Application and student evaluation of a Clinical Progression Portfolio: A pilot

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\begin{abstract}
Clinical practicums are often limited by a lack of meaningful communication between nursing students and registered nurses (RNs). This pilot study evaluated the utility of the Clinical Progression Portfolio (CPP) to enable students to learn how to initiate engagement with their RNs and to develop their capacity as students to learn. The study employed a descriptive survey design, with a convenience sample of second-year Bachelor of Nursing (BN) students in Brisbane, Australia. Questionnaires were completed by 129 students from 20 clinical practicum groups. Students who used the CPP were more favourable in their usefulness ratings (\(r_{pb} = 0.531, p < 0.001\)) and, furthermore, those that used the CPP most frequently were also more favourable (\(r = 0.555, p < 0.001\)). Students thought the CPP helped clarify learning and target appropriate practicum opportunities. When used, the CPP was an important part of practicum, used frequently and considered useful. The CPP format met the needs of students as it was pocket-sized. Overall, students reported that the CPP was a useful learning and communication tool as it provided them direction in how they might maximise opportunities to address their learning needs.
\end{abstract}

\section*{Introduction}
Clinical placements are an important part of a nursing student’s education, offering a ‘real world’ context (Levett-Jones \textit{et al.}, 2006) and giving the student an opportunity to experience the professional life of a nurse (Levett-Jones and Bourgeois, 2007). Various models of clinical learning (for example, preceptor, facilitation, clinical education units) are cited within the literature (Rowan and Barber, 2000; Budgen and Gamroth, 2008; Henderson \textit{et al.}, 2006; Letizia and Jennrich, 1998). Central to the success of all these clinical learning models is the RN-student nurse relationship (known as RN buddy in this current context), which forms the basis of the learning experience. Previous research has shown that a positive and open staff-student relationship is integral to creating a sense of belonging and collegiality for the student nurse (Levett-Jones \textit{et al.}, 2009). This is especially important given that students have been shown to be most successful on their clinical placements when they feel appreciated, supported and receive recognition of their presence by their RN buddy (Papp \textit{et al.}, 2003).

Unfortunately, however, the healthcare environment is not always conducive to learning (Levett-Jones \textit{et al.}, 2006), with workplace pressures preceding student learning. As such, clinical practicums are frequently characterised by a lack of meaningful communication between nursing students and RN buddies, with students becoming frustrated when their buddy is not available (Nehls \textit{et al.}, 1997). For example, in an unpublished review of routine quality improvement feedback on aspects of clinical education from partner health-care settings sought in 2005–2007, RN buddies often reported a lack of understanding of where students were at in their learning, which increased repetitious tasks and decreased meaningful learning. Students also reported in evaluative feedback feeling anxious when meeting a clinician for the first time and frequently worked with a different RN buddy each day during their placement.

\section*{Background/literature}
Portfolios, which have been used as a learning and professional development strategy within the nursing profession for some time (Harris \textit{et al.}, 2001), are reported to encourage critical thinking, promote discussion between student and teacher, and assist students to develop reflective and self-assessment skills (McMullan \textit{et al.}, 2003). There are numerous definitions of portfolios (for example, see Brown, 1995; Karlowicz, 2000; Price, 1994), with McMullan \textit{et al.} (2003, p. 288) summarizing the variations as “…both the products and processes of learning …[in the] achievement…[of]…
personal and professional development…”. There are thought to be three main ways in which portfolios are used in clinical learning (Cooper, 1999): 1. the biographic approach used to record achievements; 2. the negotiated learning approach used for learning purposes; and 3. the competency approach which is used for clinical assessment. The latter approach is how portfolios are chiefly used (McMullan et al., 2003). For example, in the United Kingdom, nursing students are currently required to have an ‘Ongoing Achievement Record’ (OAR), formerly known as ‘student passports’, which form part of the assessment of practice (NMC, 2006, p. 28).

The CPP, however, is based on the negotiated learning approach, being designed to provide students with the tools to facilitate their own learning of how to initiate engagement with clinicians and, importantly, does not require a formal assessment against competency standards (see Cooke et al. (2009) for further details on the composition of the CPP). This concept of developing students’ skills to become more self-reliant learners is premised on the idea of agentic learning (Billett and Somerville, 2004).

