Teaching for Effective Learning vs. Expediency

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Most faculty members in higher education are not pedagogically trained nor are they usually required to be unless they are hired for a teacher education program (Kaynardağ, 2019). The result is that most instructors in higher education are not familiar with how to implement formative assessment, recognize the importance of gathering evidence of learning during the teaching and learning process, and why it can make a difference in their instruction and support student learning (Asghar, 2012; Jensen, 2011; Scott-Webber, 2012). The purpose of this study was to determine how formative assessment was being used in higher education and answer the research question: How are collegiate instructors using methods of formative assessment to inform their instruction? An analysis of the results led to a clear recommendation to arrange for faculty development and training in effective teaching and learning strategies towards the goal of fulfilling the mission of higher education for student success (Fullan & Scott, 2009; Giridharan, 2016).

Keywords: formative assessment, formative feedback, assessment evidence, validity

INTRODUCTION

The experiences of teaching and learning in institutions of higher education are markedly different than in the PK-12 classroom in the United States (Jensen, 2011). A free but compulsory education contributes to a significantly different classroom environment than one that costs money and is voluntary. The governance in a compulsory system is regulated to reflect the policies and desires of the electorate, relying on specified curricular standards and educator training. However, institutions of higher education provide both general and specialized learning in a wide variety of fields for a cost and they rely on content knowledge experts who aren't always required to have specific teacher training (Kaynardağ, 2019).

The instructor and the student in higher education are both adults who engage in the teaching and learning environment from opposite perspectives. Academic success may in part depend upon the teaching experience of the instructor and/or the learning ability of the student. The key is melding the two perspectives to create a successful teaching and learning experience for both. Instructors in higher education are appointed to teach specific content based on their knowledge of the discipline which is also the expectation of the students. But students also expect that their instructors can teach that discipline such that they as students can understand and apply what they learned to their future endeavors. This expectation is not surprising because they come from an environment where teachers are trained to teach (Jensen, 2011). The instructors, on the other hand, expect students to listen, read, and understand the material presented to them regardless of how it is taught. These separate perspectives result in frustration for both the instructor

and the student. Unfortunately, the ripple effect leads to institutional retention issues (Crosling & Heagney, 2009).

TEACHING FOR LEARNING

Teaching is an art and a science which requires both creative and performance skills as well as an understanding of how people learn based on the research behind the theories and principles of education (Pedagogy, n.d.; Piaget, 1971; Robinson, 2011; Vygotsky, 1962). Focusing on what to teach, whether in the K-12 education system or higher education is not enough to deliver an effective education. While teachers in the K-12 system are trained in general pedagogy and "how to" teach, they are not necessarily experts in all subjects they are required to teach. The best of both is to be a content knowledge expert with training in general pedagogy which focuses on effective teaching activities and then knowing if the students are learning. Higher education has the best opportunity to achieve that because of the specialized nature of its programs and course curriculum. However, most institutions of higher education across the United States normally only require faculty who are teacher educators to have general pedagogical training (Kaynardağ, 2019).

Evaluating the current pedagogical methods used in higher education helped to answer the question: How are collegiate instructors using methods of formative assessment to inform their instruction (Williams, 2020)? A literature review indicated that formative assessment is essential in effective teaching and learning in higher education, but revealed gaps in its implementation and the subsequent impact on student learning (Williams, 2020). The research methodology for this research was a hermeneutic phenomenological design using Heidegger's hermeneutic circle (Gadamer, 1975) to describe the collegiate instructors' experiences and interpret their meaning based on a preunderstanding of formative assessment. This descriptive study also explored why collegiate instructors may or may not choose to implement formative assessment in their teaching (Williams, 2020). Individual interviews and a subsequent focus group were conducted with faculty across a variety of disciplines and from different institutions to gather data on their experiences (Asghar, 2012; Creswell, 2013). A range of competencies and practices were revealed with results of the study showing that the instructors' pedagogical training was limited and ranged from departmental workshops to self-training from YouTube videos. It was clear from the participants interviewed that training was not only needed but desired (Williams, 2020). Effective learning does not need to be sacrificed to teach expediently. A mindset that recognizes teaching with a focus on learning as a cyclical process creates a reciprocal and dynamic relationship between the instructor and the student.

