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# THEORETICAL FOUNDATION OF ASSESSMENT METHODOLOGY

## INTELLECTUAL OUTPUT 3

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## INTRODUCTION

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**Parents for All** is an EU-funded project (KA2 Strategic Partnership for Innovation in Adult Education, 2017-2019) aiming to support parents to deal with diversity in multicultural Europe.

Through its activities the project will:

1. Empower parents of the host societies and of migrant origin in dealing with ethnic and cultural diversity at schools
2. Create tailor-made training material for parents, helping them to develop intercultural skills and actively support school activities for social inclusion
3. Raise awareness through audio-visual material
4. Promote the notion that parental engagement for social inclusion is a collaborative, reciprocal and mutually rewarding process

This document provides the theoretical framework and foundation for the self-assessment toolkit for intercultural competencies which will be developed for both ethnic and cultural minority (ECM) parents as well as host society parents.

The self-assessment toolkit can be used either in connection with the training materials that are developed for ECM and host society parents or independently (e.g. at events, for self-study). The aims of the self-assessment toolkit are as follows:

1. To assess the cultural competences of parents
2. To assess the needs for further intervention
3. To assess the overall impact of the training material

The assessment tools will be connected to the desired learning outcomes. Crucially, the self-assessment toolkit is innovative in that its use is not restricted to the context of the training materials; rather, the toolkit can be used in other settings and contexts and even independently of the training materials. The self-assessment toolkit will be useful in especially two respects: a) using the toolkit will raise awareness for the need to use the training material when used prior to it; and b) the toolkit can be used after the training to evaluate the impact of the training material.

# **1 DEFINING ASSESSMENT**

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It is always helpful to begin with definitions. When discussing assessment, it is customary to see a number of different concepts: assessment, test, evaluation, appraisal, and so on. Each has a slightly different meaning, and each term emphasises different aspects.<sup>1</sup>

Popham points out that assessment process draws inferences about what students know and can do from their responses in certain situations.<sup>2</sup> Pellegrino et al describe assessment of all kinds as ‘reasoning from evidence’, and that there are three elements to this process of reasoning<sup>3</sup>:

- 1) A theory or set of beliefs about how students learn
- 2) The tasks to which students respond in order to show what they have learned
- 3) The reasoning and interpretation that turns data (of what students can do) into information (about what has been achieved)

EPPI explain that assessment includes “deciding, collecting and making judgments about evidence relevant to the goals of the learning”.<sup>4</sup> As per OECD’s definition<sup>5</sup>, ‘assessment’ involves a judgement about a student’s learning while ‘evaluation’ refers to a judgement about schools, systems and policies. However, there is no hard and fast usage, and the meaning is often made clear in the context.<sup>6</sup>

Here, we are interested in both: on the one hand, we want to ensure that learners – before using the training materials – can self-assess their existing competences and identify gaps in their skills and knowledge. With this information at hand, the learners will get more out of the training materials as they can decide which areas to particularly focus and work on. On the other hand, we want to ensure that the assessment toolkit works in a way that learners can – after finishing a section of the unit – assess the skills and knowledge they have improved and gained and to identify any further areas to work on. Moreover, the toolkit will also allow the developers to monitor (evaluate) how the training materials are working and make any tweaks or changes if need be.

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<sup>1</sup> Harlen, W. (2015) ‘Assessment and the Curriculum’ in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.693

<sup>2</sup> Popham, WJ (2002) *Modern Educational Measurement: Practical Guidelines for Educational Leaders*. Needham, MA: Allyn & Bacon.

<sup>3</sup> Pellegrino, JW; Chudowsky, N.; and Glaser, N. (2001) *Knowing What Students Know: The Science and Design and Educational Assessment*. Washington, DC: National Academy Press. p.42

<sup>4</sup> EPPI (2004) *A systematic review of the evidence of the impact on students, teachers, and the curriculum of the process of using assessment by teachers for summative purposes*. Institute of Education, University of London. Available at:

[http://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/ass\\_rv4.pdf?ver=2006-03-02-124724-997](http://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/ass_rv4.pdf?ver=2006-03-02-124724-997) [Accessed 26/7/2018]

<sup>5</sup> OECD (2005) *Formative Assessment: Improving Learning in Secondary Classrooms*. Available at: <http://www.oecd.org/education/cei/35661078.pdf> [Accessed 26/7/2018]

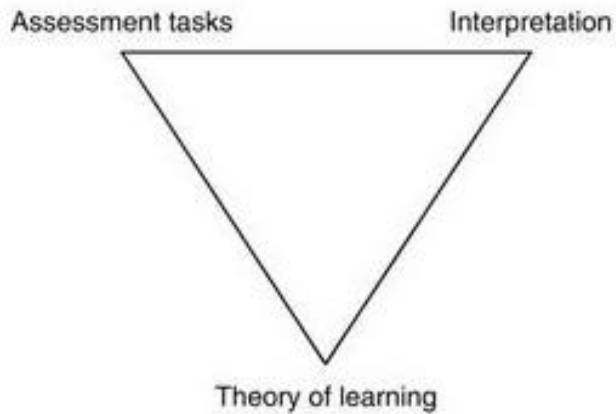
<sup>6</sup> Harlen, W. (2015) ‘Assessment and the Curriculum’ in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.693-4.

## **2 RECAP: THEORIES OF ADULT LEARNING**

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A previous publication (*Training Methodology for Promoting an Intercultural Mindset among Parents*) arising from this project has already discussed theories of adult learning in some detail. However, as Harlen notes, “the beliefs about how learning takes place will influence the kind of data sought and collected and how it is turned into information about the knowledge and skills being assessed” (see Figure 1).<sup>7</sup>



Source: Adapted from Pellegrino et al., 2001.

Figure 1: Assessment triangle. Source: Harlen (2015).

