their  
493 innovative use of Cooperative Learning and a sense of competence which occurred  
494 following the first unit, facilitated dialogue between the teachers where little or none had  
495 occurred before.

496         Towards the end of unit one and during unit two, Victoria deliberately began to  
497 facilitate discussions between teachers by posting questions to the web-based forum.  
498 However, the teachers rarely contributed to the web chats and suggested that time was an  
499 inhibiting factor. During the third unit, Victoria sought to encourage further dialogue  
500 between teachers through 'professional learning meetings'. In contrast to the web-based  
501 forum, when teachers were face-to-face in the professional learning meetings discussions  
502 with one another took place. Based on Victoria's observations of each teacher's use of  
503 the model she encouraged them to open up a pedagogical dialogue with their colleagues  
504 as she felt that it would help them to further both their understanding of the model and  
505 their use of it. For example, she asked Miss Scholes to share how she had modified her  
506 use of group processing and this process was then repeated with each teacher.

507         Victoria: Miss Scholes found that when she was doing group processing

508         Miss Scholes: 'it lasted thirty seconds

509         Victoria: yeah and it was really short....[looking at Miss Scholes] do you want to  
510         describe what you did?

511         Miss Scholes: I went back and I completely stopped the lesson and I think I spent  
512         a good 15-20 minutes on what I expect from group processing...

513 (PL Meeting)

514 Victoria also undertook to write a piece for a professional journal with the  
515 teachers on their ‘top tips for using Cooperative Learning to teach secondary school  
516 physical education’ (Goodyear, 2013b), and initiated a second meeting. When voicing  
517 common experiences through the ‘top tips’, the teachers learnt that their opinions of best  
518 practice showed significant commonality across the group. This in turn seemed to  
519 legitimized the ways that they were using the model and strengthened their belief that  
520 they were doing it ‘right’.

521 Miss Scholes: depends on how good you are at doing open and closed questions,  
522 so you become more of a facilitator not someone who gives the answer to them, I  
523 think that can come with experience

524 Mr Minns: yeah so start your questions how, why, if or how could you improve  
525 this

526 Mr Churchward: yeah or if you [also] put questions on your resource cards as a  
527 separate box then you don’t even have to deliver them to the pupils. Rather than  
528 you having to interject and formally question you can enhance and deepen their  
529 discussions that have already begun

530 Miss Keeping: yeah that is almost the thing that I did with progressive  
531 questions...

532 (PL Meeting)

533 Although the teachers did not talk to each other during their initial use of the  
534 model without prompting from Victoria, they did initiate discussions with teachers from  
535 other departments and senior leaders. These colleagues were not familiar with  
536 Cooperative Learning, yet as part of the organisational boundary of the school, the  
537 discussions with other teachers served to link the practices of the department to the wider  
538 context of the school. The teachers began to share what they were doing with colleagues  
539 external to the department and develop their colleagues understanding of how they might  
540 use of the model. Subsequently, their use of the model was praised and they gained  
541 recognition for their use of the pedagogical innovation and engagement with practitioner  
542 inquiry.

543 When Mr Churchward explained the study in the school meeting, the deputy head  
544 said that the PE department are involved in a great study enhancing their teaching  
545 and learning and that staff should go down to the department and see what is  
546 going on...Moreover, the assistant head has shown some interest, Mr Minns has  
547 said that he is shocked and thinks it is excellent that he reflects on his lessons  
548 using the Dictaphone whilst he is on break time duty. (FJ, Unit 2).

549 At the end of unit two and during unit three the teachers also began to report that  
550 they felt more confident using the model. For example, Victoria noted at the end of the  
551 second unit: “teachers are beginning to also state that the [elements] are becoming more  
552 autonomous” (FJ, Unit 2). Furthermore, findings from the validation tool suggested that  
553 teachers’ ability to use the model faithfully was beginning to become more consistent.

554 Thereby, through the process of analysis, negotiation and dialogue with the  
555 boundary spanner (as discussed in the previous section) the teachers had begun to accept  
556 the innovation as part of their own individual practice. Yet when they shared their  
557 practice with each other during professional learning meetings and by communicating  
558 their practice to school members they began to situate their practice within their  
559 department and as a collective group of individuals using the same pedagogical  
560 innovation within the school. Through this ‘telling of stories’, the teachers began to  
561 construct an identity as a member of a community which in turn supported the  
562 construction and development of what could be assumed as an emerging CoP (Barab and  
563 Duffy, 2012). Indeed, it could be suggested that the teachers began to see themselves as  
564 knowledgeable and skilful, and understand that they had shared practices and a shared  
565 history with one-another (Barab and Duffy, 2012; Wenger et al. 2002). Furthermore, and  
566 in keeping with Barab and Duffy (2012) and Wenger (1998a), situating their community  
567 within the larger community of school gave the practices of the community members  
568 meaning and purpose. Through colleague recognition, their use of an innovation as a  
569 collective group of individuals was celebrated from within the institution and, it could be  
570 argued, that the senior leaders saw their use of Cooperative Learning and practitioner

