

# Assessment and Feedback in Tertiary Education – A Reflection on Methods that Facilitate Inclusion within Programmes of Education for Healthcare Assistants and Phlebotomists.

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## Abstract.

This work is a collaboration between a Registered Nurse Tutor and a Healthcare Assistant (HCA) colleague who has recently completed an Advanced Certificate in Phlebotomy. The authors have provided context on the education and career progression of HCAs in Ireland.

The work discusses the importance of accessible alternatives for HCA education and how Universal Design for Learning (UDL) can scaffold learning for learners who are studying a practical topic underpinned by theory. The Advanced Certificate in Phlebotomy is presented as an example of such an education programme. The evolution of UDL principles within the programme are discussed. A reflective essay written by the learner is used as an example of an assessment that facilitates progressive assessment and conforms to the principles of the Universal Design for Learning Principles and reflective practice.

Assessment strategies that are fit for purpose and can facilitate progression are essential for safe, competent practitioners who must regularly update their skills and knowledge in the workplace.

**Keywords:** Education; Healthcare Assistant; Phlebotomy; Reflection; Universal Design for Learning (UDL).

## 1. Introduction.

This reflective article will address issues influencing the development of a curriculum for a phlebotomy programme to facilitate both service needs and the learning needs of healthcare assistants (HCAs) wishing to progress in their career. A nurse tutor and phlebotomy student will provide some personal reflections relating to one of the assessment strategies within the programme and consider its effectiveness in consolidating safe and knowledgeable practice.

HCAs within the Irish health and social care context typically work alongside nursing staff and are delegated work by a registered nurse (HSE, 2018). They provide a crucial, evolving role in care provision, but the evolving nature of the role can cause a lack of clarity around role boundaries (HSE, 2018; Brant & Leydon, 2009). HCA education programmes are delivered by education providers who are validated by Quality and Qualifications Ireland (QQI) to provide relevant level 5 qualifications (QQI, 2017).

As a Registered Nurse Tutor who works with students undertaking further education, higher education and continuing professional development, GERALDINE has a keen interest in developing and delivering education programmes that are accessible and allow students to develop existing skills and progress into new roles throughout their career. Haran (2023) highlights two key influences for educators. One is availability of the Digital Badge in Universal Design for Learning (UDL) within the further and higher education sectors (Association on Higher Education and Disability (AHEAD), University College Dublin (UCD) 2022). The second is the evolution of the term '*tertiary education*' to refer to all post-secondary school learners.

## 2. Career Progression from the HCA role.

Drennan et al (2018) identified that the lack of clarity in respect of their main roles, as well as a lack of regulation within the Irish system at present, means that HCAs can face challenges when considering future career and education options.

Whilst pathways exist between further and higher education in respect of nursing programmes, the process is not always straightforward from the end user perspective. The Nursing and Midwifery Board of Ireland (NMBI) provide information about the different routes into a nursing career (NMBI, 2023a). There are four further education and training (FET) major awards to choose from as an access route. Selecting the most appropriate major award can be daunting for the applicant. After the age of 23, the application is via a mature student route

(NMBI, 2023b). It can be challenging to consider returning to full time education when balancing family and financial commitments. The HSE offers a limited number of sponsorships each year (HSE, 2024) and they are a consideration for some employees, but not all.

The National Tertiary Office (2023) has launched programmes whereby a student can commence their nurse education journey in a FET provider and progress seamlessly to a Higher Education Institute (HEI) provided they attain the requisite results in the FET programme. Koutsouris et al (2021) explored some of the implicit assumptions about students made in Higher Education Institutions and suggested ways in which addressing the “*hidden curriculum*” could make the experience more inclusive. The tertiary route of entry has potential to make nursing programmes accessible to a cohort of applicants who otherwise may not have had the opportunity. This route also provides opportunities for the student to gain confidence in a FET peer group (accessing the “*hidden curriculum*”) before transitioning to higher education.

## 2.1 An alternative path.

For HCAs interested in a different career progression, the Centre for Learning and Development (CLD) at Tallaght University Hospital (TUH) developed an Advanced Certificate in Phlebotomy with colleagues in the hospital Phlebotomy department and Medical Laboratory Department. This evolved due to a shortage of suitably qualified phlebotomists and the lack of a national phlebotomy programme in Ireland. One of the key roles of a phlebotomist is to draw blood via venepuncture for analysis (HSE, 2023). The skill set that successful applicants possess include effective communication skills within a healthcare setting, knowledge of infection prevention and control procedures and evidence of successful academic study at level 5.