Figure 1 “underlines the need for the tasks and situations that enable students’ performance to be observed to be consistent with the model of learning”. Further, the methods of interpretation through which inferences are drawn must also reflect the model of how students learn”. In operational terms, assessment involves three tasks: 1) the generation and collection of data; 2) the interpretation of those data in order to produce a judgement; and 3) communication and use of judgement.<sup>8</sup>

Therefore, this section will briefly dwell on three key theories of learning, namely behaviourist; sociocultural, situated and activity; and constructivist approaches. It is the latter approach – i.e. constructivist – that this project will adopt. The different approaches are often combined in practice and their boundaries thus become blurred. Each approach is based on a particular understanding of a) what learning is; b) how it takes place; and c) how achievement is construed. James, helpfully, outlines what the implications of the different approaches are for teaching and, crucially, to assessment – these will be covered in what follows.<sup>9</sup>

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<sup>7</sup> Harlen, W. (2015) ‘Assessment and the Curriculum’ in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.694

<sup>8</sup> Harlen, W. (2015) ‘Assessment and the Curriculum’ in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.694

<sup>9</sup> James, M. (2006) ‘Assessment, Teaching and Theories of Learning’ in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.52

## 2.1 BEHAVIOURISM

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The behaviourist model – as theorised by Pavlov, Watson and Skinner – stems from the 1930s and was especially dominant in the 1960s and 1970s.<sup>10</sup>

According to behaviourists, environment determines learning, and learning is a conditioned response to external stimuli. By using rewards and punishments, it is possible to form and extinguish habits. Behaviourists argue that learning is best accomplished when complex performances are deconstructed and each element is practiced and reinforced as well as subsequently built upon. Behaviourists see the accumulation of skills and memorisation of information leading to the formation of habits which allow for a speedy performance of tasks.<sup>11</sup>

Teaching begins by covering basic skills first, and it is important to offer praise and to correct mistakes. Teaching groups tend to be homogenous based on skill levels or, if teaching is done on an individual basis, teaching is tailored according to rate of progress.<sup>12</sup>

## 2.2 ASSESSMENT IN BEHAVIOURISM

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Behaviourists measure progress through unseen timed tests which are taken from progressive levels in a skill hierarchy. Performance is measured as either being correct or incorrect – the learner must then practice incorrect items further.<sup>13</sup>

## 2.3 SOCIOCULTURAL, SITUATED AND ACTIVITY APPROACHES

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While sociocultural, situated and activity theories are often regarded as a new development, the intellectual origins of these approaches can be traced back to the conjunction of functional psychology and philosophical pragmatism of William James, John Dewey and George Herbert Mead from the start of the 20<sup>th</sup> century. These approaches are often associated with social democratic and progressivist values.<sup>14</sup>

In ‘cognitive apprenticeships’ in ‘communities of practice’ (Lave and Wenger), learning occurs in interaction between the individual and the social environment. The theories posit that thinking is conducted through actions that alter the situation and the situation, in turn, changes the thinking – thus, the two interact and learning is a mediated activity in which cultural artefacts (both physical, such as books, and symbolic, such as language) have a crucial role.<sup>15</sup>

What binds these approaches is that they see social relationships as necessary for and as preceding learning: learning is seen as a social and collaborative activity and people develop their thinking together. A key concept, ‘distributed cognition’, refers to the idea that learning involves

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<sup>10</sup> Ibid., p.53

<sup>11</sup> Ibid.

<sup>12</sup> Ibid., p.54

<sup>13</sup> James, M. (2006) ‘Assessment, Teaching and Theories of Learning’ in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.54

<sup>14</sup> Ibid., pp.54-55

<sup>15</sup> Ibid., p.56

participation and what is learned is not necessarily the property of the individual. Consequently, collective knowledge of a group is regarded greater than the sum of the knowledge of individuals.<sup>16</sup>

The most valued outcomes of learning are, firstly, engaged participation that other find appropriate and, secondly, the development of identities. Knowledge is not abstracted from the context but seen in relation to it: therefore, it can be difficult to judge an individual as having acquired knowledge in general terms (i.e. extracted from practice).<sup>17</sup>

## **2.4 ASSESSMENT IN SOCIOCULTURAL, SITUATED AND ACTIVITY APPROACHES**

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Especially newer theories regarding sociocultural, situated and activity approaches have not worked out too clearly what the implications of these approaches are for teaching and assessment. Assessment, in particular, is weakly conceptualised at present but could conceivably involve ethnographic observation and inference.<sup>18</sup>

An environment should be created for students in which they can be stimulated to think and act in authentic tasks (like apprentices) beyond their current level of competence. Learners' access to and use of appropriate tools is important. The teacher or peers can 'scaffold' the student's learning, and remove the scaffold once they cope on their own. Tasks need to be collaborative and students need to be involved in both the generation of problems and the solutions. Students and teachers then jointly solve problems and all develop their understanding and skills.<sup>19</sup>

## **2.5 CONSTRUCTIVIST APPROACHES**

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Constructivism – as theorised by the likes of Chomsky, Simon and Bruner – emerged out of a mix of traditions, namely humanism, positivism and rationalism. Constructivism grew in the 1960s, often in reaction to behaviourism.<sup>20</sup>

Constructivism believes in the active engagement of learners and sees learning as determined by what goes on in peoples' heads. Thus, the focus is on how people construct meaning and make sense of the world through organising structures, concepts and principles in schema (i.e. mental models). Unlike behaviourists, constructivists view prior knowledge as a powerful determinant of a student's capacity to learn new material. The emphasis is on 'understanding' and problem solving and, thus, on eliminating misunderstanding. Deductive reasoning from principles on the one hand, and inductive reasoning from evidence on the other are seen as important processing strategies by constructivists.<sup>21</sup>

Achievement is attained when a student gains an improved understanding in relation to conceptual structures and an improved competence in processing strategies. The role of the teacher is to help

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<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> James, M. (2006) 'Assessment, Teaching and Theories of Learning' in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.56

<sup>19</sup> Ibid., pp.56-57

<sup>20</sup> Ibid., p.54

<sup>21</sup> Ibid.

