

**INAUGURAL LECTURE**

**Assessment to support self-directed learning: the case of the NWU**

by

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Self-Directed Learning

in

**The Faculty of Education**

at the

**Vaal Campus, North-West University**

15 June 2018

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## **ASSESSMENT TO SUPPORT SELF-DIRECTED LEARNING: THE CASE OF THE NWU**

### **1. INTRODUCTION AND MOTIVATION**

When considering the North-West University's (NWU) Teaching and Learning Strategy: 2016 to 2020 (2016) the strategy noticeably aspires to develop students' capacity for self-directed learning (SDL). Evidence of this could be found in phrases such as "...the NWU supports its students so that they can progressively become self-directed and lifelong learners..." (p.10) as an overarching mission; "a commitment to cultivating inquiry-led, self-directed and adaptable learners" (p.14) as one of the underpinning principles of the strategy; "...encouraging active and self-directed learning as appropriate for different disciplinary contexts and types of knowledge..." (p.4) through its curricula and pedagogical approaches, and developing students' capacity for "...self-paced, autonomous learning" (p.8) through innovative teaching and learning designs. Along these lines, the NWU signals its commitment to provide an enabling environment for students to "develop their capacity for self-directed learning" (p.19). Being the key document that guides assessment as well, The Teaching and Learning Strategy also alludes to the encouragement of "active, self-directed learning through the considered adoption of appropriate approaches to...assessment" (p.16).

Both the acknowledgement of the significance of SDL as 21<sup>st</sup> century student attribute and the pivotal role assessment can play in supporting it, is thus palpable in the Teaching and Learning Strategy of the NWU. However, regardless of the revision of relevant policies and the on-going discourses on different levels and forums to ensure quality assessment and encouraging SDL at the NWU, focused, dedicated and coordinated actions to accomplish the epitome of assessment that supports SDL is indispensable. Unlike the fact that so many innovative, and sometimes even proven old school ideas, do not always find their ways into everyday educational practices which could genuinely benefit all students in the South African education sector at large, the NWU should be vigilant not to allow its ideal of SDL and assessment to support it, ends up as a mere illusion. Hence, I suspect the time has arrived to deliberate on how we as NWU are supposed to proceed in order to realise the enterprise of assessment to support SDL.

### **2. CENTRAL QUESTION AND PURPOSE**

Based on the brief context provided thus far, it is my intention to reflect on the following question in this paper:

How could the NWU manoeuvre the alignment of assessment to support self-directed learning to realise the goals as stated in its Teaching and Learning Strategy: 2016-2020?

Just a side note: although the question focuses on assessment as pedagogical vehicle to support SDL, it does not reflect my ignorance of other pedagogical vehicles such as blended learning, project-based learning or cooperative learning that can also support SDL. The fact that assessment forms the focal point of this paper is embedded in two motives, namely that assessment is my field of expertise and therefore my preferred choice and secondly, that assessment cuts across all other pedagogical vehicles claiming to support SDL.

To respond to the aforementioned question, this paper will take the form of a theoretical and operational discourse, rooted in a transformative mode of thinking. Congruent with the term “manoeuvre” which is used here as a verb to mean “to move skilfully or carefully in order to achieve a goal”, the theoretical discourse will highlight a few matters of which the NWU should take cognisance before moving on to possible tactics (operational discourse) to align assessment to support SDL. The theoretical discourse centres on how assessment is defined, how assessment shapes learning, and contemporary views on assessment and SDL. This part of the discourse is concluded by looking at assessment that is fit for purpose to support SDL. The operational discourse will contemplate a number of proposed actions that the NWU could consider to align assessment to support SDL.

### **3. THE THEORETICAL DISCOURSE**

In this section I will look into facets of assessment that are relevant to the support of SDL as well as the notion of SDL with the intention to provide a sound theoretical basis for the operational discourse that follows.

#### **3.1 Assessment**

##### **3.1.1 Defining assessment**

In order to arrive at an understanding of assessment as a concept, a brief look at two related and sometimes interchangeable concepts is necessary. The first concept is *measurement*. As suggested by the term, measurement is usually expressed in terms of assigning scores or numerical values to a student’s work (Nitko, 1996). A quantitative weight is thus used to communicate the success of the student’s performance. The other concept is *evaluation* which indicates a qualitative judgment of a student’s measured performance. Oosterhof

(2009:10) explains evaluation as the “outcome of measurement after value has been added.” Understood in this way, the value of an obtained measured performance of say 80% could therefore be judged or evaluated as “excellent”. Noteworthy is the fact that “degrees of subjectivity, inconsistency, and bias” almost always influence evaluations (Nitko & Brookhart, 2011:3).

*Assessment* is extensively defined in the literature and only some definitions will be reported and commented on here. SAQA's (2001:16) definition reads that assessment is “a structured process for gathering evidence and making judgements about an individual's performance in relation to registered national standards and qualifications”. From this definition it could be inferred that assessment should be planned and organised (structured), that it includes measurement (gathering evidence) and evaluation (making judgements), and that it has a long term goal in mind (the attainment of a qualification). As a result, it can be said that this definition has a product or a summative orientation towards assessment. According to Airasian (2005:2), assessment is “the process of collecting, synthesizing, and interpreting of information to aid ... in decision making”. Once again, evaluation is implied in this definition (interpreting information), while both a process (formative) and a product (summative) orientation towards assessment is suggested, since decision making based on assessment results could occur during or at the end of a teaching and learning event. McMillan (2007:8) defines assessment as “the collection, evaluation, and the use of information to help making decisions that improve student learning”. In this definition, evaluation is pertinently mentioned while the formative advancement of student learning is emphasised (the use of information to help in decision making for improving student learning). Nitko and Brookhart's (2011) description of assessment contains a process (formative) and a product (summative) slant when it is explained as a process for obtaining information to help lecturers decide the degree to which their students achieved the learning targets in order to arrive at decisions about such students' learning.

Derived from the preceding explanations of measurement, evaluation and assessment, two observations can be made. The first is that assessment presumably entails more than measurement while evaluation forms part of assessment (Scriven, 1991). Hence, assessment is an overarching concept which includes measurement and evaluation and which is aimed at decision making about students' performance. Underscoring the aforementioned, Oosterhof (2009) states that in principle, assessment can be regarded as the culmination of measurement and evaluation. The second observation is that assessment does not represent

an unwavering or linear process (McAfee & Leong, 2002) but rather a cyclic one in which the following procedures are overtly or covertly practiced to accommodate the summative and the formative purposes of assessment: the gathering, analysis, interpretation, recording, reporting, and using of assessment information (Lombard, 2010).

### 3.1.2 How assessment shapes learning

Snyder (1971) alludes to the fact that students strategically negotiate their way through the curriculum, guided by their ability to detect which parts of the work their lecturers regard as important and which parts they could safely omit for upcoming assessments. Miller and Parlett (1974) go even further by classifying students into three categories according to the strategies they employ to help them to distinguish between parts of the curriculum that is apparently more important than other parts for assessment purposes. The first category of students is “cue conscious”. They are particularly sensitive and attentive to any cues by their lecturers, giving the slightest hint about what to study and what to ignore for an assessment. Other students are ingenious “cue seekers” who skilfully concoct encounters with their lecturers with the intentional goal to discover how their next assessment will look like. The last group of students is categorised as being “cue deaf”. These students entirely miss out on any lecturer advice on assessment as they are either indifferent about their performance or they represent the dedicated specie of ‘crammers’, trying to study everything. It is thus evident from the literature that assessment significantly impacts on how students perceive and approach their curricula. This so-called “back-wash” effect of assessment also exemplifies how assessment influences students’ approaches and motivation to learning. Referring to the connection between assessment and learning, Gibbs (1999) indicates that general belief and empirical evidence attest to the fact that assessment has an important influence on learning and later remarks that “assessment frames learning, creates learning activity and orients all aspects of learning behaviour” (Gibbs, 2006:23). Murphy (2006) also contends that assessment can make or break educational learning opportunities. Emphasising the crucial influence of assessment on learning, Boud and Falchikov (2007:3) assert that assessment “directs attention to what is important. It acts as an incentive for study. And it has a powerful effect on what students do and how they do it.” This is affirmed by Carless (2011:3) who states that assessment “is one of the main drivers of student learning; and how it is enacted has a prime impact on the quality of student learning” and that it should be engineered to “play a positive rather than a destructive role in student learning”. It is thus evident that there is a powerful interplay between assessment and the quality of learning.

