

“I’m a Facilitator of Learning!” Understanding What Teachers and Students Do Within Student-Centered Physical Education Models

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“I’m a facilitator of learning!” Understanding what teachers do and what students do within student-centered physical education

Victoria, A. Goodyear and Dean, A. Dudley,

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1 **Abstract**

2

3 The role of the facilitator has become almost synonymously associated with student-
4 centered approaches. However, how the teacher functions as a facilitator is less well
5 defined. This paper begins to define teacher action in student-centered learning
6 environments. Through an exploration of teacher behavior, teacher-student
7 interactions and, discussions around teacher-as-activators, the paper argues that the
8 teacher must play an active role in the classroom and should be considered much
9 more than the 'guide on the side'. Teachers should use a range of direct and indirect
10 behaviors and dialogical exchanges to support and extend learning. These actions and
11 interactions should be contextually relevant and conducive with the learning aims of
12 the student-centered approach. In suggesting that facilitation provides a narrow
13 perspective on teacher action, the paper calls for further consideration around teacher-
14 as-activators to consider the teacher as someone who activates new learning
15 possibilities.

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17 **Keywords:** Models-based practice, activation, teacher action, teacher behavior

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37

38 **Introduction**

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40

41 In the past twenty years or more, education has moved in a direction that
42 considers student-centered learning to be most effective (Hattie, 2012, 2009; Le Ha,
43 2014). A narrative of student-centeredness now has penetrated through educational
44 policies, national curricula, and teacher education where such approaches to learning
45 have been positioned as a ‘recipe for development, success, and productive learning’
46 (Le Ha, 2014, p. 1). In physical education and sport pedagogy student-centered
47 models (Jewett, Bain, & Ennis, 1995; Haerens, Kirk, Cardon, & De Bourdeaudhuij,
48 2011; Kirk, 2013; Metzler, 2011), student-centered forms of inquiry (Enright &
49 O’Sullivan, 2010; Oliver, 2001; Oliver & Kirk, 2014), critical pedagogies (Azzarito,
50 2010; Macdonald, 2002), and peer-assisted learning approaches (Barker,
51 Quennerstedt, & Annerstedt, 2013; Ward & Lee, 2005) have all been advocated as
52 effective ways of promoting a broad range of educative and health outcomes
53 (O’Sullivan, 2013). Fundamentally, much has been written about the need for
54 teachers to move from direct instruction and adopt, develop, and transform their
55 curriculum programs through student-centered approaches (Dyson, 2014; O’Sullivan,
56 2013).

56 While interpretations of student-centeredness vary across disciplines, contexts,
57 settings, and through different conceptions of ‘good pedagogy’, student-centeredness
58 does not mean that students are simply left alone by teachers. Furthermore, it does not
59 mean simply collaborative or cooperative learning, it does not mean individualized
60 instruction, or that the student’s interests, beliefs, and future plans dictate all (as they
61 may need to be changed) (Hattie, 2012; Jones, 2007; Le Ha, 2014). Certainly, these
62 are some of the misinterpretations of student-centered approaches that have

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63 permeated through policies, national curricula, and teacher education programs
64 (Hattie, 2012; Le Ha, 2014). Instead, student-centered approaches entail developing
65 students ability to become their own teachers, and supporting them to know how to
66 evaluate knowledge claims, how to learn, how to collaborate, how to seek help, how
67 to become assessment capable, how to be resilient (particularly in the face of
68 cognitive challenges), and aiding students to know what to do when they do not know
69 what to do (Hattie, 2012; Jones, 2007).

70 Regardless of the conception of student-centeredness, the notion of 'teacher-
71 as-facilitator' has become almost synonymously associated with student-centered
72 learning (Dyson et al., 2004; Kirk & Kinchin, 2002; Le Ha, 2014). As Morrison
73 (2014, p. 1) suggested, the argument that the teacher should function as a facilitator of
74 learning and move from being the sage on the stage to the guide on the side 'is now a
75 well-worn cliché' of student-centered learning environments. Yet while pedagogical
76 approaches, strategies, methods, or models have provided teachers with 'design
77 specifications' for creating student-centered learning environments (Kirk, 2013, p.
78 979), how the teacher functions as a facilitator in practice is less well defined (Bähr &
79 Wilbowo, 2012; Wilbowo, Bähr & Groben, 2014). With most research focusing on
80 student learning outcomes or the implementation of specific features of student-
81 centered approaches, little attention has been paid to teacher behavior and teacher
82 discourse in student-centered learning environments (Bähr & Wilbowo, 2012; Casey,
83 2014; Cohen & Zach, 2012; Griffin, Brooker, & Patton, 2005; Rossi, Fry, McNeill, &
84 Tan, 2007; Wilbowo et al., 2014). Most discussions about the teacher's role have
85 merely suggested that teachers find it difficult to be less directive and more
86 facilitative and that teachers often revert to more didactic teaching methods (Bähr &
87 Wilbowo, 2012; Casey, 2014; Casey & Dyson, 2009; Cohen & Zach, 2012; Dyson,

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88 2002). As a consequence, many questions have remained unanswered about the
89 teacher-as-facilitator. For example, what does acting in more facilitative ways mean?
90 How does the teacher interact with students in paired or group work activity? What
91 does the teacher do to support learning during lessons? What effect does the teacher-
92 as-facilitator have on learning?

93 If we as an educational community are to legitimately encourage teachers to
94 adopt and develop student-centered approaches that include less direction and
95 interference from teachers, then we need to be far more understanding of the role of
96 the teacher in student-centered learning environments. Especially given that earlier
97 empirical work on minimal teacher guidance models in general education subjects
98 suggests that minimal guidance models are not particularly effective on student
99 achievement outcomes when they are based on constructivist, discovery and inquiry-
100 based teaching methods (Kirschner, Sweller & Clark, 2006). These notions are
101 particularly salient in a physical education teaching context. Without a critical
102 exploration of teacher action in a student-centered approach, there is a danger that the
103 teacher could remove themselves from the teaching and learning process and simply
104 view themselves as a 'guide on the side' to a pitch or court. Alternatively, and as we
105 have seen over a number of decades, teachers may be reluctant to use student-
106 centered approaches due to a limited understanding of how to interact with learners
107 when their role is described as merely a facilitator (Casey, 2014; Gillies, 2008; Gillies
108 & Boyle, 2010).