In its simplest form, agentic learning refers to a person’s internal capacity to learn. Social cognitive theory is centred on such an agentic perspective, seeing individuals anticipating, evaluating and regulating their actions (Bandura, 2001). An individual’s agentic action relates to how they construct and act on their goals (Somerville and Bernoth, 2001) and specifically includes the core features of: intentionality; forethought; self-reactiveness; and self-reflexiveness (Bandura, 2001). When engaged in learning, the extent of agentic action and, ultimately, the extent of learning, is dependent on the individual and their unique cognitive experience (Billett and Somerville, 2004; Valsiner, 2000). Researchers have identified the role of self-regulation in the learning process (Zimmerman, 2000), which is understood as: ‘self-generated thoughts, feelings, and behaviors that are oriented to attaining goals’ (Zimmerman, 2002, pp. 65–66). Evidence suggests that an individual’s successful use of self-regulatory processes helps increase academic achievement (Zimmerman and Martinez-Pons, 1986) and, furthermore, that these self-regulatory processes are able to be learned (Schunk and Zimmerman, 1998).

The Clinical Progression Portfolio (CPP) was developed as a pocket-sized booklet for students to use throughout their program of study to aid them in maximising clinical learning opportunities by becoming more self-reliant and purposeful in their capacity to learn (agentic learners) and improve communication with their RN buddy. The CPP is not a formal requirement of the BN program or part of the assessment process. The development and initial evaluation of this CPP’s composition was undertaken by an expert reference group and is reported on in Cooke et al. (2009). This current paper reports the next stage of development of the CPP. It aims to outline the results of a pilot descriptive survey regarding the application and utility of the CPP during clinical practicum for students enrolled in the Bachelor of Nursing (BN) program at one campus of a School of Nursing and Midwifery in Australia.

Methods

Research questions

The pilot study aimed to address four research questions:

1. To what extent do students perceive that the Clinical Progression Portfolio enhances their ability to prepare themselves for their clinical practice?

2. To what extent does the Clinical Progression Portfolio enable students to engage effectively and purposively with clinicians during their clinical placement on a day-to-day basis?

3. To what extent does the Clinical Progression Portfolio provide students with the means to process day-to-day accounts of clinical learning progress to assist in daily goal setting and achievement?

4. To what extent does the Clinical Progression Portfolio enable students to develop a shared understanding of the learning focus between themselves and RN buddies?

Design

As this was a pilot study, a descriptive survey design was employed and undertaken during the two-week clinical practicum in May/June, 2008. This quantitative methodology was employed as it enabled the application and utility of the CPP to be objectively tested and measured, with the student self-report data providing an overview of use. Ethical approval for the study was granted by the University human research ethics committee. No CPP was viewed in terms of content. Only student survey responses were seen, aggregated and reported.

Sample

All second-year students enrolled in the BN Program at one Australian University campus were eligible to complete the survey (n = 164). University employed clinical facilitators distributed and collected surveys from students at the end of the clinical practicum. Students were informed that involvement in the study was voluntary and that completion of the survey implied informed consent.

Data collection

The survey, which consisted of 20 items, was developed by the research team. It collected data pertaining to: student demographics; use of the CPP; general utility of the CPP and each of its subsections; and appropriateness of the CPP’s format. Seventeen of the survey items were closed response questions, typically requiring students to respond on a five-point Likert scale. Three items were open response questions requiring comment.

Data analysis

The Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA), Version 16.0 was used to analyse survey data. Basic frequencies were established for all questions on the survey and open responses were coded. The Kolmogorov–Smirnov test was applied to check for a normal distribution. Non-parametric Spearman’s rho correlational tests were undertaken regarding the frequency of CPP use and point–biserial correlations were used to examine student use of the CPP. These correlational tests, for both frequency and use, were run in relation to the following variables: clinical practicum group; background prior to admission to BN program; current employment in health care sector; overall usefulness of the CPP; and usefulness of each section of the CPP. Only those tests that showed a significant correlation at a level of p < 0.05 are presented in the results.

Results

A total of 129 students from 20 clinical practicum groups completed the questionnaire, resulting in a 78.7% response rate. Students came from a range of backgrounds on admission to the BN program. Where information was provided (n = 82 out of 129), just over half (n = 44) had some specific nursing background and were: Diploma level nurses (n = 27); overseas registered nurses (n = 11);
or nursing students from another university (n = 6). A quarter (n = 21) had no nursing background prior to program admission and were, for example, home managers or returning to work from a career break. The remaining students were graduates from another undergraduate program (graduate entry) (n = 14) and school-leavers entering at an undergraduate level (n = 3). Half of students currently worked in the health care sector (n = 57 out of 116) with Table 1 showing that it was most common for the student to be a Diploma level nurse or an Assistant In Nursing (n = 23, respectively).

