

1 **‘Finding the Image’: Using photos to give voice to teacher educator professional** 2 **learning**

3 Reflective competencies for teacher educators include the ability to reflect on,
4 evaluate, develop alternatives, and change one’s own teaching (Koster, Brekelmans,
5 Korthagen, & Wubbels, 2005). Reflection is therefore an important competence in ensuring
6 teacher educators are equipped to respond to the evolving needs, demands, and expectations
7 of teaching and teaching about teaching (Koster et al., 2005; Loughran, 2014). Both policy
8 makers (European Commission, Education and Training, 2013) and researchers (Loughran,
9 2014) recognise reflection as a key professional development activity for teacher educators to
10 influence their practice (Darling-Hammond & McLaughlin, 2011; Korthagen & Lunenberg,
11 2004), and by extension teacher quality (Goodwin & Kosnick, 2013).

12 Reflection is therefore a mechanism that can support teacher educators in developing
13 their capacity to learn from experiences and to integrate this learning within their pedagogical
14 practices. For example, Jara and Maggio (2016) demonstrate how, for them, becoming a
15 teacher educator involved a process of framing and reframing knowledge triggered by
16 experience and interactions. Physical education teacher education (PETE) scholars have also
17 emphasised the role of reflection in their development as teacher educators (Fernandez-
18 Balboa, 2009; Fletcher, 2016; Richards & Ressler, 2016). Fernandez-Balboa outlines how
19 self-reflection helped him to ‘un-blur’ his memory. He proposes self-reflection can help
20 physical education teacher educators to ‘establish an incipient handle where to grab the
21 essence of (our)self’ (p. 160). Both Fletcher (2016) and Richards and Ressler (2016) describe
22 how reflection was central to helping them improve their practices as physical education
23 teacher educators.

24 Schön’s (1983) writings related to ‘reflection-on-action’ and ‘reflection-in-action’ and
25 ultimately ‘reflection-on reflection-in-action’ (Schön, 1995) provided the theoretical basis

26 and guide for understanding how the process of reflection might contribute to professional
27 learning. Reflection-on-action happens after the experience, when time is taken to interrogate
28 what happened, and its significance relative to past experience. Reflection-in-action is
29 sometimes described as thinking on your feet. It involves looking at experiences as they
30 happen. This type of reflection allows the learner to reframe the problem as it is occurring
31 and new understandings are created to inform actions as the situation is unfolding. Reflection
32 on reflection-in-action makes the implicit explicit through the use of the tangible, words or
33 pictures, to allow one to “see” the action strategies or assumptions that occurred during
34 reflection-in-action (Schön, 1995). Through reviewing and seeing experiences anew, the
35 reflection on reflection-in-action process can potentially create new knowledge and
36 awareness of professional practice by allowing us to understand what we know through what
37 we do (Schön, 1995).

38 Reflection-on-action can take multiple forms, for example individual writing
39 (Cautreels, 2003) or through discussion with critical friends (Fletcher, Ní Chróinín, &
40 O’Sullivan, 2016). Reflective writing has been shown to support collective teacher educator
41 professionalism (Cautreels, 2003) and to reframe the pedagogies of teacher education through
42 analysis of student assignments (Jove, 2011). Yet, life as a teacher educator has been
43 described as messy, busy, complex, and sometimes lonely; characterised by stress, pressure,
44 and uncertainty (Patton & Parker, 2017). Thus, despite ample evidence of the value of
45 reflection to professional learning, reflection is not prioritised by teacher educators (Koster,
46 Dengerink, Korthagen, & Lunenberg, 2008; Smith, 2003). If reflection is to be embedded into
47 this life, the use of a meaningful and efficient reflection tool is of the essence. The
48 significance of this project lies in making reflection meaningful.

49 **Purpose and Guiding Premises**

50 The purpose of this research, therefore, was to explore the role of photocue reflection
51 in the professional learning experiences of physical education teacher educators.
52 Specifically, the question guiding our work was: how might the use of photographs influence
53 the reflection process, teacher educator learning, and our subsequent teacher education
54 practices?

55 In the first instance, we proposed to interrogate how Schön's reflection on practice,
56 might be supported and enhanced through a process involving both photographs and
57 reflective writing as a regular and systematic professional development activity (Loughran,
58 2014). Photographs can prompt and support both reviewing and reflecting on experiences
59 (Lapenta, 2011) as a form of reflexive analysis and have previously been used successfully in
60 education contexts (Miles & Kaplan, 2005). Photos can act as a 'cue', a form of prompt, to
61 aid memory and reflection with the possibility that which new insights can emerge (Pope,
62 2010). In this research we have adopted the term 'photocue reflection' to represent our use of
63 written text and photos as part of the reflection process to avoid confusion with other photo-
64 based approaches which represent specific motives and processes, such as photovoice (Wang
65 & Burris, 1997) and photo-elicitation (Harper, 2002). We hoped using photos might provide
66 an alternative approach to reflection on professional development experiences that moved
67 beyond written reflection alone by giving participants the opportunity to 'show rather than
68 'tell' aspects of their identity that might have otherwise remained hidden' (Croghan, Griffin,
69 Hunter, & Phoenix, 2008, p. 345) and to facilitate participants in sharing 'what they know
70 and help them put words to their ideas and share understandings of their worlds' (Enright &
71 O'Sullivan 2012, p. 36).