### 3.1.3 Contemporary views on assessment

Throughout several centuries, assessment practices were characterised by product-oriented or end-loaded assessment (Hounsell, McCune, Hounsell & Litjens, 2008; Bailey & Garner, 2010) in the form of commonly known summative assessment. In the recent past, these assessment practices became known as assessment *of* learning (AoL) due to its aim to establish learner achievement by means of grading and controlling knowledge acquisition. To a great extent, summative assessment or AoL still dominates in higher education due to the imaginary belief that it is the sole representation of accountability. In this regard Elton and Johnson (2002:9) submit that assessment in higher education is “still pervaded by a largely unreflective traditionalism” which is characterized by the persistent use of final written examinations. Although summative assessment cannot be confined to examinations, it is true that the latter remains a popular instrument for determining (illusions of) student learning which is eventually used for the purpose of certification. The history of examinations also prompts one to ponder about its concealed emotional clout on students in terms of how they define themselves as people – meaning that one can see yourself as a failure when failing an examination (*cf.* Clegg & Bryan, 2006). In as far as examination anxiety is concerned, Kvale (2007) cites a few spine-tingling chronicles. For example, it is said that Robert de Sorbon, the founder of the University of Paris, compared university examinations with the Christian judgement of the Last Day with the main difference that judges over heaven and hell are much kinder than judges of university exams. Two other chronicles suggest that during earlier years, students at the University of Cambridge seemingly had to swear before an examination that they will not take revenge on their examiners, while the examination rules of 1501 at the University of Heidelberg in Germany forbade students to carry long knives during examinations. The previously mentioned interplay between assessment and the quality of learning instinctively jumps to mind to suggest that learning in the case of examinations, has a strong probability to signify fear rather than cognitive growth.

However, at the end of the twentieth century constructivist thinking also impacted the assessment discourse. It marked “the beginnings of an active search for a more humanistic, even intuitive, approach to educational assessment which is more in keeping with the spirit and needs of the times” (Broadfoot, 2002:201). Whereas Boud (2000:15) talks about a “revolution in assessment thinking” at the turn of the century, Berry (2013:89) is more subtle when highlighting learning as one of the catalysts for assessment reform: “In contrast to the pursuit of evidence at the end of the learning process, which largely defined the twentieth century

approach to assessment, the international agenda for assessment in the twenty-first century shows signs of growing recognition of using assessment for learning purposes”.

Inspired by the Latin verb “assidere” meaning “to sit with” or “to sit beside” from which the term assessment is derived (Wiggins, 1993:14), and the quest for improving engaged student learning, it was realised that assessment is not something done to students but something that is done with students. Spearheaded by amongst others, the Policy Task Group on Assessment which later changed name to the Assessment Reform Group, a voluntary group of researchers brought together by the British Educational Research Association, and eminent researchers such as John Gardner, Paul Black, Dylan Wiliam, Eleanore Hargreaves, Gordon Stobart, Lorrie Shepard, Rick Stiggins, John Biggs, David Boud, Gavin Brown and David Carless, just to name a few, formative assessment or assessment *for* learning (AfL) appeared vividly on the assessment scene. This was soon followed by Lorna Earl’s conception of assessment as learning (AaL) and the notions of learning-oriented assessment (LOA) of David Carless and self-directed learning oriented assessment (SLOA) of Magdalena Mok. (I will return to these approaches soon.)

Although assessment *for* learning and assessment as learning as well as learning-oriented and self-directed learning oriented assessment propagate assessment as a process for engaging students in their own learning to subsequently improve learning, it is nowhere to be found in the literature that it represents the panacea for assessment practices or that it should completely replace the AoL approach. Insinuating the importance of both AoL and AfL, Boud (2000:151) calls for “sustainable assessment” meaning that assessment should meet “the needs of the present and [also] prepare students to meet their own future learning needs”. He reasons further that “one of the traps in arguing for a [total] shift in assessment practice is to propose an unrealistic ideal that can never be attained” and coined the phrase “assessment always has to do double duty” (Boud, 2000:159/160) which he clarifies as follows:

- Assessment should encompass formative assessment for learning and summative assessment for certification.
- Assessment should focus on the immediate task and on implications for equipping students for lifelong learning in an unknown future.
- Assessment should attend to both the learning process and the substantive content domain.

Likewise, Keppell and Carless (2006:189) argue that the boundaries between formative and summative assessment is often blurred and express “misgivings about the usefulness of

formative-summative distinctions which can lead to stereotypical assumptions, oversimplifications or misconceptions”. Correspondingly, a “balanced system” in which both AoL and AfL could be accommodated is also endorsed by Stiggins (2002:764/765).

In conclusion, Dochy, Gijbels, and Van de Watering (2004) and Dochy, Segers, Gijbels and Struyven (2007) maintain that the assessment culture reflecting contemporary views on assessment displays the following characteristics:

- A strong call for congruence between teaching, learning and assessment to enhance the instructional process as well as student learning.
- Assessment of student achievement only at the end of the learning process has become obsolete.
- Students are actively involved in the assessment process and share responsibility by collaborating with lecturers in developing assessment criteria, engage in self- and/or peer assessment and reflect on their growth.
- Various sorts and numbers of measures are included in assessment, implying a multiple perspective or a profile on student achievement.
- Assessment tasks are meaningful, interesting, authentic, challenging and engaging, involving investigations and applications.
- The focus is on higher order learning and the construction rather than the reproduction of knowledge.
- Assessment not only focuses on cognitive performance but also on metacognitive, social and affective outcomes.

### **3.2 Self-directed learning**

At the dusk of the previous century, Barnett (1999) declared that society is faced with “super complex” challenges. Birenbaum and Dochy (1996:4) further expanded on this view by stating that “successful functioning in this era demands an adaptable, thinking, autonomous person who is a self-regulated learner, capable of communicating and co-operating with others”. At this particular point in time, knowledge multiplication, which requires “a strong sense of personal agency to select and learn relevant information” (Ponton & Carr, 2016:13), as well as requirements to endure 21<sup>st</sup> century obligations successfully, not only underscore the foregoing but also accentuates the fact that students must be prepared to manage their own learning. Relating the afore to SDL, Bulik and Frye (2004:74) contend that “the concept of self-directed learning has moved from the margins of educational dialogue to a more central position as an

essential outcome of adult education” while Mok (2013:9) states that “the capacity for self-directed learning is fundamental to sustainable development in the twenty-first century, given the rapid speed at which knowledge is created”. Consequently, knowledge transmission and knowledge accumulation, especially in higher education, is fast becoming obsolete and the promotion of SDL to equip students to deal with 21<sup>st</sup> century demands such as the solving of complex problems and the ability to think critically and creatively has entered centre stage. The significance of SDL is emphasised by suggesting that it is fundamental to lifelong learning (Sutherland, 1998; Guglielmino, 2008; Bell, 2010), that self-directed competency could be taught and developed (Mok & Lung, 2005; Thorton, 2010), and that it is considered as “one of the best ways to learn” (Bagheri, Ali, Abdullah & Daud, 2013:15). In addition, studies also confirm the benefits of SDL in terms of students’ academic performance and their attitudes towards learning (cf. Hsu & Shiue, 2005; Stewart, 2007; Hudson & Ramamoorthy, 2009; Gureckis & Markant, 2012; Williams & Brown 2013).