'novices' acquire 'expert' understanding of conceptual structures and processing strategies to solve problems.<sup>22</sup>

## 2.6 ASSESSMENT IN CONSTRUCTIVISM

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As prior learning is important on influencing new learning, formative assessment is a crucial element of pedagogic practice. It is necessary to elicit students' mental models through e.g. concept mapping, classroom dialogue, open-ended assignments and thinking aloud protocols. This is done in order to scaffold their understanding of knowledge structures and provide them with opportunities to apply concepts and strategies in novel situations.<sup>23</sup>

In constructivism, teaching and assessment become blended in order to achieve the goals of learning. Assessments seek to close the gap between current understanding and new understandings.<sup>24</sup>

Crucially, constructivists view 'metacognition' – i.e. self-monitoring and self-evaluation – as an important dimensions of learning.<sup>25</sup> This is particularly important with regard to this project's aims and objectives – as discussed in the Introduction, this document provides the theoretical framework and foundation for the self-assessment toolkit for intercultural competencies. Thus, it of utmost importance for users of the toolkit to remain self-aware and to monitor and evaluate their own learning and the way in which their knowledge and understanding are developing.

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<sup>22</sup> James, M. (2006) 'Assessment, Teaching and Theories of Learning' in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.55

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup> Ibid., p.54

## **3 THREE ASSESSMENT PARADIGMS**

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Different assessment frameworks have different intended audiences, are used for different purposes and use different procedures to collect information.<sup>26</sup> Furthermore, each assessment may also involve different beliefs about the nature of knowledge (see section on theories of learning), the level of student/teacher involvement, and the criteria for evaluating student achievement.<sup>27</sup>

Serafini provides a helpful framework as regards three assessment paradigms: 1) assessment as measurement 2) assessment as procedure 3) assessment as inquiry. This section will briefly outline the three approaches – the third and final one is closely aligned with the constructivist approach.<sup>28</sup>

### **3.1 ASSESSMENT AS MEASUREMENT**

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This approach is based on a positivist/modernist view of reality and knowledge. Students are viewed as empty vessels or blank slates who acquire knowledge that exists separately (i.e. students do not construct it). Thus, this learning can be assessed through large-scale, norm-referenced standardised tests that objectively measure the amount of knowledge acquired. There is little room for self-evaluation or student reflection, and objectivity, standardisation and reliability take priority. An assessment that is often used is multiple choice questionnaires.<sup>29</sup>

### **3.2 ASSESSMENT AS PROCEDURE**

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This approach has elements of the two other paradigms (measurement and inquiry) and focuses on assessment procedures. Knowledge is believed to exist independently of the learner – much like above – and it is transmitted to the student and eventually objectively measured. This paradigm is however overly concerned with different methods for collecting data rather than the purposes or audiences for collecting it. Methods thus become an end in and of themselves.<sup>30</sup>

### **3.3 ASSESSMENT AS INQUIRY**

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This final paradigm – which is closely aligned with the design of the current project – is based on constructivist theories of knowledge, student-centred learning and the inquiry process. Within this paradigm both quantitative and qualitative techniques are used. Further, a process of interpretation is central, and it is used to promote reflection concerning students' understandings, attitudes and literate abilities. The purpose of the assessments is gaining a deeper understanding of individual learners in their specific learning contexts. Assessment is seen as a social, contextually specific and interpretive activity. Knowledge is seen as constructed by the individual within the social contexts of

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<sup>26</sup> Farr, R. (1992) 'Putting it all together: Solving the reading assessment puzzle', *The Reading Teacher*, 46, pp.26-37.

<sup>27</sup> Garcia, G.E. and Pearson, P.D. (1994) 'Assessment and diversity' in L. Darling Hammond (ed.) *Review of Research in Education*. Washington, DC: American Educational Research Association.

<sup>28</sup> Serafini, F. (2000) 'Three paradigms of assessment: Measurement, procedure and inquiry', *The Reading Teacher*, 54:4, pp.384-393.

<sup>29</sup> *Ibid.*, pp.385-6.

<sup>30</sup> *Ibid.*, pp.386-7

the learning event, and the learner transacts with different texts and other media, and the world, to create meaning.<sup>31</sup>

Assessment is not seen as an 'objective' measurement process – rather, it is a human interaction involving the human as the primary assessment instrument. The focus within this approach is on why we do what we do in terms of assessment: thus, assessment portfolios help teachers make appropriate instructional decisions and they are vehicles for helping promote self-reflection, self-evaluation and goal setting. Through assessments an improved understandings of students' needs, values, interests and abilities can be gained – assessments are part of the learning process, not separate from it.<sup>32</sup>

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<sup>31</sup> Serafini, F. (2000) 'Three paradigms of assessment: Measurement, procedure and inquiry', *The Reading Teacher*, 54:4, p.387

<sup>32</sup> *Ibid.*, pp.387-8

## **4 ASSESSMENT PRINCIPLES AND VALUES**

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There are a number of different principles and values that guide the setting, completing and evaluation of assessments. The most important is the VARCS principle, i.e. validity, authenticity, reliability, currency and sufficiency. These will be all explained and discussed in turn, followed by further three important principles, namely fairness/equitability and transparency, as well as the principle that assessments should be motivating for the learner.

## 4.1 VALIDITY

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Validity refers to the accuracy of an assessment. Specifically, an assessment is valid when<sup>33</sup>:

- 1) It is appropriate for its purpose
- 2) It has been designed to allow candidates to show that they have the required knowledge, understanding and skills to meet the standards of the qualification
- 3) It allows all assessors to make reliable assessment decisions
- 4) It allows the interpretation and inferences which can be drawn from the assessment outcomes to be meaningful and justifiable

The basis for claims for validity of assessments is that assessments are aligned with learning, teaching and content knowledge. Crucially, this is not a straightforward or taken for granted relationship.<sup>34</sup>

There are three kinds of validity: 'face validity', 'content validity' and 'construct validity'. *Face validity* refers to seeing if the assessment tool appears to require the use of the knowledge or skill that it is intended to assess.<sup>35</sup> *Content validity* "is the measure of how closely the content of an assessment matches the content of the Unit (...). It is concerned with the level of knowledge, understanding and skills that is required to meet the standard of the qualification."<sup>36</sup> Finally, *construct validity* "concerns the extent to which an assessment actually measures what the Unit specification states it is intended to measure. For example, an assessment that asked a candidate to write about a skill rather than demonstrate it would have low construct validity".<sup>37</sup>

All types of validity are achieved by subject experts choosing appropriate assessment methods, developing the assessment, and evaluating it against the Unit specification<sup>38</sup>.

