edX by 2U Educator Engagement and Development

Educator IMPACTS Principles

Educator effectiveness to maximize learner outcomes

About This Resource

Introducing the Educator IMPACTS Principles, a comprehensive resource designed for online educators, synthesizing academic research and real-life insights from experienced instructors. At the core of effective online education, instructors act as vital catalysts in transforming well-designed courses into dynamic learning experiences. IMPACTS outlines seven core principles essential for online teaching success, offering a structured approach to enhancing instructional effectiveness. This whitepaper delves into each principle, providing educators with the tools they need to engage and inspire students in the digital classroom. Join us in exploring how these principles can be applied to create impactful and transformative educational experiences.

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Introduction.

At 2U, we're committed to eliminating the back row in higher education by leveraging learning science to create an online environment where teachers are the most effective and students learn best. 2U first released the Learning Experience Framework (LXF) in 2019 to support the entire course design and development process by incorporating the science behind learning. As a result, LXF encourages active, social learning that takes into consideration both the emotional and cognitive processes of learning through 'Feel, Do, Think' principles. While the Learning Experience Framework (LXF) explored how students learn, 2U's Educator IMPACTS Principles (EIP) articulates the attributes and best practices for how educators should approach teaching in an online environment in order to be the most effective in their practice.

The Educator IMPACTS Principles (EIP) was developed as a companion to the LXF and a reference guide for online instructors on how to teach effectively in a digital learning environment. Our goal is for the Educator IMPACTS principles to serve as a shared resource to help online instructors bring digital learning experiences to life and achieve positive student outcomes. In addition, the EIP is the foundation for training, professional development, and outreach for educator services at 2U.

What is teaching effectiveness?

Defining for teachers what "works" well instructionally has always been a challenge. Online programs have influenced both the technological and pedagogical landscape, requiring careful evaluation of effective online instruction practices. Teaching effectiveness usually begins with an exploration into student grades, satisfaction scores, program retention, and overall graduation rates. While that combined view is helpful, it does not always paint the complete picture. Focusing only on students runs the risk of overemphasizing performance and grades, or worse, teaching to the final test. 2U is committed to considering all aspects of teaching effectiveness by applying learning science specific to student engagement. Student outcomes are driven by many variables and often include a certain amount of bias, so using a model for teaching effectiveness that only focuses on students is not the most productive way to consider improvements. Instead, we have evaluated teaching effectiveness from a comprehensive review of the literature in combination with our own expertise of years working as, and with, online educators. As a result, our Educator IMPACTS Principles (EIP) contains seven guiding principles of effective teaching:

I = integrate technology with purpose

M = motivate students to learn

P = plan for organized instruction

A = advocate for equitable experiences

C = create active engagement

T = target meaningful feedback

S = self-evaluate your impact

There is no doubt that technology is the first thing people think about with online education. But technology in isolation is not as impactful as when it is complemented and driven by the skills of an educator. Therefore, our visual representation of the principles places educators at the center of a dial, as they are the driver of the technology that impacts every other aspect of the principles.

Seven Core Principles

Integrate technology with purpose.

Technology is the first principle because it is the medium for all online instruction. Technology is used as a content delivery mechanism (learning management systems); as a site of instruction (classroom meeting spaces); as a complement to instruction (engagement features in meeting spaces); and even as a curriculum (teaching about technology in real life use cases) (Ginsburg, 1998). The use of technology has also proven to enhance adult learning by creating flexibility and autonomy, providing increased accessibility, focusing on equity, personalizing instruction, and facilitating collaboration among learners who cannot meet in physical locations (Burge 1994; Cahoon 1998; Eastmond 1998; Beeland, 2002; Shute & Towle, 2003; Lee, Cheung & Chen, 2005; Balaji & Chakrabarti, 2010). With those aspects in mind, it is no surprise that technology is one of the core principles of the EIP because without technology, online education would not be possible. Effective online educators use technology to support learning objectives, assist with active learning efforts, and facilitate online courses with proficiency.

Using technology to support student learning objectives.