109 It is the intent of this paper to begin to define the physical education teacher's
110 role and prompt further debate and discussion about physical education teacher action
111 in student-centered learning environments. Similar to Hastie and Casey's (2014)
112 discussions about the need for research papers to report on how a pedagogical

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113 approach was used, if we are to be confident that a student-centered environment has
114 been created then there is a need to define teacher action when student-centered
115 learning is reported on. Beyond the implementation of the ‘design specification’
116 (Kirk, 2013, p. 979), we need to know how the teacher supports learning through their
117 behavior and dialogic exchanges with students. It is only then that we can determine
118 that a teaching and learning process is occurring and the teacher has not just created a
119 task and left the students to work together to learn, a common misinterpretation of
120 student-centered learning (Hattie, 2012; Le Ha, 2014).

121 In the next section we discuss teacher behavior. We draw on Muska Mosston’s
122 (1966) discussions about teaching styles and critically examine how the teacher-as-
123 facilitator has been defined and perpetuated in physical education and sport pedagogy.
124 Following this, teacher interaction with learners in the role of the facilitator is
125 discussed before an alternative perspective of teacher action is offered through the
126 recent works of Hattie (2012, 2009). While the teacher-as-facilitator has been strongly
127 associated with student centered environments, Hattie has argued that the teacher has
128 a greater effect on student learning when they are an *activator*; that is, when their
129 teaching leads to a very active, direct involvement, and there is a high sense of agency
130 in the teaching and learning process. In concluding this paper we present the
131 implications for physical education surrounding teacher behavior and discourse in
132 student-centered learning environments.

133 **Teacher Behavior and the role of the facilitator**

134 Mosston’s text *Teaching in Physical Education* (1966) provided one of the
135 most significant influences in understanding teaching behavior in physical education
136 (Byra, 2006; Metzler, 2011, 1983; Sicilla-Camacho & Brown, 2008). Mosston (1966)
137 proposed that teacher behavior was a result of previously made decisions by the

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138 teacher about the design and sequence of learning activities. In this way, teacher
139 behavior was considered to align with different types of learning outcomes and
140 learning environments. However, Mosston (1966) considered that the ultimate goal
141 for teachers was to promote students having maximum control over their learning. In
142 other words, Mosston (1966) claimed that teachers had the greatest influence on
143 students' learning when they were indirect in their behavior and when a learning
144 environment was orchestrated that afforded students the opportunities to make
145 decisions about their learning.

146 To aid teachers in moving from direct to indirect teaching, Mosston (1966)
147 presented a hierarchical spectrum of eight teaching styles. The mobility across the
148 spectrum was characterized by a shift in decision making from teacher to learner. For
149 example, when students had minimal control over their learning the teacher would
150 teach by command, making all the decisions about learning in the classroom. At the
151 other end of the spectrum was problem solving. In this problem solving style the
152 teacher would not provide specific guidance and students would be encouraged to
153 think independent of teacher instruction. Specifically, in the problem solving style it
154 was considered that:

155 If we say that problem solving behavior is a way of learning by seeking a
156 solution or solutions to a recognized problem then the teaching behavior
157 (Teaching style) which is designed to promote that kind of learning CAN
158 NOT be involved in the solution. In a "pure and perfect" form of a problem-
159 solving situation the teacher NEVER offers a solution. The minute you do so,
160 you have stopped the process of solving which was initiated by the student.
161 The very minute your behavior intervenes with the problem solving behavior
162 of the student another style of teaching and another style of learning emerges.

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163 (Mosston, 1968, p. 4, original emphasis)

164

165 While Mosston's (1966) hierarchical argument and the spectrum of teaching
166 styles has been revised in subsequent editions of *Teaching in Physical Education*
167 (Mosston, 1981; Mosston & Ashworth, 1986, 1994, 2002, 2008), his work acted to
168 clarify the dimensions of teaching behavior in relation to direct versus indirect or
169 teacher-centered versus student-centered (Byra, 2006; Metzler, 2011, 1983). Certainly
170 Mosston (1966) emphasized that when students were afforded the opportunity to
171 make decisions about their learning, the teacher would not provide guidance or
172 feedback on subject matter. The main role of the teacher was to select the subject
173 matter and provide the general conditions for learning.

174 Despite numerous criticisms of teaching styles and questions raised about
175 teaching styles as a valid and reliable means of approaching student learning
176 (Coffield, Moseley, Ecclestone, & Hall, 2004; Holt, Denney, Capps & de Vore, 2005;
177 Metzler, 1983), 'the spectrum has generated a common jargon for us to use when
178 talking about teaching' (Metzler, 1983, p.1 46). Although Mosston (1981, p. viii) later
179 considered that 'no style, by itself, is better or best' and that a range of teaching
180 behaviors should be used to promote learning (Mosston, 1981; Mosston & Ashworth,
181 1986, 1994, 2002, 2008), the oppositional argument of indirect teaching behavior is
182 somewhat dominant in the descriptions of facilitation. Whilst there may not be direct
183 alignment between teacher behavior in the problem solving style and facilitation, in
184 the descriptions of facilitation indirect teaching is associated with the creation of
185 contexts for students to engage with problem solving. Case in point, Dyson et al.
186 (2004, p. 238) review of the theoretical and pedagogical considerations for Sport
187 Education, Tactical Games, and Cooperative Learning suggest that in a student-

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188 centered learning environment ‘the teacher shifts from director (i.e., transmitter) to
189 the facilitator of learning activities’. As the facilitator it was considered that the
190 teacher should help students find solutions to problems but there was nothing to
191 suggest that the teacher should be deliberate in their actions to help students to, for
192 example, learn how to engage in problem solving. Specifically, it was considered that:

193 The teacher sets problems or goals, and students are given an opportunity to
194 seek solutions to these problems. Solutions to the problem are identified
195 through a questioning process and these solutions then become the focus of a
196 situated practice. The teacher also facilitates the practice by either simplifying
197 or challenging based on student abilities. In this way, the teacher is working
198 with the students’ prior knowledge to develop new knowledge. The teacher
199 guides the instruction and curriculum as a facilitator of learning. (Dyson et al.,
200 2004, p. 235).

