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Using social media to facilitate pedagogical change

1 **Tweet me, message me, like me: Using social media to facilitate pedagogical change**
2 **within an emerging community of practice.**

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20 **Abstract**

21 Whilst e-support has been positioned as a means to overcome some of the time and financial
22 constraints to professional learning, it has largely failed to act as medium for professional
23 learning in physical education. Consequently, this paper positions teachers prior interest with
24 social media acts as a type of ‘leverage’ for using sites such as Facebook and Twitter for
25 professional learning purposes. Therefore, the purpose of this paper is to explore how social
26 media operates as a communicative space, external to the physical site of an emerging
27 community of practice (CoP) that supported teachers’ professional learning and their
28 subsequent longer term changing practice.

29 This study is nested within a wider longitudinal project that explores how teachers learnt and
30 refined their use of a pedagogical innovation (Cooperative Learning) through the overarching
31 methodology, participatory action research. Social media emerged as a form of
32 communication that was not in the study’s original design. The paper explores 2125
33 interactions, through Facebook and Twitter, between five physical education teachers and a
34 facilitator over a two year period.

35 Through social media the facilitator re-enforced teachers changing practice, aided the
36 development of the practices of an emerging CoP, and by the CoP situating their use of the
37 innovation in the virtual world, teachers were supported in changing their practice over time
38 and the use of the pedagogical innovation was sustained. Interactions promoted teacher
39 inquiry, challenged teachers to further develop their existing use of the innovation, and
40 encouraged them to work together and develop shared practices. Therefore, social media is
41 presented here as a ‘new’ method for professional learning that supports pedagogical change
42 and overcomes some of the financial and time implications of facilitators and teachers
43 working together.

Using social media to facilitate pedagogical change

44 *Keywords: social media, pedagogical change, professional learning, innovation, e-support,*
45 *technology, Cooperative Learning*

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Using social media to facilitate pedagogical change

64 Social media sites such as Facebook and Twitter are virtual platforms that allow for
65 users to share and exchange information. In recent times, this form of communicating has
66 become a global phenomenon, with millions of people accessing these sites on their phones,
67 tablets and personal computers to interact with friends or acquaintances (Sennett, 2012).
68 Indeed, in May 2013 Facebook reported that there were 665 million active daily users². To
69 put this number into perspective, the daily users are larger than the combined populations of
70 the United Kingdom (63 million), the United States (316 million) and Brazil (180 million).
71 As part of this revolutionary trend, whilst Facebook and Twitter were originally developed
72 and used for ‘social’ networking purposes, these sites are being increasingly used as part of
73 teachers’ pedagogical practice(s) (Rosen, 2010). For example, through the sharing of
74 knowledge on Facebook, social media was suggested by Polsgrove and Fremming (2013) to
75 be a way of increasing young people’s awareness of health and their participation in physical
76 activity. Yet whilst social media is a global phenomenon and is positioned as an educative
77 tool, there is little known about how it can be used for professional learning purposes and
78 how it can be used to support teachers changing their practice.

79 In acknowledging the rallying calls for pedagogical change we also should consider
80 that there are few opportunities for teachers to be adequately supported in changing their
81 practice (Elliot & Campbell, 2013; Makopoulou & Armour, 2011). Perhaps, as Luehmann &
82 Tinelli (2008) suggested social media might have the potential to offer ‘reform-minded
83 teachers’ the space and support to grow, and to this end it seems to be an important focus for
84 further exploration.

85 In considering social media as a medium for professional learning, we propose that
86 social media could act as a virtual location external to the school site to support teachers
87 changing their practice. Indeed, whilst social connectivity with facilitators can aid a teacher’s

² Facebook investor report: <http://investor.fb.com/releasedetail.cfm?ReleaseID=761090>

88 longer term changing practice and facilitators can support a community-based approach to
89 professional learning (Elliot & Campbell, 2013), teachers often express a lack of access to
90 ‘expert advisors’ where the time to work together and the financial cost of travel are
91 implications that often hinder such a partnership (Armour & Yelling, 2004; Lund et al., 2008;
92 Makopoulou & Armour, 2011). For example, the time it would take for facilitators to provide
93 individual school-based support and the time teachers have to work with facilitators in the
94 ‘busy bustling businesses’ of schools (Hattie, 2009, p.3), is often limited (Armour & Yelling,
95 2004; Lund et al., 2008; Makopoulou & Armour, 2011). Facebook and Twitter are virtual
96 locations that could aid facilitators working with multiple teachers, and due to these sites
97 accessibility, social media could overcome some of the time and financial implications to
98 professional learning.