571 inquiry as a facilitating factor for the school to meet their goals of enhancing teaching  
572 and learning. However, whilst the teachers began to share a collective practice, which  
573 was the innovation, in the following section we explore how mutual engagement, a  
574 shared repertoire and a joint enterprise was seen to emerge and support teachers' use of  
575 the pedagogical innovation during the fourth, fifth and sixth units taught.

### 576 **The Departmental Approach**

577         During the fourth unit, and for some teachers who chose to teach an additional  
578 fifth or sixth unit, a community-based approach to teaching through the model emerged.  
579 Discussions about the use of Cooperative Learning were more frequent and occurred  
580 without Victoria. In departmental meetings the model became one of the formal meeting  
581 minutes, where the teachers shared their experiences, their plans for the next units, and  
582 their resources. In her field notes Victoria observed informal discussions when the  
583 teachers walked back from the sports fields, when they were waiting for students to get  
584 changed and in the physical education office. The teachers also started to reflect in front  
585 of each other, asked each other how their lessons had gone, and gave moral support or  
586 suggestions for how lessons could be modified.

587         “There’s always quite an open conversation about it and sharing of experience, if  
588 things didn’t work you often came back and said it didn’t work, or if someone  
589 had had a really bad lesson we would come back and laugh about it” (Miss  
590 Scholes YE Interview).

591         The most beneficial factor about working together was the sharing of lesson plans  
592 and resources. The teachers claimed that this allowed them to continue teaching through  
593 the model even when time was not available for them to plan and prepare resources.  
594 Moreover, they were able to build upon each other’s experiences and develop new ideas.  
595 In his exit interview Mr Minns said “we shared resources and we shared good practice...I  
596 have used those that have been used in the past and vice versa...everyone has been really  
597 helpful”. Comparatively, Mr White recalled:  
598

599 “If I wanted to bounce ideas off of them about how did they do x how did they do  
600 y, because they were doing different strategies that helped me in evaluating the  
601 impact of what I was doing (YE Interview).  
602

603 Whilst the institutional context can maintain the use of the teacher-centred  
604 approach and indeed hinder teachers’ engagement with or use of alternative pedagogies  
605 (Tinning, 2012), the supportive climate created within the department allowed teachers to  
606 move beyond the school contextual factors which can inhibit innovation (Casey, 2012b;  
607 Ovens, Dyson and Smith, 2012; Patton and Griffin, 2008). In addition to supporting each  
608 other’s practice through the sharing of resources, and subsequently reducing the planning  
609 and preparation time within the ‘busyness of schools’ (Casey, 2010), the teachers were  
610 willing to address the teacher and departmental performance culture within the school. In  
611 the UK, the Government and schools assess the quality of teaching and learning through  
612 an OfSTED criterion (Cale and Harris, 2009). During observations teachers are graded  
613 against OfSTED’s criteria: outstanding, good, satisfactory or unsatisfactory, which serves  
614 as an external measure of the observer’s interpretation of good practice (Cale and Harris,  
615 2009). During the fourth unit the department welcomed an internal assessment of their  
616 pedagogy, whilst at the same time risking a potential critique of the effectiveness of their  
617 newly adopted pedagogy when it was held up against the school’s and OfSTED’s  
618 expectations (Calderón, 1999; Casey, 2012b). Victoria noted ‘all the teachers seemed to  
619 be quite up for it, getting an external opinion of Cooperative Learning but to also see how  
620 it matches with OfSTED criteria’ (FJ, Unit 4). It seemed the teachers needed to  
621 determine whether teaching through the model could meet these extraneous expectations  
622 and determine whether it had credence as an effective pedagogical approach in their  
623 school. The outcome of the assessment was that when members of the senior leadership  
624 team and Mr Churchward (director of physical education and also one of the six teachers)



625 observed three teachers' use of the model they graded two as outstanding and one as  
626 good (with outstanding features).