72 Previously, photo-based visual methodologies have been used in physical education
73 with children (for example, Azzarito, Simon, & Marttinen, 2016; Enright & O Sullivan, 2012;
74 Patton & Parker, 2013), teachers (Parker, Patton, & Sinclair, 2016), and pre-service teachers

75 (Walker, Langdon, Colquitt, & McCollum, 2017) with encouraging results. For example,
76 Parker and colleagues (2016) found that visual methods both documented the complex
77 change process for the teachers and also enabled teachers to discuss their learning and reflect
78 on their practice. We anticipated that photocue reflection might support similar reflection
79 processes for teacher educators. Conscious that photographs alone offer multiple
80 interpretations and cannot by themselves provide a complete narrative (Lemon, 2007) we
81 combined the use of photographs with written reflection in a visual diary (Chaplin, 2011). As
82 Tiidenburg (2015 p. 253) explains, ‘in addition to all the meanings generated in a story told in
83 words and those in a story told in images, there is so much more in stories told in words about
84 images, and vice versa’.

85 Secondly, since to support growth and change, the professional development of
86 teacher educators must be ‘purposefully conceptualized, thoughtfully implemented, and
87 meaningfully employed’ (Loughran 2014, p. 10), we were interested in how the use of
88 photographs as part of a structured reflection process might support the teacher educators
89 within their teacher education practices. Knowing that teacher educators have a preference
90 for informal, as opposed to formal professional development, Dengerink, Lunenberg, and
91 Kools (2015), suggested that formal learning opportunities may be considered less impactful
92 because of a perceived disconnect to practice. This disconnect between professional
93 development and practice may be exasperated for physical education teacher educators who
94 may have little opportunity for professional learning experiences that echo the practical,
95 physical activity-based settings in which they teach. This suggests that better understanding is
96 needed of ways teacher educators, and physical education teacher educators in particular, can
97 be supported to translate professional learning into their teacher education practices. We
98 contemplated whether the use of photos across sites of learning might provide a mechanism

99 to better link off-campus professional learning and the practices of teacher education for
100 physical education teacher educators.

101 **Methodology**

102 **Research Design**

103 The professional development initiative was informed by Loughran's (2014) proposal
104 to promote teacher educator learning by both 'experiencing' and 'articulating'. The initiative
105 included a formal professional development camp-based physical activity experience,
106 followed by teaching semester-based activities. As the professional learning of teacher
107 educators was the focus of this research, we adopted a collaborative self-study of teacher
108 education practices (S-STEP) methodological frame to study our experiences. S-STEP
109 research focused on reflection-guided professional learning by teacher educators (Loughran,
110 2014; Russell, 2011) and physical education teacher educators (e.g., Fletcher & Ovens, 2015;
111 Fletcher, 2016; Richards & Ressler, 2016) has gained traction in recent years.

112 We drew on LaBoskey's (2004) criteria for quality in self-study in designing this
113 research. As a group of teacher educators, with the aim of improving our professional
114 practice, we initiated the research focused on our own professional learning. We interacted
115 with each other as well as with a critical friend from outside the group to gain multiple
116 insights on our experiences in support of our learning. We drew on self-generated and group
117 generated data including focus groups, observations, interviews and photocue reflections to
118 strengthen our claims. Finally, in line with LaBoskey's (2004) recommendations we present a
119 detailed account of our experiences supported by data to allow the reader to validate our
120 claims through deciding upon the extent to which our account was deemed trustworthy.

121 **Participants**

122 Participants were five physical education teacher educators from the island of Ireland
123 (2 post-primary, 3 primary). The group came together somewhat serendipitously in a project

124 designed to unite teacher educators from Northern Ireland and the Republic of Ireland. Of
125 the five, three had between 10-15 years' experience as teacher educators (Marissa, Daniella,
126 Kevin), one had been a teacher educator for over thirty years (Melody), and the final
127 participant had four years' experience (Peter) (pseudonyms are used here for blind review).
128 All, except Melody, had transitioned from school teacher to teacher educator roles with few
129 formal professional development opportunities. All the participants taught a range of content
130 within their respective PETE programmes. Their teaching included lecturing to large groups,
131 and classroom-based and physical activity-based lectures to smaller groups. Professional
132 relationships existed within the group before the project began: Peter and Kevin had worked
133 together briefly and Marissa, Melody, and Daniella had collaborated on research projects
134 previously. Relationship building was central to our engagement in the shared professional
135 learning activities as some members of the group had never met before the project began.