99 However, the argument for using technology as a medium for professional learning is
100 not a new stance. Writing almost a decade ago, Armour and Yelling (2004) suggested that e-
101 support could overcome the financial burden on schools for teachers’ attendance to external
102 workshops. Similarly, Lund et al. (2008) argued that teachers could be supported in their use
103 of innovations by talking to facilitators through web-based technologies. Yet, whilst these
104 propositions for using technology were justified in the digital age, e-support has largely failed
105 to act as medium for supporting teachers changing their practice in physical education.
106 Indeed, Cothran et al. (2009) argued that teachers were unwilling to use Web.20 platforms
107 due to limited access to computers and the time required to engage with online discussion
108 boards.

109 In his discussions around the virtual world, Rosen (2010, p.41) argued that ‘the trick
110 is the leverage and their love of social networks to create educational tools built around
111 them’. Whilst Rosen (2010) focussed on how social media could be used to strengthen
112 students’ learning, the same messages around leverage and the love of social media could be

113 applied to teachers and their use of social media for professional learning. Indeed,
114 considering social media's global use, it seems reasonable to suggest that many teachers are
115 already users of these sites. Taking this stance, and as Rosen (2010) suggests, pre-
116 engagement with social media, as opposed to Web.20 platforms, could act as leverage to
117 pedagogical dialogue.

118 The purpose of this paper is to explore how social media operates as a communicative
119 space external to the school site to support teachers changing their practice. In the following
120 sections the setting and participants, and how social media is positioned as a medium for
121 professional learning is discussed. Subsequently, we show how interactions on social media
122 supported an emerging community of practice (CoP) changing practice. In particular, social
123 media contributed to the sustained use of a pedagogical innovation by providing the means
124 for the facilitator to give moral support, and develop teachers existing practices. Furthermore,
125 social media allowed the CoP to situate their changing practice in the virtual world. In order
126 to understand how social media supported changing practice we offer some clarification
127 around the definitions and distinctions we are using for (a) a CoP, and (b), the emerging CoP
128 we are presenting.

129 **Definitions and Distinctions**

130 In defining a CoP we consider it to be an 'intrinsic condition for the existence for
131 knowledge' (Lave & Wenger, 1991, p.98). In other words, we hold that knowledge and
132 practice is socially constructed through a 'set of relations among persons' within the
133 community (Lave & Wenger, 1991, p.98). It is the relations between community members -
134 which can be understood by the three dimensions of mutual engagement, a shared repertoire
135 and joint enterprise (Wenger, 1998) - and the way members support the practices of the
136 community that are significant. In this paper we explore members of a physical education
137 department's changing practice through their use of a pedagogical innovation (the

138 Cooperative Learning model). We are suggesting that this physical education department
139 was an emerging CoP because we were observing signs of the three dimensions within the
140 school context. For example, each teacher occupied a unique identity (feeling knowledgeable
141 and skilful (Barab & Duffy, 2012)) within the department where their contributions around
142 the innovation were important for other members (mutual engagement). The teachers,
143 through pedagogical dialogue and modifications made to the curriculum, facilitated the
144 development of each other's practice, and the practice of the community, in order to achieve
145 a common and negotiated goal of using an innovation (joint enterprise). Over time the
146 department began to develop routines, actions, or ways of doing things that were becoming a
147 sustainable part of their practice (shared repertoire).

148 It is also important to note that whilst Lave and Wenger's (1991) theory suggests that
149 CoPs naturally exist it has been suggest that CoPs can also emerge for a particular purpose
150 (Barab & Duff, 2012). Indeed, a CoP can emerge as a result of a collective group of
151 individuals working towards achieving the same pre-defined learning goal(s) (Barab &
152 Duffy, 2012; Hoadley, 2012). In the process of working towards achieving the same pre-
153 defined learning goal(s), individuals can develop a shared history with one another, members
154 develop a unique identity and a CoP can emerge where a community holds its own leadership
155 and agenda(s) (Barab & Duffy, 2012; Hoadley, 2012). Therefore, whilst a CoP may have
156 already existed, this paper is suggesting that an emerging CoP operated within the physical
157 education department in relation to the shared learning goal of the teachers changing their
158 practice through their use of the pedagogical innovation.

159 **Methods**

160 *Setting and Participants*

161 Over the course of two academic years seven teachers from a comprehensive
162 secondary school (age 11-19) in the UK were involved. Their aim was to learn about, and

163 then refine, their use of a pedagogical innovation (Cooperative Learning) through the
164 overarching methodology, participatory action research. The teachers varied in their age (24-
165 37) and their professional career phases, ranging from less than two years to more than fifteen
166 years of experience as qualified physical education teachers.