Technology should always assist with student learning and not distract from the purpose of its use. There is an abundance of educational technology choices on the market and more being developed each day. Effective online educators are aware of the choices and work to make technological decisions based on the tool's purpose and the needs of students. These educators have instrumental, practical, and emancipatory knowledge especially about the technology used in their courses (Cranton, 1996). Instrumental knowledge is the basics of how to use each learning tool provided. Practical knowledge is an understanding of when to use each tool. Emancipatory knowledge is an understanding of why the tool impacts student learning, which assists educators in their choice to use a particular tool. When educators are not proficient in any of these aspects of technological knowledge, students tend to suffer in their learning. As research shows, simply using technology in a course is not enough to increase student engagement or performance (Balaji & Chakrabarti, 2010; Roschelle et al, 2010; Jaggars & Xu, 2013). If the technological tool is not purposeful, educators should choose not to employ it. Instead, educational technology should be used to support students in achieving the learning objectives of the course. For example, if a learning objective for a Business course is, "Use the SUM formula in Excel to calculate totals for multiple cells," the use of technology could be a live Zoom demonstration of this Excel skill, or a similarly recorded video posted in the asynchronous content of the course.

Leveraging technology for active learning.

Research has shown that teaching with technology can help students stay motivated, engage in deeper learning, promote positive collaboration, enhance communication, and create personalized instruction (Balaji & Chakrabarti, 2010; Beeland, 2002; Chen, Lee & Chen, 2005; Shute & Towle, 2003). Students enter the learning environment through online spaces and instructors use the technological features to engage them in activities during the session. For example, the instructor welcomes students into the online classroom, invites discussion by posing a question to the group, and requests all students to submit an answer through multiple modalities (e.g., spoken, written, or visual). The instructor then breaks students into small groups to work through a case study where they are asked to collaborate on a shared online document. Students then return to the larger session and report back on the knowledge gained by creating a solution using multiple modalities. In this scenario, the instructor purposefully used technology to engage students through collaboration and communication of shared learning goals. Similar activities can be conducted in the asynchronous environment through small group discussion boards and interactive assessment tools.

Another way technology is used for active learning is in providing a simulation of the professional context in which newly learned skills will be applied. For example, in a statistics course, part of the content may be focused on learning how to use statistical programs for data collection and report creation. In a business course, knowledge about spreadsheet use is commonplace and instruction on this tool mediated through technology is expected of an effective online educator. This way students gain practical knowledge in the tools they will be called upon to use in their professions. In these cases, technological knowledge is paramount to effective teaching and creates active learning strategies while also connecting to learning objectives. The key insight here is the technology will only engage students in the learning process if the instructor understands its use.

Resolving technical issues when they arise.

Technological proficiency challenges many adult learners in virtual environments, and is thus critical to the role of a highly effective online educator (Berge, 1995; Saad & Sandaran, 2020). In classroom settings, technological proficiency refers to the ability of teachers to integrate technology with learning, manage information, produce high-quality learning, and enhance critical thinking (Saad & Sandaran, 2020). Technological proficiency also refers to an educator's ability to resolve technical issues as they arise (Goodyear et al., 2001). For example, an effective online educator should be able to troubleshoot simple technical issues such as helping students unmute themselves to speak, whereas for more complex technological challenges, educators should know how to get help quickly. In a survey, 62% of instructors

reported that personal comfort level using technology was one of the biggest barriers to incorporating it into their teaching (Bill & Melinda Gates Foundation, 2012). While more than two thirds of instructors say they would like to use technology in their classroom, their confidence using it is contingent on access to training on the technology first.

It is important to remember that online learners may start with low self-efficacy in their ability to navigate through a foreign digital learning environment. Thus, it is up to the instructor to help alleviate their frustrations and anxiety. When technical issues are frequent, it will decrease the students' self-efficacy and thus hinder the learner from concentrating on the academic task at hand (Berge, 1995; Gomez-Rey & Fernández-Navarro, 2018; Goodyear et al., 2001). It is imperative that faculty feel confident in their own knowledge about the technology used in an online setting and seek the help they need to upskill their abilities, if necessary.

Summary.

Online educators demonstrate excellence in integrating technology when they:

- Choose technology purposefully according to learning outcomes.
- Understand technological features and apply them effectively.
- Discuss the merits of one technology over another to support the learning objective.
- Use technology to engage students in the learning process.
- Effectively troubleshoot technical issues when they arise.
- Effectively demonstrate technology tools to students.