627         Consequently, we suggest that through the recognition of outstanding teaching,  
628 coupled with the department's longer term view of enhanced student learning and  
629 engagement, the model was afforded currency in the inspection climate within the UK.  
630 The model's acknowledged ability to achieve 'outstanding' in its own right lent further  
631 credence to the teachers' identities as innovative practitioners. In other words, the  
632 accolade of 'outstanding' served as further 'proof' for the teachers, the department and  
633 the school that the model worked. Finally, in achieving 'outstanding' and 'good with  
634 outstanding features' these teachers' place in this emerging CoP was strengthened. The  
635 three teachers were seen to contribute to the community and validate its practices, and for  
636 the department this served to legitimize the model within the context of their school.  
637 Consequently, we argue that these events demonstrate to some degree the emergence of  
638 mutual engagement, joint enterprise and shared repertoire (Wenger, 1998a).

639         By the end of the academic year, most teachers suggested that the department's  
640 use of Cooperative Learning was a facilitating factor in their own use and development  
641 of the model. They viewed the model as a longer term commitment for both their practice  
642 and the department which would involve the development of a central resource in which  
643 to share ideas and develop their practice. In this way, their continued use of the model  
644 would be aided by working together to support each other's practice, and not through the  
645 intervention of the boundary spanner – at least not to anywhere near the same degree.

646         Victoria: were there any factors that helped you to teach through Cooperative  
647 Learning?

648         Mr Churchward: sharing resources, erm obviously the training we received, your  
649 input of how to develop the lessons and yeah generally the support and the  
650 discussions, discussing what happened in lessons, working as a team (YE  
651 Interview)  
652

653 Miss Scholes: Every unit now, people have gone off over the summer and we are  
654 redesigning our schemes of work...and we are having a Cooperative Learning  
655 box and people are giving example of what they could do and what [Cooperative  
656 Learning] structures they could use and what structures had been used in the past  
657 and then setting up a central resource for each of the sports through Cooperative  
658 Learning (YE Interview)

659

660 **Discussion**

661 Towards the end of the 20<sup>th</sup> century Evans (1985) described physical education as  
662 having a discourse of ‘innovation without change’. Three decades later, despite the  
663 wealth of pedagogical alternatives to the do-as-I do approach (Casey, 2010), the  
664 discourse of physical education has not changed (Kirk, 2010; Tinning, 2010, 2012).  
665 Many pedagogical alternatives have remained as innovations and teachers rarely move  
666 beyond the honeymoon period of implementation (Bechtel and O’Sullivan, 2006; Casey,  
667 2012a). Casey (2012a) held that such was the depth of research around curriculum  
668 change that as a research community we needed to look beyond the “does it work”  
669 questions and look longer term. We suggest that pedagogical innovation with change is  
670 possible through the sustained support from a boundary spanner who facilitates teacher  
671 learning, encourages open dialogue (between members of a department, students and  
672 colleagues within the school) and subsequently aids the emergence of a CoP. These three  
673 levels of social interaction encouraged teachers to move beyond the honeymoon period to  
674 a position where the innovation was becoming a sustainable part of their on-going and  
675 future practice. Furthermore, authentic interaction and discussion supported the teachers’  
676 willingness to make changes, and helped them develop the skills needed to use a  
677 pedagogical innovation. All this occurred, we would argue, despite the school contextual  
678 factors which have been shown to hinder innovation (Casey, 2012b; Ovens et al. 2012;  
679 Patton and Griffin, 2008).

680 The underlying purpose of this paper was to explore how a CoP emerged and  
681 subsequently how it supported pedagogical change. Through teacher inquiry we argue

682 that the teachers developed an understanding that the pedagogical innovation ‘worked’  
683 i.e. it had more impact than their previous pedagogical approach, which in turn allowed  
684 them to look ‘longer term’ and begin to conceptualize Cooperative Learning as  
685 something more than a one-off. However, the impact of practice on students’ learning,  
686 students’ responses to the model, recognition for the teachers’ use of a model, and  
687 teachers’ feelings of competence to teach through the model need to be facilitated before  
688 teachers were willing to, (a) move beyond the honeymoon period, and (b) autonomously  
689 engage in professional dialogue with one other. For example, the boundary spanner  
690 needed to empower the teachers to have a voice and create ‘space’, ‘time’, and a ‘format’  
691 in which the ‘telling of stories’ could occur (Barab & Duffy, 2012). Subsequently, we  
692 consider that where ‘space’ and ‘time’ were created, i.e. professional learning meetings,  
693 the teachers began to construct an identity as a member of a community. Furthermore,  
694 situating their use of the innovation within the department and the school we suggest  
695 were the means for the emergence of a CoP. In this way, whilst CoP take time to emerge  
696 (since members need to develop a shared history with one-another and understand how  
697 their practices are connected (Barab and Duffy, 2012; Hoadley, 2012; Lave and Wenger,  
698 1991; Wenger, 1998a, 1998b)) the boundary spanner, by filtering information and  
699 supporting participatory action research, ‘speeded up’ the process of developing this  
700 CoP. Indeed, it could be suggested that the department were not a naturally occurring  
701 community, as Lave and Wenger (1991) perspective suggests, but that the boundary  
702 spanner fostered the creation of a CoP within the school for the purpose of enhancing the  
703 teachers’ use of Cooperative Learning.