167 As first author/researcher, 'Victoria' acted as a boundary spanner³ (or facilitator) to
168 provide new information, challenge teachers' reflections and inquiry, and support a
169 community/departmental-based approach to pedagogical change. In the first academic year,
170 and as part of her doctoral study, she visited the school bi-weekly where she observed
171 teachers lessons and frequently engaged in both formal discussions (during interviews,
172 professional learning meetings) and informal discussions (in the physical education office
173 and through social media) with the teachers. Towards the end of the first year, Victoria
174 facilitated the emergence of a CoP through supporting teacher inquiry and by encouraging the
175 teachers to open up a pedagogical dialogue with each other (Goodyear & Casey, 2013). In the
176 second year, Victoria visited the school once per school term. During her visits she observed
177 lessons, engaged in both formal and informal discussions and continued to support the
178 practices of the emerging CoP. However, social media emerged as a communicative space for
179 discussions between the teachers and Victoria that was not in the study's original design.
180 Social media acted as a virtual location for Victoria to continue, extend and even begin
181 conversations when she was not in the school context.

182 *Social Media as a medium for professional learning*

183 The teachers and Victoria interacted with each other through tweets, retweets (RTs),
184 likes and private messages (PMs). Furthermore, Victoria had created a Facebook page, where
185 she posted status updates, pictures and videos around the teachers' use of Cooperative

³ Aldrich and Herker (1977) defined a boundary spanner as a representative of an organization who interact with other agents in society to distribute and facilitate the use of new information.

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186 Learning and on some occasions the teachers commented on these posts. The types of
187 interactions and the functions of both Facebook and Twitter can be understood from Table 1.
188 <Insert table 1 here>

189 Prior to this study Victoria had worked as a physical education teacher at the school.
190 Consequently, she was ‘friends’ with five of the seven teachers on Facebook. However,
191 within this study the use of Facebook occurred through Victoria’s research group’s Facebook
192 profile and not her own. Furthermore, Facebook was used for PMs, rather than public
193 discussions and the teachers chose to follow this page and interact with Victoria in this
194 professional rather than their existing personal spaces. On Twitter, in contrast, Victoria was
195 not followed by, and nor did she follow any of the teachers prior to the study (see Table 1).
196 This is because all participants (Victoria included) used Twitter for professional learning
197 purposes and not personal interactions. Therefore, while Victoria’s initial ‘friendship’ with
198 the teachers allowed her access to the school, the use of social media was not dependent on
199 this friendship. Social media is positioned as an emergent form of interaction that the teachers
200 voluntarily engaged with, and which was used to support changing practice, not as a required
201 method of pedagogical change.

202 The seven teachers engaged with Facebook and Twitter to varying degrees. Two
203 teachers rarely engaged with Facebook or Twitter for ‘social’ or ‘professional’ discussions.
204 Whilst these two teachers were still engaged with developing their use of Cooperative
205 Learning and were supported by the emerging CoP in the school context, they preferred to
206 interact with Victoria through face-to-face discussions or by phone conversations and text
207 messages. Subsequently, these two teachers have been acknowledged as non-users of social
208 media for the purposes of this study. However, the remaining five teachers frequently
209 engaged with these sites for social and professional purposes. Consequently, social media
210 was a vehicle for some teachers to interact with Victoria outside of her visits to the school. In

211 this paper we explore the interactions through Facebook and Twitter between Victoria and
212 the five teachers. Teachers' names are pseudonyms and their identities on social media have
213 been masked.

214 *Data Gathering and Analysis*

215 From September 2011 to May 2013 data were gathered from 28 PMs on Facebook
216 and 99 Twitter conversations between the teachers and Victoria. Furthermore, 125 RTs, 10
217 likes, 12 comments on the Facebook page, 1577 tweets, and 274 posts made by Victoria to
218 the Facebook page were gathered. This was achieved by using Facebook export data
219 application⁴ and the twitonomy application⁵. PMs between the teachers and Victoria on
220 Facebook were copied and pasted from Victoria's private profile to a word document. In
221 addition discussions around social media that occurred during teacher interviews were drawn
222 from the wider project.

223 Data analysis was approached through an inductive lens. Victoria began writing
224 analytical memos, where she developed an understanding of key events and the types of
225 conversations that took place through social media. Subsequently, Victoria developed
226 descriptive codes to code the data set. Following the coding of data, she re-organized the data
227 and explored whether the events and conversations were comparable across the teachers.
228 From this approach three themes were created that were consistent across the teachers:
229 recognition, moral support and extended professional learning. Drawing on Morse (1994),
230 Victoria then began recontextualising using theory to explore the evolving knowledge from
231 the data and to position the understanding of how social media was supporting changing
232 practice. In particular, Victoria explored how the themes interacted with the methodology
233 participatory action research. However, through further inquiry and deliberation, how the

⁴ The Facebook export data application allows the page host to export posts made to the page, comments, and likes.