201 The work of Metzler (2011, 2005, 2000) also highlights a strong alignment
202 between facilitation and Mosston’s (1966) discussions around indirect teaching
203 behavior. Similar to the spectrum of teaching styles, in the discussions around control
204 profiles for instructional models, Metzler (2011) presented a continuum to determine
205 (a) the types of interactions between teachers and students and, (b) the nature of
206 decision making and teacher/student control during lessons. The control continuum
207 moved from teacher control (sage on the stage), through to interactive (a balance
208 between teacher control and student control), and toward student control (guide on the
209 side). Within the student control profile the teacher’s actions were located as being
210 that of a facilitator. Drawing on King (1992), Metzler (2011, p. 32) argued that the
211 teacher would function as a facilitator through being a ‘guide on the side’.

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212 The major functions involve arranging the kind of learning environment that
213 gives students some direction and a task to accomplish, then standing aside to
214 monitor while students go about their task’ – thus the “guide on the side”
215 label. (Metzler, 2011, p. 32).

216 As the ‘guide on the side’, Metzler (2011, p. 32) explicitly suggested that the
217 teacher should only offer advice and guidance when students “get stuck” or need
218 other assistance. This type of assistance was termed a teaching moment (Metzler,
219 2011, 2005, 2000). In other words, a moment within a lesson when students reach a
220 barrier in their learning and it is necessary for the teacher to ‘teach’ something by
221 intervening and providing specific guidance.

222 Metzler (2011, p. 33) positioned that control, and therefore when the teacher
223 acted as a facilitator, was determined by seven key operations within each model:

- 224 (1) Content selection: who determines what is taught in the unit?
225 (2) Managerial control: who is mostly responsible for classroom
226 management?
227 (3) Task presentation: how do students receive task information?
228 (4) Engagement patterns: how are student engagement patterns (involving
229 space, groups, structure) determined?
230 (5) Instructional interactions: who initiates the communication during learning
231 tasks?
232 (6) Pacing: who controls the starting and stopping of practice?
233 (7) Task Progression: who decides when to change the learning tasks?

234 Of the eight models presented, seven of these models (excluding direct
235 instruction) showed that there was a balance between the seven key operations as to
236 what and when the teacher or students controlled aspects of the lesson, with some

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237 operations identified as being within the interactive control profile. For example, in
238 the Peer Teaching model content selection, managerial control, and task progression
239 were placed under the teacher control profile, whereas engagement patterns and
240 pacing were placed under the student control profile. For task presentation and
241 interactional interactions, the time point of the lesson and the tasks students were
242 engaging with determined the control profile of either interactive or teacher control.
243 In this sense, although there is still a relatively oppositional argument between direct
244 and indirect teaching behavior, the Peer Teaching model is an example of how
245 Metzler positioned the teacher as someone who does not always sustain their role as
246 the “guide on the side”.

247 The interactive control profile further identifies the changeable and active role
248 the teacher plays in a student-centered classroom. Specifically, and when defining
249 interactive teaching, Metzler (2011, p.32) considered that:

250 The teacher and students have approximately equal responsibility for decisions
251 and share many of the class operations. Interactive teaching also involves
252 frequent two-way communication between the teacher and students. Students
253 are encouraged to ask questions, offer suggestions, and have regular input on
254 the functioning of the lessons. The teacher will ask for, and act upon, students’
255 suggestions and ideas in class (Metzler, 2011, p. 32)

256 For six of the models presented by Metzler (2011)- Personalized System for
257 Instruction, Cooperative Learning, Peer Teaching, Inquiry Teaching, Tactical Games,
258 and Teaching Personal and Social Responsibility – interactive teaching was identified
259 within the key operation of ‘instructional interactions’ i.e. who initiates the
260 communication during learning tasks?. In returning to the example of Peer Teaching,
261 Metzler (2011, p. 309) suggested that, ‘the teacher’s communications with the tutors

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262 should be highly interactive, using questions more often than direct statements to
263 develop the tutors’ observation, analysis and communication skills’. Therefore, within
264 these six models Metzler (2011) made attempts to suggest that the teacher plays an
265 active role in the teaching and learning process and should be considered more than
266 the “guide on the side”.

267 Despite Metzler’s (2011, p. 32) positioning of interactive teaching within
268 student-centered models, the notion of the “guide on the side” and that the teacher
269 should only offer guidance or advice when students “get stuck” has continued to
270 perpetuate into the discussions about teacher behavior in student-centered models. For
271 example, Bähr and Wilbowo (2012, p. 30) have built on Metzler’s discussions around
272 teaching moments to suggest that in a student-centered environment, ‘the teacher only
273 becomes active when the students ask for help’. Bähr and Wilbowo (2012) positioned
274 the teacher as a facilitator of learning and suggested that there are two types of teacher
275 interventions (or reasons teachers would interact with students): invasive and
276 responsive. Invasive interventions are when the teacher interferes with group work
277 without being asked to by students. These often occur when students have stopped
278 focusing on the task or when the ‘situation gets paralyzed by disputes or by the lack
279 of constructive suggestions’ (Bähr & Wilbowo, 2012, p. 31). On the other hand,
280 responsive interventions involve the teacher interacting with students when the
281 teacher has been asked to offer help or assistance. In this way the ‘teacher functions
282 as the expert for the respective movement task, but also as a socially competent
283 counselor who ultimately offers ‘self-help assistance’ (Bähr & Wilbowo, 2012, p.
284 30).

285 The implication of teaching moments, responsive, and invasive interventions
286 are that the teacher should monitor students in their learning (Bähr & Wilbowo, 2012;

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287 Metzler, 2011). The teacher needs to be able to interpret students’ learning and then
288 decide if and how they should intervene in the learning process (Bähr & Wilbowo,
289 2012; Barker et al., 2013). However, Bähr and Wilbowo (2012) suggest that the
290 teacher should only interact with students when a barrier to learning or group work is
291 observed or identified by students. When a barrier is reached the teacher becomes an
292 active participant in the teaching and learning process and works with students to help
293 them understand the barriers, seek alternative solutions, and direct them to new
294 information that would help them surpass the barrier.