As HCAs have studied at level 5 in the National Framework of Qualifications (NFQ) (QQI, 2021), this programme was developed with a view to a level 6 qualification by an awarding body in the future. At present, it is accredited by the Trinity Centre for Practice and Healthcare Innovation (TCPHI) (TCPHI, 2023).

Amy is one of the students who undertook this programme, facilitated by Geraldine and her colleagues. They had worked together before when Amy undertook a QQI level 5 module (Caring for Children in Hospital) whilst working as an HCA in the Children’s Emergency Department. At that time, they discussed the possibility of Amy undertaking nurse education,

but she subsequently decided to pursue phlebotomy.

## **2.2 Programme structure adapting to UDL principles.**

Geraldine undertook the UDL Digital Badge during Amy's time on the phlebotomy programme and wanted to develop areas of strength that already existed in the programme. UDL is a relatively new concept within healthcare education. Gilmore et al (2022) discuss that when implemented correctly, UDL aims for inclusivity in identifying how skills can be acquired in different ways. The phlebotomy programme consists of a theory module followed by a clinical practice module in the phlebotomy department. Over a sixteen-day placement, the phlebotomy students undertake 225 blood draws under the supervision of an experienced phlebotomy preceptor. Practice is based on their learning in the theory module. They spend two days in the laboratory setting observing blood analysis and learning about what happens when a sample is not taken correctly (Simundic et al, 2014).

The experience of learning to draw blood in the phlebotomy department was designed using Kolb's (1984) experiential model. Students practice the skill first on mannequin arms and then on consenting outpatients under the close supervision of the preceptor. Learning is a process, where the student moves from a novice to a competent phlebotomist over the sixteen-day placement (Benner, 2001). They reflect upon their progress based on their interactions with patients and their preceptor. They relate practice to theory learned in the classroom, which reinforces the learning. Ineffective practice is corrected and remedied with correct technique. This process is documented in a Clinical Competency Assessment Portfolio Document (TUH, 2023). So far, students have consistently evaluated their placement as being relevant and meaningful. With the support of the programme team, phlebotomy preceptors appreciate that students learn at different paces, and they facilitate differences whilst promoting quality practice. This gradual approach to skill acquisition demonstrates multiple means of engagement (CAST, 2018) by providing a safe space to learn.

The laboratory placement was not as immediately meaningful for some students. Ingham - Broomfield (2020) makes the distinction between activity and observation when considering models of reflection. Whilst the students engaged in reflection of their own activity in the phlebotomy department, they required a different model of reflection in the laboratory. Gibb's cycle (2013) facilitates the student to observe, create meaning from the observation and apply it to their future practice. The staff in the laboratory were directed to showcase blood samples that

enabled the student to make connections between theory and practice and to allow them to write a reflective essay identifying how this learning would improve their practice as a phlebotomist.

This process took time to imbed. Initially, the laboratory staff were not clear on what they were expected to teach the phlebotomy students. In turn, the students were not certain what learning they were supposed to gain from this placement. All students had written reflective essays in the past. However, they had reflected upon personal experiences involving patient contact which was not the case in the laboratory. Edwards (2017) discusses the notion of reflection-before-action. She contends that if healthcare students are exposed to narratives before a placement, they are clearer about their learning objectives and less anxious about the process of reflection. Another concept discussed by Edwards (2017) is that of reflection-beyond-action. This allows professional practice to develop from looking into the past, the present and to the future.

### 3. Reflective assessment.

This key learning was demonstrated in Amy’s reflective essay. The following extracts demonstrate her effectiveness in linking theory to practice and exemplify progressive assessment as she builds upon previously assessed knowledge to a greater depth of understanding (National Forum, 2017).

Example from Amy’s reflective essay	Commentary from Geraldine
<p><b>A:</b> <i>“The most interesting part to me ..... was when the laboratory scientist brought me down to look at samples under a microscope. I would have spent my whole day there if I could. I found it so interesting getting to see how different infections and conditions affect blood. The same blood that when drawn looks the same as the next patient’s.”</i></p>	<p><b>G:</b> In the classroom we discussed the constituents of blood and showed images of blood films. However, in the classroom, it can feel quite abstract and removed from reality. In the laboratory, A** saw real samples under the microscope, which brought her prior knowledge into sharp focus.</p> <p>This was an example of Reflection-before-action. It was also an example of multiple means of representation where Amy was</p>

	able to transfer her learning into new context (CAST, 2018).
<b>A:</b> <i>"I was shown the difference in colour and size for patients with anaemia compared to a person with a healthy blood count. Under a microscope the colour difference was unmissable. I was shown what healthy blood looks like and then ..... a patient with anaemia."</i>	<b>G:</b> As an experienced HCA, Amy had cared for patients with different types of anaemia throughout her career. Being able to visualise the abnormal blood film alongside her existing knowledge of the signs and symptoms of anaemia was a powerful learning opportunity as she prepares for a future of drawing blood from anaemic patients. This was an example of Reflection-beyond-action