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<sup>33</sup> SQA (2017) *Guide to Assessment*. p.10 Available at: [https://www.sqa.org.uk/files\\_ccc/Guide\\_To\\_Assessment.pdf](https://www.sqa.org.uk/files_ccc/Guide_To_Assessment.pdf) [Accessed 26/7/2018]

<sup>34</sup> James, M. James, M. (2006) 'Assessment, Teaching and Theories of Learning' in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.47

<sup>35</sup> Harlen, W. (2015) 'Assessment and the Curriculum' in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.695

<sup>36</sup> SQA (2017) *Guide to Assessment*. Available at: [https://www.sqa.org.uk/files\\_ccc/Guide\\_To\\_Assessment.pdf](https://www.sqa.org.uk/files_ccc/Guide_To_Assessment.pdf) [Accessed 26/7/2018]

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

## 4.2 AUTHENTICITY

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Authenticity refers to the process of ensuring that the achievement belongs to the student. Achievement of desired learning outcomes are to be measured as close as possible to the intentions lying behind the outcomes (e.g. assessing performance).<sup>39</sup>

## 4.3 RELIABILITY

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Reliability refers to the extent to which the results can be said to be of acceptable consistency and precision for a particular use. It also refers to the extent to which the assessment, if repeated, would give the same result. When the assessment that is used is formative in its form (as will be the case with this project – see section 5), reliability is not so much an issue in its formal sense. Nonetheless, it is still an important principle to account for.

## 4.4 CURRENCY

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Currency refers to the required evidence that the candidate still possesses or continues to possess the skills and knowledge being claimed.<sup>40</sup>

## 4.5 SUFFICIENCY

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Sufficiency relates to the requirement that enough evidence should be provided as specified in evidence requirements and assessment strategy.<sup>41</sup>

## 4.6 FAIRNESS/EQUITABILITY

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The assessments have to be fair in a sense that all students have equivalence of opportunity to succeed. Assessment practices should never discriminate students, and there has to be a spread of different kinds of assessments.<sup>42</sup> That is, assessment tools should not put anyone in an unfair advantage or disadvantage. In practical terms, this might mean making alternative arrangements due to e.g. hearing or visual impairments.

## 4.7 TRANSPARENCY

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Transparency simply refers to the fact that assessment needs to be in line with desired learning outcomes. That is, there should be no surprises, and students should have a clear understanding of what they will be assessed on.<sup>43</sup> The desired learning outcomes are clearly outlined in all unit

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<sup>39</sup> Race, P. (2014) *Lecturer's Toolkit: A Practical Guide to Learning*. London: Routledge. p.29

<sup>40</sup> SQA (2011) [https://www.sqa.org.uk/files\\_ccc/Unit\\_L\\_and\\_D\\_9DI.pdf](https://www.sqa.org.uk/files_ccc/Unit_L_and_D_9DI.pdf) [Accessed 7/8/2018]

<sup>41</sup> Ibid.

<sup>42</sup> Race, P. (2014) *Lecturer's Toolkit: A Practical Guide to Learning*. London: Routledge. pp.29-30

<sup>43</sup> Ibid., p.29

documentation: thus, learners will have a good idea of what skills and knowledge they are expected to improve and develop.

## **4.8 MOTIVATING**

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Assessment has to be motivating in that it helps to structure the learning. Assessment will help the learner make informed choices about learning through self-assessment and monitoring activities.<sup>44</sup>

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<sup>44</sup> Ibid.

## **5 WHY ASSESS?**

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Assessment is done for three main purposes: formative assessment helps learning, summative assessment reports on learning, and evaluating assessment monitors performance.<sup>45</sup> The next section will discuss these different types in more detail.

Further, assessment also serves the following purposes as explained by Brown<sup>46</sup>:

- 1) Assessment gives a license to proceed to the next stage or to graduate.
- 2) Assessment classifies the performance of students in rank order.
- 3) Assessment improves students' learning.

It is particularly the final purpose that is of importance here: that is, by using the self-assessment toolkit, the learners can see where they are or far they have become and that way orientate their learning to areas which require further work.

Race also helpfully explains the rationale for using assessments<sup>47</sup> – he notes that assessments...

- Guide improvement
- Help decide what options to choose
- Aid learning from mistakes and difficulties
- Check how well you are developing as a learner
- Allow to set standards
- Cause students to learn effectively
- Translate desired learning outcomes into reality
- Add variety to learning experience
- Help structure teaching and constrictively align desired learning outcomes to assessments

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<sup>45</sup> Harlen, W. (2015) 'Assessment and the Curriculum' in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.693

<sup>46</sup> Brown, G. (2001) *Assessment: A Guide for Lecturers*. Learning and Teaching Support Network Generic Centre. Available at: [http://www.flinders.edu.au/Teaching\\_and\\_Learning\\_Files/Documents/Assessment%20-%20A%20guide%20for%20lecturers.pdf](http://www.flinders.edu.au/Teaching_and_Learning_Files/Documents/Assessment%20-%20A%20guide%20for%20lecturers.pdf) [Accessed 6/8/2018]

<sup>47</sup> Race, P. (2014) *Lecturer's Toolkit: A Practical Guide to Learning*. London: Routledge. pp.31-32

## **6 DIFFERENT TYPES OF ASSESSMENT**

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As mentioned in the previous section, there are different types of assessment – summative, formative and diagnostic/evaluative – which all serve different purposes. This section will consider each type in more detail and arrive in the conclusion that formative assessment (in terms of self-assessment) is the most suitable form of assessment for the adult learners undertaking the two units. In addition, the assessment toolkit will also serve an evaluative purpose – that is, it allows for the monitoring of the efficiency of the training material.

## 6.1 SUMMATIVE ASSESSMENT

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Summative assessment is a more formal option that often happens at the end of a course (e.g. exam; course essay; portfolio). Sadler notes that summative assessments are geared towards reporting at the end of a course (certification) and are therefore passive – there is no immediate impact on learning.<sup>48</sup> Thus, this type of assessment is not as compatible with the aims of the current project as formative assessments (see next section). The aims of the toolkit for this project are to benchmark learners' starting point; track learners' development; and evaluate the programme.