295 Our discussions to this point highlight that descriptions of facilitation show
296 similarity with Mosston’s (1966) indirect teaching behaviors and specifically the
297 problem solving style. In the role of the facilitator, the teacher should create a
298 learning environment that promotes problem solving and then act as the “guide on the
299 side”, monitoring students and providing assistance when a barrier to learning is
300 reached. While Metzler (2011) has made attempts to suggest that within student-
301 centered models the teacher plays an active and interactive role in the teaching and
302 learning process, an interactive role has been overlooked in favor of associating the
303 teacher with the “guide on the side”. Indeed, interactive teaching is positioned as a
304 different type of teaching behavior and has not been associated with actions and
305 interactions of the facilitator.

306 Although it is acknowledged that limited attention has been paid to defining
307 the role of the facilitator, we argue that the discussions and descriptions of facilitation
308 represent a narrow view of teacher behavior in student-centered environments.
309 Certainly, and somewhat oppositional to the teacher’s role in the classroom being
310 based on progressing and advancing learning (Capel & Whitehead, 2010; Le Ha,
311 2014; Morrison, 2002), there is little indication that in the role of the facilitator the

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312 teacher would interact with students to further or enhance their learning. If an
313 environment has been successfully created that allows students to learn independent
314 of teacher instruction and the students are on task, focused, and engaged, the teacher
315 is not required in the teaching and learning process, i.e. there is not need for teacher-
316 student interaction. The implications of such definitions of teacher behavior are
317 dampening for the teaching profession. If the teacher is only seen as someone who
318 responds to students if and when there is a barrier to learning (and the students sees
319 the same), we might ask, is the teacher needed in the learning environment? Could an
320 unqualified teacher or teaching assistant fulfill this role?

321 To further consider the role of the facilitator in student-centered environments
322 the following section explores how the teacher interacts with learners in the role of
323 the facilitator. Through our discussions of teacher-student interaction, we show how
324 the teacher-as-facilitator might be considered as more than the 'guide on the side'.

325 Teacher Interactions with learners in the role of the facilitator

326 Questions have been positioned as the basic interactional strategy of
327 facilitation (Bähr & Wilbowo, 2012; Casey et al. 2009; Dyson et al., 2004). Indeed,
328 reciprocal communications have been used to frame how teachers interact with
329 students to support their learning in paired or group work activity (Bähr & Wilbowo,
330 2012; Ward & Lee, 2005). As a consequence, teachers interactions with students are
331 framed by a questioning and answering process whereby the teacher uses both open
332 and closed questions to assist students in completing learning tasks (Bähr &
333 Wilbowo, 2012; Gillies, 2008; Gillies & Haynes, 2011; Gillies & Kahn, 2008). The
334 fundamental aim of questioning is to engage students in critical thinking, prompt
335 students to interact with one another to solve problems, and to develop students'
336 understandings to a point where they can complete the tasks without teacher

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337 assistance (Gillies, 2008; Bähr & Wilbowo, 2012; Gillies & Haynes, 2011; Gillies &
338 Kahn, 2008; Wilbowo et al., 2014).

339 In their work exploring teacher action, Bähr and Wilbowo (2012) positioned
340 the reciprocal communications between teachers and students as a Socratic
341 conversation. Drawing on the work of Heckmann (1993), a Socratic conversation
342 involves the teacher asking a series of questions to steer a conversation with regard to
343 a learning problem. Central to the Socratic conversation is that instead of providing
344 answers to students' questions, the teacher 'keeps returning questions by the students
345 to them, but in a different form' (Bähr & Wilbowo, 2012, p. 37). In this way, the
346 questions the teacher asks of students are based on students' emerging understandings
347 of the subject matter where the teacher re-phrases the students' questions to help
348 students find a solution to the problem.

349 In their later work exploring teacher-student interactions, Wilbowo et al.
350 (2014) identified two processes that guide the types of interactions teachers can have
351 with learners: diagnosis and intervention. Diagnosis involves the teacher making
352 judgments about students learning with the intent of then providing appropriate
353 interventions. In contrast to Bähr and Wilbowo (2012) and Metzler's (2011, 2005,
354 2000) arguments that the teacher only interacts with learners when a barrier to
355 learning is identified, Wilbowo et al. (2014) suggest that to be able to make
356 judgments about if, how, and when to intervene the teacher needs to interact with
357 students. Consequently, diagnosis involves the teacher asking questions to students to
358 verify his/her interpretations of learning. For example, 'is it correct that you assume
359 (...)' (Wilbowo et al., 2014, p. 17). In addition to questioning, the teacher may
360 explain the learning task to students, describe his/her interpretation of how the
361 students are completing the task, and ask students to complete a different form of the

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362 initial task. These diagnostic interactions, Wilbowo et al. (2014) claimed, enable the
363 teacher to understand students' learning and determine if they need to intervene in the
364 learning process.

365 The second process identified by Wilbowo et al. (2014), intervention, is
366 guided by three intervention principles. The first principle is strongly linked to the
367 diagnostic process and emphasizes that any teacher intervention should be contingent
368 with students' current knowledge, skills, and understandings of the task or subject
369 matter. The second principle involves fading, a consideration of how and when the
370 teacher takes control and then transfers responsibility back to the students. Wilbowo
371 et al. (2014) report that an intervention can include a range of teacher actions and
372 behaviors that move from teacher control to student control. For example, the teacher
373 may pause the learning activities and ask students to demonstrate movements, ask
374 students to explain their understandings, or ask students to analyze each other's
375 performances. The teacher may also verify students' understandings by offering
376 feedback, praising students' efforts, providing specific guidance, and re-emphasizing
377 key aspects of the task. The third intervention principle involves checking students'
378 understandings. In this phase the teacher doesn't simply ask students if they
379 understand, where the response would most likely be yes. Instead 'the teacher should
380 ask questions that elicit answers which show the understandings of the issue'
381 (Wilbowo et al., 2014, p. 18). For example, students can be asked to identify or
382 demonstrate key points related to the learning task. If students understand and are able
383 to complete the task, the students can then regain full control of their learning and the
384 teacher may leave the pair or group to continue completing the task independent of
385 teacher assistance. However, if a barrier to learning still exists the teacher may
386 continue to intervene in the learning process.