### Table 1
Current role in the health care sector at time of survey.

<table>
<thead>
<tr>
<th>Current role in the health care sector</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma level nurse</td>
<td>23</td>
<td>19.8</td>
</tr>
<tr>
<td>Assistant in Nursing</td>
<td>23</td>
<td>19.8</td>
</tr>
<tr>
<td>Personal carer</td>
<td>7</td>
<td>6.0</td>
</tr>
<tr>
<td>Dental Assistant</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Rehabilitation Aide</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Community service worker</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Medical secretary</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Not applicable (not working in the health care sector)</td>
<td>59</td>
<td>50.8</td>
</tr>
<tr>
<td>Total</td>
<td>116</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes to table: Total sample: 129.

### Table 2
Frequency with which students used the Clinical Progression Portfolio.

<table>
<thead>
<tr>
<th>How often</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once during practicum</td>
<td>15</td>
<td>19.0</td>
</tr>
<tr>
<td>Weekly</td>
<td>11</td>
<td>13.9</td>
</tr>
<tr>
<td>Twice weekly</td>
<td>23</td>
<td>29.1</td>
</tr>
<tr>
<td>Daily</td>
<td>28</td>
<td>35.4</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes to table: Total sample: 129.

### Table 3
Usefulness of the Clinical Progression Portfolio.

<table>
<thead>
<tr>
<th>Overall usefulness</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not useful</td>
<td>31</td>
<td>25.0</td>
</tr>
<tr>
<td>A little useful</td>
<td>52</td>
<td>41.9</td>
</tr>
<tr>
<td>Quite useful</td>
<td>25</td>
<td>20.2</td>
</tr>
<tr>
<td>Very useful</td>
<td>14</td>
<td>11.3</td>
</tr>
<tr>
<td>Extremely useful</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Notes to table: Total sample: 129.

### Table 4
Usefulness of individual sections in the Clinical Progression Portfolio – basic frequencies.

<table>
<thead>
<tr>
<th>Usefulness of portfolio sections</th>
<th>Not useful (n)</th>
<th>A little useful (n)</th>
<th>Quite useful (n)</th>
<th>Very useful (n)</th>
<th>Extremely useful (n)</th>
<th>Total (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of practice</td>
<td>10</td>
<td>14</td>
<td>33</td>
<td>34</td>
<td>33</td>
<td>124</td>
</tr>
<tr>
<td>Essential core</td>
<td>20</td>
<td>44</td>
<td>30</td>
<td>21</td>
<td>6</td>
<td>121</td>
</tr>
<tr>
<td>What I've done to prepare for practice</td>
<td>37</td>
<td>38</td>
<td>24</td>
<td>18</td>
<td>4</td>
<td>121</td>
</tr>
<tr>
<td>Strengths and weaknesses</td>
<td>35</td>
<td>37</td>
<td>32</td>
<td>11</td>
<td>7</td>
<td>122</td>
</tr>
<tr>
<td>List your goals</td>
<td>26</td>
<td>32</td>
<td>34</td>
<td>22</td>
<td>8</td>
<td>122</td>
</tr>
<tr>
<td>What you have learned this shift</td>
<td>40</td>
<td>31</td>
<td>29</td>
<td>15</td>
<td>10</td>
<td>125</td>
</tr>
<tr>
<td>How am I doing today</td>
<td>73</td>
<td>20</td>
<td>18</td>
<td>9</td>
<td>3</td>
<td>123</td>
</tr>
<tr>
<td>What you should work on tomorrow</td>
<td>71</td>
<td>25</td>
<td>18</td>
<td>5</td>
<td>3</td>
<td>122</td>
</tr>
</tbody>
</table>

Notes to table: Total sample: 129.

### Usefulness of the Clinical Progression Portfolio

Most students (n = 79 out of 129) opted to use the CPP during the clinical practicum. Time constraints (n = 23) or a belief that the CPP was un-useful/unnecessary to aid learning (n = 20) were the most commonly cited reasons for non-use of the Portfolio. Table 2 shows that, of those who noted use of the CPP during practicum (n = 79), most used it as an integral part of their practice, with two-thirds noting ‘daily’ (n = 28) or ‘twice weekly’ use (n = 23).