Savin-Baden and Major (2004) postulate that the idea of SDL can be traced back to Existentialism, with its focal points of individual freedom, responsibility and personal views. Being a self-directed learner would then imply that a student is empowered as a free, mature and authentic self (Savin-Baden & Major, 2004).

The concept SDL implies that an individual is able to direct and control the learning process purposefully. Knowles (1975:18) who became known for popularising the concept, defines SDL in the following way: “In its broadest meaning self-directed learning describes a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.” Referring to Bagheri *et al* (2013) and Lee and Teo (2010), Van Der Walt (2016:4) describes SDL as “... managing one’s own learning by actions such as setting one’s own learning goals, making decisions about what and how to learn, applying the appropriate learning skills and strategies and reflecting about one’s own learning and the degree to which self-determined aims have been reached.”

Illuminating the above definitions of SDL, the literature point towards competencies and characteristics associated with being a self-directed learner. Signifying the competencies of a self-directed learner, Knowles (1975) mentions the ability to understand the difference between teacher-directed and self-directed learning; being able to clarify one’s conception of being a

self-directed learner; being able to relate to peers collaboratively and as resources for learning; the ability to diagnose own learning needs and formulating objectives; viewing lecturers as facilitators; identifying resources for learning, and collecting and validating evidence of accomplishments. According to Patterson, Crooks and Lunyk-Child (2002:224) a self-directed learner should demonstrate competence in “the assessment of learning gaps, evaluation of self and others, reflection, information management, critical thinking, and critical appraisal”. Characteristics of a self-directed learner include initiative and persistence to learn, acceptance of responsibility for own learning, goal orientation, a strong ability to learn independently, self-discipline, viewing problems as challenges, a love for learning and a high degree of curiosity (Guglielmino, 1978; Guglielmino, 2013).

It is also important to note that personal characteristics as well as the learning situation contribute towards SDL (Knowles, 1975; Guglielmino, 2008). Candy (1991:312) explains this by indicating that SDL is “a person-situation variable; that is; it is not a quality that inheres in the person independent of the situation or the situation independent of the person”. It is thus suggested that not only learners’ characteristics, beliefs, attitudes, an internal locus of control, levels of motivation or cognitive repertoires contribute towards SDL, but also the learning environment, which includes amongst others, the learning space, resources, peers and the lecturer. With regard to the lecturer, Knowles (1975), Lunyk-Child, Crooks, Ellis, Ofosu, O’Mara and Rideout (2001), Dynan, Cate and Rhee (2008) and Thornton (2010) are all in agreement that lecturers should be encouraging and be skilful facilitators to guide and support their students in becoming self-directed learners; features that also have bearing on lecturers’ assessment capabilities to support SDL.

### **3.3 Assessment to support self-directed learning**

Earlier in this paper I undertook to return to the four approaches to assessment which proclaim assessment as a process for engaging students in their own learning to subsequently improve learning. These approaches are assessment *for* learning (AfL), assessment *as* learning (AaL), learning-oriented assessment (LOA) and self-directed learning oriented assessment (SLOA) and I will now succinctly touch upon the essentials of each.

#### **3.3.1 Assessment *for* learning**

Crooks’ (1988:468) concern that “too much emphasis has been placed on the grading function of evaluation and too little on its role in assisting students to learn” could probably be seen as

one of the turnaround statements in the field of assessment that generated the development of AfL. In their pioneering work, The Assessment Reform Group (1999:2) define AfL as “a process of seeking and interpreting evidence for use by learners and teachers to decide where the learners are in their learning, where they need to go and how to best get there”. On their turn, Black, Harrison, Lee, Marshall and Wiliam (2004:10) define it as “any assessment for which the priority in its design and practice is to serve the purpose of promoting students’ learning”. Earl and Katz (2013) proclaim that AfL is a pedagogical approach which has the potential to influence student learning. Heitink, Van der Kleij, Veldkamp, Schildkamp and Klippers (2016:51) amalgamated a variety of definitions of other researchers to arrive at the following explanation of AfL: “(it) is an approach to formative assessment that occurs as part of ongoing classroom practices...that is viewed as a social and contextual event and that focuses on the quality of the learning process...(with) a major long-term goal...to foster student autonomy by helping students learn how to learn”. The formative value of AfL is clearly evident in the ten principles to guide its practice as suggested by The Assessment Reform Group (2002). These principles posit that AfL is part of effective planning, focuses on how students learn, is central to teaching practice, is a key professional skill, is sensitive and constructive, fosters student motivation, promotes understanding of goals and criteria, helps students how to improve, develops the capacity for self-assessment and recognises all educational achievement.

AfL is manifested through six strategies endorsed by Black *et al.* (2004); Leahy, Lyon, Thompson, and Wiliam (2005) and Wiliam and Thompson (2007). These strategies are: clarifying and sharing learning outcomes, assessment criteria and standards; encouraging productive classroom interaction; providing feedback for moving learning forward; stimulating self-assessment to facilitate student ownership of learning; inspiring peer assessment to empower students to act as instructional resources for one another and using summative assessment for formative purposes.

### 3.3.2 Assessment as learning

Earl (2013) and Earl and Katz (2013) describe AaL as a sub-set, second dimension or ultimate goal of assessment *for* learning. It presupposes assessment as a process for developing and supporting students’ self-regulation of their metacognitive abilities by engaging them as “critical connectors” (Earl, 2013:28) between assessment and learning to become “their own best assessors” (Earl, 2003:47). AaL recognises that students should be actively engaged to make

sense of assessment information, relate it to their prior knowledge, use it to fill the gaps in their current learning and apply it for new learning. Hence, AaL is primarily concerned with the explicit development of students' ability to think about, plan, monitor and improve their own learning. While self-assessment is central to AaL, it can only be accomplished in the following ways:

- Students need to understand, be able to assimilate into their work, and be capable to formulate learning outcomes, assessment criteria and standards.
- Feedback is required to raise students' awareness of their learning needs and to develop their competence in addressing these needs.
- Learning as a social activity is energized by participative analysis, comparison, rethinking and reinforcement which suggest that peer assessment also forms part of AaL.

### 3.3.3 Learning-oriented assessment

Due to confusions about the exact meaning of formative assessment as a result of Bell and Cowie's (2001) distinction between "planned" and "interactive" formative assessment, Carless coined the term "learning-oriented assessment" (LOA) in 2003. In LOA, learning comes first – literally, as in the construction of the term and as a matter of principle, emphasising the learning aspects rather than the measurement elements of assessment (Carless, Joughin & Mok, 2006; Carless, 2007). The aim of LOA is to strengthen the learning aspects of assessment with the belief that both summative and formative assessment can contribute to this "as long as a central focus is on engineering appropriate student learning" (Carless, 2007:59). It consists of three interlinked elements: learning-oriented assessment tasks, developing students' evaluative expertise and student engagement with feedback. Fundamental to LOA is the assessment tasks which should be designed to embody desired learning outcomes that promote deep learning and mirror real life applications; tasks that are spread across a period of study to facilitate dialogic forms of feedback; tasks that involve some student investment or choice and tasks that support student development in a specific subject field (Carless, 2007; Carless, 2015). The second element is concerned with the development of students' evaluative expertise which Sadler (1989) argues is at the heart of learning since it enables student improvement by recognising quality. By being intentionally exposed to and engaged with learning outcomes and assessment criteria and standards, students' meta-cognitive behaviour could be stimulated to make informed judgements about their own learning. Drafting assessment criteria, engagement with quality exemplars, and practicing

peer feedback and self-assessment, are all activities which could contribute towards the development of students' evaluative expertise (Carless, 2007). Student engagement with feedback represents the third element of LOA and is firmly connected to the quality of the assessment task. This implies that if a student understands what the quality of an assessment task entails, such a student will most probably perceive feedback as meaningful. However, for feedback to truly contribute towards student learning, it should be timely, interactive, forward-looking and acted upon (Keppell & Carless, 2006; Carless, 2007; Carless, 2015).

