

1 “A much kinder introduction”: exploring the benefits and challenges of
2 paediatric simulation as a transitioning tool prior to clinical practice

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31 paediatric simulation as a transitioning tool prior to clinical practice

32

33 **Abstract**

34 **Background:** Simulated practice is an opportunity to transition nursing students from on
35 campus learning to clinical practice. There is limited evidence on simulated practice’s role in
36 assisting this transition at the beginning of a nursing student’s education in terms of benefits,
37 challenges, differences, and affordances. This study aimed to research the impact of a
38 simulated practice programme as a transitioning tool for first year paediatric nursing students.

39 **Methods:** A participatory action research approach was used to address challenges in
40 student’s transitioning to clinical practice, and a lack of clinical placement capacity. A low
41 technological (physical), high-authenticity (emotional and environmental) simulated practice
42 programme for first year paediatric nursing students was implemented. Forty students across
43 two cohorts were recruited and a qualitative survey was completed post simulation/pre-
44 clinical practice and post-clinical practice. Reflexive thematic analysis was used to develop
45 the resulting themes.

46 **Results:** There was an initial 93% response rate after the simulated practice and 88% after
47 clinical placement. Eight themes (‘bridging’ from simulation to practice and to enhance
48 practice; ‘preparedness’ once on clinical placement; ‘applied learning’ reliably transferred to
49 practice; ‘skill decay’ between simulation and practice; ‘same but different experiences’
50 between simulation and practice; simulation and clinical ‘practice pace’; ‘safety’ of
51 simulation; ‘unique affordances’ of simulated practice) were constructed from the data and an
52 additional nine sub-themes were identified (transference to practice; practice enhancement;
53 slow-motion care; hectic; it is safe; it was safe; feedback and reassurance; practice and
54 practice; unpressured). Collectively the themes indicated that simulated practice in this

55 context is conveyed as a well-being tool in addition to having experiential learning and
56 bridging benefits.

57 **Conclusions:** This study revealed that simulated practice can assist in transitioning paediatric
58 student nurses to clinical practice. It identified its value in terms of fostering holistic learning,
59 well-being, and bridging theory to practice. To ensure long term effectiveness, simulation
60 maintenance training, booster training and refresher strategies should be included as part of
61 the programme to prevent skill decay. Future studies should consider isolating these key
62 findings for a more in-depth look at their meaning.

63

64 **Keywords**

65 Simulation; low-technology; high-authenticity; children’s nursing; paediatric; simulated
66 practice; clinical placement; pre-registration nursing; well-being; transition to practice

67

68 **Introduction/Background**

69 Clinical skills are an essential part of healthcare provision and nursing education. Traditionally
70 nurse educators have relied on clinical placements to provide practical and contextual
71 experiential learning opportunities (1). There are however a range of practical restrictions that
72 come with clinical placement, for example, only a limited number of students can be on clinical
73 placement at any one time. At a time when healthcare workforce shortages are reported, the
74 need to train more nurses is vital. However, the constrained capacity of clinical placements has
75 been long recognised as an issue in many countries trying to meet this increasing demand (2).
76 The need to identify alternative ways to train nurses and healthcare practitioners that enhances,
77 not replaces, clinical practice is even more pressing given the increased pressure and safety
78 concerns that the COVID-19 pandemic has created in healthcare settings (3, 4).

79

80 Simulation is now widely used in nursing education (5). Like clinical placements, simulation
81 is a form of experiential learning (6). Students can learn and practice clinical skills in a
82 simulated environment, with a range of equipment and simulated patients that approximate a
83 clinical setting (7). Simulation, as a pedagogical strategy, has several advantages over
84 traditional didactic approaches, one being that it allows students to apply the cognitive and
85 psychomotor skills required to competently undertake clinical tasks (8). Further, simulation
86 allows students to practice these skills in a safe, supportive environment before entering clinical
87 placement. This allows students to safely make mistakes, which will not impact care, and to
88 receive constructive feedback, further enhancing critical reflection and self-awareness, which
89 are important skills in themselves.