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387 While questioning has been considered as the main interactional process (Bähr
388 & Wilbowo, 2012; Casey et al. 2009; Dyson et al., 2004), it is clear from Wilbowo et
389 al. (2014) that the teacher interacts with learners in a variety of ways to support
390 learning. In the role of the facilitator, the teacher engages in a series of dialogical
391 exchanges that include questions, explanations, feedback, praise, and the presentation
392 of different tasks to students. The aim of teacher-student interaction is to assist
393 students' learning, support group work, and to eventually enable students to have
394 control over their learning. Thus, Wilbowo et al. (2014) suggested, the dialogical
395 exchanges need to involve a range of interactions and behaviors that are underpinned
396 by both student control and teacher control.

397 In general educational subjects, a teacher's interactions with students in the
398 role of the facilitator are also considered to involve much more than questioning
399 (Gillies, 2008; Gillies & Haynes, 2011; Gillies & Kahn, 2008). Drawing on Hertz-
400 Lazarowitz and Shachar (1990), Gillies (2008) argued that teacher discourse can be
401 categorized as, (a) encouraging students' initiatives, (b) helping students with their
402 learning, (c) facilitating communication among students, (d) providing feedback on
403 task performance, and (e) praising individual student efforts. Fundamentally, while
404 the centrality of the teacher is reduced, Gillies (2008) argued that teachers should
405 interact with learners in a variety of ways and use more pro-social and positive verbal
406 behaviors to support learning.

407 Building on these understandings of teacher-student interaction, in their
408 empirical examination of teacher discourse, Gillies (2008, 2006), Gillies and Haynes
409 (2011), and Gillies and Khan (2011) have all separately reported that in the role of the
410 facilitator teachers use open and closed questions and more mediated behaviors.
411 Mediated behaviors were defined as a type of interaction that provided a scaffold for

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412 students' learning (Gillies, 2006, 2008; Gillies & Haynes, 2011; Gillies & Khan,
413 2011). These mediated behaviors could include prompts, specific guidance, tentative
414 suggestions, the validation of efforts, the refocusing students attention on the task, and
415 the encouragement of students to listen each other's suggestions (Gillies, 2006, 2008;
416 Gillies & Haynes, 2011; Gillies & Khan, 2011). Although the specific student
417 learning outcomes that resulted from student-teacher interaction were not reported on,
418 it was considered that teachers' questions and mediated behaviors prompted students
419 to mirror these types of interactions when they communicated with their peers
420 (Gillies, 2006, 2008; Gillies & Haynes, 2011; Gillies & Khan, 2011). Consequently,
421 teacher-student interaction was considered as a strategy to scaffold learning by
422 providing assistance and through the teacher modeling appropriate interactional
423 behaviors that students could then use with their peers to support their learning
424 (Gillies, 2006, 2008; Gillies & Haynes, 2011; Gillies & Khan, 2011).

425 This section has shown that when the teacher functions in the role of the
426 facilitator their role is much more than the 'guide on the side'. Certainly the teacher
427 plays an active as well as inactive role in the teaching and learning process, engaging
428 in numerous dialogical exchanges with students to scaffold, extend, and enhance their
429 learning. Fundamentally, although indirect behaviors have been associated with
430 facilitation the teacher uses a range of indirect and direct teaching behaviors.
431 Moreover, the dialogical exchanges between teachers and students involve much
432 more than questioning. Feedback, guidance, praise, and summarizing students
433 learning are all examples of teacher-student discourse when the teacher functions as a
434 facilitator of learning. Thus, with an emerging understanding that the teacher plays an
435 active role in the teaching and learning process, our discussions now focus on the

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436 need to consider what students *do* in their learning and, subsequently, Hattie’s (2012,
437 2009) discussions on the teacher as an activator of learning.

438 **Teacher as Activator**

439 The early research of Mosston (1966) considered that the ultimate goal for
440 teachers was simply to promote students having maximum control over their learning.
441 This and student-centeredness, from purely ‘constructivist’ notions of education, led
442 to the current permeations of teacher-as-facilitator in physical education practice
443 (Barker et al., 2013; Dyson et al., 2004). In others words, it is what students *control*
444 that matters. Unfortunately, the amount of control that students exercise over their
445 own learning is not particularly effective as a means in its own right. Whilst student
446 control over learning has been reported to heighten students’ motivation for learning,
447 these are usually instructionally irrelevant and any improvements in motivation do not
448 necessarily materialize into learning gains (Patall, Cooper, & Robinson, 2008).
449 Therefore, the message pertaining to being a teacher-as-facilitator should no longer be
450 solely based on what student’s *control*. The major message is what teachers and
451 students *do* matters. Focusing on what teachers and students *do* rather than what they
452 can control was argued by Biggs as early as 1979 (Biggs, 1979), but has been
453 synthesized recently in Biggs (2012). He contends that the most effective approaches
454 to education are concerned with what teachers *do*, followed by the more important
455 outcome variable of what students *do*.

456 Biggs’s (2012, 1979) argument that we need to focus on what teachers *do* is
457 consistent with Hattie’s (2009) recent suggestions that the greatest sources of variance
458 in educational outcomes are attributed to students where schools can exercise greater
459 accountability to the second highest source of variance which is attributed to teachers.
460 In other words, teachers’ actions and their interactions with students have the greatest

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461 influence over learning in the school environment. For this reason, the notion of a
462 teacher operating in a guiding only capacity is inherently flawed. From Hattie's
463 (2009) perspective, any approach that promotes student-centeredness and learning
464 must recognize such variance and exercise some significant agency over the teacher's
465 capacity to enhance, strengthen, and develop students' learning.