#### 3.3.4 Self-directed learning oriented assessment

The concept self-directed learning oriented assessment (SLOA) consists of two parts: "S" which denotes self-directed learning and "LOA" which refers to learning-oriented assessment obtained from the work of Carless. Mok (2013:6;8) describes SLOA as "a coherent framework of assessment, deliberately designed to capitalize on the integrative impact of assessment *of, for* and *as* learning in the construction of assessment activities for optimal learning and for the cultivation of self-directed learning capacities in students". It is submitted that the framework is greatly inspired by Earl's conception of AaL (Mok, 2013) which means that students should be able to monitor and assess their own learning and be capable of setting their own learning goals and consider and act upon feedback and peer assessment.

#### 3.3.5 Deductions

From the concise information provided on each of the assessment approaches, the following can be extrapolated:

- Although student engagement and enhanced learning compose the primary aim of all these approaches, the importance of both summative and formative assessment to attain this aim is acknowledged.
- All these approaches convey the spirit of the developmental value of assessment whether assessment is summative or formative in nature.
- The success of all four approaches hinges on competent pedagogy which is embedded in attitudes and beliefs that subscribe to the idea that assessment is unequivocally connected to quality learning, and knowledge and skills to successfully perform assessment with this perspective in mind.
- Whereas distinct strategies are suggested by all four approaches to engage students with the aim to enhance learning, AaL and SLOA provide for frameworks in which these strategies are to be realised.

- From the four approaches it can be inferred that the clarification of learning outcomes, assessment criteria and standards; the nature and design of assessment tasks; engaged feedback and self- and peer assessment, exemplify the fundamentals of assessment which are needed to support SDL.

#### **4. ACCOMPLISHING ASSESSMENT THAT SUPPORTS SELF-DIRECTED LEARNING AT THE NWU**

##### **4.1 Background**

Through launching a discourse which is more operational in nature as opposed to the preceding theoretical one, I will now move to possible tactics the NWU could consider in an attempt to respond to the key question posed at the beginning of this paper:

How could the NWU manoeuvre the alignment of assessment to support self-directed learning to realise the goals as stated in its Teaching and Learning Strategy: 2016-2020?

However, before proposing any tactics or actions in attempting to resolve this key question, allow me just a moment to remark briefly on universities and reform, assessment reform and the sophistication of SDL.

In as far as universities and reform is concerned, it is common knowledge that universities are known for their complexity and as public learning organisations they have their own identities in terms of history, ethos, organisational norms and values, and practices. It is therefore not surprising when Murphy (2006) states that generally, educational systems such as universities, are known for maintaining established customs. It is also well-known that any reform initiatives within a university can be quite complex, messy, risky, time-consuming and strenuous, which sometimes results in unresolved tensions between traditionalism and reformism.

Envisioning reform of assessment practices which are engraved by a dominant traditionalist assessment culture and beliefs, poses challenges too, in this particular case, a university in its entirety representing a comprehensive social community. Such a social community includes inter alia, university and faculty management structures, lecturers, students and parents and is deeply rooted in communal trust to benefit all. The complexity of assessment reform is also underscored by Carless (2011).

It is necessary to be reminded that SDL is a multifaceted phenomenon which is slow to cultivate and of which the development is not attributable to any one particular source. Given that the recognition of its manifestation could be guided by how it is defined or by the display of certain characteristics, it remains problematic to identify SDL accurately.

Notwithstanding the above, a university such as the NWU is challenged to take a competitive stance in the current turbulent world of South African higher education to realise the anticipated SDL goals through the support of assessment as advocated in its Teaching and Learning Strategy: 2016-2020 (2016). We, as learning organisation, must be mindful that there are no quick fixes to this end and as innovative thinkers and practitioners we should constantly seek to find a balance between our successes and failures on our way to realise assessment in support of SDL.

With all due respect ladies and gentlemen, please grant me the opportunity now to suggest and illuminate a few actions which, in my humble opinion, the NWU could consider to align assessment to support self-directed learning and may I, before I continue, draw your attention to two matters to put these actions into context. The first matter has to do with the fact that the NWU as a whole is implied in this venture. Therefore, the suggested actions can be effected on any or combination of the macro-, meso- or micro-levels depending on the prevailing needs and circumstances. The second matter advises that although the suggested actions do not necessarily represent a particular sequence of execution or that the total sum of actions needs to be implemented, a combination of actions in which permutations are logically structured will probably be more successful in attaining the said aim.

## **4.2 Proposed actions to align assessment to support self-directed learning**

### **4.2.1 Embark on an organisational assessment audit**

Determining as to whether and to what extent current assessment practices support SDL will require the critical consideration and evaluation of the existing state of organisational assessment affairs. Decisions to retain, modify or totally revise current assessment practices to support SDL can best be informed by an assessment audit or by conducting a meta-assessment. In basic terms the latter can be explained as a systematic evaluation of assessment, whether it involves assessment processes, assessment procedures or the overall quality of assessment for enabling the attainment of learning outcomes. At the NWU, as the case under discussion, an organisation-oriented meta-assessment (Wengrowicz, Dori & Dori, 2017) could be initiated through the office of the Deputy Vice-Chancellor: Teaching and

Learning and the Centre of Teaching and Learning. This meta-assessment could comprise the following stages:

- The examination of relevant documents reflecting the University's teaching, learning and assessment aspirations.
- The identification of realistic, functional assessment requisites which shows compatibility with the above aspirations.
- Devising of recording tools such as checklists or rubrics, to document and verify current dominant and prominent assessment practices.
- Evaluating recorded assessment practices in terms of teaching, learning and assessment aspirations and identified assessment requisites.
- Justifying the need to reform current assessment practices to be congruent with teaching, learning and assessment aspirations.
- Suggesting priority areas accompanied by reasonable time-lines to facilitate reform of assessment practices.

In the case of conducting a meta-assessment, a macro-level approach could be beneficial in more than one way since it could reveal the general quality of current assessment practices in addition to considering the potential of current assessment practices to support SDL.

#### 4.2.2 Initiate dedicated staff induction sessions

Murphy (2006:42) declares that universities need to act more professional when it comes to "the important and highly skilled task" of assessment and that staff should be given "more training and support in relation to their assessment practices". One possible way of achieving this, is by introducing staff induction sessions. Van Deventer and Kruger (2003) and Gill (2010) suggest that induction is a continuous process which aims to assist staff becoming more successful in what they are doing. In the context of assessment to support SDL, this would undoubtedly imply the expansion of staff members' assessment knowledge and competence for the purpose of supporting SDL, which could be informed by the identified priority areas to be developed of the meta-assessment. It would also involve the advancement of lecturers' knowledge of SDL. Prerequisites for successful induction sessions include that it should be well-planned with a specific focus in mind and that it should be properly organised and designed to attain the envisaged outcomes in the most productive and effective way (Pienaar, 2014).

In consultation with the Research Focus Area: Self-directed Learning, the Centre of Teaching and Learning could play a vital role on macro-level in assisting academic staff to expand their assessment knowledge and competence to support SDL and to unpack and understand the notion of SDL, provided that presenters possess the necessary knowledge and skills to facilitate this effectively. Furthermore, care should be taken to structure induction sessions in such ways that it justifies competency after successful completion. If the NWU is serious about attaining its set goals, once off, one or two hour workshops will not suffice. Guided by Price (2013) who identified a number of key factors that seem to direct successful reform in higher education, the following added aspects could be considered to guide the structuring of successful induction sessions:

- The initiative should have a clear and captivating purpose which should help to engender a collective envisioning of the ideal to be achieved.
- The initiative should have a clear and explicated theoretical underpinning which should be translated into understandable and credible ideas.
- Evidence of the practical benefits of the intended reform should be provided as a means of persuading buy-in by staff.
- A data bank of resources to propagate understanding, stimulate interest, reinforce ideas and encourage confidence should be compiled and made accessible to all academics.
- While driven by a common theoretical undercurrent, freedom must be allowed for the interpretation and application of the reform initiative in different contexts such as Faculties, Schools and Subject groups.
- Dedicated funding should be secured to allow for logistical needs to drive the initiative, but perhaps more important, to signal the importance of the initiative.
- Commitment to sustainable reform should be made visible by using a variety of activities, identifying different phases of the initiative and by devoting time to follow-up sessions to ensure that early gains are not lost.