90

91 In 2014, a study in the USA concluded that up to 50% of clinical placement could be effectively
92 substituted by simulation in core nursing courses (9). Further studies have shown that there is
93 no significant difference to student outcomes in relation to clinical competency, knowledge,
94 and confidence when using simulation to replace a percentage of clinical practice (10, 11, 12,
95 13). Student perceptions of simulation compared to clinical placement have also been explored
96 and have been deemed positive overall (14, 15, 16). Several studies have examined the role of
97 simulated practice in assisting student nurse's transition to clinical practice as new graduates
98 rather than students at the beginning of their educational journey (17, 18, 19, 20, 21).

99

100 While simulation has a number of benefits and the potential to address workforce and training-
101 related issues, a large amount of the literature has focused on simulation when used to train for
102 specific high-risk, rare events (e.g. resuscitation) and in high-technological settings. Broadly,
103 high-technological simulation utilises sophisticated technology and mannequins to recreate a
104 clinical scenario as closely as possible (21, 22). The drawback of such an approach is that it

105 can be expensive, resource intensive and may not always meet the required learning needs (23,
106 24). This contrasts with low-technological simulation, which uses simple, low-cost alternatives
107 and often sources everyday materials to simulate a clinical environment (25). In this study, the
108 terms high and low technological simulation are used rather than high and low fidelity, as
109 fidelity is a multi-dimensional concept that incorporates the physical (technology),
110 environmental and emotional aspects of the simulation design and therefore should not be a
111 judgement on realism unless incorporating all three dimensions at a minimum (26).

112

113 The focus of training for first year United Kingdom nursing students is the development of
114 fundamental nursing skills aimed at facilitating their transition to clinical practice. Low-
115 technological simulated practice offers simple, safe, low cost-settings to recreate common,
116 realistic and relevant clinical scenarios within the scope of the knowledge and skills required
117 for this cohort. Beyond this, there is an increasingly pressing need to explore the potential of
118 simulated practice as a pre-registration training tool, given that the nursing workforce
119 expansion is a priority (27) and there are already limited clinical placements. Placement
120 experience may not always meet the learning needs of students but instead meet a registration
121 requirement focussed on hours rather than opportunities (4). By engaging students who have
122 had no clinical practice experience, there is an opportunity to identify if simulation is a reliable
123 tool to enhance the transition into clinical practice.

124

125 **Aim**

126 The aim of this study was to research the impact of a low-technological, high-authenticity
127 simulated practice programme on a UK first-year children's nursing pre-registration
128 programme. The study sought to determine the programmes use as a transitioning tool to
129 clinical practice and to identify the benefits, challenges, differences, and affordances.

130

131 **Research questions**

132 What are the key challenges, differences and affordance of implementing simulation prior to
133 first clinical placement in a pre-registration children's nursing program?

134

135 **Methods**

136 **The intervention**

137 Table 1. to be placed here.

138

139 **Research design**

140 **Methodology**

141 This study utilised a participatory action research approach (28), whereby practitioners (in
142 this case academic faculty) identified a problem and used their own knowledge to
143 conceptualise it (student challenges in transitioning to clinical practice, lack of suitable
144 clinical placement capacity) and provide a solution (a customised simulated practice
145 environment) (Table 1). The solution was then implemented and evaluated qualitatively. The
146 reporting of this study follows COREQ guidance (29).

147

148 **Methods**

149 Two cohorts (intakes per year) of first year student nurses enrolled in a Bachelor of Science
150 (Honours) Nursing (Child) programme were recruited (20 per cohort, 40 in total). We
151 included both cohorts to ensure a breadth of data and perspectives in line with previous
152 studies (30). Purposive sampling was used to intentionally select participants (first year
153 cohorts, pre-clinical practice) who were required to undertake the simulation activity under

154 study, and therefore answer the study research question. There were no differences in terms
155 of clinical experience across the cohorts and students had no prior experience of simulation.