136 **Professional Learning Experiences and Data Collection**

137 Data collection is presented in conjunction with the overview of professional learning
138 experiences as it was embedded in the professional learning activities. The specific focus of
139 the professional learning was on communication. Communication was chosen as the focus as
140 we were interested in how our professional learning with each other might influence our
141 subsequent individual pedagogical practices with our pre-service teachers; communication
142 was foundational to success in both instances [see Parker, Ní Chróinín, Coulter, Walsh &
143 McFlynn (2016) for details about the content of the professional learning experience). The
144 self-designed professional learning experiences were divided into two parts: firstly, a physical
145 activity-based professional learning camp incorporating photocue reflection where we were
146 in a learner role, and secondly a teaching semester-based photocue reflection process, where
147 we were in the roles of learner-teacher educator simultaneously. We designed the

148 professional development with these dual experiences to promote explicit links between our
149 professional learning experiences and the reality of our teacher education contexts.

150 The professional learning camp took place over three days. We selected outdoor and
151 adventure activities because of associated communication demands (Priest & Gass, 1997).
152 Activities included high ropes courses, team challenges, kayaking, and zip-lining. During this
153 experience each participant used a camera to capture various moments and events each day as
154 they completed the activities. The only prompt that we gave to ourselves was to take photos
155 of what we individually thought to be significant and meaningful communication experiences
156 and events during the days' activities. The process of taking photos during professional
157 learning experiences was intended to help teacher educators 'reflect' in action to support
158 subsequent reflection-on-action. A 'debriefing' framework post-activity promoted us 'to
159 reflect on and communicate with other group members about their feelings, observations and
160 experiences during an activity' (Dyson & Sutherland, 2015, p. 235). At the end of each day,
161 we reviewed our photos together and then individually we selected photos representing what
162 we each deemed as important experiences related to communication. The photos were printed
163 and inserted into a photocue diary. Alongside each photo we wrote a response to the
164 following prompts: Why did you choose this photo?; What's happening?; This photo relates
165 to communication because.... At the conclusion of the professional learning camp, we all
166 completed a final summative written reflection in which we reflected on our overall learning
167 experiences. Following this, using a photo-elicitation (Harper, 2002) focus group (FG)
168 process, in which our photo diary entries served as a "jumping off point" for discussion, we
169 explored our learning experiences and considered implications for our teacher education
170 practices. This focus group lasted 89 minutes and resulted in 32 pages of transcript.

171 In the autumn after the adventure camp experience, a second focus group was
172 conducted via SKYPE at the beginning of the teaching semester. At this time each of us

173 identified what Hamilton (2008) refers to as a ‘problem of practice’ related to an aspect of
174 communication on which we would focus in our own practice during the upcoming teaching
175 semester. A problem of practice might be defined as a self-initiated attempt at understanding
176 the complexities of personal teaching practices (Samaras & Freese, 2006). As such, these
177 problems, informed by literature on teacher educator professional learning (Loughran, 2014)
178 and communication in teaching physical education (Rink, 2020), reflected individual personal
179 choices. Areas such as task setting, feedback, and the use of teaching cues were selected. We
180 each then implemented our actions related to the chosen communication focus during the
181 teaching semester in our respective institutions.

182 Throughout the teaching semester we reflected on a self-identified meaningful event
183 relating to the aspect of communication previously targeted. A reflection template was
184 created to both scaffold reflection and help us prioritise our professional learning in our busy
185 work lives. This involved completion of a photocue reflective diary entry which included
186 selection of a photo/image and a written response to prompts similar to the ones used at the
187 adventure camp, but now related to our teacher education practice as well as communication:
188 What happened?; Why did you choose this photo?; Why did you choose to write about this
189 incident?; This incident relates to communication because....; The implications for my
190 teacher educator practices are.... These reflections were electronically shared each fortnight.
191 We were each observed teaching once during the semester by a non-participant observer,
192 Eleanor. Observations were followed by an individual interview lasting approximately 45
193 minutes in which the value of the professional learning experiences and their influence on
194 teacher education practices was explored. Having reviewed the fortnightly reflections of each
195 of us beforehand, Eleanor acted as a critical friend during the interview, challenging us to
196 make connections between our professional learning, self-identified communication focus,
197 and our teacher actions. At the end of the teaching semester, we participated in a 2-hour face-

198 to-face focus group. Led by Eleanor, we reflected on our professional learning within the
199 project and how our experiences had shaped our teacher education practices. As with all
200 interviews, the interview was digitally recorded and transcribed verbatim. Across the six-
201 month period total data sources included five photocue diaries from the camp experience
202 each including 31 photos, 21 fortnightly reflections including 16 photos and five images
203 (these were used where actual photos from lectures would not have been possible), five
204 individual interviews, and three focus groups transcripts.