#### 4.2.3 Designate Faculties as change agents

Although the macro-level was recommended for executing the already mentioned actions, the endurance and sustainability of initiatives is probably best maintained on the meso-level. Carless (2015) highlights this when stating that assessment reform is most productively promoted on the meso-level of a learning organisation. This is probably attributable to the popular belief that reform can only thrive if those predominantly affected are immersed. In the

context of the NWU, the meso-level would imply Faculties and their sub-structures such as Schools, responsible for the teaching, learning and assessment of assigned academic programmes. Directed by the Teaching and Learning Strategy: 2016-2020 (2016), informed by the results of a meta-assessment or guided by the information on SDL and assessment obtained during induction sessions, Faculties should take the initiative and commit themselves to the implementation of assessment to support SDL. Dedication by Faculty leadership, a goal-oriented plan, an integrated approach, the provision of resources and nominated mentors, facilitators or champions are possible factors to be considered for driving the initiative of assessment to support SDL beyond mere rhetoric or pretence. A well-coordinated Faculty campaign could also assist in preventing fragmented or conflicting student experiences (Hartley & Whitfield, 2011) of assessment which is supposedly meant to support SDL.

Derived from actions implemented and reported on by Reitsma, Guglielmino and Mentz (2012) for Faculty development to promote SDL, the following activities may be feasible when Faculties act as change agents of assessment to support SDL:

- Organising a series of Faculty colloquia (to which other Faculties could also be invited), conducted by internal and external facilitators on the theoretical and practical aspects related to assessment to support SDL.
- Engaging in Faculty self-assessment on assessment beliefs, assessment literacy and self-directed aptitudes.
- Arranging Faculty workshops to which specific themes related to assessment to support SDL are allocated. These workshops should be interactive in nature with the intention to strengthen staff members' information base on assessment that supports SDL already obtained during induction sessions conducted on macro-level. Workshops could be earmarked to communicate and practice assessment approaches to support SDL, to share and reflect on practices pursued by lecturers to facilitate SDL through assessment, to identify obstacles to the implementation of assessment to support SDL and how to overcome these and to develop Faculty action plans to implement assessment to support SDL successfully.

#### 4.2.4 Promote the establishment of communities of practice within Faculties

As a continuation of meso-level involvement to align assessment to support SDL, a potential and exceptionally valuable by-product to sustain and maintain Faculty initiatives, would be the promotion of the establishment of communities of practice within Subject groups. Borrowing from Wenger (1998), it could be stated that the enterprise of assessment to support SDL could

never be fully regulated by an outside entity, but it should be brought into the engine room, which in the case of this paper, would refer to the formation of communities of practice by the lecturers concerned. Carless (2015:137) also draws attention to this by remarking that “the potential value of communities of practice for developing understandings of assessment is well recognised”.

Lave and Wenger (1991) and Wenger (1998) developed the concept *communities of practice* which revolves around collegial dialogue, reflection and support. In essence, a community of practice refers to a group of (usually) professionals who shares a concern and who are interacting and working as a team on an ongoing basis to deepen their knowledge or to enhance their practice (Adapted from Wenger, McDermott & Snyder, 2002). Potentially, communities of practice defuse the tensions of isolated practices and agreement or disagreement on what constitutes acceptable practices (Maistry, 2008). Due to their development around a common matter of concern, communities of practice are not formalised institutions; they are rather self-sustaining enterprises since members are involved in a set of relationships and with a vested interest to advance the knowledge, actions and practices of the community. According to Newmann (1996) communities of practice are typified by five features: a set of collective values and norms, a clear and consistent focus on student learning, reflective dialogue, de-privatised practice and a focus on collaboration, while Wenger (1998) assigns three attributes to a community of practice: mutual engagement (uniting a group of people as a non-threatening social entity); joint enterprise (having a common mission), and a shared repertoire (having the same resources such as a shared vocabulary). Noteworthy, is the fact that a shared vocabulary often implies tacit rather than explicit knowledge as tacit knowledge “tends to be local” (Smith, 2001:314) because it allows for uncomplicated, though meaningful articulation of ideas. In this regard Holroyd’s (2000:36) reference to “assessment craft knowledge” which is implicit and sometimes difficult to communicate to others, serves as an example.

Founded on the assumption that the daily lived experiences of lecturers regarding assessment to support SDL could be best understood and reflected on through the sharing of tacit knowledge and skills, engaging in communities of practice could have a reciprocal effect on lecturers and students since it may increase or deepen lecturers’ knowledge and skills while also enhancing the SDL abilities of students.

#### 4.2.5 Encourage assessment reform through the scholarship of assessment

In the preceding section brief reference was made to Holroyd's (2000:36) notion of "assessment craft knowledge". Yet, with continuing training, development, support and reading it is possible to advance to another level of assessment competence by engaging with "assessment scholarship" or to practice "scholarly assessment" – assessment that is influenced by scholarship. However, to successfully align assessment to support SDL and to meet the learning demands of the 21<sup>st</sup> century, it is yet again necessary to move beyond assessment scholarship to the Scholarship of Assessment (SoA) which is equivalent to the Scholarship of Teaching and Learning (SoTL). In the treatise that follows, information pertaining to the SoTL is used to discuss the SoA.

The SoA can be defined as the practice-oriented enhancement of assessment through systematic study to be made public (*cf.* Trigwell & Shale, 2004; Kreber, 2005; Wright, Finelli, Meizlish, & Bergom, 2011). Although it is considered as a bottom-up approach which primarily generates research information about the lived experiences of assessment on the micro-level within a specific context (Shreeve, 2011), SoA could also impact on meso- and macro-levels.

By engaging a relative number of staff and by making funding available and by recognising and rewarding research on assessment to support SDL as a dedicated institutional research focus, SoA has the potential to raise awareness of assessment to support SDL within the institution. Through the SoA, assessment to support SDL could open up scholarly dialogue by means of critical engagement and reflection with colleagues and other researchers on assessment practices to facilitate and shape assessment to support SDL. It could also facilitate "pedagogic resonance" (Trigwell & Shale, 2004: 529) or embody understanding in practice, amongst peers. Ultimately, SoA can assist the NWU to attain the goal of developing self-directed students. In liaison with the Deputy Vice-Chancellor: Research and Innovation, the Research Focus Area: Self-directed learning together with the Centre of Teaching and Learning could play a leading role in encouraging assessment reform through the scholarship of assessment.

#### 4.2.6 Consider incentives for assessment reform

The NWU's annual Institutional Teaching Excellence Awards (ITEA) "are aimed at acknowledging excellent teaching practices" and is seen as "an effective way to provide role models for academics and students" (NWU, 2013:1) The ITEA intend to:

- recognise excellence in the provision of teaching and learning,

- identify and encourage innovative and outstanding teaching,
- celebrate and publicise contributions that lecturers make to student learning,
- show appreciation to lecturers for their commitment and dedication to student success, and
- encourage academics to develop in the field of teaching and learning (NWU, 2013:2).

Participants are evaluated by means of classroom observations and the completion of a reflective portfolio and in both instances the assessment practices of participants are considered. However, should the alignment of assessment to support SDL be a priority as stated in the NWU's Teaching and Learning Strategy: 2016-2020 (2016), the intentions and evaluation criteria of the ITEA warrant alignment with this goal, especially in terms of participants' assessment practices. Although it is not suggested that participants' assessment practices should exclusively demonstrate assessment to support SDL, proof of such practices should be taken into account for ITEA performance and be rewarded accordingly.