156

157 Students undertook two consecutive weeks of simulated practice totalling 45 hours spread
158 over 3 days per week (7.5 hours per day) in their first semester. In addition, they were
159 required to complete a workbook as independent study which was a reflection of the
160 simulation activities. During the simulations, low technological mannequins of varied ages
161 were utilised. Creative solutions were employed to simulate different clinical conditions by
162 using low-cost household resources (Table 1).

163

164 Students completed an-open ended survey at two points in time, after the initial simulation in
165 the first semester (pre-clinical placement), and after they completed their first clinical
166 placement (post) ten weeks later. The survey was developed based on

- 167 1. The theoretical underpinnings of Kirkpatrick's model of educational intervention
168 evaluation (31);
- 169 2. Previous research evidence using simulation evaluation surveys (30);
- 170 3. Discussions with the team and students to assess what was practical and feasible
171 given the students programme to maximise their feedback within their available time

172

173 In the first survey students were asked to complete a series of questions designed to elicit
174 qualitative data related to their experiences of simulation; what they had learnt, their
175 confidence and the perceived advantages and challenges of simulation. After completing
176 clinical placement, students completed another survey where they were asked about the skills
177 they had applied whilst on placement, how placement compared to simulation and again, the
178 perceived advantages and drawbacks of simulation.

179

180 Data analysis

181 A reflexive thematic analysis was conducted drawing on the team's different experiences in
182 nursing and simulation to generate shared meaning (32). MAXQDA2020 software was used
183 to assist in analysing the pre and post data (33), by identifying patterns amongst the data,
184 generating coding maps where semantic networks were formed that revealed thematic
185 relations pertaining to the research questions through interconnected codes. All authors had
186 input to the process.

187

188 Research Ethics

189 This research was approved by the University of Greenwich Human Research Ethics
190 Committee (reference number: UREC/15.5.5.10).

191

192 Findings

193 Thirty-seven pre-placement students and 35 post placement students completed the surveys
194 respectively (93% response rate and 88% after follow up). Eight core themes ('bridging' from
195 simulation to practice and to enhance practice; 'preparedness' once on clinical placement;
196 'applied learning' reliably transferred to practice; 'skill decay' between simulation and
197 practice; 'same but different experiences' between simulation and practice; simulation and
198 clinical 'practice pace'; 'safety' of simulation; 'unique affordances' of simulated practice)
199 that reflected both the pre and post clinical placement perspectives were constructed from the
200 data and an additional nine sub themes were identified (transference to practice [pre]; practice
201 enhancement [post]; slow-motion care [pre]; hectic [post]; it is safe [pre]; it was safe[post];
202 feedback and reassurance; practice and practice; unpressured). Figure 1 provides a thematic
203 model of the themes that were constructed and categorised according to the research aims. A
204 description of the themes are reported below.

205

206 Figure 1. to be placed here.

207

208 [Transitioning benefits](#)

209 ['Bridging' from simulation to practice and to enhance practice](#)

210 Coding of the data identified a 'bridging' theme that had two components. Firstly,
211 **'transference to practice'** (sub-theme) where students were linking specific aspects of their
212 simulated practice experience directly to their future placements; revealing a degree of
213 potential for the simulated practice to have a direct bridging affect. The direct transfer
214 potential of the learning in simulated practice to future placements included areas related to
215 relationship building, initiative taking, confidence, technical skills acquisition, language, and
216 a general enthusiasm for both simulation and clinical practice.

217 *“I will strike up conversations when I go into practice and chat with patients*
218 *and families to help build a therapeutic relationship. I am less hesitant to do*
219 *so now”*

220 Secondly, a **‘practice enhancement’** (sub-theme) revealed how simulated practice
221 was an opportunity for students to enhance what they had already learnt in practice,
222 or try things they had not had the opportunity to try in practice.