Motivate students to learn.

As the driver of all human behavior, motivation is critical to student learning. As such, what motivates students to learn and how teachers can promote those ideas, should be top of mind for the effective online educator. This is no small task as student motivation varies by the individual and the situation, but educators can use techniques proven to engage and ultimately motivate students in their learning. Effective online educators motivate students in the learning process by fostering intrinsic motivation, acknowledging extrinsic motivation, and using expertise, enthusiasm, and passion for the subject during instruction.

Fostering intrinsic motivation.

Psychologists have historically divided motivation into two major categories–intrinsic and extrinsic. Intrinsic

motivation refers to a person's desire to engage because of interest or enjoyment, while extrinsic motivation refers to a person's desire to engage for an intended outcome such as a course requirement, learning need, or impending grade (Ryan & Deci, 2000). Research has shown that intrinsic motivation is typically superior to extrinsic motivation. For example, students who are intrinsically motivated often choose more challenging work, exert more effort, and demonstrate higher levels of creativity than their extrinsically motivated peers, leading to deeper, more meaningful learning (Lepper, 1988).

The macro-theory of motivation known as self-determination theory (SDT) suggests that the most powerful forms of motivation come as a result of individuals feeling as though the basic psychological needs of autonomy (internal choice), competency (successful completion of a task), and relatedness (feelings of belongingness) are met. One way an educator could meet these needs would be to allow students to work in groups (relatedness), choose their topic and modality for an assessment (autonomy), and provide positive feedback (competence).

Acknowledging extrinsic motivation.

While facilitating intrinsic motivation is ideal, the reality is that students may not always find the subject matter inherently interesting or enjoyable. Additionally, it might be challenging to make content immediately relevant to students, which means the instructor must also target extrinsic motivation. Despite being associated with more shallow levels of learning, SDT argues that extrinsic motivation exists in a continuum that ranges from less autonomous (shallower learning) to more autonomous (deeper learning). For example, a student completing an assignment because they want a good grade is not as autonomous as a student completing an assignment because they know that it will improve their future job performance. While these are both examples of extrinsic motivation, the former stems from an external force while the latter is inspired by an internal decision. To encourage more autonomous forms of extrinsic motivation, educators should make explicit connections between learning experiences, learning outcomes, and real world applications where possible. In addition, online learners tend to be more motivated in general, and in some cases may respond better to extrinsic motivators.

Teaching with expertise and enthusiasm.

Instructors with professional expertise have long been valued in academia, and a more recent analysis of online instruction supports the benefits of professional expertise specifically in an online setting (Reyes-Fourier et al., 2020). Research has also shown that instructors who exhibit professional expertise can inspire a passion in students through a strong command of the subject matter and holding students to high professional standards (Acker, 2003; Chickering & Gamson, 1987). While professional expertise is the foundational component to effective teaching, it is simply not enough on its own to motivate students for

deep learning. Effective educators must also create enthusiasm for the topics they teach by sharing their expertise, both asynchronously and synchronously, in a way that inspires students to want to know more.

Effective online educators care deeply about what they do, are committed to teaching, and respect their students (Acker, 2003). When teaching with passion, enthusiasm and excitement for the content will naturally flow and positively impact students' motivation. Using real-life examples and stories, as well as providing a space for students to share their own experiences, fosters meaningful discussions and elicits active learning, thus motivating students to learn deeply. Sharing examples of how content is made manifest in real life aids in the relevancy of learning and increases interest in the subject (Knowles, 1980).

Summary.

Online educators demonstrate excellence in motivating students to learn when they:

- Allow students autonomy and choice in content and assessments
- Encourage discussions and group work that utilizes student experiences
- Make assignments relevant to current or future employment opportunities
- Model a growth mindset by encouraging students in active learning strategies
- Inspire students by sharing professional development and lifelong learning examples
- Share professional knowledge and real-world experiences
- Get to know students and incorporate interests into instructional examples

Plan for organized instruction.