#### 4.2.7 Cultivate a culture of assessment connoisseurship

Connoisseurs are specialists who possess a wealth of knowledge in a specific field (Eisner, 1985). Sadler (2009:57) defines connoisseurship as "a highly developed form of competence". Assessment that supports SDL requires persuasion, training, reflection, persistence, acculturation and above all, time. To cultivate a culture of assessment connoisseurship, the prevailing institutional climate should be receptive to assessment reform which should be manageable in terms of demands on staff, resources and timeframes. The intended aim, in this case the alignment of assessment to support SDL, should be clearly communicated to all to launch a concerted effort to its attainment. It may also be feasible to compile a roll-out plan which unfolds over an extended period of time and to embark on a stages-process to move gradually towards the reshaping of assessment practices to support SDL.

#### 4.2.8 Take the students on board

One should not underestimate the impact of assessment reform or innovation on students. In fact, students are the ones that are most affected by assessment changes. Gibbs (2006) remarks that students hold conservative views about assessment because they have become so accustomed to summative assessment practices in the form of written tests and examinations, that they can hardly imagine deviations from these or the possible benefits of any other instruments or approaches. Students also think strategically about assessment. If an assessment does not count, students are hesitant to tackle tasks seriously. It is therefore

important that students are exposed to and actively involved in assessment practices to support SDL in everyday classroom encounters. A possible consideration is to start with the assessment innovation with a first year cohort of students who are adapting to their new learning environment and who should be relatively open to “new” assessment practices (Carless, 2015). The notion of “transition pedagogy” (Kift, 2009) comes here to mind. In the apparent absence of “no agreed upon definition of what constitutes a transition” (Ecclestone, Biesta & Hughes, 2010:5), Gale and Parker (2014:737) define it as “the capability (of students) to navigate change” over an extended period of time, and conceptualise it in three ways: induction (sequentially defined periods of adjustment); development (distinct stages of maturation) and becoming (perpetual series of fragmented movements in lived reality). Leveraging assessment to support SDL through transition pedagogy could then imply that students are inculcated through the induction and development of assessment competences to become self-directed learners. These processes could probably be guided by the following: helping students to understand the academic language and conventions of assessment practices that support SDL; helping students to understand what constitutes quality work; helping students by scaffolding and integrating assessment within their curricula; helping students through optimised feedback practices; helping students in providing them with authentic assessment tasks, and helping students by encouraging self-reflection (*cf.* Kift & Moody, 2009).

## **5. POSSIBLE CHALLENGES TOWARDS THE ALIGNMENT OF ASSESSMENT TO SUPPORT SELF-DIRECTED LEARNING**

It will be naïve to omit the possible challenges that the NWU could face towards the alignment of assessment to support self-directed learning. Let me highlight a few:

- The long history of the ways in which assessment used to be done, needs to be considered. Cautiousness and suspicion about assessment innovations can be ascribed to uneasiness around accountability factors, concerns about the possibility of declining standards, and existing conservative views of lecturers, students and the university community regarding the purpose of assessment.
- It should be realised that aligning assessment to support self-directed learning is a highly complex and multidimensional endeavour which not only requires a thorough comprehension of SDL and assessment to support it but also confidence in how it could benefit students and society at large.

- Disciplinary and epistemological differences across Faculties, but even within Faculties, should be taken into account since these could result in too rigid or indistinct applications of assessment to support SDL.
- Any effort to promote assessment to support SDL is threatened to collapse if lecturers are not systematically and adequately prepared to this end and if developmental efforts are not sustained.
- Realising assessment to support SDL should be approached as a collective effort, whether it is a whole institution, Faculty or School. Although pockets of excellence by enthusiastic individuals should be recognised, it is doubtful if such solitary attempts have the potential to result in cumulative or collective reform.
- Without the leadership and support of management on all levels, the accomplishment of assessment to support SDL will be a futile exercise.
- A laborious process will be required to persuade, inspire and empower lecturers to take ownership of assessment practices to support SDL, but also to act as collaborative change agents.
- Many academics in other fields than education, may find themselves isolated from educational research literature on recent developments in the field which could impact negatively on the successful dissemination of helpful information.
- Preparing and supporting students to develop SDL attributes and assessment practices that support SDL need to be infused in students' curricula.
- Students' views of assessment to support SDL might not necessarily resonate with their perceptions of assessment and they may regard it as superfluous since they perceive it as extra work for which they are not visibly rewarded in the form of marks or grades.

## **6. CONCLUSION**

Ladies and gentlemen, this paper revolved around the question:

How could the NWU manoeuvre the alignment of assessment to support self-directed learning to realise the goals as stated in its Teaching and Learning Strategy: 2016-2020?

The response to this question was guided by a theoretical and operational discourse. With regard to the theoretical discourse, assessment was defined while the role of assessment in shaping learning, contemporary views on assessment, self-directed learning and assessment that is fit for purpose to support SDL were also considered. The operational discourse

deliberated on proposed actions the NWU could consider to align assessment to support SDL. Eight actions were proposed: embarking on an organisational assessment audit; initiating dedicated staff induction sessions; designating Faculties as change agents; promoting the establishment of communities of practice within Faculties; encouraging assessment reform through the scholarship of assessment; considering incentives for assessment reform; cultivating a culture of assessment connoisseurship and taking students on board. The paper concluded by highlighting possible challenges that the NWU could face towards the alignment of assessment to support self-directed learning.

Concurring with the gist of this paper, assessment reform and student-centred learning (alias SDL) in higher education tend to be leading topics under discussion in scholarly literature during recent years. Yet, these areas either appear to be extremely problematic to accomplish in everyday classroom practice or their implementation often ends up quite different than was envisioned. However, I am idealistically hopeful that the NWU remains committed to its ideal to “supports its students so that they can progressively become self-directed and lifelong learners...” (2016:10) and that the envisaged support will most certainly include assessment. Rowntree’s (1987:1) remark: “if we wish to discover the truth about an educational system, we must first look at its assessment procedures” becomes equally valid within the framework of this paper: “if we want to discover if the NWU has succeeded in the promotion of SDL, we must first look at how its assessment procedures supported this”.

I thank you for your attention.

## 7. BIBLIOGRAPHY

Airasian, P.W. 2005. Classroom assessment: concepts and applications. 5th ed. New York: McGraw-Hill.

Assessment Reform Group. 1999. Assessment for learning: beyond the black box. Cambridge: University of Cambridge School of Education.

Assessment Reform Group. 2002. Assessment for learning: research based principles to guide classroom practice. <http://www.assessment-reform-group.org.uk>. Date of access: 5 February 2017.

Bagheri, M., Ali, W.Z.W., Abdullah, M.C.B. & Daud, S.M. 2013. Effects of project-based learning strategy on self-directed learning skills of educational technology students. *Contemporary educational technology*, 4(1):15-29.

Bailey, R. & Garner, M. 2010. Is the feedback in higher education assessment worth the paper it is written on? Teachers' reflections on their practices. *Teaching in higher education*, 15(2):187-198.

Barnett, R. 1999. Realising the university in an age of super complexity. Buckingham: SRHE/Open University Press.

Bell, S. 2010. Project-based learning for the 21st century: skills for the future. *The clearing house*, 83:39-43.

Bell, B. & Cowie, B. 2001. The characteristics of formative assessment in science education. *Science education*, 85:536-553.

Berry, R. 2013. Assessment reforms around the world. (In Berry, R. & Adamson, B., eds. Assessment reform in education: policy and practice. New York: Springer. p. 89-102).

Birenbaum, M. & Dochy, F., eds. 1996. Alternatives in assessment of achievements, learning processes and prior knowledge. Boston: Kluwer.

Black, P., Harrison, C., Lee, C., Marshall, B. & William, D. 2004. Working inside the black box: assessment for learning in the classroom. *Phi Delta Kappan*, (4):9-21.

Boud, D. 2000. Sustainable assessment: rethinking assessment for the learning society. *Studies in continuing education*, 22(2):151-167.