466 Hattie (2012) developed this point to further suggest that teachers who had the
467 greatest impact on their students learning were those who could organize and use
468 content effectively. While knowledge and content is inevitably influenced by context
469 and therefore beliefs and regulations (Armour, 2011), when teachers integrate new
470 knowledge with students' prior knowledge and their own teaching goals, teaching had
471 the greatest levels of effect on student achievement. In this sense, content is presented
472 to and organized around an understanding of their students' needs, with the teacher
473 holding a degree of agency over what and how to teach. In contrast, teachers who are
474 least effective were described as being 'anchored in the details of the classroom'
475 (Hattie, 2012, p. 29). These teachers consider content, organization, management, and
476 their behavior first and without interrelating these to their students needs. Thus, in
477 Hattie's (2012) view, teachers who have the greatest influence on their students'
478 learning are able to draw understandings about what to *do* and how to introduce new
479 content from an evidence-informed position about what their students know and can
480 *do*.

481 In a further empirical quest for explanation about teacher action, Hattie (2009)
482 argued that the traditional notions of teacher-as-facilitator need to change because the
483 greatest effects on student learning that we have some control occurs when teachers
484 become learners about the impact of their own teaching and when students become
485 their own teachers. This shift makes the widely held clichés 'guide on the side' and

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486 the 'sage on the stage' both false dichotomies in terms of envisaging an effective
487 teaching and learning approach (in any discipline). It forces a reconceptualization of
488 student-centered physical education models to ensure that 'teaching moments'
489 described by Metzler (2011) and Bähr and Wilbowo (2012) occur through a process
490 of diagnosis, intervention, and evaluation of teacher impact.

491 The process of diagnosis, intervention and evaluation of what students *do* has
492 been discussed in the literature as clinical teaching (Dinham, 2013). This model of
493 teaching is still very much student centered but it also recognizes that the primary
494 agent of change in a student's learning is their teacher (Dinham, 2013). Hattie (2009)
495 refers to these teachers who adopt more clinical approaches to teaching as being
496 activators of learning. Models of teaching that described the teacher-as-activator have
497 larger effects on learning because these teachers utilize active and guided instruction.
498 In the role of the activator, teacher action involves reciprocal teaching, feedback,
499 mastery learning, teaching students self-verbalization, meta-cognition strategies,
500 direct instruction, goal setting, and behavioral organizers. As shown by Hattie (2009),
501 in his meta-analysis of over 800 studies, activation is much more effective than
502 typical facilitative instruction that requires less teacher activity and is more unguided
503 in practice. However, it is important to acknowledge that that facilitation was viewed
504 as involving inquiry based teaching, individualized instruction, problem-based
505 learning, and inductive teaching. The claims made that activation was more effective
506 were made against this interpretation of facilitation.

507 In contrast to the traditional descriptions of teacher action through the notion
508 of facilitation, Hattie's (2012, 2009) discussions around the teacher-as-activators
509 acknowledges the active role of the teacher in the teaching and learning process.
510 Activation certainly suggests that the teacher should consider their role as, not being

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511 on the side, but of one that activates new learning possibilities and the achievement of
512 new learning outcomes. Yet in order to do this, and extending the views offered by
513 Wilbowo et al. (2014), the teacher needs to continually evaluate the impact of their
514 behavior and their dialogical exchanges with students. In a physical education
515 context, Dudley (In Press) calls what students *do* the ‘legitimate and observable
516 manifestations of learning’. In other words, what are the behaviors a student is likely
517 to enact once learning has occurred that a teacher can respond to with a legitimate
518 teaching intervention to progress learning further. In this way, student-centeredness
519 and teacher action moves beyond determining what students and teacher control in
520 their lesson toward a consideration of what students *do* and how the teacher is
521 responsive to their students’ manifestations of learning.

522 **Discussion**

523 In recognizing that there has been limited debate and discussion around
524 defining the role of the teacher-as-facilitator in physical education, one of our aims of
525 this paper was to begin to define teacher action and behavior in student-centered
526 learning environments. Our discussions have identified the strides made to inform
527 teacher behavior within student-centered models. However, and as we identified at the
528 beginning of this paper, without a further and critical examination of teacher behavior
529 there is a danger that the teacher could remove themselves from the teaching and
530 learning process and simply view themselves as a ‘guide on the side’ to a pitch or
531 court. Moreover, and similar to Hastie and Casey’s (2014) discussions around fidelity,
532 if we are to be confident that a student-centered approach has been used there is a
533 need to describe teacher action and how learning has been supported.

534 While we acknowledge that any definition cannot be legitimized until it has
535 been examined ‘in-action’ or through a critical exploration of the behaviors and

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536 dialogical exchanges that have been reported on, we offer a tentative definition that
537 serves to guide teacher action in student-centered learning environments. Such
538 definition has been drawn from the discussions inherent within this paper that
539 highlight the interdependency between the teacher and the student in the student-
540 centered classroom. It also acknowledges the emergent and evidence-informed
541 discussions of Hattie (2009) and the teacher-as-activator, beginning to argue that the
542 teacher is much more than the 'guide on the side'.

543 *Teacher Action in student-centered classrooms:* Teachers play an active role
544 in the teaching and learning process. They create a learning environment that
545 promotes students' learning with their peers. During learning tasks teachers
546 interact with students, not only when students reach a barrier in their learning,
547 but to interpret, understand, support, and develop the learning that is taking
548 place. As a consequence, teachers need to constantly diagnose what is
549 occurring, have multiple interactional strategies (that include direct and
550 indirect behaviors), and evaluate the impact of these actions on student
551 learning.

552 From this definition we argue that teachers need to take into account several
553 pedagogical considerations surrounding their actions within student-centered
554 approaches. These include: (a) *diagnosing*, (b), *responding* and, (c) *evaluation*.

555 (a) *Diagnosing:* In order to determine the content, how content should be
556 presented/organized, and to understand the degree of interaction required
557 by the teacher, there needs to be a process of observation, and active
558 interaction with students. The teacher can question students to validate
559 their interpretations of student learning and then make a judgment if they

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560 will interact with students to support, or challenge their current phase of
561 learning. *Diagnosing* is underpinned by a focus on what students *do*.