⁵ The twitonomy application permits subscribers to gather data on anyone's tweets, RT's and mentions. The application is available at: www.twitonomy.com/

234 themes were located within the dimensions of CoP was considered. Subsequently, and due to
235 the coherence of recognition, moral support and extended professional learning with
236 dimensions of a CoP, a CoP was used to frame how social media was supporting the
237 department's changing practice. Themes that emerged from this analysis were: *'Tweet me,*
238 *retweet me, like me: 'doing something right''*, *'tweets and messages: supporting the*
239 *emerging CoP'*, and *'situating the emerging CoP in the virtual world'*. Throughout these
240 processes, the other authors engaged in member checking of Victoria interpretations. They
241 challenged her initial perceptions until they reached a level of agreement.

242 **Results**

243 This section introduces the idea that social media can act as a 'location', external to the
244 physical site of a CoP, where a boundary spanner can facilitate the development of mutual
245 engagement, shared repertoire, and joint enterprise (Wenger, 1998) as means to support
246 teachers professional learning and longer term pedagogical change. Social media contributed
247 to the teachers' development of a unique identity through a display of 'social' competence
248 where their contributions were seen as important to other members of the emerging CoP
249 (mutual engagement). In addition, the Twitter conversations between Victoria and the
250 teachers contributed to the development of a shared repertoire (routines, actions or ways of
251 doing things that become a sustainable part of practice) and joint enterprise (the development
252 of each other's practice, the community, to achieve a common goal). This was seen when
253 virtual conversations transferred to face-to-face dialogue and the sharing of good practice
254 between the teachers in the school context. Finally it was personified by the development of a
255 departmental identity on Twitter - through a separate account - where the department chose to
256 locate their common goal (i.e. using the innovation) in the virtual world.

257 **Tweet me, retweet me, like me: 'doing something right'**

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258 When engaged in the initial stages of pedagogical change, and when learning how to
259 use a pedagogical model, it has been suggested that teachers often feel out of their comfort
260 zones and they are sometimes challenged with transferring their theoretical understanding of
261 the features of innovations into classroom action (Ko et al, 2006). In the first year of this
262 study, and in particular in the teachers' first unit using the model, Victoria chose to use social
263 media to provide an extended form of moral support. For example, following lesson
264 observations and a subsequent face-to-face discussion with Christina on her frustrations with
265 using the innovation with her year 8 class on a Tuesday, Victoria continued the conversation
266 on the Friday night through a PM to see how the same lesson taught to a year 7 class later in
267 the week had gone. In this discussion Victoria used social media as a 'location' where she
268 could provide support for Christina's changing practice, knowing that Christina was feeling
269 out of her comfort zone following their face-to-face discussion earlier in the week.

270 Victoria: hey how did it go with the 7s

271 Christina: Better than expected tbh [to be honest]!!! I'm actually quite pleased!!!

272 Victoria: ahh awesome better than 8's

273 Christina: Hmmm maybe more comfortable because I wasn't stressed about it!! They
274 need more work than the eights but I feel confident with it all now!

275 Victoria: ah that's good it's always good when u teach the same lesson again- you are
276 good at it don't stress... (PM)

277

278 The very notion of RTing (see Table 1) extends our claim that social media provided
279 a forum for re-enforcement around the teachers changing practice. Indeed, the teachers would
280 often RT a post made by Victoria that focused on positive aspects of their teaching. For
281 example, Chris RTed Victoria's post which said, 'Chris discussed how he has developed his
282 students' ability to work as a team by pausing a unit'. Similarly, the teachers liked (see Table
283 1) some of the posts that were made by Victoria to Facebook. Drawing on Recuero, Araujo
284 and Zago (2011) discussions around RTs, the act of RTing and potentially 'liking', conveys a
285 signal of relevance and importance to others, with the aim of developing shared knowledge.
286 Subsequently, and by the teachers RTing Victoria's tweets, it could be said that the teachers

287 were recognising that their own practice would be useful to others, but yet at the same time
288 they were increasing their reputation as ‘innovative’ practitioners (Recuero, Araujo & Zago,
289 2011).

290 Since the five teachers could access Victoria’s posts and each other’s RTs, they began
291 to see how positively their use of Cooperative Learning was being viewed. Such recognition
292 almost certainly had an impact on their practice and the department’s practice. In other
293 words, without having to engage in face-to-face dialogue or ask each other about their use of
294 Cooperative Learning, the posts made on Facebook and Twitter provided an ‘update’ around
295 how each member of the department was using the model. Furthermore, as the teachers grew
296 in confidence, most notably in the second year, the teachers began to tweet around their own
297 practice which, in turn, other members of the department and Victoria RTed. This served as a
298 form of inter- and intra-professional recognition and the sharing of practice in these virtual
299 spaces. For example, Kelly RTed Joey: RT @Joey: CL [Cooperative Learning] carousel
300 station 3 pupils create their own key word wordfoto for CHD #pegeeks. [Link to a picture
301 removed]’ (Twitter). In the same way, Victoria RTed Kelly’s post: RT @Kelly: Activity 2 for
302 the learning teams in Cooperative Learning [Link to picture removed] (Twitter).