## 6.2 FORMATIVE ASSESSMENT

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Formative assessments serve three key purposes – they demonstrate: 1) where learners are in their learning; 2) where they need to go; and 3) how to get there.<sup>49</sup> Formative assessments therefore identify and respond to learners' learning needs and help to track achievement gains. Importantly, they improve equity of student outcomes (see section on fairness/equity).<sup>50</sup>

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<sup>48</sup> Race, P. (2014) *Lecturer's Toolkit: A Practical Guide to Learning*. London: Routledge. p.75

<sup>49</sup> Harlen, W. (2015) 'Assessment and the Curriculum' in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.699

<sup>50</sup> OECD (2005) *Formative Assessment: Improving Learning in Secondary Classrooms*. Available at: <http://www.oecd.org/education/cei/35661078.pdf> [Accessed 26/7/2018]

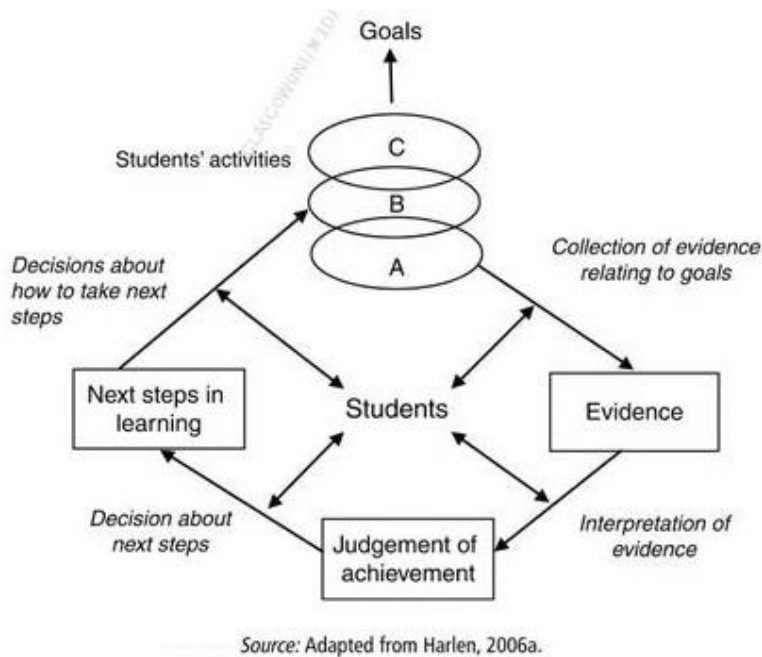


Figure 2: Formative assessment as a cyclic process. Source: Harlen (2015).

As can be seen from Figure 2, formative assessment involve a continuing cycle of activities. A, B and C denote the activities through which learners work towards goals. Activity A will provide evidence based on which next steps in learning can be devised; activity B then helps to achieve this – and so on. Key element of formative assessments include<sup>51</sup>:

- 1) Providing clear goals for lessons which are shared with learners
- 2) Learners are at the centre of the process, as they are the ones doing the learning
- 3) Learners take part in gathering and interpreting evidence of learning as regards goals
- 4) Teacher (if available) and learners make decisions together with regard to the next steps
- 5) Feedback (in a classroom environment) is provided to learners; learners' feedback is used to adjust teaching

Formative assessment is, therefore, “the process used (...) to recognise, and respond to, student learning in order to enhance that learning, during learning”. Formative assessments feed forward rather than provide feedback after learning (see summative assessment).<sup>52</sup>

### 6.3 DIAGNOSTIC/EVALUATIVE ASSESSMENT

*Diagnostic assessment* is generally conducted early in the course – it is aimed at identifying possible learning challenges and areas requiring development. Further, it can assess learners' aptitude.<sup>53</sup> *Evaluation*, as explained by Reeves, judges a programme's worth and effectiveness.<sup>54</sup>

<sup>51</sup> Harlen, W. (2015) 'Assessment and the Curriculum' in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.699

<sup>52</sup> Race, P. (2014) *Lecturer's Toolkit: A Practical Guide to Learning*. London: Routledge. p.75

<sup>53</sup> Paulette Isaac, E. (2010) 'Assessing adult learning styles' in V.C.X. Yang (ed.) *Assessing and evaluating adult learning in career and technical education*. Hershey, Pennsylvania: IGI Global. p.178



Both concepts are central to the current project. Through the toolkit, learners are able – either via self-study or group study – to diagnose potential challenges or areas needing further work. The toolkit will also enable the evaluation of the broader programme by providing evidence as regards how well the training materials are working.

## 6.4 SELF-ASSESSMENT

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As discussed in a previous publication (*Training Methodology for Promoting an Intercultural Mindset among Parents* – see p.54), adult learners are more self-directed and need to be responsible for their own education. Thus, self-assessment is a crucial tool when working with adult learners. Self-assessment is also a particularly useful tool for adults when assessing cultural competence.

Sadler points out that self-assessment is essential to learning because students can only achieve a learning goal if they understand that goal and can assess what they can do to reach the goal. In order for self-assessment to work as well as possible, the desired learning outcomes and what is required to complete the tasks successfully need to be made clear (see also the section on transparency). Goal setting is central to self-assessment: as learners set themselves goals, this gives them a good idea of what work is needed to achieve said goal.<sup>55</sup> Further, Oscarsson provides six reasons why self-assessment is beneficial<sup>56</sup>:

- Self-assessment promotes learning: it gives training in evaluation and judgement which results in benefits to the learning process
- Achieving a raised level of awareness of perceived levels of abilities (both students and teachers)
- Highly motivating in terms of goal orientation
- Range of assessment techniques expanded
- Participating in own evaluation
- Beneficial post-course effects

As a result, learners achieve deeper learning as they must have an understanding of the subject matter and assessment task in order to gauge how well they have met the criteria. As ownership of learning is transferred to the student via self-assessment, student engagement improves.<sup>57</sup>

Adult learners, as discussed in *Training Methodology for Promoting an Intercultural Mindset among Parents* (see pp.54-55), use experience as a resource and basis for learning – that is, they link their past experiences to anything new and validate new concepts based on new learning. Self-assessment consolidates learning, i.e. helps the learner consider new knowledge in light of previous

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<sup>54</sup> Reeves, T.C. (2000) 'Alternative assessment approaches for online learning environments in higher education', *Journal of Educational Computing Research*, 23:1, pp.101-111.