223 *“It was beneficial to me because I had come across some of the things in*
224 *practice before but didn’t know what to do e.g. what information you can and*
225 *can’t share with who”*

226 **‘Preparedness’** once on clinical placement

227 This theme revealed that once on placement students felt that the simulated
228 practice had given them confidence, reduced anxiety and prepared them for
229 specific skills and an overall understanding of clinical practice.

230 *“This made me a lot more relaxed when I started in the wards and prevented*
231 *a lot of anxiety”*

232 **‘Applied Learning’** reliably transferred to practice

233 Many students gave specific examples of what they had learned during simulated practice
234 that they applied to their clinical placements. This provided reliable evidence that the learning
235 had been transferred.

236 *“Yes. I have applied my skills to the drug calculations, answering telephone*
237 *queries, bed-making, correct way to clean, observations”*

238 Transitioning challenges

239 ‘Skill decay’

240 Another theme identified was in relation to potential ‘**skill decay**’ between simulation and
241 clinical practice. Participants also revealed how this could be mitigated in the future.

242 *“Depending on where you are on placement some of the techniques you learn
243 cannot be practiced and there is a tendency to forget because of lack of use”*

244 *“Every person will have different placements so for some people some topics
245 covered in simulation will come ‘late’ and for some ‘too early’”*

246 Differences between simulated and clinical practice

247 ‘Same but different experiences’ between simulation and practice

248 A theme of ‘**same but different**’ emerged from the data related to the simulation design. This
249 highlighted key areas where the simulated practice mirrored practice and where it was
250 different more generally. Similarities related to equipment, scenarios and the skills that were
251 targeted. Differences were in relation to being able to control the simulated environment
252 therefore exposing the students to more than what they would have potentially been exposed
253 to in practice.

254 *“Very close to reality as in simulations we used similar equipment that we
255 used out in placement”*

256 *“The environment isn’t controlled in practice, therefore there is more
257 pressure. It is also awkward doing some obs”*

258 Simulation and Clinical ‘Practice Pace’

259 Another theme that was developed in relation to the key differences between simulated
260 practice and clinical practice, was: ‘**Practice pace**’, where simulated practice was seen as
261 ‘*slow motion care*’ and clinical practice was viewed as ‘*Hectic*’ (sub-themes).

262 *Slow motion care*

263 *“The benefits were excellent of SP [simulated practice]. It was slow motion*
264 *care so I was able to think more and follow actions through correctly”*

265 *“The benefits of this was that I was able to feel safe enough to voice any*
266 *concerns I felt I was able to go through things for as many times as I needed.*
267 *Whereas in practice, I didn’t have much time to go over things”*

268 *Hectic*

269 *“In practice everything is faster and more hectic but it was helpful to have*
270 *had the opportunity to do things at a slower speed and we had the time to ask*
271 *questions in detail”*

272 *Everything is much faster in clinical practice. I felt more pressure to do tasks*
273 *well in practice but in the simulations I felt at ease”*

274 ‘Safety’ of simulation

275 Another theme that highlighted key differences between simulated practice and clinical
276 practice was in relation to ‘**Safety**’, ‘**it is safe**’ (stated during simulated practice), and ‘**it was**
277 **safe**’ (stated from a reflective clinical practice perspective on simulated practice) [sub-
278 themes]. This highlighted the general feeling of safety that simulated practice enabled both
279 during simulated practice and on reflection.

280 *It is safe*

281 *“Yes, I felt I was able to make mistakes during simulation and was taught*
282 *the correct way without judgement or annoyance”*

283 *“My confidence has definitely improved because SP [simulated practice]*
284 *was a safe environment and the mistakes I made here I have learned from as*
285 *well as from others mistakes and really good strategies of others”*

286 *It was safe*

287 *“It was a safe place for me to get things wrong”*

288 *“It felt easier to learn how to do things [in simulation] and more relaxed as*
289 *it wouldn't matter if there were any mistakes made”*

290 ‘Unique affordances’ of simulated practice

291 In addition, the analysis revealed three unique affordances of simulated practice; **‘feedback**
292 **and reassurance, ‘*practice and practice*’, and ‘unpressured.**

