

## Considerations for Assessment in Vocational Education

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### Abstract

*Vocational teachers must address provincial curricular outcomes, vocational accreditation requirements, and current vocational practices in their teaching and assessment. In doing so, they must prepare their students for the written summative assessments required for trade certification while teaching the students the technical skills necessary for the workplace. This literature review examines several strategies that a vocational teacher can consider while developing a comprehensive assessment program, such as using formative assessment methods, incorporating competence-based educational approaches, and maintaining authenticity in assessment.*

While theoretical knowledge is essential in academic disciplines such as social studies, the sciences, mathematics, and English language arts, success in vocational education and training (VET) also requires mastering technical skills and applying them in real-world vocational settings (Suhaini et al., 2021). Vocational teachers must account for this in their assessments, while adhering to both institutionally dictated learning outcomes and current vocational standards of practice (De Vos et al., 2024). Using formative assessment methods to achieve this balance can present challenges in its implementation, but it more closely resembles the assessment and feedback processes found in the workplace in comparison to summative assessments that characterize core academic school subjects (Sandal, 2023). Instead of relying on standardized summative assessment practices based in academic pedagogy, vocational teachers can use a competence-based education (CBE) model to teach and assess more effectively (Sandal, 2023, p. 664). Providing authentic learning experiences can connect instruction to the assessments for students and have a positive effect on their learning (Gulikers et al., 2004). This leaves the vocational teacher with the task of creating a comprehensive system of assessment that is fair, flexible, valid, and reliable while navigating the dichotomy of academic requirements and vocational practices (Rusconi, 2024). Effective assessment is vital, because it gives the teacher a way to provide the feedback students will need to succeed in the classroom and their vocational careers.

### Formative Assessment

Assessment of learning in a vocational setting is a complicated and socially oriented process that needs active participation from both the teacher and the student (De Vos et al., 2024). A vocational teacher using formative assessment strategies in this type of learning environment needs to use immediate feedback with students, requiring the teacher to allot time in their lesson plans for these important conversations (Sandal, 2023). After providing feedback, the teacher can then direct students to the next steps that would be expected in a workplace environment. The teacher must then use their professional judgment to decide whether to guide the student through the following task directly or to provide the student the opportunity to practise independently (De Vos et al., 2024). A possible complication of this in-the-moment formative assessment process is that some of these key teachable moments cannot always be planned and require spontaneous learning. Another important component of the formative assessment process is for students to evaluate the quality of their own work and review this self-assessment with the teacher (Sandal, 2023). However, not all students are interested in debriefing with the teacher after the work and self-reflection are completed. Teachers who are

unprepared for the additional workload of using formative assessment in their teaching practice may find themselves unable to use it to its full potential.

Formative assessment in education can be defined as any methods that are used to identify where a student might have difficulties, misunderstandings, or missed learning opportunities (Earl et al., 2015). Examples of how formative assessment can be used in a VET classroom include clearly communicating expectations to students, giving descriptive and prescriptive feedback with the aim of improving future performance, providing multiple attempts to complete a task, encouraging peer reviews of performance, and having students perform self-assessments (Black & Wiliam, 2009). There are also socially-oriented methods of assessment that resemble feedback in the workplace, such as peer reviews, the use of benchmarks, and assessments by committee that place importance on a collective responsibility for assessment (Räisänen & Rökköläinen, 2014). A formative learning moment occurs when a student is exposed to some form of interactive event or incident and the feedback received from this leads to the student learning new knowledge or skills (Black & Wiliam, 2009). Students typically show greater motivation and passion toward formative assessments than summative assessments because they gain knowledge from the assessment and not just in preparation for the assessment (Gulikers et al., 2018). Continued active involvement in the formative assessment process by the teacher also creates a greater catalyst for learning when the assessments are based in established vocational practices and the teacher uses the assessment feedback to identify gaps in learning (Tigelaar & Sins, 2021). Formative assessment techniques can provide deeper learning opportunities for students and better prepare them for the feedback that they will be receiving in the workplace.

### **Competence-Based Education**

Vocational education teachers are required to assess with two different philosophies, vocation-based formative assessment, and academic-based summative assessment methods. Unfortunately, many academic assessment practices are not suited to VET, and academic pedagogy often dictates a school's culture regarding assessment (Sandal, 2023). Many of the assessment tools used in schools, such as written tests, come from an academic background and do not always work well in VET. Given their dual role as both a teacher and a vocational expert, vocational teachers must choose whether to conduct their assessments using written tests or evaluating technical skills found in the vocation (De Vos et al., 2024). The push to emphasize academic testing instead of using practical tests frustrates many vocational teachers, particularly when school administrators are not aware of the issues surrounding assessment in vocational education. Too often, the purpose of written testing is for documentation of objective assessment instead of measuring student learning (Suhaini et al., 2021). The rift between vocational and academic education can lead to a focus on meeting arbitrary academic standards rather than learning the competencies required in the vocation (Loo, 2018). Academic assessments in VET should be balanced with assessments of technical skills and vocational competencies, to ensure that all relevant abilities are considered in the assessment process.

An alternative to basing VET on the completion of a list of curricular outcomes is to assess it by workplace competence, moving towards a CBE model. Competence-based assessment is used to connect theoretical learning in the classroom to the skills required to succeed in the workplace (Baartman et al., 2013). Competence is defined as the ability to achieve an industry-standard performance in a specific workplace context and is assessed by examining the skill of the student completing vocational tasks (Griffin et al., 2007). Five important qualities of competence in CBE are that it concentrates on performance in relation to the final product, implies meeting workplace quality standards, can be described as observed behaviours, uses an assessment standard that does not depend on the performance of peers, and communicates expectations to students (Wesselink et al., 2017).