303 At this juncture it seems appropriate to consider Victoria’s social/professional
304 positioning on Twitter, and why Victoria’s tweets (that encouraged the teachers to RT the
305 posts she made) and her RTs of the teachers’ posts would be seen as significant to the
306 teachers. Indeed, it seems reasonable to suggest that the very fact that Victoria had developed
307 a level of ‘social capital’, and a subsequent level of ‘trust’, within the physical education
308 community on Twitter made any actions she took on the teachers behalf important in
309 celebrating their emerging status as innovative practitioners. Social capital signals the
310 development of good interpersonal relations with users and a reputation on Twitter that holds
311 the tweeter in a position where the information they share is meaningful, timely and will

312 impact their significant number of followers (Recuero, Araujo & Zago, 2011). Similarly,
313 Naumann (2013) held that trust, is afforded to others by groups of people who share the same
314 interests and who, through their interactions (RT's or comments) with the tweeter's post
315 enjoy an enhanced degree of importance through this association. Taking this stance,
316 Victoria's 1251 followers (at the point of analysis) were mainly physical education or sport
317 pedagogy practitioners and any RT or comment she made would reach a broad array of
318 practitioners from other schools and educational contexts. Given her level of online social
319 capital and 'trust' it is likely that the teachers enjoyed increased levels of 'influence'
320 themselves built on Victoria's presence within a physical education community on Twitter. In
321 this way, the observed social currency of Victoria's tweets coupled with the teachers RTs,
322 acted to re-affirm to the teachers that they were 'doing something right'.

323 The tweets, RTs and likes gave the teachers a form of re-enforcement that allowed the
324 teachers to feel comfortable with their changing practice. They occurred at a time when they
325 were feeling 'out of their comfort zones' and when they were seeking to sustain their use of a
326 model beyond the honeymoon period (Kirk, 2011). The tweets 'publically' exemplified that
327 the teachers 'were doing something right' and provided an affirmation of competence, with
328 the potential of shared practices (i.e. mutual engagement). Yet it could be said that tweets
329 allowed Victoria to portray the teachers - and for the teachers to portray themselves - as 'star
330 performers' (Sennett, 2012). Such an expression means that the use of social media gave the
331 teachers an identity as someone who was competent in their use of the pedagogical model
332 and someone who was being 'innovative'. To summarise, these arguments around the
333 growing levels of competence and the notion of being a 'star performers' (Sennett, 2012), we
334 have drawn upon a comment made by Kelly at the end of the first academic year.

335 You can see that from Twitter and stuff that you can see that you are at the forefront
336 of something. And it is nice to know that if people are interested in it and doing it and
337 that if you become better in it that you are leading the forefront of it (Interview)

338 **Tweets and messages: supporting the emerging CoP**

339 Tweets and messages were a location for Victoria to support the teachers' use of the
340 model and develop their competence when she was not at the school. Furthermore, these
341 interactions encouraged the teachers to share their practice with one another, contributing to
342 the development of the dimensions of a joint enterprise and a shared repertoire (Wenger,
343 1998).

344 In consideration of developing teachers' use of the model, social media was used by
345 the teachers to initiate contact with Victoria to seek advice. For example, Chris initiated
346 contact with Victoria through PM on Facebook during an evening, which then led to a
347 discussion on the phone that enabled Victoria to support his changing practice. Indeed, at
348 8.57pm an initial phone call or text message was out of working hours, yet by initiating
349 contact through Facebook, the message then enabled Victoria to support Chris's
350 apprehensions about how he could modify his lesson the next day.

351 Chris: Evening Goodyear

352 Victoria: What's up?

353 Chris: Site team are saying the MUGA is going to probably be locked up all week,
354 and groups are being doubled up because of the snow. What shall I do?

355 Victoria: I'll give u a bell [ring] if you want?

356 Chris: Ok yeah num[ber] is XXXX (PM)

357 Yet the conversations did not always lead to a phone call or email. They often
358 occurred on the virtual sites outside of sociably acceptable times. Victoria's tweets or posts to
359 the Facebook page would sometimes prompt the teachers to ask for her support. For example,
360 when Victoria posted to the Facebook page asking if any of the teachers needed any
361 resources to support their planning (using resources created), Jane informed Victoria about
362 her next unit which enabled Victoria to find resources to send to Jane to support her planning.