205 **Data Analysis and Trustworthiness**

206 Data analysis used a general inductive approach (Patton, 2014) led by, Daniella and
207 Melody, who worked separately and together in the analysis process. Daniella familiarised
208 herself with all data. Given the quantity and variety of data sources we decided that the data
209 for each participant should be coded separately initially and a summary of key ideas for each
210 was developed. The photocue diary entries completed during the professional learning camp
211 were analysed with consideration of the title assigned to the photo, the content (what, who,
212 where) of the photo, and the written explanation for the photo choice. For example, Kevin
213 entitled one of his entries 'Pier jumping on my own'. In the photo Kevin is jumping off a
214 high pier into the sea. His written entry focuses on how encouragement from peers helped
215 him to jump. Analysis of this entry noted that the photo was activity-based, in a risk situation,
216 and even though Kevin was making the jump alone that the support of others was significant
217 to his completing the jump. Photos were intentionally not analysed independent of written
218 comments. Fortnightly reflections completed during the teaching semester were also
219 reviewed with consideration of the photo/image included and how they represented or
220 provided context for the focus of each entry.

221 Independent of Daniella's coding of each individual's data, Melody read and coded
222 all data with emphasis on recurring ideas across individual data sets. Through comparison of

223 coded data and discussion, the individual summaries developed by Daniella were combined
224 and reconciled with patterns within the cross-case summaries noted by Melody. Through this
225 process data were organised into categories reflecting the major patterns of the complete data
226 set. The involvement of two of us in the analysis process and the triangulation of multiple
227 data sources resulted in a detailed and thorough process of examining all data that supported
228 trustworthiness. A member check of the findings was then completed with (names removed
229 for review) to further strengthen trustworthiness of the findings (Lincoln & Guba, 1986).

230 **Results**

231 Overall, two themes were constructed to portray the role of photocue reflection in our
232 professional learning experiences as physical education teacher educators. First, the
233 multidimensional nature of the professional development experience was revealed. Second,
234 the use of photocue reflection enhanced our reflective processes by supporting reflection on
235 action (Schön, 1983). Data are presented from both camp-based and teaching semester-based
236 photocue processes to illustrate the similarities and contrasts in our experiences of using
237 photocue reflection in each context. Supporting data from focus groups (FG), photocue
238 diaries (PCD), fortnightly reflections (FR), and individual interviews (II) are included to
239 illustrate the main findings.

240 **The multidimensional nature of professional learning (and our practice)**

241 The process of selecting a photo to represent communication was a worthwhile and
242 engaging part of the reflection process. Capturing a visual representation of an abstract
243 concept, such as communication, was challenging and, in most cases, photos did not, and
244 perhaps could not, 'show' the concepts being discussed in relation to communication. Instead
245 photos provided a cue or prompt to explore and analyse concepts related to communication
246 with emphasis on the process of communication in a particular context. The photos selected

247 and their purpose was different in the camp-based and semester-based professional learning
248 experiences.

249 Two patterns were clear within the content of camp-based photocue reflections: 1)
250 personal accomplishments through one-on-one peer support, and, 2) group-based
251 communication experiences. One-on-one support from peers in the achievement of individual
252 accomplishments was the focus of a number of the meaningful events in the photocue
253 reflections. Most of these photos were of individual participants engaged in physical activity
254 and at peak moments of fear, or challenge (see Figure 1), or success, such as travelling on a
255 zip-line, kayaking across a harbour or on a high ropes course.

256 INSERT IMAGE 1 ABOUT HERE

257 For example, ‘I was scared to death to do this, but this shows I did it – and I was
258 actually alive’ (Melody, PCD 1). Most of these photocue reflections emphasised how verbal
259 feedback and encouragement from peers helped overcome a challenge they faced, such as:
260 ‘this photo relates to communication because my teammate (Marissa) who is experienced in
261 the area of outdoor education provided me with clear teaching points on how to improve my
262 technique’ (Peter, PCD 3). The photos provided an opportunity to interrogate the place of
263 communication in our experience and then to consider its significance to our professional
264 learning through reflection. In many cases, these incidents reinforced for us an appreciation
265 of the role of peer communication in task accomplishment and overcoming personal
266 challenges while creating a strong group bond enhancing our effectiveness as a group.

267 The role of communication in group-based learning experiences was the second
268 pattern in the photocue reflections. This may be explained by the outdoor setting of the camp-
269 based professional development activities which naturally lend themselves to group
270 dependence rather than any particular photo-taking related aspects. Participants valued group-
271 based learning experiences: ‘learning in a group facilitates new learning about yourself and

272 allows you to learn things you could not learn alone – it's also more fun' (Daniella, PCD,
273 final reflection). These photos were again physical activity-based but generally included
274 groups rather than individuals (Figure 2).