Boud, D. & Falchikov, N. 2007. Introduction: assessment for the longer term. (*In* Boud, D. & Falchikov, N., eds. *Rethinking assessment in higher education: learning for the longer term*. Oxon: Routledge. p. 3-13).

Broadfoot, P. 2002. Assessment case studies: experience and practice from higher education. (*In* Schwartz, P. & Webb, G., eds. *Case studies of teaching in higher education series*. London: Kogan Page. p.198-211).

Bulik, R.J. & Frye, A.W. 2004. A workshop for faculty: teaching beliefs and implications for self-directed learning. *International journal of self-directed learning*, 1(1):70-75. Retrieved from <http://sdlglobal.com/journals.php>

Candy, P. 1991. *Self-direction for lifelong learning: a comprehensive guide to theory and practice*. San Francisco, CA: Jossey-Bass Publishers.

Carless, D. 2007. Learning-oriented assessment: conceptual bases and practical implications. *Innovations in education and teaching international*, 44(1):57-66 .

Carless, D. 2011. *From testing to productive student learning: implementing formative assessment in Confucian-heritage settings*. New York: Routledge.

Carless, D. 2015. *Excellence in university assessment: learning from award-winning practice*. New York: Routledge.

Carless, D., Joughin, G. & Mok, M. 2006. Learning-oriented assessment: principles and practice. *Assessment and evaluation in higher education*, 31(4):395-398.

Clegg, K. & Bryan, C. 2006. Reflections, rationales and realities. (*In* Bryan, C. & Clegg, K., eds. *Innovative assessment in higher education*. New York: Routledge. p. 216-227).

Crooks, T.J. 1988. The impact of classroom evaluation practices on students. *Review of educational research*, 58(4):438-481.

Dochy, F., Gijbels, D. & Van de Watering, G. 2004. Assessment engineering: aligning assessment, learning and instruction. Paper presented at the EARLI-Northumbria Assessment conference, Bergen.

- Dochy, F., Segers, M., Gijbels, D. & Struyven, K. 2007. Assessment engineering: breaking down barriers between teaching and learning, and assessment. (*In* Boud, D. & Falchikov, N., eds. Rethinking assessment in higher education: learning for the longer term. Oxon: Routledge. p. 87-100).
- Dynan, L., Cate, T. & Rhee, K. 2008. The impact of learning structure on students' readiness for self-directed learning. *The journal of education for business*, 84(2):96-100.
- Earl, L.M. 2003. Assessment as learning: using classroom assessment to maximize student learning. Thousand Oaks: Corwin Press.
- Earl, L.M. 2013. Assessment as learning: using classroom assessment to maximize student learning. 2nd ed. Thousand Oaks: Corwin.
- Earl, L.M. & Katz, S. 2013. Getting to the core of learning: using assessment for self-monitoring and self-regulation. (*In* Mok, M.M.C., ed. Self-directed learning oriented assessments in the Asia-Pacific. Dordrecht: Springer Science and Business Media. p.123-137).
- Ecclestone K., Biesta, G. & Hughes, M. 2010. Transitions in the lifecourse: the role of identity, agency and structure. (*In* Ecclestone, K., Biesta, G. & Hughes, M. eds. Transitions in learning through the lifecourse. London:Routledge. p. 1-15).
- Eisner, E. 1985. The educational imagination. 2<sup>nd</sup> ed. New York: Macmillan.
- Elton, L. & Johnston, B. 2002. Assessment in universities: a critical review of research. York: LTSN Generic Centre.
- Gale, T. & Parker, S. 2014. Navigating change: a typology of student transition in higher education. *Studies in higher education*, 39(5):734-753.
- Gibbs, G. 1999. Using assessment strategically to change the way students learn. (*In* Brown, S. & Glasner, A., eds. Assessment matters in higher education: choosing and using diverse approaches. Buckingham: Open University Press. p.41-54).
- Gibbs, G. 2006. How assessment frames learning. (*In* Bryan, C. & Clegg, K., eds. Innovative assessment in higher education. New York: Routledge. p. 23-36).

- Gill, T. 2010. Teacher induction programs and their effectiveness on the retention of secondary trade and industrial teachers in Missouri. Missouri: University of Missouri-Columbia. (Dissertation – PhD).
- Guglielmino, L.M. 1978. Development of the self-directed learning readiness scale. Georgia: University of Georgia. (Thesis – PhD).
- Guglielmino, L.M. 2008. Why self-directed learning? *International journal of self-directed learning*, 5(1):1-14. Retrieved from <http://sdlglobal.com/journals.php>
- Guglielmino, L.M. 2013. The case of promoting self-directed learning in formal education institutions. *SA-eDUC Journal*, 10(2):1-18.
- Gureckis, T.M. & Markant, D.B. 2012. Self-directed learning: a cognitive and computational perspective. *Perspectives on psychological science*, 7(5):464-481.
- Hartley, P. & Whitfield, R. 2011. The case for programme-focused assessment. *Educational developments*, 12(4):8-12.
- Heitink, M.C., Van der Kleij, F.M., Veldkamp, B.P., Schildkamp, K. & Klippers, W.B. 2016. A systematic review of prerequisites for implementing assessment for learning in classroom practice. *Educational research review*, 17:50-62.
- Holroyd, C. 2000. Are assessors professional? Student assessment and the professionalism of academics. *Active learning in higher education*, 1(1): 28-44.
- Hounsell, D., McCune, V., Hounsell, J. & Litjens, J. 2008. The quality of guidance and feedback to students. *Higher education research and development*, 27(1):55-67.
- Hsu, Y.C. & Shiue, Y.M. 2005. The effect of self-directed learning readiness on achievement comparing face-to-face and two-way distance learning instruction. *International journal of instructional media*, 32(2):143-156.
- Hudson, T. & Ramamoorthy, N. 2009. Self-directed learning readiness, individualism-collectivism and adult student learning in online environment: development and test of a causal model. (In Gijbels, D., ed. *Advances in business education and training*. Dordrecht: Springer. p. 71-79).

Keppell, M. & Carless, D. 2006. Learning-oriented assessment: a technology-based case study. *Assessment in education*, 13(2):179-191.

Kift, S. 2009. Articulating a transition pedagogy to scaffold and to enhance the first year student learning experience in Australian higher education. Final report for ALTC senior fellowship program. <http://www.atlcexchange.edu.au/first-year-experience-and-curriculum-design>. Date of access: 15 November 2016.

Kift, S. & Moody, K. 2009. Harnessing assessment and feedback in the first year to support learning success, engagement and retention. ATN assessment conference proceedings, 19-20 November 2009, RMIT University, Melbourne. <http://eprints.qut.edu.au/28849>. Date of access: 21 April 2016.

Knowles, M.S. 1975. Self-directed learning: a guide for learners and teachers. Englewood Cliffs: Prentice Hall Regents.

Kreber, C. 2005. Charting a critical discourse on the scholarship of university teaching movement. *Studies in higher education*, 30(4):389-405.

Kvale, S. 2007. Contradictions of assessment for learning in institutions of higher learning. (In Boud, D. & Falchikov, N. eds. Rethinking assessment in higher education. Learning for the longer term. Oxon: Routledge. pp. 57-71).

Lave, J. & Wenger, E. 1991. Situated learning: legitimate peripheral participation. Cambridge: Cambridge University Press.

Leahy, S., Lyon, C., Thompson, M. & William, D. 2005. Classroom assessment: minute by minute, day by day. *Education leadership: association for supervision and curriculum development*, 63(3):18-24.

Lee, C. & Teo, T. 2010. Fostering self-directed learning with ICT. (In Chai, C.S. & Wang, Q., eds. ICT for self-directed and collaborative learning. Singapore: Pearson. p. 39-51).

Lodico, M.G., Spaulding, D.T. & Voegtler, K.H. 2010. Methods in educational research: from theory to practice. 2nd ed. San Francisco, CA: Jossey-Bass.

