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BRIEF REPORT

Jumpstart your lesson: Connecting students to content
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Abstract

Students' engagement is key to their success. How can instructors "hook" students from the very beginning of the class? We propose, following the Jumpstart lesson planning model and Universal Design for Learning (UDL) best practices, to include a Connection Activity at the onset of every lesson. The Connection Activity connects students with content and engages several important cognitive processes for learning, including elaboration and retrieval.

Keywords

lesson plan, engagement, content, connection, retrieval

Introduction

Universal Design for Learning (UDL) is a best practice because all students are able to learn equally, and it removes the necessity that students with accommodations identify themselves to their instructors (Center for Applied Special Technology [CAST], 2018). It consists of three principles: multiple means of representation, action and expression, and engagement. Importantly, engagement impacts students' motivation to learn (Casuso-Holgado et al., 2013). And recent meta-analysis showed that using UDL increases both student satisfaction and engagement (Al-Azawei et al., 2016). Given these findings, instructors should consider how they engage students from the beginning of each class. The Connection Activity component of the Jumpstart model is one way to increase student engagement, implement UDL, as well as harness the benefits of the cognitive processes of retrieval and elaboration.

Jumpstart Model

Durham College's Centre for Academic and Faculty Enrichment (Centre for Academic and Faculty Enrichment [CAFE], 2012), developed the Jumpstart model to encourage active learning experiences. It was inspired by the work of Kolb and Kolb (2005) and Zull (2004), who proposed diverse types of instruction, including experiential learning, due to improved student attention and the engagement of multiple areas in the brain, resulting in deeper learning. Instructors have known for decades that deeper encoding leads to better recall than more superficial encoding (Craik & Lockhart, 1972). Furthermore, being presented with information multiple times, especially in varied contexts, helps to move it into long-term memory (Baddeley, 1997). Using the Jumpstart model, instructors introduce each new content unit with a Connection Activity, which helps connect students to this new content. Then, instructors present the course content and allow students to practice it, cycling through content and practice until the unit is completed. Finally, a summary activity synthesizes the unit. The focus of this report is specifically on implementing the Connection Activity component. This component will be described, and the benefits of two of the cognitive processes engaged during these activities, retrieval practice and elaboration, will be discussed.

Connection Activities

The Connection Activity is the "kick off" to the lesson and is intended to be relatively brief (5-10 minutes). During this time, instructors attempt to capture students' attention by connecting the lesson's topic to students' own knowledge, personal lives, and/or future

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careers. The Connection Activity allows the instructor to uncover what students already know about the topic, which may reveal knowledge gaps or misunderstandings. Introducing new content with a Connection Activity provides an opportunity to encourage students to be focused, engaged, and present (CAFE, 2012). Students' engagement (Greenwood et al., 2002) and motivation (Fortier et al., 1995) are related to their performance. That is, the more students participate and the more effort they put into their learning, the higher are their grades (Amari et al., 2011; Fortier et al., 1995; Greenwood et al., 2002). Connection Activities can be directly linked to the course content and learning objectives (e.g., critical thinking, group work, etc.) and can even be used as opportunities for formative assessment, making valuable use of class time from the first few minutes.

Cognitive Processes

The Connection Activity is important in a lesson because it involves three key cognitive processes: retrieval, elaboration, and integration. Retrieving prior knowledge allows for processes such as elaboration and integration to occur (Beker et al., 2016; Carpenter & DeLosh, 2006; Karpicke & Smith, 2012). It has long been known that elaboration leads to deeper processing and consequently to a richer memory, so elaboration is key for long-term retention (Anderson & Reder, 1979; Bradshaw & Anderson, 1982). Integrating previous information with new information is another important part of learning (Beker et al., 2016). Information integration creates new connections and allows students to develop more complex cognitive networks, which leads to improved understanding (Bowman et al., 2013; McDaniel & Masson, 1985; Roediger & Butler, 2011). Recently, Kennette and McGuckin (2018) also found that using a Connection Activity that combined elements of retrieval practice, elaboration, and collaboration among students resulted in higher final grades in the course, compared to when students simply reviewed their notes for the Connection Activity. Therefore, there is substantial evidence that Connection Activities (and the cognitive processes they engage) can be beneficial to student performance.

Retrieval. Retrieval refers to accessing information from long-term memory. In a key study demonstrating the importance of retrieval practice on long-term memory,

Roediger and Karpicke (2006) assessed participants' memory for passages they read. In one condition (Study), participants were asked to re-read the passage to study the information; in another condition (Test), they wrote down everything they could remember about the passage to study the information (i.e., retrieval). The students who retrieved the information (Test condition) had the best recall when tested one week later, and the more Test conditions students engaged in, the better their performance was one week later. In contrast, re-reading the passage did not afford this same performance benefit. It appears that repeated retrieval improves performance by protecting more effectively against forgetting than repeated rehearsal (Adesope et al., 2017).

Elaboration. Another key cognitive process engaged during Connection Activities is elaboration. This, ability to combine old and new information (Richardson et al., 2012) has been shown to facilitate later recall (Symons & Johnson, 1997; Willoughby et al., 2000; Wood, 2010). Elaboration has also been shown to be beneficial to information retention (Baddeley, 1997; Craik & Lockhart, 1972). This is because elaboration leads to deeper processing of the material, and more effective learning.

Examples of Connection Activities

Now that we've made a case for the benefits of using Connection Activities, we provide a number of examples. The Connection Activities listed offer options for both in-class and online learning and can be adapted for various pedagogical goals. To promote discussion, consider presenting a news story, statistic, song, image, video, or advertisement that is related to the lesson topic to link the (sometimes abstract) content to real life. Student-centered options like a survey, brainstorm (perhaps using Padlet) or an internet scavenger hunt (using Kahoot, Poll Everywhere, or Socrative) may also be employed. Some or all students may share, but instructors should synthesize or summarize before moving into the content.

Suggestions for Implementations

Starting the first class of the semester with a Connection Activity immediately establishes why students should be interested in the topic of the class, and embodies the "Multiple Means of Engagement" component of UDL (CAST, 2018). It also establishes a routine for the

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beginning of every lesson thereafter. Instructors may choose to vary the Connection Activity or establish a standard introduction for each class (e.g., playing a song). Connection Activities are ideal for both online and in-class learning environments and can provide fun, easy, low-stakes opportunities for students to engage and experiment with technology. Instructors should be cautioned that long activities risk losing impact and focus, thus course learning objectives should be kept in mind.

Conclusions

Connection Activities align with good teaching practices (e.g., UDL, elaboration), and are a quick and fun way to build rapport with students. Connection Activities provide an opportunity for students to observe the instructor's personal teaching style, whether face-to-face or online. Each Connection Activity is like an audition to win students over, inspire them, and kick off a great class.

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