Pedagogical training includes the principles of assessment (Black & Wiliam, 2018). Assessment is the process of making a judgment based on measurable evidence (Chappuis & Stiggins, 2017). Making a judgment without evidence is merely guessing. The following example demonstrates the difference. Children who grow up in an area where it snows in the winter invariably dig out a ruler to measure how much it snowed. As children grow older, they tend to guess more than measure how much it snowed. One is a judgment based on evidence and the other is merely guessing. Guessing may be based on prior experience and/or surrounding evidence, but it is not an accurate assessment based on measurable evidence. Applying this definition of assessment to teaching and learning facilitates the evaluation of evidence of student learning arriving at an accurate judgment.

VALID AND RELIABLE ASSESSMENTS

The concept of validity in assessments is merely assessing what was taught or presented to the students (Chappuis & Stiggins, 2017). Creating valid assessments is dependent on the alignment of the course goals and objectives, with pre-determined assessment evidence and strategies to elicit said evidence, and the content taught. Developing overall objectives for a course is required to meet an institution's program needs and objectives. However, designing lessons using backward mapping, or backward design, aids in alignment for validity (Wang, et al., 2013; Wiggins, 2005). Backward design (See Figure 1) consists of designing instruction beginning with the end goal and then determining the evidence needed to show the

goal has been met before planning the lesson. Creating specific lesson objectives or targets is the first step in aligning the lessons to the assessments. The next step is determining the evidence that will indicate the lesson objectives are met and how best to elicit that evidence from the students. Lastly, each lesson taught should focus on the stated objective so that it will lead to the production of evidence proving the desired learning occurred. Many instructors in both K-12 and higher education recoil at the concept of teaching to the test. Effective teaching necessitates teaching to the evidence. Lessons can be lectures or participatory, but learning is not measurable without determining beforehand what evidence you hope to see (Williams, 2022).

FIGURE 1
BACKWARD DESIGN

1. Identify Desired Results	**GOALS**
2. Determine Acceptable Evidence	**ASSESSMENT**
3. Plan Learning Experiences	**INSTRUCTION**

1. Goals – What do you want the students to know, be able to reason, or be able to do?
- a. Develop Objectives/Learning Targets.

2. Assessment – Strategies and Evidence of Learning
- a. Determine the Evidence: What do you want to see/hear that will show you the student knows what you want them to know?
- b. Decide on the Strategy: How will you elicit that evidence of knowledge, reasoning, or skill from the student?