Kotcherlakota et al (2024) highlight the importance of involving all staff involved in the education programme when implementing UDL principles. Within the classroom, Geraldine and colleagues used a *"plus one"* approach in implementing improvements to the teaching and assessing of the programme. To prepare for writing the reflective essay, Geraldine uploaded short explanatory videos breaking down the assessment for students to watch as often as they needed. Students were offered the option of submitting their essay via an oral recording instead of a written essay if preferred. These interventions provided options for multiple means of action and expression (CAST, 2018).

Within the laboratory placement, one of the medical scientists developed a powerful plus one which demonstrated multiple means of representation (CAST, 2018). He selected blood samples that demonstrated phlebotomy sampling errors. Examples included incorrect sample label, insufficient blood in the sample, or an inconsistency of information between the sample and the order form. These incorrect samples were unsuitable for analysis. According to laboratory policy, they were rejected, and the patient's medical team were contacted to order a new sample (Harper et al., 2023).

Students were asked to review the selected samples, identify the errors, and discuss their implications. They observed the scientist calling the relevant department to explain that the sample needed to be repeated. The students considered the impact this had on patients and the

wasted resources. This process motivated them to consider how they could prevent such errors occurring in their practice.

Example from Amy's reflective essay	Commentary from Geraldine
<p><b>A:</b> <i>"The laboratory reiterated how critical correctly ordering blood products is. There's no room for error when it comes to blood transfusion. It was useful getting to see errors.....the important part is to ensure it is caught and addressed in a timely manner before any patient is injured or care is delayed."</i></p>	<p><b>G:</b> The laboratory theory lectures focused on the importance of catching errors at the pre analytical stage – in other words, before the sample reaches the laboratory (Simundic et al, 2014). This is crucial for phlebotomists to understand, as they are the gatekeepers of this stage. This was an example of Reflection-before-action. By building a scaffold for graduated levels of support, the laboratory placement and associated reflective assessment also demonstrated multiple means of action and Expression (CAST, 2018). Amy developed a greater depth of understanding of her new role and demonstrated competence in learning outcomes associated with the clinical module.</p>

Bölenius et al. (2013) highlighted the importance of tailored education to improve phlebotomists' adherence to policies. Many students reflect on this tailored sample error activity as it contributes to a greater depth of understanding of the responsibilities of the phlebotomist. Stonehouse (2011) identifies that different perspectives on reflective incidents can enhance standards of care. From an educator's perspective, it is interesting to read the different meanings and inferences students take from this activity. Each student brings their previous individual experiences to the reflection activity. This information will enable the programme coordinators to continue building frameworks of understanding and skill into future cohorts of the programme.

## 4. Conclusion.

This reflective article briefly discussed the HCA role. The process of applying for nursing as an HCA was explained and the new tertiary programmes were commended on making the access route less complex. An alternative career pathway, namely phlebotomy, was discussed in the context of using UDL and reflective analysis to ensure that existing skills are developed and enhanced for phlebotomists of the future. The “*plus one*” approach of gradually developing alternatives to teaching and assessing strategies, has demonstrably engaged students and staff, with evidence cited in the reflection samples.

Gilmore et al. (2022) were cited in relation to their work considering UDL as a mechanism to assist in diversifying the healthcare workforce. A meaningful example of this was successfully demonstrated by one of the medical scientists who was motivated to make the laboratory experience meaningful in a different and more practical way.

Edwards (2017) discussed how reflection can facilitate learning in new contexts. Thoughtful scaffolding of new experiences in a safe space and developing progressive autonomy is a process that enables HCAs to progress into the phlebotomist role.

Traditional healthcare education in a higher education context has frequently made implicit assumptions about students Koutsouris et al (2021). Wider adaptation of UDL should mitigate against these assumptions and result in equitable and accessible healthcare education for a variety of students. The healthcare landscape will be all the richer for this evolution.



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