<sup>55</sup> Black, P. and William, D. (2005) 'Changing teaching through formative assessment: Research and practice'. Available at: <http://www.oecd.org/education/ceri/35337920.pdf> [Accessed 7/8/2018]. pp.229-30

<sup>56</sup> Coombe, C. and Canning, C. (n.d.) 'Using self-assessment in the classroom: Rationale and suggested techniques'. Available at: [http://www.seasite.niu.edu/tagalog/teachers\\_page/language\\_learning\\_articles/using\\_self.htm](http://www.seasite.niu.edu/tagalog/teachers_page/language_learning_articles/using_self.htm) [Accessed 7/8/2018].

<sup>57</sup> University of Reading (n.d.) 'Engage in Self-Assessment'. Available at: <https://www.reading.ac.uk/engageinassessment/peer-and-self-assessment/self-assessment/eia-self-assessment.aspx> [Accessed 19/7/2018].

experiences. As a result, self-assessment opens up new levels of understanding and dispels misconceptions.<sup>58</sup>

Finally, it is important to include a brief word of caution. As posited by 'above the average effect' (van Lange and Sedikides), people tend to rate themselves more favourably than they should.<sup>59</sup> However, because the aim of the assessment toolkit is not to provide a formal or final 'mark' or 'grade' as regards specific competences, these words of warning are less pressing in the context of this project.

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<sup>58</sup> University of Reading (n.d.) 'Engage in Self-Assessment'. Available at: <https://www.reading.ac.uk/engageinassessment/peer-and-self-assessment/self-assessment/eia-self-assessment.aspx> [Accessed 19/7/2018].

<sup>59</sup> Athanasou, J. (2005) 'Self-Evaluations in Adult Education and Learning', *Australian Journal of Adult Learning*, 45:3, pp.290-303.

## **7 FINDING THE RIGHT ASSESSMENT METHODS**

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As Harlen notes, there are a number of decisions that have to be made with reference to assessments<sup>60</sup>:

- 1) What kind of activity are learners engaged in
- 2) Who will collect the data
- 3) How the data will be collected
- 4) How the data will be interpreted
- 5) How the resulting judgement will be recorded and communicated

Further, Brown suggests considering the following guiding questions when designing assessments<sup>61</sup>:

- 1) What are the learning outcomes to be assessed?
- 2) What are the capabilities (implicit or explicit) in the outcomes?
- 3) Is the method of assessment chosen consonant with the outcomes and skills?
- 4) Is the method relatively efficient in terms of student and staff time?
- 5) What alternatives are there? What are the advantages/disadvantages?
- 6) Does the specific assessment task match the outcomes and skills?
- 7) Are the marking schemes or criteria appropriate?

Depending on what ability the assessment seeks to measure or map (be it e.g. knowledge – that which can be recalled – or application – ability to apply rephrased knowledge in novel situation), the right method of assessment needs to be found. Figure 4 (below) illustrates the different levels of cognition.

6	<b>Evaluation</b>	Ability to make a judgement of the worth of something
5	<b>Synthesis</b>	Ability to combine separate elements into a whole
4	<b>Analysis</b>	Ability to break a problem into its constituent parts and establish the relationships between each one.
3	<b>Application</b>	Ability to apply rephrased knowledge in novel situation
2	<b>Manipulation</b>	Ability to rephrase knowledge
1	<b>Knowledge</b>	That which can be recalled

*Based on Bloom's Taxonomy of Educational Objectives (Bloom, 1956). Higher levels of the taxonomy subsume lower levels.*

Figure 3: Hierarchy of the cognitive domain. Source: Brown (2001).

## 7.1 ASSESSING ADULT LEARNERS AND CULTURAL COMPETENCES

The process of learning about cultural competences is a multi-layered process. It includes having enough knowledge which enables people to interpret, make sense of, and understand the diverse society around them. It also involves the ability to apply this knowledge to practice, and to improve one's skills and competences in real life situations. As such, the assessment methods need to be versatile enough to account for the different facets of cultural competences.

<sup>60</sup> Harlen, W. (2013) *Assessment and Inquiry-Based Science Education: Issues of Policy and Practice*. Trieste, Italy: Global Network of Science Academies (IAP) Science Education Programme.

<sup>61</sup> Brown, G. (2001) *Assessment: A Guide for Lecturers*. Learning and Teaching Support Network Generic Centre. Available at: [http://www.flinders.edu.au/Teaching\\_and\\_Learning\\_Files/Documents/Assessment%20-%20A%20guide%20for%20lecturers.pdf](http://www.flinders.edu.au/Teaching_and_Learning_Files/Documents/Assessment%20-%20A%20guide%20for%20lecturers.pdf) [Accessed 6/8/2018]

It is important to note that e.g. race, gender, cultural beliefs (and other factors and characteristics) impact on learning and preferred learning styles.<sup>62</sup> Crucially, assessment tools need to account for this – assessments need to leave enough room for reflection in order to accommodate diversity.

As argued by Kasworm and Marienau, the assessment process aimed at adult learners “must address learning on multiple levels – perception, action, and critical reflection – and from multiple perspectives – those of the learner, the instructional program, and the various contexts of adult life”.<sup>63</sup> They note assessment should be aligned with content (knowledge, skills, attitudes), context (authentic activity in relation to the culture of learning or communities of practice), learner (characteristics, history, goals, and interrelationships), and instructional practice (strategies, goals, and actions that provide self-referencing assessment and focus on situated learning environments to bring the significance of real-life contexts into the learning process).<sup>64</sup>

Assessment of adult learners, as noted by Kasworm and Marienau, “moves beyond the knowledge of abstract content to the world of situated cognition. Here the importance of context in establishing meaningful connections among knowledge, skills, and experience becomes one of the cornerstones of the creation and implementation of assessment approaches”. As a result, the authors propose five key principles that can guide adult-oriented assessment practices<sup>65</sup>:

- 1) Learning is derived from multiple sources
- 2) Learning engages the whole person and contributes to that person’s development
- 3) Learning and the capacity for self-direction are promoted by feedback
- 4) Learning occurs in context; its significance relates in part to its impact on those contexts
- 5) Learning from experiences is a unique meaning-making event that creates diversity among adult learners

In terms of choosing appropriate assessment methods for adult learners, Lavin provides several general principles to guide this process<sup>66</sup>:

- Choose methods that are involving and related to students’ learning
- Use instruments that can reflect the complex patterns of adult learning
- Include self-assessment strategies
- Recognise the special circumstances of adult learners
- Employ multiple methods

Assessments aimed at adults – as with any learners – need to also account for different ways of learning, as well as different learning styles. Thus, there needs to be a variety of assessment tools available. This reflects back to fairness and equitability (see section 4.6.) – assessments need to be

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<sup>62</sup> Paulette Isaac, E. (2010) ‘Assessing adult learning styles’ in V.C.X. Yang (ed.) *Assessing and evaluating adult learning in career and technical education*. Hershey, Pennsylvania: IGI Global. p.175

<sup>63</sup> Kasworm, C.E. and Marienau, C.A. (1997) ‘Principles for Assessment of Adult Learning’, *New Directions for Adult and Continuing Education*, no.97 (Fall), pp.5-16. p.6

<sup>64</sup> Ibid.

<sup>65</sup> Ibid., p.7

<sup>66</sup> Lavin, M.W. (1993) ‘Appropriate Assessment Strategies for Adult Students’. Available at: <http://journals.iupui.edu/index.php/muj/search/authors/view?firstName=Marjorie%20W.&middleName=&lastName=Lavin&affiliation=Empire%20State%20College&country=> [Last accessed 9/8/2017]. p.29

varied enough to accommodate different learning styles and characteristics. There are usually seen to be four types of learners (Fleming's VARK model)<sup>67</sup>.

- **Visual learners** prefer the use of images, maps, and graphic organisers to access and understand information.
- **Auditory learners** best understand new content through listening and speaking in situations such as lectures and group discussions. In relation to this, **aural learners** use repetition as a study technique and benefit from the use of mnemonic devices.
- Students with a strong **reading and writing** preference learn best through words. These students may present themselves as copious note takers or avid readers, and are able to translate abstract concepts into words and essays.
- **Kinesthetic learners** best understand information through tactile representations of information. These students are hands-on learners and learn best through figuring out how things work out by hand.

Further to these different ways of learning, David Kolb has identified different characterisations of learners<sup>68</sup>:

#### 1) Accommodators

These learners are intuitive and good at adapting to changes. They also learn from hands-on experience.

#### 2) Assimilators

Assimilators are inductive thinkers: they prefer to gather information from a variety of sources and place it in a logical form.

#### 3) Convergers

Practicality is important for convergers – they prefer to tackle technical issues.

#### 4) Divergers

Divergers take experiences and think deeply about them. They like to ask “why?” and they start from detail and work their way up to the big picture.

Finally, it is worth noting that **assessing shifts in attitudes** is closely related to the issue of assessing adult learners' cultural competences. This is particularly important as the learning materials are aimed at changing the adults' attitudes in relation to issues pertaining to diversity and integration, for example. Evidence from a workplace study on diversity training, and the effect of this on attitudes, has shown that those taking part in training did demonstrate a change in attitudes. It was shown that participants became – as a result of the training – significantly more tolerant of other cultures and significantly more respectful towards disabled, racial minority and GLB workers<sup>69</sup>. In terms of assessing attitude changes within the confines of this project, certain tools (see next section) – particularly rating scales – will be of great importance.

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<sup>67</sup> Teach: Make a Difference (n.d.) Learning Styles. Available at: <https://teach.com/what/teachers-know/learning-styles/> [Accessed 9/8/2018].

<sup>68</sup> Paulette Isaac, E. (2010) 'Assessing adult learning styles' in V.C.X. Yang (ed.) *Assessing and evaluating adult learning in career and technical education*. Hershey, Pennsylvania: IGI Global. p.180

<sup>69</sup> Probst, T.M. (2003) 'Changing attitudes over time: Assessing the effectiveness of workplace diversity course', *Teaching of Psychology*, 30:3, pp.236-239.

## **8 ASSESSMENT TOOLS**

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There is a plethora of different assessment tools, i.e. ways of providing evidence from which inferences can be drawn about what learners know or can do, available.<sup>70</sup> “The basis for choosing what are the most appropriate methods and tools”, Harlen reminds us, “depends on the purpose of the assessment and what is required in terms of validity and reliability to serve that purpose”.<sup>71</sup> Moreover, interactions between people and tools such as language are seen to have a crucial role in learning – therefore, assessment of learning needs to take more account of the social as well as individual processes through which learning occurs.<sup>72</sup>

As stressed in previous sections, it is important to make alternative tools of assessment available for learners. This is due to different learning styles, different personal characteristics, accessibility issues and, consequently, due to respecting the values of fairness and equitability in assessment.

This section introduces a number of different assessment tools that are congruent with the project and what has been outlined previously.

## 8.1 CHECKLIST

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Checklists are often used for assessing cultural competences. Checklists are a good way to identify areas that need more work and reflection, and they can be used at the end the training to assess how far an individual has come (“benchmarking”). Checklists are useful for assessing both knowledge and skills/competences.

Checklists involve self-reflection and will include statements. If you think the statement applies to you, you place a tick next to it.

There are obvious limitations to checklists, and they are therefore particularly useful as a diagnostic device. Further assessment methods should be used to build a more holistic portfolio.

## 8.2 RATING SCALE

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Rating scales are related to checklists, but introduce more nuance. By using scales, it is easier to get more detailed information as regards the learners’ confidence in their existing knowledge/skills. As with checklists, rating scale assessments are useful for assessing both knowledge and skills/competences. As described above, rating scales are also effective in assessing attitudes.

## 8.3 MULTIPLE CHOICE AND MULTIPLE RESPONSE

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Multiple choice assessment asks a question or provides a statement, followed by a number of potential answers. Multiple choice questions are particularly useful in terms of assessing knowledge.

Multiple choice questions are especially good for testing knowledge around straightforward facts and figures. They are frequently used to assess at the level of recall and understanding and, if

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<sup>70</sup> Harlen, W. (2015) ‘Assessment and the Curriculum’ in D. Wyse (ed.) *The Sage Handbook of Curriculum, Pedagogy and Assessment*. L.A., Calif.: Sage. p.695

<sup>71</sup> Ibid.