562 (b) *Responding*: Responding involves supporting students or groups in a way
563 that allows them to progress in their learning. The actions of the teacher
564 can be direct or indirect and can include questions (open and closed),
565 explanations, feedback, praise, demonstrations, presentations of the task in
566 a different form, the encouragement of student initiatives, the promotion of
567 communication between students, or no interactional behavior at all (for
568 example, when further attempts at the task independent of teacher input
569 are perceived by the teacher to support and extend learning). The type of
570 interaction is based upon teachers’ knowledge of the students, their
571 understanding of the situation, and how students are progressing in their
572 learning. In this way, teacher action and interaction behaviors cannot be
573 pre-defined and may vary from student-to-student or group-to-group.
574 However, the type of response should be both contextually relevant and
575 conducive to the overarching aims of student-centered learning, i.e.
576 developing students ability to become their own teachers, supporting them
577 to know how to evaluate knowledge claims, how to learn, how to
578 collaborate, how to seek help, how to become assessment capable, how to
579 be resilient (particularly in the face of cognitive challenges), and aiding
580 students to know what to do when they do not know what to do (Hattie,
581 2009; Le Ha, 2014).

582 (c) *Evaluation*: Teachers should know the impact of their interaction with
583 students as a means to determine if students’ learning has progressed, has
584 the capacity to progress further without teacher-student interaction, or if

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585 students require support in their learning. In order for this to achieve the
586 teacher may, (a) question students on their understanding or performance
587 in the task or, (b) observe students’ performance of the task. Subsequently,
588 the teacher may return to the actions and interactional behaviors within
589 *responding*, or allow students to move onto a different task, or ‘activate’ a
590 more challenging task.

591 While these pedagogical recommendations are not too dissimilar to what
592 might be conceived as ‘good pedagogy’, these teacher actions and student-teacher
593 interactions have been somewhat lost within the interpretations of facilitation in
594 student-centered learning approaches. Through the notion of the ‘guide on the side’,
595 the active role of the teacher in the teaching and learning process has been replaced by
596 an understanding that the teacher will be ‘standing aside to monitor’ (Metzler, 2011,
597 p. 32). Certainly, the false dichotomy of ‘sage on the stage’ vs ‘guide on the side’ has
598 perpetuated within general education and physical education.

599 While we have offered a definition of teacher action and we have sought to
600 provide pedagogical recommendations for interaction and behavior, in order to
601 legitimately understand the teacher’s role in the student-centered classroom we now
602 need to critically examine teacher behavior and teacher interactions with learners in
603 student-centered approaches. Such an investigation would entail a critical exploration
604 of student-centered models (Jewett et al., 1995; Haerens et al., 2011; Kirk, 2013;
605 Metzler, 2011, 2005, 2000), student-centered forms of inquiry (Enright & O’Sullivan,
606 2010; Oliver, 2001; Oliver & Kirk, 2014), critical pedagogies (Azzarito, 2010;
607 Macdonald, 2002), and peer-assisted learning approaches (Barker et al., 2013; Ward
608 & Lee, 2005). Importantly, this would allow our definition to be contextualized with

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609 what students and teachers *do*, and perhaps, allow for an understanding as to how the
610 teacher impacts learning in student-centered approaches.

611 **Conclusion**

612 The wealth of advocacy for student-centered learning highlights that education
613 is being pushed in a direction that considers student-centered learning to be most
614 effective. However, despite the explicit and extensive moves toward student-
615 centeredness and the development of pedagogical ‘design specifications’ in physical
616 education (Kirk, 2013, p. 979) that support the implementation of student-centered
617 approaches, little discussion has emerged about the role of the teacher in student-
618 centered approaches. Instead there seems to be a semantic confusion about teacher
619 action and how the teacher functions in a student-centered classroom. With most
620 research merely stating that the teacher should facilitate learning and with the ‘guide
621 on the side’ used as a way of explaining facilitation, this paper begins to move
622 research and practice forward by defining teacher action in student-centered
623 classrooms. Certainly this paper has argued that the ‘guide on the side’ provides a
624 narrow interpretation of teacher action and actually obstructs what the teacher can *do*
625 and the impact they can have on students learning. Indeed, there is a need to think
626 much more openly about what the teacher can *do* and what students can *do* in the
627 student-centered classroom, a perspective that moves beyond a consideration as to
628 what is controlled.

629 In order to promote learning, whilst supporting and extending students’
630 abilities to complete learning tasks, we argue that the teachers need to play an active
631 role in the learning process. The false dichotomies of ‘guide on the side’ and ‘sage on
632 the stage’ are not helpful in defining optimal teaching practice. Drawing on Hattie’s
633 (2012, 2009) term, we argue that the teacher might be best placed as an activator.

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634 Through this lens, the teacher activates new learning possibilities by using a range of
635 direct and indirect instructional behaviors to support and enhance students’ learning.
636 However, a further consideration of activation is required in physical education before
637 a judgment is made as to whether the teacher functioning as an activator is more
638 effective.

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640 Position of authorship was determined by mutual agreement that the author
641 who had the most followers on social media site Twitter at the time of submission
642 would be determined to be the lead and corresponding author. Whilst there is no
643 empirical precedent for this decision, it adds to the methodology considerations for
644 collegial authorship.

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**Goodyear, V.A., & Dudley, D.A. (In Press). “I’m a facilitator of learning!”
Understanding what teachers do and what students do within student-centered
physical education. *Quest***

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We would like to thank the reviewer for the helpful comments in refining this paper.
In the table below we have identified how we have responded to each of the
comments and within the text we have identified any changes with red text.