293 *Feedback and reassurance*

294 *“Having feedback from teachers and fellow students was constructive and*
295 *impersonal – I think that this was a much kinder introduction to answering*
296 *the phone in front of them rather than at the nursing station”*

297 *Practice and practice*

298 *“It gave us a chance to practice and practice until we understood how the*
299 *equipment worked”*

300 Unpressured

301 *”The benefits of simulated practice I felt were much greater as opposed to*
302 *practice at each situation, methods and clinical skill was explained fully and*
303 *I did not feel pressured as I would in practice to get things right the first*
304 *time”*

305

306 Discussion

307 The two themes of bridging and preparedness that emerged in this study spoke to the
308 transitioning benefits of student’s simulated practice experiences to their clinical practice.
309 Previous studies have aimed to identify if simulation bridges the theory practice gap for
310 graduate nurses, however these studies have focused on its ability to ‘scaffold’ the learning
311 experience in preparation for practice (34,35), and relied on students’ perceptions of
312 simulation as a transitioning tool more generally (36-38). This study is the first to provide
313 evidence of first year nursing students consciously linking their simulation experience to their
314 clinical practice. The pre simulation and post clinical practice nature of this study has
315 provided evidence of simulation’s ability to aid student’s transition to clinical practice which
316 has transferability potential to other contexts. More specifically, it has highlighted the value
317 of a low technological, high-authenticity simulation design’s value for this purpose.

318

319 Students expressed that simulated practice was an anxiety-reducing tool when it came to
320 clinical practice. This is in direct contrast to much of the medical literature in this area that
321 presents simulation as ‘anxiety provoking’ (24, 39-41). This study included many of the
322 recommendations for mitigating anxiety in simulation evident in the literature such as
323 creating a safe learning environment, developing trusting relationships and supporting

324 performance expectations (42) (43, 44). This is further evident in the ‘applied learning’ theme
325 where students had directly transferred their learning from the simulated practice to clinical
326 practice by using concrete examples. This helps answer the research question as to whether
327 this specific programme was beneficial in transitioning first year pre-registration paediatric
328 nurses to clinical practice. This study revealed that the programme provided the students with
329 additional learning opportunities compared to clinical practice in terms of more exposure and
330 opportunity to undertake skills and practice communication techniques. The use of a
331 simulated practice programme can therefore not only prepare students for practice, but also
332 enhance their experience once in practice, as well as providing them additional opportunities
333 that they may not get on clinical placement.

334

335 Conversely, the study highlighted the challenges associated with the potential for skill decay
336 if the clinical practice following the simulated practice did not provide an opportunity to
337 practice what they had learnt, or if the time between both experiences was too long. This is a
338 legitimate concern for educators when utilising simulation programmes in this context.

339 Sullivan, Elshenawy (45) provided a framework that aimed to mitigate these issues through
340 the use of simulation maintenance, booster and refresher training strategies. It is suggested
341 that similar programmes include these strategies as part of simulation design considerations.
342 This revelation has provided a valuable addition for the current programme.

343

344 The ‘practice pace’ theme highlighted the students differing experience between simulated
345 and clinical practice with the language of ‘slow motion care’ and ‘hectic’ giving a sense of
346 learning preference towards the simulated practice experience over the clinical practice
347 experience. Ironically, simulation is often designed to mimic the pace of clinical practice,
348 however, this data has revealed that students valued the opportunity to undertake a slowed

349 down version of clinical practice. This questions elements of simulation design in relation to
350 'fidelity' and the choices made in what is replicated and what is deliberately changed to
351 create better learning opportunities. This outcome aligns with Escher, Rystedt (46) who in
352 their study on methods related to simulation-based teamwork training concluded that novices
353 may gain from a slower tempo simulation experience.