### Usefulness of the Clinical Progression Portfolio

Students were asked to rate on a scale of one to five, with one being ‘not useful’ and five being ‘extremely useful’, the utility of the CPP. Table 3 details that, in the main, student responses clustered around the middle ratings, finding the tool to be ‘a little useful’ (n = 52) or ‘quite useful’ (n = 25). Non-parametric correlational tests revealed that use of the CPP and frequency of this use was significantly related to the overall usefulness ratings. Indeed, students who noted use of the CPP in the recent clinical practicum were more favourable in their usefulness ratings (rpb = 0.531, p < 0.001) and, furthermore, those that used the CPP more often were also more favourable (r = 0.555, p < 0.001).

Using the same rating scale as outlined previously, Table 4 and Fig. 1 show that students’ usefulness ratings for all sections of the CPP clustered around the lower to middle part of the response scale. Students were most critical of: ‘how am I doing today’ (n = 73) and ‘what you should work on tomorrow’ (n = 71). In contrast, ‘scope of practice’ was perceived favourably, with it receiving the most number of ‘very useful’ (n = 34) and ‘extremely useful’ ratings (n = 33). Qualitative comments provided by students (n = 17) support this finding, as this section was voluntarily highlighted as the most useful: ‘scope of practice very helpful to make things clear for myself & my buddy’. As found in relation to overall usefulness, ratings for each CPP section were significantly related to student use and frequency of this use. A non-parametric correlational test also revealed that there was a significant, negative correlation between the student clinical practice group and the section ‘what have I learnt this shift’ (r = 0.185, p < 0.05). This finding could indicate the influence that external, contextual factors, such as the learning culture of the ward/shift have on the perceived usefulness of the tool.

Table 5 shows that most students ‘never’ made any notes for ‘what you have learnt this shift’ (n = 39). In addition, approximately two-thirds of students ‘never’ worked with their RN buddy to complete ‘how am I doing today’ (n = 79) and ‘what you should work on tomorrow’ (n = 85).

Students most commonly thought the CPP helped them ‘clarify my learning’ (n = 56) and ‘target appropriate practicum opportunities’ (n = 53). To a lesser extent, the CPP was thought to help ‘communication with buddy’ (n = 24) and help ‘confidence build’ (n = 20).
Format of the Clinical Progression Portfolio and suggestions for improvement

Just over three-quarters of students (n = 100 out of 129) provided comments on the format of the CPP, with most considering it to be appropriate and easy to use. Half (n = 51) said that the small size of the CPP was suitable for clinical practicums. A minority (n = 6), however, considered the CPP to be too small, especially the font, making it difficult to read and complete. A fifth of students (n = 20) commented favourably on the overall format of the CPP stating, for example: ‘I liked the format of the CPP. It was a good size and straight to the point, especially on the first pages’.

An additional nine students also stated that the Portfolio was a useful learning tool: ‘It [Portfolio] was very useful, specifically when we were not sure of our scope of practice as students’. However, these comments were often coupled with concerns over time constraints in completing the CPP whilst on clinical practicum (n = 16): ‘[The Portfolio is] an excellent idea. If some time is allocated for filling it out it would be very handy... It was very hard to find time to fill it at the [name of hospital] and filling it out at home was out of the question’.

A total of 44 comments were made by students as to how the CPP could be improved. The predominant suggestion centred on including more blank note-taking pages (n = 15). Other suggestions included: more information about common drugs (n = 7); more clinical facilitator involvement (e.g. sign-off; knowledge of Portfolio) (n = 4); a tick-off list of tasks/goals achieved (n = 3); and more information about basic procedures (n = 2).

Discussion

Research has found that clinical learning experiences present a number of challenges for both undergraduate nursing students and RN buddies, mainly a lack of meaningful communication (Walker et al., 2008). Such challenges may be overcome if students learn to become more self-reliant and purposeful and develop their capacity as students to learn. In light of this, a CPP was developed and this pilot study sought to evaluate the utility of it as a tool to enable students to engage more effectively with their RN buddies.