Developing CBE requires specifying essential tasks in VET, to ensure that learning and assessment are relevant to both the school and the workplace. Clearly communicating the standards of assessment based on workplace competencies is crucial for students to enable them to focus on using those competencies in the classroom on a regular basis in preparation for future summative assessments (Baartman et al., 2013). Evaluations conducted by supervisors or managers during workplace practicums are an effective and authentic method of assessing competence. Using CBE in a VET setting has been shown to improve student motivation and engagement (Wesselink et al., 2017). By applying its assessment principles, VET teachers can foster student learning while guiding them towards the technical skills and performance standards required in the workplace.

### **Authenticity in Assessment**

By focusing on authenticity in assessment instead of reliability, VET can better prepare students for their future after graduation (Gulikers et al., 2018). Creating an authentic vocational learning environment requires specific knowledge, skills, and processes (De Vos et al., 2024). The quality of the assessment of technical skills in VET depends on the context of the student performance (Räisänen & Rökköläinen, 2014). However, a workplace skill performed in isolation does not guarantee that it is an authentic assessment of competence and can limit its usefulness (Gulikers et al., 2004). Moreover, if practical tests and workplace evaluations are included in the summative assessments but the testing environment is too controlled, the assessment results might not translate to the workplace (Baartman et al., 2013). On the other hand, creating contextualized skill assessments can compromise the reliability of the assessment because it is difficult to achieve reliability in assessing vocational competence (Griffin et al., 2007).

Balancing authenticity and reliability in assessment is essential. Overemphasizing reliability can lead to assessments that are overly standardized and disconnected from the practical realities of the workplace (Räisänen & Rökköläinen, 2014). While it requires additional planning and preparation by the teacher, the increased subjectivity of using a more authentic competence-based assessment can be reduced by having the details of the assessment procedure communicated clearly, describing how the assessment will affect learning, and connecting the assessment task to the workplace (Baartman et al., 2013). In addition to planning and creating the assessment materials, VET teachers have the additional challenge of conducting their assessments in an authentic context that will provide a rich learning experience for their students.

Authentic competence-based assessment seeks to develop deeper understanding and relevant technical skills, instead of having students recite rote information and copy isolated skills (Gulikers et al., 2004). Authentic assessment prioritizes the pragmatic aspects of student performance while remaining faithful to the context of the workplace. Skill assessments that resemble real workplace conditions are more authentic for both the student and the teacher (Räisänen & Rökköläinen, 2014), demonstrating essential workplace skills not found in the school curriculum (Service Canada, 2022). VET teachers can ensure that the variable and subjective aspects of their authentic assessments are more consistent by using tools such as rubrics and participating in regular professional development to calibrate assessment standards with other vocational teachers and experts (Gulikers et al., 2018).

Authentic assessment should also consider the social dimension of workplace performance and include professional workplace feedback from supervisors during work practicums (Baartman et al., 2013). This will not only improve authenticity, but may also foster better relationships with industry partners and encourage them to consider school assessment results in their hiring practices (Baartman et al., 2013). An authentic assessment process should communicate the expectations of the assessment to the students, because this resembles the

communication process in the workplace between employees and their supervisors (Gulikers et al., 2004). Incorporating authenticity into VET is an effective strategy to ensure that curriculum, instruction, and assessment are designed to complement the workplace context.

### **Comprehensive Assessment Program**

Since school and workplace learning exist as a continuum in VET due to the interconnected nature of theory and practice, a comprehensive assessment program is needed to address all levels of vocational knowledge (Loo, 2018). This program should incorporate traditional written testing, conduct technical skills assessments, include workplace or practicum evaluations, assess both the processes and products of student performances, and combine both summative and formative assessment methods (Gulikers et al., 2018). In a fully developed CBE program, assessments occur before, during, and after learning takes place to determine whether there have been any improvements to the students' competence (Wesselink et al., 2017). Vocational knowledge exists across a spectrum, so students should be evaluated across the entire range of vocational knowledge (Baartman et al., 2013). The four levels of competence-based knowledge – knows, knows how, shows how, and does – demonstrate the increasing complexity of professional competence (Miller, 1990). An example of an assessment from each level would be a multiple-choice test, answering questions about a case study scenario, performing an isolated technical skill, and performing several authentic vocational tasks in a workplace setting. Vocational competence consists of a large body of vocational knowledge, a variety of technical skills, and a foundation of essential workplace skills, and thus requires an extensive assessment program to evaluate it.

### **Conclusion**

Assessment in VET must account for both the theoretical knowledge and technical skills required of students to succeed in their vocation. The complex nature of vocational and workplace learning can make formative assessment a challenging process for teachers, but it can provide students with valuable feedback (De Vos et al., 2024). Emphasizing vocational competence in teaching and using authentic forms of assessment are required to move beyond standardized summative assessments towards ones that foster deeper learning in the vocational context (Gulikers et al., 2004). Clearly communicated curricular outcomes, vocational competencies, comprehensive performance portfolios, and workplace evaluations can improve authentic assessment while simultaneously increasing student engagement (Ecclestone, 2007). Vocational education is a unique combination of theory-based learning and competence, making the assessment of vocational learning equally distinctive.

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