354

355 A feeling of safety both pre and post-clinical placement in relation to simulated practice was
356 reported in this study. Psychological safety and safe environments are often emphasized
357 amongst the simulation literature (47, 48); however, less emphasis is put on the feelings of
358 safety it provokes for students in relation to clinical practice. This highlights another unique
359 affordance of simulated practice in enabling constructive feedback and reassurance,
360 opportunities to 'practice and practice', and an unpressured environment. This provides a
361 clear rationale as to why simulated practice is beneficial in its own right and not just a means
362 to replace clinical practice.

363

364 Collectively, the themes of safety, anxiety-reduction, slow-motion care, preparedness,
365 constructive feedback and reassurance, and reduced pressure reveal that simulated practice in
366 this context can be seen as a well-being tool in addition to having experiential learning and
367 bridging benefits.

368

369 Limitations

370 This was a small study that included two groups of students at one point in time in their
371 training from one higher education institute and therefore the outcomes are specific to the
372 context presented. However, there is the potential for the results to be transferable to other

373 institutions with learners at a similar stage in their training and with a similar course
374 structure.

375

376 Future directions

- 377 • The value of simulated practice for first year paediatric nursing students can be
378 considered holistically as a learning, well-being, and bridging tool prior to the first
379 clinical practice experience.
- 380 • Simulated maintenance, booster and refresher strategies should be included as part of
381 a simulation programme design to prevent skill decay.
- 382 • The pace of the simulation should balance both ‘fidelity’ and learning requirements.
- 383 • Future studies should consider isolating these key findings for a more in-depth
384 exploration of their meaning.

385 Conclusion

386 This qualitative study has provided evidence that simulated practice can help transition first
387 year paediatric student nurses to clinical practice. It has revealed the benefits of simulated
388 practice as an educational tool, its similarities and differences to clinical practice, and its
389 potential challenges, as well as unique affordances. The low technological, high authenticity
390 design of the simulation programme examined in this study was clearly appropriate for the
391 learner’s requirements and enabled students to link between their simulated practice and
392 clinical practice experiences.

393

394 Declarations

395 **Ethics approval and consent to participate** - This research was approved by the University
396 of Greenwich Human Research Ethics Committee (reference number: UREC/15.5.5.10).

397 **Consent for publication** – Not applicable.

398 **Availability of data and materials** - The datasets used and/or analysed during the current
399 study are available from the corresponding author on reasonable request.

400 **Competing interests** – The authors declare that they have no competing interest

401 **Funding** – This research was supported by the University of Greenwich.

402 **Authors' contributions** - The research team consisted of six experienced academics in the
403 field of simulation, nursing and healthcare research and education, with a range of 5 to 20
404 years of experience. Two of these academics (NN, HS) conceptualised and realised the
405 simulated practice intervention and had an established teacher-student relationship with the
406 study participants and another two academics/researchers, without direct teaching
407 commitments for this student cohort (CM, KPC) theorised and realised the research design, to
408 ensure no bias or conflict of interest. SMW and RE conducted the study analysis, and write-
409 up of the results with input from all authors.

410

411 **Reflexivity statement** - The team comprised female academics, as representative to the
412 nursing profession, with a range of research experience, and from a predominantly white
413 middle class background, with one Black academic and one male academic.

414 All researchers strongly advocate simulation in healthcare teaching which could have
415 introduced unconscious bias in data collection and analysis. However, they worked
416 independently and collaborated towards the end of the study to minimise bias

417 The researchers who worked on conceptualising and implementing the simulation programme
418 were senior educators in nursing and had a strong relationship with the student participants,
419 through an educator-student bond. The researchers responsible for conceptualisation and
420 implementation of the study, had a unique insight into the student needs and clinical

421 placement capacity, creating a customised programme aligning to national guidelines on
422 simulation in lieu of clinical practice. The researchers involved in recruitment and data
423 collection did not have a prior relationship with the students. There was no coercion to
424 participate in the study. The main researcher for data collection was a senior academic from
425 another healthcare discipline (radiography), with a strong interest and expertise in simulation,
426 which allowed them to see the work through a different interpretative lens and gain the
427 students' trust as an experienced researcher, independent to the students' learning journey.
428 The researchers working on data analysis worked separately to those who worked on design,
429 implementation and data collection but they regularly met online to discuss findings.