275 INSERT IMAGE 2 ABOUT HERE

276 Task success or failure generally provided the starting point to explore the role of
277 communication in each selected meaningful event. Marissa reflected on a group-based task:
278 'There were levels of communication and types of communication, verbal, hand signals tied
279 to activities, safety, leadership, respect, fun, cheering with excitement – I think feelings were
280 communicated well too' (PCD 3). These photocue reflections emphasised the place of group-
281 based communication in team cooperation, the importance of roles within group tasks, and
282 the significance of listening to others in the completion of team challenges. Emphasis was
283 placed consistently on the need to communicate with all group members to ensure a shared
284 approach and task success, such as, 'we had the detail right. Communication is all about the
285 detail, making sure everyone is on the same page' (Daniella, PCD 5). Overall, the photocue
286 reflection processes linked to physical activity-based experiences helped us gain a renewed
287 appreciation of the nature of communication in groups.

288 The photocue reflection process during the teaching semester was very different to the
289 camp-based process as it began with selection of a meaningful event following completion of
290 lectures rather than taking photos during our engagement in physical activities. Standout
291 moments of success or challenge, related to each of our pedagogical approaches and
292 effectiveness of our practices in relation to communication; for example, our use of teaching
293 cues, feedback, or how we set tasks, were selected as the meaningful events for analysis. The
294 photos/images were used to represent the meaningful event in a number of ways. First, they
295 were used to directly represent individual teacher educator's pedagogical approach, through
296 photos of artefacts and resources. Kevin explained his choice of a particular photo for critical

297 reflection 1: ‘I like this picture because it captures my tools: the folder containing attendance
 298 records, readings, etc., and my watch, set up for pre-arranged countdown timers...’ (FR 1).
 299 Some photos/images were selected to provide context for the meaningful event discussed and
 300 were not directly related to the lecture, for example:

301 The photo is a metaphor for how the task broke down. The bridge looks all connected
 302 and good to drive on at one end (my perspective setting the task) but the other end of
 303 the bridge is under water (the student perspective). (Daniella, FR 5)

304 Some photos were selected to provide supporting evidence of the effectiveness (or
 305 not) of communication, such as photos of text on a whiteboard or power point slides (Figure
 306 3). For example, Melody included an image of an e-mail from a student explaining “I chose
 307 the photo as it represents frustration and contemplation about communication for me” (FR 3).
 308 All participants included a photo/ image for all teaching semester-based reflections. Photo
 309 content included artefacts such as worksheets, equipment or lecture slides. In essence they
 310 helped us recognise what we knew, but were often unaware of in the moment to moment of
 311 teaching.

INSERT IMAGE 3 ABOUT HERE

313 Meaningful events were rarely identified in the moment as the teaching semester
 314 involved us in a teacher (as well as a learner) role; this presented complications. Melody
 315 explained:

316 At [name of camp] we were a group of us, it was very learner-centred... We all had
 317 cameras and we found it easier to take pictures even if we took other’s pictures... I
 318 struggle with my University classes. I struggled taking pictures because I’m not about
 319 to stand up in front of my class, ‘oh, can I take a picture now?’ in the middle of
 320 something. My engagement in my own teaching directly inhibited my ability to take
 321 pictures. It violated what was important. (Final FG)

322 Consequently, the teaching semester did not therefore provide the same time and
323 space for us to take photos). The taking of photos prompted a heightened attentiveness to
324 some things in or about practice that may not have been there prior to participation in the
325 project. (Peter, Final FG). Another challenge was the problem of taking the ‘correct’ photo.
326 Peter shared: ‘You’re in the middle of it. When I was in the middle of the gymnastics there’s
327 lots of things I saw and thought, “God I would love to have been able to take a photo of that”’
328 (Final FG). While we all we kept our cameras in our pockets as we taught, in many instances
329 the cameras never left our pockets. We were taken up with the full-on business of teaching
330 and did not get a moment to consider taking photos. The photos were taken after the lecture
331 instead; yet still played an important role in the reflection process as Marissa explains:

332 You’re still looking for the photo... ‘what photograph can I take now?’ ‘Cos generally
333 it was after the lesson and trying to think what happened in the lesson? I’d try and
334 create a photograph at the end of the lesson that represented that, so it made, made me
335 think about what had gone on a little bit more -- what I really wanted to focus my
336 thinking on. (Final FG)

337 Some of the teacher educators chose to use images from the internet rather than
338 photographs of students to illustrate the learning from meaningful events they identified.
339 Similar to camp-based experiences the focus of many of the photocue reflections was
340 prompted by moments of success and challenge, such as ‘the photo represents an imperfect
341 situation in my teaching: group sizes influencing the learning that I had planned for’ (Kevin,
342 FR 4). The difference in the teaching semester was that this success related to our individual
343 implementation of pedagogies related to our selected area of communication. Photocue
344 reflection was also important in helping us make connections between our professional
345 learning experiences and our teacher education practices. It helped us focus on learning about
346 communication in ways that increased the relevance of our professional learning: ‘It had the

347 biggest communication impact...should you tell people what to do or not, where are the
348 boundaries around experiential learning?’ (Marissa, PCD 2). Through reflecting on our
349 communication needs and processes in the camp-based experiences, our learning was
350 translated directly into teaching semester-based practices. Kevin noted a development in his
351 practice through engagement with a specific area of communication ‘I encourage and reward
352 student input religiously while maintaining a realistic perspective; I am beginning to believe
353 that this exercise in self-reflection is helping me to improve that’ (Kevin, FR 2).