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363 PEPRN⁶: Been looking at some of Ashley's [Author 2] CL [Cooperative Learning]
364 resources from school - let me know if there are some specific ones you would like to
365 see
366 Jane: My next one is going to be in badminton, going to do pair share perform with
367 them but keep them in their learning teams from last unit
368 PEPRN: I got some for tennis [on pair share perform] - similar will scan and send
369 them to your email
370 Jane: Cool thanks!!!
371 (Facebook Page posts and comments 10pm-11pm)

372 These conversations through social media opened up the opportunity for Victoria to
373 support the teachers in their planning for the units and either speak with them further on the
374 phone or send some resources over via email to support their practice. Similar to the
375 discussions with Chris and Jane, Victoria gave teachers advice, 'planted ideas in their heads'
376 for their units, and allowed the teachers to consider her suggestions before she visited the
377 school later that week to discuss the ideas with them further face-to-face.

378 Over the course of the two years, and when the teachers were becoming more
379 comfortable with their use of the pedagogical model, Victoria provided fewer resources and
380 ideas through social media. Instead these discussions focussed on challenging the teachers to
381 develop their existing practice and re-enforcing their ideas for change. The following
382 discussion is an example of Twitter conversations mid-way through the second academic
383 year. This discussion is typical of these sorts of exchanges and shows how Victoria
384 challenged Kelly's practice and use of the model. In contrast to the discussion with Chris and
385 Jane in their initial use of the model (above), Kelly developed her own ideas. Victoria re-
386 enforced Kelly's ideas, but yet at the same sought to develop them through prompts and it
387 could be said that Victoria was encouraging Kelly to feel knowledgeable and skilful.

388 Kelly: Next round of observations coming up using Cooperative Learning. Yr 8
389 Athletics this time. #brainstorm #pegeeks #edtech
390 Victoria: interesting...you doing something different to last year?
391 Kelly: not decided yet - might do stad jigsaw [Cooperative Learning Structures,
392 Student Teams Achievement Division], if that's possible

⁶ PEPRN is the identity Victoria used on the Facebook page rather than her own personal account. It is the research group's webpage and can be found at www.peprn.com

393 Victoria: very innovative. I'd b v[very].interested to hear about it.. at UOB [University
394 of Bedfordshire] one of students did stad with pairs check perform (another
395 Cooperative Learning Structure) & worked well
396 Kelly: cool - need to look at the timings and activities to see if it fits
397 Victoria: yeah suppose how we'll the class is used 2 it cud [could] effect timings too
398 Kelly: its the group who I had for cl [Cooperative Learning] last year so they'll adapt
399 quicker than the others so maybe
400 Victoria: yeah true...maybe they need an additional social challenge then too which
401 this could offer (Twitter).

402 Following this initial conversation, six days later Kelly tweeted Victoria: “trying the
403 idea of giving LO's [learning outcomes] through a voice memo in the 1st lesson to see if they
404 can do it in the following weeks” (Twitter). It could be assumed that Kelly was considering
405 that the voice memo would reduce her interaction time with the students and the voice memo
406 would support her strive to challenge her students when using two Cooperative Learning
407 structures, an approach she had not taken before. Victoria responded to this idea by re-
408 enforcing the use of the voice memo, encouraging her to provide feedback on the impact of
409 this approach: “oh before the obs...let us know how it goes v[ery].interested in how this cud
410 work...gr8 [great] way for meaningful inclusion of ICT” (Victoria Twitter).

411 The impact of this sustained interaction between Victoria and Kelly might best be
412 understood through the following conversation. Two weeks after the initial ideas were
413 discussed the following tweets show how Kelly had included a voice memo into her lessons
414 to support her students' learning.

415 Kelly: voice memoing lesson obs[ervation] worked brilliantly today... (1/3)
416 Kelly: each team had an iPod with the memo then when they were confident they
417 knew them they ticked them off and I (2/3)
418 Kelly: randomly selected the numbered heads⁷ and questioned there understanding -
419 all done as a comp[etition] for points (3/3)
420 Victoria: brilliant pleased it went well - I'm sure the students liked the tech too :-)
421 Kelly: I'm going to do it in theory next
422 Victoria: how much facilitation was involved...could they do it independent from the
423 voice memo & then you extend?
424 Kelly: I could have pushed it and had each task explanation on a memo
425 Victoria: awesome interested to hear how it goes in theory then :-)

⁷ Numbered heads is a Cooperative Learning structure

426 In Kelly's perception, this change to her practice had worked 'brilliantly' and as a
427 result of this successful experience she now considered applying this approach to her theory
428 lessons (examination physical education). This application to theory is significant because the
429 teachers in the first academic year were focussed on embedding Cooperative Learning into
430 their practical-based lessons. Therefore, using Cooperative Learning in theory based-lessons
431 was a less well developed context for their changing practice. However, the interactions
432 through social media and the experience from her lessons had played a role in encouraging
433 Kelly to develop her existing practice in both a context she was becoming comfortable in
434 using Cooperative Learning and an unfamiliar pedagogical context for Cooperative Learning.