430

431

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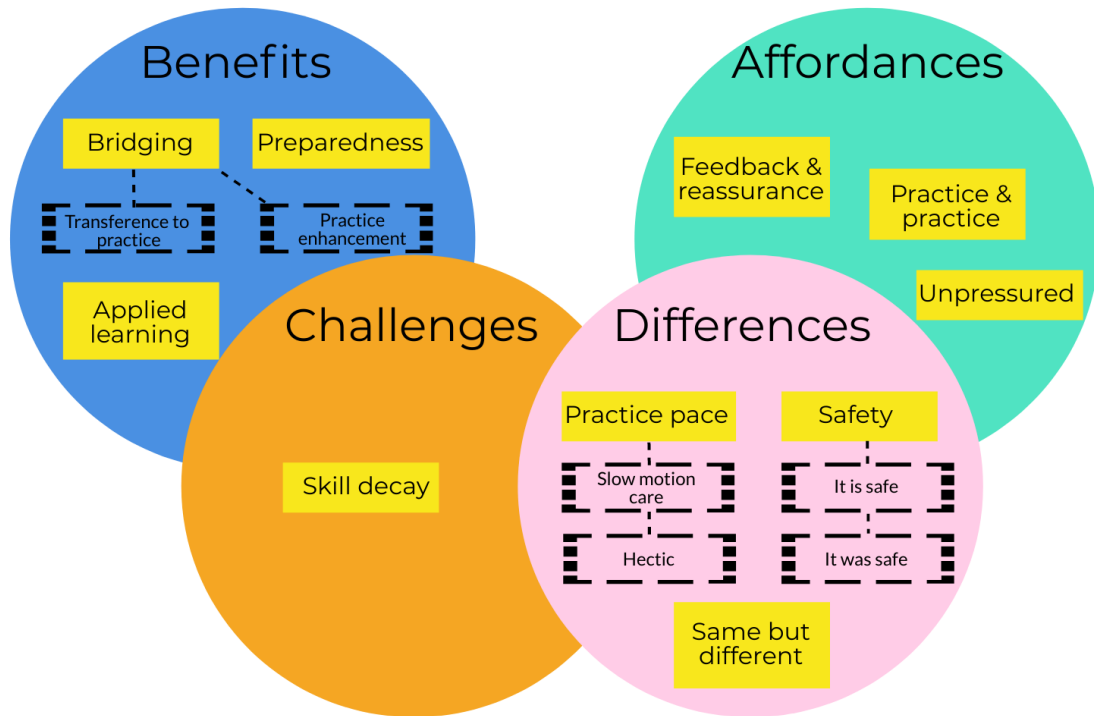
Simulation element	Descriptor
Participant orientation	UK first year student nurses studying for their BSc (Hons) Nursing (child) were expected to wear uniform when attending simulated practice and to behave professionally at all times. They were expected to plan the care they would be expected to provide as first year nursing students on clinical placement. Students were assigned patients and a nursing care task; they were told to work in pairs and were encouraged to challenge each other as to their approach. For example, why use an oral thermometer on a toddler.
Simulator type	<p>Low technological mannequins of varied ages were utilised. Creative solutions were employed to simulate different clinical conditions by using low-cost household resources. For example, mustard seeds, mint-gel and mustard paste simulated the appearance and consistency of neonatal diarrhoea in a nappy; canned vegetable soup simulated vomit; and tea simulated urine.</p> <div style="display: flex; justify-content: space-around;">     </div>
Simulation environment	<p>The simulation was university based within the skills labs, which were adapted to represent children's wards. Rooms were modified and thoughtfully equipped to mirror a ward environment.</p> <div style="display: flex; justify-content: space-around;">    </div>
Simulation scenario	<p>The scenarios evolved slowly over a six-day period allowing the students to develop and rehearse the knowledge and skills they acquired. There were a total of eight patients on the ward each day. Ranging in ages from 15 days to 20 years. The patients had non-complex conditions such as whooping cough, pneumonia, epilepsy, fractured femur, acute asthma attack, minor burns, appendectomy, and salmonella.</p> <p>Day 1 Handover, carry out vital observations (plus neurological observations where required) and documentation, admit new patients (some with D&V and therefore PPE required), complete admission assessment and care plan development. Debrief at end of day.</p> <p>Day 2 Same as day one plus implement care plans created the previous day and care for new patients being admitted. Debrief at end of day.</p> <p>Day 3 Same as days one and two plus medicine management (administer medicine to all patients, checking the prescription chart, calculating the dosage and using an appropriate clinical hold). Debrief at end of day.</p> <p>Day 4 Continuing with shift tasks and patients admitted previously plus wound dressing using non-touch technique (scald on the chest, a laceration to the head). Debrief at end of day.</p>