354 Unsurprisingly, the camp- or teaching semester-based context shaped the selection of
355 meaningful events and the emphasis of the written photocue reflections because we assumed
356 different roles which shaped the content of the photos. In camp-based experiences the learner
357 role was emphasised; both peer and group-based experiences were central to determining
358 what was learned. In contrast, during the teaching semester our reflection processes were
359 individually directed and analysed – it was only through discussing our reflections with the
360 other teacher educators in a final focus group that our learning was discussed with others. In
361 both contexts, the use of photos still provided a valuable cue for reflection.

362 **Photos enhanced reflection**

363 Photo taking was focused on the concept of communication and was a directed rather
364 than indiscriminate process. Though not always easy, the use of photocue reflection enhanced
365 reflective processes in camp-based and teaching semester-based professional learning
366 experiences in ways that influenced our teacher education practices. The photos provided a
367 prompt for us to interrogate both our experiences and learning during the camp-based and
368 teaching semester-based activities. The photos were used to provide direct evidence of, or in
369 some cases, set the context for a meaningful event. Some of the photos selected were self-
370 portraits; others were of the other participants or the group, this was not important. What
371 mattered was how the photo represented a particularly significant moment or experience that

372 could be or came to be identified as such through reflection-on-reflection-in-action. This
373 allowed us to subsequently gain insight on our own understandings about communication.

374 Photos were an integral part of the reflection process in a number of ways in camp-
375 based learning experiences. From a fundamental perspective, the photos served as a ‘a prop
376 or a prompt to focus’ (Melody, Final FG). In that sense the photos provided a record that
377 helped us reflect on all we had experienced each day, to remind us of key moments during
378 our professional learning activities and to recall why we had taken specific photos. By
379 tracking our own physical activity-based learning experiences the photos supported the
380 identification of meaningful events in camp-based professional learning experiences.
381 Sometimes the photo was selected first and the meaningful event was built around the stand-
382 out moment represented. In other cases, participants were clear on the moment they wanted to
383 write about and went in search of a representative photo (see Figure 4). Marissa explains:

384 I remember in [name of camp] even though we were taking pictures left, right and
385 centre, it was only when we looked up the lot of it afterwards and we were able to
386 think “yeah, that’s a good photo, for me today the meaningful event was ... and that
387 photo represents it”. (Final FG)

388 INSERT FIGURE 4 ABOUT HERE

389 For Peter using the photos was central to identifying the significance of
390 communication in the physical activity-based experiences, “...it was only after it when I
391 looked at the photos where I could even see a link to communication. So it was the thought
392 process after” (Peter, Final FG). For him the photos provided a frame for reflection on
393 experiences and a starting point to analyse and write about learning experiences in relation to
394 communication.

395 The process of sharing and selecting photos was enjoyable and valued as part of the
396 professional learning camp experience. As well as recording the day’s learning the process of

397 sorting and selecting photos also extended learning in new directions. For example, the
398 opportunity to share and discuss photos selections resulted in rich engagement with fellow
399 participants in relation to the choices made. On a few occasions, colleagues were asked for
400 advice on the representativeness of photos which involved an articulation of rationale for the
401 original choice. This back-and-forth engagement about photo choices helped to focus on one
402 another's thinking in ways that were evident in the clarity of reflections and the connections
403 made between learning and teacher education practices. Overall, we found the photocue
404 reflection process in camp-based professional learning experiences to be challenging, but
405 worthwhile in providing a structure that helped to focus attention to our learning and a
406 process that helped us reflect on our experiences in meaningful ways.

407 The photocue reflection process in the teaching semester was different as a teacher
408 (rather than learner) role was at the forefront for us. The processes of reflection, taking and
409 selecting photos as well as writing about the meaningful events identified were now
410 completed alone. The reflective process became artistic (Pithouse-Morgan, Pillay, &
411 Mitchell, 2019) rather than formal and systematic, as without the aid of our colleagues, we
412 generated images or used online images after lectures to represent key moments. Daniella
413 found the process of sourcing a suitable representative image beneficial in clarifying her
414 thinking: "Finding the image was really great in terms of forcing me or helping me focus and
415 clearly articulate exactly the point I was trying to make as opposed to waffling around it"
416 (Final FG).

417 The use of photocue reflection during the teaching semester helped us make
418 connections to how our pedagogical practices might be developed and to translate learning
419 from the camp-based experiences in ways that influenced pedagogical approaches to enhance
420 student learning. Melody explained, "what I found it did for me is it made me think about
421 what I was doing the entire time" (Final FG). Articulation of reasons for the choice of photo/

422 image and writing about the meaningful event helped us further clarify our thinking, to
423 situate current understanding within past experiences, and distil our learning into concrete
424 teacher educator actions, such as, “I think the most useful thing was trying to find a photo
425 that matched what I was thinking and then using the photo to consider how that might shape
426 what I do next” (Daniella, Final FG). See Figure 5.