Lombard, B.J.J. 2010. Outcomes-based assessment: exploring the territory. (In Meyer, L., Lombard, K., Warnich, P. & Wolhunter, C. Outcomes-based assessment for South African teachers. Pretoria: Van Schaik. p. 31-62).

- Lunyk-Child, O., Crooks, D., Ellis, P., Ofosu, C., O'Mara, L. & Rideout, E. 2001. Self-directed learning: faculty and student perceptions. *Journal of nursing education*, 40(3):116-123.
- Maistry, S.M. 2008. School-university partnerships: fertile ground for cultivating teacher communities of practice. *South African journal of higher education*, 22(2):363-374.
- McAfee, O. & Leong, D. 2002. Assessing and guiding young children's development and learning. Boston: Allyn and Bacon.
- McMillan, J.H. 2007. Classroom assessment: principles and practice for effective standards-based instruction. 4th ed. Boston: Allyn & Bacon.
- Miller, C.M.I. & Parlett, M. 1974. Up to the mark: a study of the examination game. Guildford: Society for research into higher education.
- Mok, M.M.C. 2013. Assessment reform in the Asia-Pacific region: the theory and practice of self-directed learning oriented assessment. (In Mok, M.M.C., ed. Self-directed learning-oriented assessment in the Asia-Pacific. Dordrecht: Springer. p. 3-22).
- Mok, M.M.C. & Lung, C.L. 2005. Developing self-directed learning in teachers. *International journal of self-directed learning*, 2(1):18-39. Retrieved from <http://sdlglobal.com/journals.php>.
- Murphy, R. 2006. Evaluating new priorities for assessment in higher education. (In Bryan, C. & Clegg, K., eds. Innovative assessment in higher education. New York: Routledge. p. 37-47).
- Newmann, F.M. ed. 1996. Authentic achievement: restructuring schools for intellectual quality. San Francisco: Jossey-Bass.
- Nitko, A.J. 1996. Educational assessment of students. 2nd ed. Englewood, NJ: Merrill.
- Nitko, A.J. & Brookhart, S.M. 2011. Educational assessment of students. 6th ed. Boston: Pearson.
- North-West University. 2013. Institutional teaching excellence awards (ITEA) policy. [http://www.nwu.ac.za/content/policy\\_rules](http://www.nwu.ac.za/content/policy_rules). Date of access: 25 May 2018.

North-West University. 2016. North-West university teaching and learning strategy: 2016-2020. <http://www.nwu.ac.za/sites/www.nwu.ac.za/files/files/i-governance-management/documents/2017.NWU.TeachingLearningStrategy.pdf>. Date of access: 12 April 2018.

Oosterhof, A. 2009. Developing and using classroom assessment. 4th ed. New Jersey: Pearson.

Patterson, C., Crooks, D. & Lunyk-Child, O. 2002. A new perspective on competencies for self-directed learning. *Journal of nursing education*, 41(1):25-31.

Pienaar, M.J. 2014. Existing assessment induction programmes and assessment literacy as co-determinants for developing an assessment induction programme for Midrand graduate institute. Vanderbijlpark: NWU. (Thesis – PhD).

Ponton, M.K. & Carr, P.B. 2016. The possible role of higher education in developing learner autonomy: a quantitative exploration. *International journal of self-directed learning*, 13(1):12-25. Retrieved from <http://sdlglobal.com/journals.php>.

Price, M. 2013. Fostering institutional change: overview. (In Merry, S., Price, M., Carless, D. & Taras, M. eds. *Reconceptualising feedback in higher education: developing dialogue with students*. London: Routledge. p. 145-146).

Reitsma, G., Guglielmino, L. & Mentz, E. 2012. Faculty development to promote self-directed learning: the North-West University approach. *International Journal of Self-Directed Learning*, 9(2):44-51). Retrieved from <http://sdlglobal.com/journals.php>.

Rowntree, D. 1987. *Assessing students: how shall we know them?* London: Kogan Page.

Sadler, D.R. 1989. Formative assessment and the design of instructional systems. *Instructional science*, 18(2):119-144.

Sadler, DR. 2009. Transforming holistic assessment and grading into a vehicle for complex learning. (In Joughin, G ed. *Assessment, learning and judgment in higher education*. Dordrecht: Springer, pp. 45-63).

SAQA (South African Qualifications Authority). 2001. Criteria and guidelines for assessment of NQF registered unit standards and qualifications.

<http://www/saqa.org.za/docs/guide/2001/assessment.pdf>. Date of access: 18 April 2018.

Savin-Baden, M. & Major, C.H. 2004. Foundations of problem-based learning. Berkshire: SRHE/Open University Press.

Scriven, M. 1991. Beyond formative and summative evaluation. (In McLaughlin, G. W. & Phillips, D.C. eds. Evaluation and education: A quarter century. Chicago: University of Chicago Press).

Shin, G.W. 2011. An inquiry into the learning principles based on the objectives of self-directed learning. (In Kim, T.H. et al., eds. Communication in computer and information science, vol 257. Berlin, Heidelberg: Springer-Verlag. p. 604-612).

Shreeve, A. 2011. Joining the dots: the scholarship of teaching as part of institutional research. *Higher education research & development*, 30(1): 63-74.

Smith, E.A. 2001. The role of tacit and explicit knowledge in the workplace. *Journal of knowledge management*, 5(4):311-321.

Snyder, B.R. 1971. The hidden curriculum. Cambridge: MIT Press.

Stewart, R.A. 2007. Investigating the link between self-directed learning readiness and project-based learning outcome: the case of international master's students in an engineering management course. *European journal of engineering education*, 32(4):453-465.

Stiggins, R.J. 2002. Assessment crisis: the absence of assessment for learning. *Phi Delta Kappan*, 53:758-765.

Sutherland, L. 1998. Developing students' meta-cognitive awareness through self-evaluation: a South African perspective. (In Rust, C., ed. Improving student learning: improving students as learners. Oxford: Oxford centre for staff and learning development).

Thorton, K. 2010. Supporting self-directed learning: a framework for teachers. *Language education in Asia*, 1(1):158-170.

Trigwell, K. & Shale, S. 2004. Student learning and the scholarship of university teaching. *Studies in higher education*, 29(4): 523-536.

Van Der Walt, H. 2016. The feasibility of grafting self-directed learning theory onto the capability theory. (In Mentz, E. & Oosthuizen, I., eds. Self-directed learning research: an imperative to transforming the educational landscape. Durbanville: AOSIS. p. 1-34).

Van Deventer, I. & Kruger, A.G. 2003. An educator's guide to school management skills. Pretoria: Van Schaik.

Warburton, N. & Volet, S. 2012. Enhancing self-directed learning through a content quiz group learning assignment. *Active learning in higher education*, 14(1):9-22.

Wenger, E. 1998. Communities of practice: learning, meaning and identity. Cambridge: Cambridge University Press.

Wenger, E., McDermott, R. & Snyder, W. 2002. Cultivating communities of practice: a guide to managing knowledge. Boston: Harvard Business School Press.

Wengrowicz, N., Dori, Y.J. & Dori, D. 2017. Meta-assessment in a project-based systems engineering course. *Assessment & evaluation in higher education*, 42(4):607-624.

Wiggins, G.P. 1993. Assessing student performance. San Francisco: Jossey-Bass.

William, D. & Thompson, M. 2007. Integrating assessment with instruction: what will it take to make it work? (In Dwyer, C.A., ed. The future of assessment: shaping teaching and learning. Mahwah, NJ: Lawrence Erlbaum Associates. p. 53-82).

Williams, B. & Brown, T. 2013. A confirmatory factor analysis of the self-directed learning readiness scale. *Nursing and health sciences*, 15:430-436.

Wright, M.C., Finelli, C.J., Meizlish, D. & Bergom, I. 2011. Facilitating the scholarship of teaching and learning at a research university. *Change*, March/April, 51-56.