	<p>Day 5 Continuing with the same patients as day four plus new admissions. Focus on communication through managing phone calls (calls received from health professionals, family members, and clinical reports). Plus prep a patient for theatre. Debrief at end of day.</p> <p>Day 6 Same patients and tasks as day 5 plus a focus on managing confrontation. The scenario led to talking to parents. For example, explain home safety to the mother of the child with the scald, explaining why the teenager in isolation couldn't come out of the room, deescalating the father who did not have access to his son without a social worker and who just burst onto the ward. Debrief at end of day.</p> <p>Final debrief for the entire period.</p> <p>Throughout the period students would care for the different patients which enabled them to rehearse and practice the various skills and knowledge they have obtained. At the end of the last shift they were able to choose which patient they wanted to care for to fill any gaps in knowledge or skills.</p>
Instructional design	<p>The scenarios were mapped around the UK's Nursing and Midwifery councils (NMC, 2007) five essential skills clusters to ensure students developed and rehearsed a range of skills required for safe and effective practice. Dedicated clinical scenarios, feedback and debrief-type discussion were included to reinforce core nursing and children's-nursing-specific skills. Aspects of the patient care were broken down and delivered at a slower pace than they would be in reality. This created an environment for peer support, learning and discussion in a safe environment. The students had time to plan their care and discuss with both their peers and the facilitators the rationale for their actions. To address the complex construct of employability, the focus was also extended to "soft transferable skills" such as efficient communication with patients, establishing a therapeutic relationship with parents/relatives, gaining trust and showing compassion. These were supported by customised role-play interventions that help students appreciate the different perspectives (patient, parent/carer, healthcare professional) and enabled them to practise key attributes of a successful children's nurse, including managing themselves (in a stressful environment), others (colleagues, the agitated parent), information (communicating accurately while ensuring confidentiality) and the task (prioritisation).</p> <p>Students undertook two consecutive weeks of simulated practice totalling 45 hours spread over 3 days per week (7.5 hours per day) in their first semester. In addition they had a workbook to complete as independent study which was a reflection of the simulation activities. The scenarios developed on a daily basis; initially the focus was on one core skill per scenario. However this was gradually built up to combine several core skills for total patient care. Each day building on and reinforcing the previous day's simulation. This allowed the students to rehearse and perfect the core skills.</p>
Feedback/debriefing	<p>Feedback was a constant feature of the simulation. For example, every day started with a handover, followed by a discussion to establish understanding of the handover. The students could ask the facilitator at any point for guidance, which they did. This resulted in small feedback sessions between the facilitator and two students. At the end of each day there was a verbal debrief with the whole group asking the students what they had learnt, and what they felt had gone well.</p> <p>Facilitators consisted of three experienced academics in the field of nursing education, who had an established teacher-student relationship with the study participants. There was a five to one student to staff ratio.</p>

563 **TABLE 1.** REPORTING GUIDELINES FOR HEALTH CARE SIMULATION RESEARCH: EXTENSIONS TO THE CONSORT AND
564 STROBE STATEMENTS (CHENG ET AL., 2016)

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Transitioning: Simulation practice to clinical practice



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