704           We suggest that as result of the connections with one-another and an  
705 understanding of their shared history, the dimensions of mutual engagement, shared  
706 repertoire and joint enterprise (Wenger, 1998a) became evident in the department during

707 the fourth, fifth and sixth units. Through these three dimensions we argue that the  
708 teachers were encouraged to move beyond the honeymoon period. Furthermore, since  
709 Wenger's (1998a) three dimensions have been shown to develop in the final phase of the  
710 study (i.e. in the fourth unit and beyond) we believe this has also allowed us to  
711 tentatively explore how CoP benefit a teacher's pedagogy. We consider that one of the  
712 most important beneficial aspects of teachers being a member of an emerging CoP might  
713 be their ability, both as individuals and as a department, to overcome the school's  
714 contextual factors that can impede teachers' use of pedagogical models, and indeed a  
715 novel curricular (Casey, 2012b; Ovens et al. 2012; Patton and Griffin, 2008).

716         An advantage of developing a CoP is that there is an increased likelihood that a  
717 pedagogical innovation will become a sustainable form of teachers' practice (Calderón,  
718 1999; O'Donovan et al. 2010, 2012). Teachers that organise time for professional  
719 discussions are more likely to continue to develop their understanding and use of a  
720 pedagogical innovation even when in-service professional learning, such as provided by  
721 a boundary spanner, is removed (Calderón, 1999). In contrast, without a supportive  
722 environment and teachers working together the likelihood that a pedagogical innovation  
723 will fall apart is greater (Calderón, 1999). In this way, we suggest that there is a greater  
724 chance that the pedagogical innovation, Cooperative Learning, will become an  
725 innovation with change.

726         Approaches that facilitate pedagogical change have not been evident, or indeed  
727 have not been capable of encouraging teachers to move beyond the honeymoon period of  
728 implementation (Casey, 2012a). This research led us to support previous calls for inter-  
729 professional collaboration with researcher(s) who cross the boundary of their institutions  
730 and engage in the milieu of physical education departments to facilitate change and the  
731 use of pedagogical models (Casey, 2012a; O'Sullivan, 2007). Whilst we acknowledge

732 that ‘innovation with change’ through pedagogical models can happen without the  
733 support of a boundary spanner (Casey, 2010), we suggest that if researchers cross the  
734 boundaries of their institutions then as a profession we can increase the chances of  
735 pedagogical innovation with change. Indeed, it can be anticipated from these findings  
736 that, through her commitment to developing teachers’ practice and the social framework,  
737 the boundary spanner helped the teachers’ sustain their use of the model well beyond the  
738 honeymoon period of implementation. Thereby, if physical education is to move beyond  
739 the tradition of do-as-I-do and help teachers’ pedagogies to reflect the needs of the 21<sup>st</sup>  
740 century, then this study has gone some way to confirming that CoP are a professional  
741 learning strategy that ‘works’ when boundary spanners get them started and help to  
742 sustain them.

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Data Source (Code used in paper)	Description
1. Field journal (FJ)	Notes about informal discussions with teachers and key incidences that took place during Victoria's time in the school.
2. Post Lesson Teacher Analysis (PLTA) (Dyson, 1994)	Teachers responded to seven questions and either wrote their answers on paper or recorded them onto a voice recorder.
3. Post lesson interviews (PL Interview)	Victoria interview the teachers after every lesson observed.
4. Post Unit Interviews (PU Interviews)	Victoria interviewed the teachers on the completion of each unit.
5. Year End interviews (YE Interviews).	An exit interview was undertaken with the teachers at the end of the longitudinal study.
6. Cooperative Learning Validation Tool (CLVT) (Casey, Goodyear and Dyson, In Review)	The first and last lesson of each unit were video recorded. These recordings were then systematically observed by Victoria using the CLVT. This was used to support field notes in ascertaining teacher and student behaviours.
7. Professional Learning Meetings	One professional learning meeting was video recorded and transcribed.
8. Focus Group Interviews (FG Interviews)	Victoria and the teachers also interviewed the pupils at each of these time periods (i.e. post lesson, post unit, and end of year).
9. Lesson observations (LO)	Data were also used from lesson observations conducted by senior leaders.
10. Social Media and Web-Based Discussions	Data were collected from Facebook, Twitter and a web-based discussion board.

900 Table 1: Data gathering tools

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