When used by students, the CPP was an important part of the clinical practicum, being used frequently and considered a useful tool to aid learning and communication with RN buddies. The CPP helped students become more agentic in their learning by aiding them to clarify their learning and target appropriate practicum opportunities. This was particularly the case for the ‘scope of practice’ subsection, which was reported to help develop a shared understanding of learning between the student and RN buddy. The importance of this shared relationship is echoed in previous research, which has shown the importance of a sense of belonging and collegiality for the student nurse during their placement (Levet-Jones et al., 2009), and how a supportive relationship with the RN buddy improves opportunities for learning (Sibson, 2003).
Use and completion of the CPP was entirely voluntary and was not a requirement of the clinical practicum or assessment. This is in line with the purpose of the CPP as a negotiated learning tool (Harun and Cetinkaya, 2007) rather than the more commonly used portfolio to support competency achievement (Cooper, 1999). As such making the CPP a compulsory course requirement is resisted but using it from the commencement of the BN may promote its use as a usual and integral practice for clinical learning. In addition, the influence of external factors on the utility of the CPP should be recognised. Findings suggested that for a large number of students the RN buddy never found the time to work with them to make notes or complete the CPP: a factor that would likely impact on the perceived utility of the tool by students. Previous research has found similar issues, with completion of a learning portfolio considered time-consuming for the student nurse and anxiety provoking (Timmons and Dunne, 2009). The involvement of the RN buddy is, therefore, critical and it seems improved communication between student and RN buddy cannot be achieved without the commitment of the RN themselves. This is consistent with previous literature which has shown the need for one-to-one facilitation to support portfolio use by students (Timmons and Dunne, 2009). Staff changes and the pressures of the ward are probable reasons for the lack of RN buddy involvement (Levett-Jones et al., 2006), but clearly more education about the purpose, aims and use of the CPP for RN buddies and how it can benefit their working relationship with students is needed.

Finally, at a practical level, the format of the CPP appeared to meet the needs of students whilst on practicum. The CPP was small enough to fit in pockets and easily accessible for quick use. However, it was suggested that the CPP would benefit from the inclusion of some more blank pages for note taking. An appreciation of these practical issues may be helpful to other nurse academics/educators developing similar clinical learning materials.

Limitations

Completion of the evaluation survey was not compulsory and, subsequently, there were some missing data. In addition, the survey was undertaken within one University School of Nursing and Midwifery in Australia meaning the wider generalizability of the results may be limited.

Implications for practice

In light of the findings garnered from this pilot study, a number of changes to the CPP have been made before it is formally evaluated. These findings are local to this pilot study but may assist other nurse academics/educators in future design of similar learning tools. In terms of overall format, the following changes were made: increase in font size, with a professional print setting being employed to avoid distortions associated with shrinking A4 size to A5; the Competency Standards have been moved to the front of the CPP to increase their prominence and importance to students whilst on clinical practicum; students are prompted to seek more regular feedback from their RN buddy through a daily tick box and open question ‘How am I doing Today’, thus ensuring a more timely process; and more blank notes pages have been included.

With regards to RN orientation to the CPP and its use during clinical practicum, the following has been implemented since the pilot study: letters and regular emails have been sent to all clinical supervisors encouraging them to talk with RNs about the CPP and, during the weekly student placement meetings with clinical supervisors, reminders are given to the RNs about the CPP; students have been asked to show their RN buddy the CPP whilst on practicum; and academic staff visiting students on clinical practicum are actively talking to RNs about the use of the CPP.

The revised CPP has been redistributed to the 2008 cohort of first-year BN students at all three campuses of the School of Nursing and Midwifery. This will enable a larger number of students to evaluate the CPP following extended use.

Conclusion

The CPP, when used by students, can become an important part of the clinical practicum. It helped students develop their capacity, as students, to learn and was considered a useful means of enhancing learning and communication with the RN buddy. Making the CPP a fundamental component of clinical practicums from the commencement of the BN may help establish it as a legitimate tool and encourage greater use of it by students. Education for RN buddies about the CPP and the ways in which it would also benefit them in their important educational role when working with students in the day-to-day context is key and, as such, has been addressed during the redistribution of CPPs to the 2008 cohort of first-year BN students. The planned evaluation of the revised CPP will determine the impact of the tool on students’ skills and ability to be agentic learners when used consistently over the entire period of the BN. Additional research focusing on the effects RN buddies identify from students using the CPP may also be beneficial. As such, it might be useful to explore whether education of RN buddies on the CPP improves use and learning outcomes through an intervention study using the CPP as the intervention.

Acknowledgement

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References