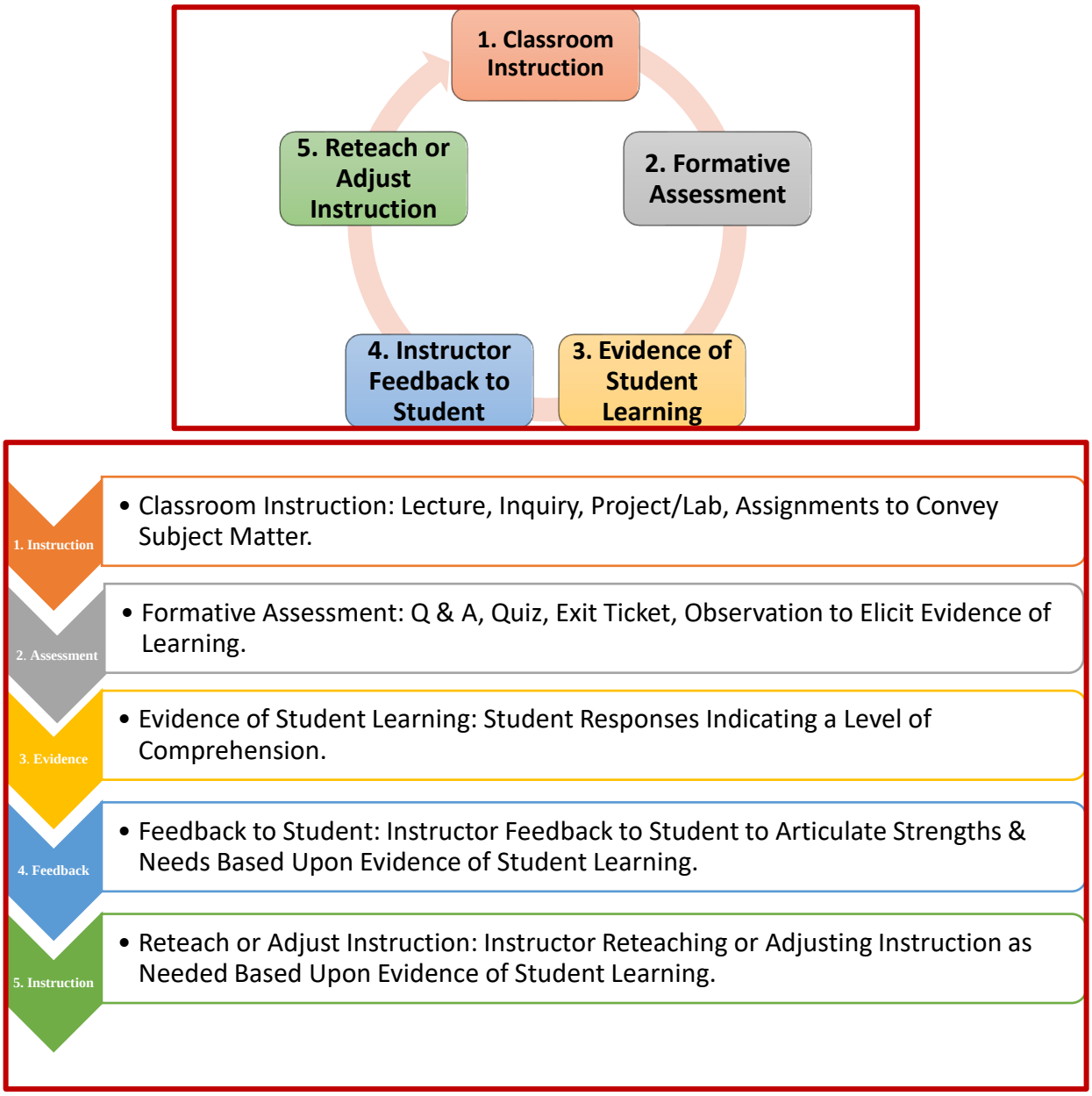
3. Instruction – Design lesson plans that will assist the student in producing evidence that the goals have been met.

Williams, 2022

THE APPLICATION OF FORMATIVE ASSESSMENT

Formative assessment is described as "formal and informal processes teachers and students use to gather evidence for the purpose of informing next steps in learning" (Chappuis & Stiggins, 2017, p. 21). This type of assessment is an important component of the teaching and learning cycle (Marzano, et al., 2001) for determining if students are learning throughout a course (See Figure 2). Most research in methods of formative assessment primarily stems from general pedagogical research for the K-12 learning environments (Marzano, et al., 2001). Consequently, collegiate instructors are typically not aware of how or why to apply formative assessment. Gathering measurable evidence of learning during the teaching and learning process can inform their instruction and have an impact on student learning (Chappuis & Stiggins, 2017).

FIGURE 2
CONCEPTUAL FRAMEWORK OF FORMATIVE ASSESSMENT (WILLIAMS, 2020)



Williams, 2020

Without employing formative assessment throughout instruction, achieving student learning outcomes can be problematic (Scott-Webber, 2012). Students may be listening to the instructor's lessons and reading the required material but not necessarily learning such that they can apply what they have learned or even successfully perform on an exam. Implementing formative assessment is assessing for learning during the lesson and/or after the reading to gather evidence of the student's understanding before the exam, final paper, or final project is due (Grosas, et al., 2016). Some educators ascribe to the belief that formative assessment is limited to a formal type of examination such as a quiz. Anytime a student is asked to demonstrate their learning in written form, verbally, or by performing a skill, they are producing evidence of learning. A variety of formative assessment strategies can be used to gather evidence of learning

including quizzes such as homework assignments, in-class or group activities, observation, or conversations with either the class or individual students (Chappuis & Stiggins, 2017). The instructors can then decide if there is a need for reteaching or clarification of the content.