<sup>72</sup> James, M. James, M. (2006) ‘Assessment, Teaching and Theories of Learning’ in J. Gardner (ed.) *Assessment and Learning*. London: Sage. p.48



carefully constructed, they can also be used to assess higher order cognitive skills. Multiple choice questions allow considerable coverage of content, and they provide rapid feedback. Multiple choice can also be used for diagnostic purposes, and they are useful in assessing a wide range of cognitive skills.

A downside to multiple choice questions is that they are often perceived as being mainly for testing the recall of factual information and they do not allow candidates to express themselves. It is often difficult to construct good items which are unambiguously worded and which will elicit the key (key = the correct answer). It is also often difficult to devise enough plausible distractors (distractor = wrong answer) for certain topics.

In terms of constructing multiple choice questions, the stem should include as much information as possible, and negative statements should be avoided. All responses should be of the same approximate length, unambiguous, grammatically correct and consistent with the stem. None of the responses should be synonymous, and there should be only one key, though all distractions should be feasible. The position of the key should be randomised.<sup>73</sup>

A variant of multiple choice questions may include multiple right answers ('multiple response'). Thus, learners are given a selection of potential answers, but rather than only one right answer they may be multiple right answers (but not necessarily). The candidate can or cannot be told how many right answers there are. Multiple response questions are usually used to assess recall and understanding, but if carefully constructed they can also assess higher cognitive skills.<sup>74</sup>

## 8.4 CLOZE

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In these kinds of assessments, the candidate is provided with a passage of text where a number of words have been removed. A prompt may be given (e.g. a list of potential answers) to help the learner. Although common in language learning, these kinds of assessments can be used to test recall and reasoning.

Cloze questions allow considerable coverage of content by making it possible for the candidate to respond easily and quickly and they are useful for formative assessment. In terms of limitations, although there usually is only one right answer, the higher the level of assessment, the more varied the likely response.

For the purposes of this project, a variant of cloze question - 'spot the mistake' - would be particularly well suited, as it is less 'exam-like'.

## 8.5 SHORT ANSWER

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Short answer question involves learners being presented with a question with a pre-determined answer. These questions may use words, numbers, diagrams or graphs. This type of assessment is generally used to assess the recall of factual information, but it can also test the understanding and application of knowledge.

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<sup>73</sup> SQA (2011) [https://www.sqa.org.uk/files\\_ccc/Unit\\_L\\_and\\_D\\_9DI.pdf](https://www.sqa.org.uk/files_ccc/Unit_L_and_D_9DI.pdf) [Accessed 7/8/2018]

<sup>74</sup> SQA (2011) [https://www.sqa.org.uk/files\\_ccc/Unit\\_L\\_and\\_D\\_9DI.pdf](https://www.sqa.org.uk/files_ccc/Unit_L_and_D_9DI.pdf) [Accessed 7/8/2018]

Short answer questions are less time-consuming to construct than multiple choice or matching items and they reduce the opportunity for guessing. In terms of limitations they tend to be used only for lower levels of cognitive competence and can be restricted to a small area of content. When constructing short answer questions, they must be devised to ensure that they reflect the requirements of the learning outcomes. They should also be phrased in such a way that the candidate's task is clearly indicated.<sup>75</sup>

## 8.6 MATCHING

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Matching questions present a learner with two lists — a set of statements and a set of responses. The candidate is then required to indicate which response from the second list corresponds with, or matches, each statement in the first list. Matching questions can be used to assess the recall, comprehension and application of knowledge.

Matching questions are useful for assessing topics involving large amounts of factual information in an efficient manner. They are, however, restricted to situations where sufficient plausible responses can be identified and it can be difficult and time-consuming to construct good questions.

To construct good matching questions, the answer list should be larger than the first list to reduce the chance of guessing by a process of elimination. There should be no more than one correct response for each statement and all responses should be plausible.<sup>76</sup>

## 8.7 STRUCTURED

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A structured question consists of a stem (which describes a situation) followed by a series of related questions. The stem can be text, a diagram, a picture or multi-media. While structured questions can be devised to assess the recall of knowledge, they are probably most useful for the assessment of learning outcomes concerned with comprehension and the application of knowledge.

These kinds of assessment are less reliant on candidates' writing ability than extended response questions. They are somewhat restricted to a limited area of content and care has to be taken that failure in one part does not affect the candidates' answers in succeeding parts.

In structured assessments questions should be based on, and relevant to, the stem and the questions should be phrased in such a way that the candidate's task is clearly indicated. Questions based on recall are inappropriate in this method.

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<sup>75</sup> Ibid.

<sup>76</sup> SQA (2011) [https://www.sqa.org.uk/files\\_ccc/Unit\\_L\\_and\\_D\\_9DI.pdf](https://www.sqa.org.uk/files_ccc/Unit_L_and_D_9DI.pdf) [Accessed 7/8/2018]

## **9 CONCLUSION**

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This report has introduced the theoretical foundation for the assessment toolkit. As noted by Serafini, traditionally assessment is something we do 'to' students rather than 'with' them. However, by including the student in the assessment process leads for the student to accept responsibility for learning and reflecting on their own educational progress<sup>77</sup>. From a more constructivist understanding, the learning process, including assessment, should be a more active and mutual process, and hence formative assessment and self-assessment methods are of importance for the aims of this project.

As previously outlined, the aims of the self-assessment toolkit, which will be developed, are as follows:

1. To assess the cultural competences of parents
2. To assess the needs for further intervention
3. To assess the overall impact of the training material.

In order to effectively assess parents' acquisition of desired learning outcomes, right assessment methods need to be chosen. This report has focused on a number of different tools each in turn, outlining the uses of each method. These guidelines will be taken into account when designing the toolkit.

In order to effectively assess adult learners and cultural competences, it has been argued that key things to take into account are:

- Experience as key for adult learners: likely to link new information to existing knowledge and to be practice orientated
- The need for a variety of assessment methods in order to capture the multi-layered reality of cultural competences and to cater for different learning styles
- Allowing enough space for diversity: the learners will come from different social, ethnic, economic etc. backgrounds, and the assessments should – through versatility – cater for that

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<sup>77</sup> Serafini, F. (2000) 'Three paradigms of assessment: Measurement, procedure and inquiry', *The Reading Teacher*, 54:4, p.390

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