435 Whilst the discussions with Victoria served to support and encourage a change in the
436 teachers' individual practice, and perhaps allowed the teachers to feel knowledgeable and
437 skilful, we feel that the discussions with Victoria also encouraged teachers to open up a face-
438 to-face pedagogical dialogue with one another in the school to support each other's practice.
439 Indeed, the conversations initiated the sharing of practice, which in turn contributed to the
440 development of a joint enterprise and a shared repertoire within the department (Wenger,
441 1998). For example, Kelly tweeted about her use of the comic life application that she was
442 using to create resources for her lessons: 'an example of a page from my fitness components
443 comic made using @comicliflife #pegeeks #mlearning #edtech #vitalcpd [Link Inserted to a
444 picture]' (Twitter). Whilst this was not related to the pedagogical model, Victoria asked her
445 through Twitter 'would these work do you think with Cooperative Learning?. Potentially this
446 conversation was a seedbed of an idea for Kelly's use of the model, yet the use of the comic
447 life application emerged at a departmental level as a way of supporting students' learning.
448 Although we cannot be certain that it was a result of Victoria's tweet - either through seeing
449 this conversation on Twitter or Kelly sharing her practice through face-to-face dialogue in the
450 school context - all five teachers began to use the comic life application to create resources

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451 for their lessons. The teachers then tweeted Victoria to inform her that they were a) sharing
452 practice with each other in departmental meetings, and to b) show her the resources that they
453 were creating using the comic life application.

454 Jane: Just to let you know we recorded a part of dept meeting tonight either sharing
455 good practice or talking about our current units (Twitter).

456 Joey: Relay comic life resource. Cooperative learning including numeracy and
457 literacy. Coming in 3 parts. #pechat #pegeeks [Link Inserted to a picture]' (Twitter).

458 Through our discussions around the tweets and messages it seems reasonable to
459 suggest that social media operated as a location for Victoria to support the emerging CoP
460 through the development of the three dimensions. She helped to develop the teachers'
461 competence using the pedagogical model, shared resources with them and challenged the
462 teachers' ideas. Furthermore, the teachers could see that each other's use of the model could
463 be an important contribution to their own practice (mutual engagement) and Victoria had
464 some influence on encouraging the teachers to share their practice. These interactions in turn
465 supported the department's use of the model (joint enterprise) where the teachers were
466 showing signs of developing shared routines and methods to support students' learning
467 (shared repertoire). At the end of the second academic year, the following discussion with
468 Chris shows how the department attributed their sustained use of Cooperative Learning to the
469 support from each other and the information shared and discussed through social media.
470 Therefore, social media had played a valuable role in supporting the practices of the
471 emerging CoP and pedagogical change.

472 Chris: We have shared between each other and in that sense this year [2nd year] has
473 been a lot lot easier

474 Victoria: so the department has been a main facilitator?

475 Chris: Yeah definitely the department and Twitter I suppose

476 Victoria: what do you mean by Twitter?

477 Chris: um things like you [Victoria] have shared or documents Ashley [second author]
478 has shared, the general kind of sharing and discussions going on. (Interview).

479

480 **Situating the emerging CoP in the virtual world**

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481 Whilst the teachers tweeted around their own individual practice, they also tweeted around
482 their department's practice. In this way, the teachers were situating their use of the
483 pedagogical model and the practices of this emerging CoP in the virtual world. Most
484 particularly it was the head of department (Joey) that shared the department's practice,
485 choosing to share this with Victoria, and congratulate and demonstrate his department's
486 successes to his followers through the use of hashtags (see Table 1). For example, Joey:
487 Victoria best Obs⁸ [observation] results ever! With every member of the dept [department]
488 using Cooperative Learning #outstanding (Twitter).

489 This departmental identity and the situating of the CoP in the virtual spaces could be
490 further understood through the creation of a separate Twitter account that was developed by
491 the department (without Victoria's encouragement) in the second academic year. This
492 account, as the profile states, was created 'to support all teachers in using CL [Cooperative
493 Learning] and to share experiences'. Yet, whilst this account was developed as a means to
494 support other teachers' use of the model, this most evidently served as a form of departmental
495 recognition for their innovative practice. Through tweets, they were now celebrating their
496 collective use of Cooperative Learning, and how they were providing professional support for
497 teachers from other schools to use the model. Indeed, they represented this through both
498 tweets and the comic life application.