FORMATIVE FEEDBACK TO FEED LEARNING

One of the purposes of assessing student learning is to motivate the learner and promote continued learning (Chappuis & Stiggins, 2017). For students to make use of formative assessment they need to receive authentic feedback from the instructor that is useful and usable. Formative feedback as part of formative assessment gives students specific details on what they need to correct and how they can improve their understanding. Research has shown that learning improves when the learner is allowed to fix their mistakes as they make them (Darling-Hammond, et al., 2003). Productive feedback is more than a student's letter grade, numerical score, or comments such as "nice job", "much improved", or "excellent!". The grades or scores merely represent the quantification of the data from the gathered evidence and the vague comments are not useful or usable for students to improve their learning. A student who receives an "A" can be specifically encouraged and challenged. A student who receives a "C" grade without any instructive feedback is likely to lose motivation to improve (Mulliner & Tucker, 2017). Feedback needs to be affirming, corrective, timely, and criterion-referenced to motivate learning and promote continued learning (Marzano, et al., 2001; Owen, 2016). "The most powerful single modification that enhances achievement is feedback. The simplest prescriptions for improving education must be dollops of feedback" (Hattie, 1992, as cited in Marzano, et al., 2001, p. 96). Assessment with feedback during the teaching & learning process is formative assessment (Evans, 2013).

An instructor gathers measurable evidence of student learning through formative assessment to inform their instruction during a lesson or in the future. When gaps in student understanding become apparent, instructors have the opportunity to reteach, correct misconceptions, and assist struggling students (Wormeli, 2006). Formative assessment supports student learning before final papers are assigned or final exams are given. This raises the level of confidence in the students' probabilities of success. Furthermore, instructors can use the results of formative assessment to reflect on ways to improve future courses.

POLICY RECOMMENDATIONS

Higher education can improve student satisfaction with their teaching and learning by providing more faculty training in general pedagogical practices (Saroyan & Amundsen, 2004). Developing new policy guidelines for faculty development and training can improve their teaching. Understanding and implementing formative assessment with appropriate feedback can increase the students' opportunity for authentic learning (Jacoby, et al., 2014). These steps can contribute to improving student retention, a leading concern of administration in higher education (Weimer, 2017). The participants in this study were purposely chosen across disciplines because effective teaching in higher education is not limited to the instructor's content expertise. How to deliver new knowledge and facilitate comprehension requires strategies of teaching and learning based on the principles of general pedagogy.

The teaching and learning cycle is an active process of understanding new knowledge, using critical thinking, and reasoning in its application, and the ability to combine the two for creating something new (Bloom, 1956; Darling-Hammond, et al, 2003). Purposefully integrating formative assessment throughout teaching creates a dynamic relationship where student learning and motivation increase and teaching improves (Chappuis & Stiggins, 2017). Creating a learning environment needs to include multiple pathways for student success as described by Mintz (2016):

> as learning designers, instructors must specify what they want a student to know or to be able to do and, then, design activities that will help students attain that objective and devise assessments to measure whether the students have actually achieved mastery. (para. 9)

CONCLUSION

The goal of this study was to add to the conversation on how best to support instructors in higher education by answering the research question: How are collegiate instructors using methods of formative assessment to inform their instruction? The cycle of teaching and learning which includes formative assessment promotes effective teaching (Williams, 2020, 2022). When an instructor teaches, formative assessment should be integrated into the instruction to determine if students are learning. When assessment evidence reveals sufficient learning did not occur, formative feedback can instruct the student on how to make changes, and the instructor can add to or adjust their instruction. Effective teaching then becomes a dynamic engagement between the instructor and the student in the teaching and learning process (Williams, 2022).

Students are asking the question of whether a college degree will assist in their future employment or career (Gillen, 2020). Determining the relevancy of a degree is tied to the quality and effectiveness of the teaching and learning delivered in higher education. The benefits of a college degree need to outweigh the cost in terms of the time and money spent. Institutions in higher education are fighting against the image of relevancy and effectiveness while trying to be more efficient and expedient in graduating students. However, the consequences of teaching for expediency over effectiveness are creating concerns with student retention.

The participants in this study demonstrated a passion for their discipline as well as for their students to succeed. Each one described their hope in instilling the big picture of their discipline and encouraging their students to see the potential of applying what they are learning to their future (Williams, 2020). Effective teachers create a classroom environment with a big-picture philosophy and apply the same passion they have in their discipline to facilitating student learning. Formative assessment as a constructivist pedagogy can have lasting consequences for students to take responsibility for their learning, instructors to improve their teaching, and institutions to improve student retention (Fook & Sidhu, 2013). Making informed adjustments in teaching based on evaluating students' learning using formative assessment is an effective way to facilitate student success (Williams, 2022).

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