427 INSERT FIGURE 5 ABOUT HERE

428 During camp-based experiences the process of taking photos during activities
429 promoted an attention to our experiences that demanded both a noticing and evaluation of our
430 experiences which helped us to then subsequently reflect-on-action. In this situation we often
431 selected and wrote about activity-based photos. The challenges faced in taking photos during
432 the teaching semester indicate that we did not succeed in creating time or space to give
433 conscious attention to aspects of our communication *during* teaching. It was only after the
434 fact that we found time to reflect-on our reflection-in-action and then identified what was
435 significant to include in our reflections. Photocue reflection processes were therefore valuable
436 as they provided a structure that helped to sustain attention to the identified problem of
437 practice in ways that reinforced and extended the learning of participants. Daniella explains:

438 But isn't it interesting that from [name of camp] it was clear as day that this was
439 [important], of course we have to do this... So the professional learning would have
440 gone out the window... if it had stopped in [name of camp], it would have been a
441 memory of 'oh, we had a great time' or 'ah, they were lovely'. But keeping going
442 with the process and filling in the templates and actually trying to translate the ideas
443 and thinking about them has definitely added value to my teaching. But also
444 consolidated or extended the actual learning experience too. (II)

445 Overall, how we used the photos and images prompted an attention to on-going reflection and
446 a noticing and evaluation of experiences that would not otherwise have been sustained.

Discussion and Conclusions

447
448 Framed by professional learning, this research explored how the use of photographs
449 influenced teacher educator reflection, learning, and their subsequent teacher education
450 practices. Our overall finding highlights the value of photos in adding an imaginative new
451 dimension to reflection processes by providing a mechanism for reflection on what we would
452 call, reflection-in-practice, allowing us to become better aware of what we were doing in the
453 moments of learning about and teaching about teaching. Using photocue reflection served to
454 scaffold and enhance the professional development experiences of teacher educators
455 (Loughran, 2014) by acting as a prop, opening up conversations, and focusing attention to the
456 role of communication for both learner and teacher across sites of learning. While the use of
457 photos revealed the multidimensional nature of professional learning for physical education
458 teacher educators and enhanced reflective processes, it was the group nature of the
459 professional learning activities that was most important in facilitating these effects.

460 The design of the professional learning activities mattered to the outcomes. From the
461 outset, we recognised the value of being part of a group as more effective than learning alone
462 (Patton & Parker, 2017). Though we know that teacher educators generally prefer informal
463 learning opportunities, we were conscious that, in reality, teacher educators have few
464 opportunities to interact with colleagues and that sharing of practices can be hampered by
465 isolation (Hadar & Brody, 2010). In recognition that personal and professional growth often
466 requires moving out of our comfort zones, we anticipated benefits for our own professional
467 learning through sharing and discussion of our teacher education practices. Multiple
468 interactions with peers were built into the professional learning activities to promote these
469 conversations as part of a deliberate process of reflection on reflection-in-action (Schön,
470 1995). The collective use of photographs and images helped to prioritise reflection (Koster, et
471 al., 2008) as part of the professional learning in ways that kindled conversations about our

472 teaching practices, opening up new possibilities and ways of thinking, that influenced our
473 teacher education practices (Darling-Hammond & McLaughlin, 2011).

474 Teacher educators can struggle to identify the value of professional learning
475 experiences to their everyday practice (Dengerink et al., 2015). We therefore aimed to
476 promote professional learning to directly influence our actions of teacher education. Using
477 the photos and images as part of a structured reflection process allowed us to observe our
478 teaching actions (Schön, 1995), reflection on those actions, evaluate their effectiveness, and
479 develop alternatives that ultimately resulted in changes to the communication aspects of our
480 teaching (Koster et al., 2005). Embedding reflection using photos systematically within the
481 professional learning activities in both camp and teaching settings ensured that we sustained
482 our engagement with the processes of professional learning, even when isolated within our
483 own individual teacher education contexts.

484 The focus of the professional learning activities in this research was on
485 communication skills. Using photos provided a good match for the focus across settings and
486 teacher/ learner roles. In camp-based experiences, personal accomplishments and group-
487 based communication experiences were the core of photos, selected because of the role of
488 communication in task completion (or failure), incorporating both an appreciation of as well
489 as insight into the role of communication. Photos and images from the teaching-based
490 semester were more diverse, reflecting individual contexts, courses, and communication
491 emphases. More often, these photos referenced gaps and stumbling blocks in teacher educator
492 communication apparent from student misunderstandings and feedback.