499 PEdepartment: Here is a poster of the work we have been doing as a dept. any
500 questions please ask. #Ukedchat #edchat [Link to a picture removed] (Twitter)
501 PEdepartment: Comic on how Cooperative Learning started to its current position in
502 our school #pegeeks #ukedchat #edchat #CPD [Link to a picture removed] (Twitter)

503 It seems reasonable to suggest that, the department chose to develop a collective
504 identity as a group of teachers who were working together to use Cooperative Learning and
505 supporting other teachers' use of the model in the school context. It could be said that they

⁸ Teachers were observed by members of the senior leadership team who assessed the quality of teaching and learning in their lessons

506 were attempting to strengthen their resolve and show that they were together ‘doing
507 something right’. This adds further to the notion of being ‘star performers’ and developing a
508 collective identity as being knowledgeable and skilful. Yet drawing on Barab and Duffy
509 (2012) and Wenger’s (1998) discussions around CoPs, when situating the emerging CoP in
510 the virtual world through tweeting around the department’s use of the model and the separate
511 Twitter account, they were giving their own individual practices and the practices of the
512 department both meaning and purpose.

513 **Conclusion**

514 The purpose of this paper was to present social media as a communicative space
515 external to the school site that supported teachers changing their practice. Through social
516 media the boundary spanner (or facilitator) re-enforced teachers changing practice, aided the
517 development of the practices of an emerging CoP, and by the CoP situating their use of the
518 innovation in the virtual world, teachers were supported in changing their practice over time
519 and social media played a role in the teachers sustaining their use of the pedagogical
520 innovation. In concluding this paper, we consider whether social media should be used in our
521 research designs, how we might use these virtual sites as a means to facilitate pedagogical
522 change, and how social media can act as a research method.

523 Social media presents itself as a ‘new’ method for professional learning that supports
524 pedagogical change. Indeed, interactions though Facebook and Twitter promoted teacher
525 inquiry, challenged teachers to further develop their existing use of an innovation, and
526 encouraged them to work together and develop shared practices. These interactions
527 contributed to the sustained use of the innovation. Therefore, we argue that social media
528 should be considered as a method to connect researchers and teachers for the purpose of
529 professional learning to support pedagogical change.

530 However, social media should be acknowledged as a voluntary means through which
531 researchers can support teachers in school, not, perhaps, as a prescribed means. It is important
532 to highlight that social media ‘worked’ with teachers who chose to use these virtual networks
533 and interact with the researcher. It was ineffective as a means of support for the two non-
534 users. Consequently, as a community we need to ensure we empower and facilitate
535 practitioners to develop their practice without alienating those who don’t want to engage with
536 social media. We need to manage different forms of engagement with social media, and offer
537 other means for contact such as phone conversations, email or text messages for those who do
538 not want to engage with sites such as Facebook and Twitter. Therefore, this paper argues that
539 social media should be considered as a means of extended and frequent communication with
540 practitioners that supports both the relations established within the professional contexts and
541 other forms of communication, such as face-to-face dialogue and email.

542 In considering how we use social media sites, our research suggests that the
543 researcher becomes authentically located in a ‘social’ space where they occupy a professional
544 identity that teachers wish to become engaged with. In this way it can be considered as a *quid*
545 *pro quo* relationship in which the teachers gain a reputation as an innovative practitioner as a
546 consequence of working with an influential boundary spanner. Social capital and online trust
547 show that in order for social media to ‘work’ facilitators need to ‘buy in’ to social media
548 themselves and use these sites to engage in pedagogical dialogue with practitioners.
549 Regardless of this though it seems important that teachers choose to follow and engage in
550 professional discussions with the facilitator. Whilst prior face-to-face relationship is one way
551 to gain access, and might be considered as a means for how we initiate this method of
552 communication, we argue that it is the professional and sustained discussions that
553 practitioners want to engage with; particularly on Twitter. In this way, social media should
554 not be ‘dipped in and out of’ for the purpose of research. Interactions with practitioners need

555 to be meaningful, mutually beneficial, sustained and influential, and facilitators need an
556 online presence that affords at least the potential of shared interaction and meaning making.

557 We conclude by asking ‘should we’ and ‘how do we’ use social media. Social media
558 is a global phenomenon and ‘essentially’ a space for 24/7 interactions that can give
559 professionals frequent support if, when, and as they choose to interact. Yet as a community
560 we need to ensure that social media does not become oppressive. Whilst it can support
561 interaction in the busyness of practitioners’ professional lives, we must ensure that we don’t
562 impede on practitioners, or indeed our own, personal lives to a point where social media
563 becomes work plus more work (Kirk, 1986). Moreover, as new forms of communication
564 enter our social sphere, social media may soon become a method of the past that is no longer
565 viable – such as ‘friends reunited’ or ‘My Space’. Therefore, it is the creation of relevant
566 methods that support frequent, sustained and purposeful interactions that are important if we
567 are to engage with teachers and support professional learning that results in pedagogical
568 change.

569

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573

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