Successful online learning depends on the educator's ability to to maximize student interaction and participation in a well-planned and organized environment. Research reveals that organized instruction is one of the most reported attributes of an effective online educator and is consistently ranked high on student evaluations (Acker, 2003; Schubert-Irastorza & Fabry, 2011; Struthers & Perry, 1993). Studies further support that when clear organization permeates through every aspect of course delivery, it enhances student engagement, motivation, and retention (Roksa et al., 2017). In contrast, a lack of clarity and organization can negatively impact student motivation and can lead to serious consequences for learners (Roksa et al., 2017). Therefore, an effective online educator should aim for organized instruction by establishing classroom structure, communicating and managing time efficiently, and adapting to meet learner needs.

While online courses typically utilize a learning management system to deliver content in a structured form, it is the role of the educator to be constantly aware of inter-student dialogue as well as student-educator discussion and questions. For the educator, maintaining presence in an online course is an imperative to both synchronous as well as asynchronous methods of online-course delivery. As an example, online-course support systems often provide notifications to instructors about student queries. Timely instructor attention to any notifications is imperative to maintaining a free-flowing dialogue that emulates face-to-face interaction while maintaining organization and order in the online classroom.

Establishing classroom structure.

Learning is a social activity that is strengthened when instruction is carefully planned and facilitated by the educator (Berge, 1995). Effective online educators facilitate online interaction by making explicit how student participation and expectations fit into an organized class time. This can be achieved by providing rules and guidelines, coming to class well-prepared and staying on task, modeling interaction etiquette and norms, establishing equity in learning activities, and communicating clear timelines and instructions. Classroom structure also means organizing the learning materials so that they are self-explanatory, clear, and understandable. Studies show that creating predictable structures and patterns has a positive impact on students' critical thinking and psychological well-being, as well as their interest in engaging difficult intellectual problems, interacting with diverse people, and engaging new ideas (Roksa et al., 2017; Hosler and Arend, 2012; Blaich & Wise, n.d.). Effective online educators provide outlined lesson plans and agendas, while articulating and reinforcing learning objectives to set expectations for students at the start of each learning experience. When students understand the lesson goals and tasks, they will more effectively develop intrinsic motivation to succeed (Roksa et. al, 2017; Slitzman, 2010).

Adapting to meet learner needs.

As noted earlier, it is important to come to class with a clear and organized lesson plan. However, even the best lesson plans sometimes do not meet expectations. Effective online educators must be ready to adapt and modify their lesson plans when necessary. Adapting quickly is a necessary skill and in order to be fully prepared for the unexpected, educators must understand their learners. In addition to learner demographic information (e.g., age, gender, occupation, and role), effective online educators must also tailor activities for key elements of human behavior such as learner needs, wants, current skill levels, likes and dislikes, motivation, fears, passions, and frustrations. By considering emotions and intentions, educators better understand how individuals learn and can be more responsive to their needs (Martinez, 2002). For example, new learners benefit from more structure while experienced learners benefit from more resources and autonomy. Some learners are most comfortable when collaborating on group projects and

discussions, while others prefer to learn independently. Adaptability, flexibility, and personalization allow online instruction to become learner-centered and engaging, leading to a more connected and collaborative learning environment.

Communicating and managing time consistently.

Good communication creates a sense of community, circumvents challenges of isolation, and actively involves all participants in the learning process. Communication in online learning occurs in multiple modalities such as asynchronously through emails or built-in features of the learning management system (e.g., discussions, announcements, assignments) and synchronously during live sessions through video conferencing applications. In a study by Dello Stritto (2020), three categories emerged when examining effective communication skills: written communication, responsiveness, and tone or voice. Effective online educators write in a clear, coherent, detailed, and thoughtful way, especially if in-person interactions are limited. Responsiveness means ensuring active and clear communication, timely responses to questions, and being open to meeting frequently. Finally, tone or voice emphasizes how educators communicate with their students. For example, personal and conversational communication is effective in building relationships, while academic tones are much more formal and can be leveraged as an authoritative voice by an educator to provide specific instructions or to establish classroom decorum. Tone or voice can be expressed in different mediums, such as recording an audio or video, sharing gifs or emojis, and nonverbal communication. In contrast, tone or voice can be easily misinterpreted, therefore it is imperative that effective online educators become aware of any breakdowns to communication and address it quickly.

In addition to clear and concise communication, effective time management skills enable the educator to efficiently manage their time spent responding to student emails or discussion posts, being timely with grading, showing up to class on time, as well as being accessible to students outside of scheduled interactions.