493 Loughran (2014) indicates that ‘the notion of professional development of teacher
494 educators has begun to emerge as a touchstone for not only what it means to become a
495 teacher educator, but also to learn as a teacher educator’ (p. 1). In that sense, the value of
496 designing professional learning experiences for teacher educators that combined both a

497 learner and a teacher role was paramount. We learned when we engaged in the planned
498 learning activities. The diversity of our photos and topics reflect the multidimensional nature
499 of our professional learning. Importantly, it is clear that we continued to learn in our
500 subsequent teaching because of the continuation of the systematic, scaffolded photocue
501 reflection on reflection-in-action process. Photocue reflection facilitated an opportunity to
502 consider engagement from a learner perspective that provided insight related to
503 communication that was different from, and we suggest not possible in, a teacher role alone.
504 Similar to Parker et al. (2016), in this research, visual methods enabled us to observe and then
505 discuss our own learning and reflect on our practice. As photos often included more than one
506 person, subsequent group-based reflection conversations often broadened into a wider
507 discussion around our learning and the possible implications for future practice. Identification
508 of aspects for future practice then became our focus as we approached the task of reflection
509 with open mindedness, whole-heartedness and responsibility (Loughran, 2010).

510 Photocue reflection provided an unambiguous frame for us to interrogate our
511 professional development experiences in ways that promoted learning about communication
512 as well as influencing our approaches to communication. Using photos and images may be
513 one way of supporting teacher educators to engage systematically in reflection as professional
514 learning (Koster et al., 2008; Smith, 2003) in a number of ways. First, the use of photos to
515 describe and reflect on learning experiences within the camp- and teaching semester-based
516 professional learning experiences supported both reviewing and reflecting on experiences
517 (Lapenta, 2011) and hence our processes of reflection-on-action (Schön, 1983). The use of
518 photos and images prompted us to step back from activity and to engage in *reflective*
519 *observation, or reflection on reflection-in-action*. The reflective process not only led to
520 group processes and learning, but led us to become better at and more conscious of how we
521 were reflecting in-action and its outcomes for our practice. Second, a specific focus for

522 reflection using photos was important in focusing and sustaining attention to communication
523 practices. Photos facilitated new ways seeing, or translating our implicit practices to the
524 explicit, and extended learning about communication in ways that influenced our practice as
525 teacher educators. Third, photocue reflection provided a common focus on communication
526 across camp and teaching semester-based settings that helped to frame and enhance our
527 learning. Extending photocue reflection explicitly into teacher education contexts ensured an
528 attention to the application of professional learning from camp-based experiences. In this way
529 photocue reflection provided a framework for professional learning across sites that increased
530 the relevance of professional development activities by making connections between teacher
531 educator professional learning and their teaching in ways that influenced teacher education
532 pedagogies and practices (Kools, 2015; Schön, 1995). This finding provides insight on how
533 photocue reflection can help address the problem of relevance of professional learning
534 (Dengerink et al., 2015) by connecting learning across professional learning sites and
535 influencing teacher education practices.

536 Wolfenden and Buckler (2013) found that photographs gave agency to their teacher
537 participants and enabled a discourse with the teacher as learner through sharing their
538 experiences based on images that represent their reality. Similarly, the use of photos and
539 prompts related to our learning in camp resulted in our identifying strongly as learners. It was
540 much easier for us to take photos and identify learning in a participant role in camp-based
541 activities. Given that we were together as a group, we often took photos of each other and
542 photos that included others. This naturally led to conversation based on shared experience.
543 Taking photos during the teaching semester was much more challenging and could be
544 considered a limitation. In the first instance, there were difficulties around who could be
545 included in a photo, and questions around getting others to take photos that captured the
546 ‘right’ shot on our behalf. This again highlighted the solo, often isolated role of the teacher

547 educator (Hadar & Brody, 2010). In addition, being a teacher educator is a busy multi-faceted
548 role that did not allow for ‘sightseeing with a camera’. More often than not, the camera
549 stayed in pocket for the full teaching period. We found that it was only subsequent to the
550 experience, through reflection on reflection-in-action (Schön, 1995) that prompted a
551 relooking related to communication from different perspectives to identify meaningful
552 moments. Despite the difficulties at times in both taking photos and capturing suitable
553 representative images, in being able to notice a particular moment in the moment to the extent
554 that it prompted us to take a photo, photos and images were valuable sources in supporting
555 the promotion of attention to experiences and teacher educator reflection in both contexts.
556 The process was clearly a combination of reflection-in-action, being able to recognise a
557 situation as pedagogically noticeable for whatever reason or literary/artistic imagination (e.g.,
558 using imagination to identify how a moment could be captured to represent a metaphor of a
559 pedagogical situation), and reflection-on-action.

560 In a world where meaningful and user-friendly teacher educator professional
561 development is not only necessary but desired, the value of photocue reflection to support
562 teacher educator reflection processes presents a viable option. While there are challenges to
563 using photos as part of that process, the opportunities are greater. The scaffolding of
564 reflection using photocue, particularly with colleagues, provides a way to help teacher
565 educators to prioritise reflection in their busy work lives in ways that enhance professional
566 learning and promote a direct influence on teacher educator pedagogical approaches with pre-
567 service teachers.

568

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