Review Comment	Response
<p>The purpose of this manuscript with to discuss current conceptualizations of teacher facilitation within student-centered models of instruction and how these may be implemented differently. The basic thesis of the paper is valid in that it moves discussion forward regarding the role of the teacher within student-centered instruction. Little empirical evidence exists on effective facilitative teaching strategies within these models and the author(s) bring some good insights from general education to potentially reframe these strategies. The paper is generally well evidenced and provides a logical journey through current conceptualizations of practice, to move to a new thesis of action based upon the premise of teacher-as-activator within these models of instruction. That stated, some of the arguments made are overzealous in making casing points for more expansive pedagogies within student-centered models of instruction. This is particularly true for the symbolic representation of current pedagogies in this approach as being in the far extreme of Mosston’s problem solving style. The author(s) also pay superficial attention to current conceptualizations of interactive teaching approaches and the body of knowledge</p>	<p>Thank you for the positive comments regarding the paper.</p> <p>In addressing the specific comments below we have endeavoured to address each of these. However, throughout the paper we have attempted to ‘tone down’ our arguments and pay attention to the broader literature and author’s perspectives in which this paper is concerned with.</p>

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<p>that currently exists which has examined the triadic relationship between teacher, student and content within student-centered models of instruction. That stated, the manuscript seems to provide a valuable addition to contemporary discourse related to instruction within these types of models. The following comments hopefully serve to provoke thoughts on revisions but are not necessarily to be viewed as critiques that diminish the quality of the paper.</p>	
<p>Title: I am struggling to connect this title with the journey of the paper...what evidence-based practice is presented in the paper? Although cryptic titles are somewhat vogue I suggest a simpler statement to relate to the idea of the development of more effective teaching pedagogies within student-centered models of instruction</p>	<p>The title has been changed to: “I am a facilitator of learning” Understanding what teachers do and students to within student-centred physical education models</p>
<p>P 3 What is meant by task teaching, please elaborate on this phrase.</p>	<p>In acknowledging that task teaching may have been misleading this statement has been changed to direct instruction – page 3 line 54</p>
<p>P5 Insert “are” after “when”</p>	<p>This has been changed on page 5</p>

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<p>P8 I am not convinced of this argument. Shifting towards facilitation during models based-instruction does not infer that the teacher behavior was highly aligned with Mosston’s “problem solving” style. The quote highlights questioning and task intervention which would not be apparent within style H.</p>	<p>We have acknowledged this point by including a statement on page 8 lines</p> <p>Whilst there may not be direct alignment between teacher behavior in the problem solving style and facilitation, in the descriptions of facilitation indirect teaching is associated with the creation of contexts for students to engage with problem solving</p> <p>Preceding this statement is an additional comment to highlight how Mosston’s styles have created a common way of talking about teaching behaviour: Page 8 ... ‘the spectrum has generated a common jargon for us to use when talking about teaching’ (Metzler, 1983, p.1 46).</p>
<p>The author(s) need to be more cautious as Metzler also frames indirect teaching within student-centered models as sometimes interactive. This seems an overzealous characterization that oversimplifies current narratives on teaching behavior within these types of models of instruction. That is not to say that the general argument of the paper is not true, rather that the authors need to be more cautionary in their classification of current teacher practice as being one of just a questioner on the side of student learning. This overzealous characterization again manifests on p12 where we are privy to the author(s) extrapolation of the roll out the ball teacher during student-centered models of instruction. These statements marginalize strides made within teaching practice within these models and in my opinion, should be deleted.</p>	<p>We have sought to expand on the discussions around direct, indirect and interactive teaching by Metzler. Pages 10-12 provides additional discussions about the nature of interactive teaching and how teaching behaviour or what teachers/students control is defined. Indeed, we have made an explicit attempt to highlight how Metzler, while his work may have been interpreted as the guide on the side, has made attempts to position the teacher as interactive within student centred models.</p> <p>In concluding this section to the paper we have also re-emphasised Metzler’s notion of interactive teaching and the attempts made to position the teacher as more than the guide on the side (Page 13).</p> <p>We have also removed the references to the roll out the ball approach within the paper</p>

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<p>P15 I like this point on dialogic exchanges as being critical to teacher actions in this role.</p>	<p>Thank you</p>
<p>P19 This latter point of what students do could be embellished further. What are the author(s) interpretation of student control vs what students do? The author(s) also fail to acknowledge the other critical variable within the triadic representation of learning within these contextualized practices...and that is the content embedded in the learning tasks. Didactics would suggest that this is the most salient variable and the driving force behind these activation pedagogies. Some acknowledgement of this variable within contextualized learning is required. Some acknowledgement is also required of the work that has already been conducted using this lens of inquiry which has begun to shed light on the teaching pedagogies required within student-centered models of instruction to facilitate student learning.</p>	<p>We have attempted to further clarify these points about what students control and do. This is firstly in the additional paragraph on page 20 and then we make explicit statements on page 22:</p> <p>In a physical education context, Dudley (In Press) calls what students <i>do</i> the ‘legitimate and observable manifestations of learning’. In other words, what are the behaviors a student is likely to enact once learning has occurred that a teacher can respond to with a legitimate teaching intervention to progress learning further. In this way, student-centeredness and teacher action moves beyond determining what students and teacher control in their lesson toward a consideration of what students <i>do</i> and how the teacher is responsive to their students’ manifestations of learning.</p> <p>Moreover, we have now acknowledged content within our discussions of the pedagogical considerations for teacher actions. On page 23 we have included this into diagnosing:</p> <p><i>Diagnosing:</i> In order to determine the content, how content should be presented/organized, and to understand the degree of interaction required.....</p> <p>In reference to acknowledging content the additional paragraph on page 20 has sought to acknowledge this variable and consider it from Hattie’s perceptive</p> <p>Hattie (2012) developed this point to further suggest that teachers who had the greatest impact on their students learning were those who could organize and use content effectively. While knowledge and content is inevitably influenced by</p>

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	<p>context and therefore beliefs and regulations (Armour, 2011), when teachers integrate new knowledge with students’ prior knowledge and their own teaching goals, teaching had the greatest levels of effect on student achievement. In this sense, content is presented to and organized around an understanding of their students’ needs, with the teacher holding a degree of agency over what and how to teach. In contrast, teachers who are least effective were described as being ‘anchored in the details of the classroom’ (Hattie, 2012, p. 29). These teachers consider content, organization, management, and their behavior first and without interrelating these to their students needs. Thus, in Hattie’s (2012) view, teachers who have the greatest influence on their students’ learning are able to draw understandings about what to <i>do</i> and how to introduce new content from an evidence-informed position about what their students know and can <i>do</i>.</p>
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