Summary.

Online educators demonstrate excellence in organized instruction when they:

- Set and reinforce class expectations throughout the course.
- Make efficient use of lesson plans to deliver in-class instruction.
- Enforce structure and patterns in the classroom, where appropriate.
- Deliver course content in a gradual manner to anticipate the varying depth of knowledge of students.
- Personalize instruction to meet the needs of their learners.

Advocate for equitable experiences.

Effective online educators understand how online education provides opportunities for those who may not have access to traditional higher education models. The ability to bring instruction to marginalized communities has enabled more diverse populations to engage in learning communities. One of the advantages of online education is the opportunity to teach and learn from individuals who come from diverse cultural, social, and professional backgrounds. While it is important to celebrate the growing diversity in an online classroom, it is equally important to recognize that, in order to enrich the learning experience, an effective online educator must cultivate psychological safety, foster inclusivity, and celebrate diversity.

Cultivating psychological safety.

Edmondson (1999) explains that adult learners experience psychological safety when they are not afraid to make mistakes, feel respected when they do, and feel a sense of belonging to the learning community. Edmondson & Lei (2014) further note that providing a safe learning space is necessary for students "to grow, learn, contribute, and perform effectively in a rapidly changing world." Cultivating a safe space where adult learners can take risks and embrace failures without repercussions allows for a healthy, productive learning environment in which students can engage deeply with the learning content and their peers.

As the leader in the classroom, students look to the educator to both set and model expectations for creating a safe space. According to Alston & Hansman (2020), acknowledging how spaces are shared is the first step for the educator in creating an environment where students feel safe, both psychologically and socially. For example, using class time to intentionally ask students about their identities and invite them to explain their cultural characteristics is one way to safely acknowledge differences in the classroom. (Alston et al., 2021; Harvey et. al., 2019). Effective online educators proactively invite students to speak openly and create safe spaces where all perspectives are heard and celebrated. Through open communication and empathy, an effective online educator establishes an equity-minded classroom through building relationships of mutual trust and respect.

Fostering inclusivity and belonging.

Adult learners come to the online classroom with different cultural backgrounds, personalities, learning styles, and confidence levels. With the learner's diverse needs in mind, an effective online educator

understands that inclusive teaching creates a highly engaging and effective learning experience. Fostering inclusivity in online environments refers to an intentional practice of including learners across differences.

To move towards inclusive teaching, an effective online educator must begin by recognizing their own biases that may lead to marginalization or exclusion of some people. This includes ongoing self-evaluation and intentionally exploring personal implicit and explicit biases in an effort to understand and respect students from all backgrounds. Teaching inclusively takes a shift in teaching strategies and mindset. For example, when implementing learning activities, an effective online educator asks themselves: Who might be left behind by this activity and why should a student care about this? Traditional classroom teaching methods like lecturing or cold calling are less inclusive strategies since they may hinder students' self-efficacy and confidence level in a classroom setting. Further, providing too little structure or ambiguity may leave underrepresented students feeling uncomfortable or confused.

Intentional use of language is another way to foster inclusivity. Inclusive language matters today more than ever due to the increased diversification that online education affords (Hogan & Sathy, 2020). This encompasses giving space for students to share their preferred language for how they describe their intersecting identities (Banks & Pliner, 2011). Some examples include using inclusive language when referencing students' preferred names, ethnicities, races, cultures, and gender pronouns.

Celebrating diversity.

Diversity in an online environment encompasses more than just different races and ethnicities. Diversity also includes gender, age, sexual orientation, ability, religion, and socio-economic status, which have an effect on students and influences their learning and their world-view. An effective online educator integrates diverse viewpoints into the curriculum and tailors instruction to meet the racial, class, cultural, and linguistic needs of their students by representing both minority and dominant cultural values (Henderson, 1996). Using a culturally responsive teaching (CRT) approach empowers students because cultural references are used to "impart knowledge, skills, and attitudes" (Ladson-Billings, 1994). When diversity is celebrated, and inclusivity is fostered, learning is more collaborative and learners can apply the content to topics that are culturally and socially relevant to them, allowing them to become more self-confident through the learning process. Practicing cultural sensitivity is essential for celebrating and respecting diversity in the online learning environment. By becoming culturally aware, educators can help learners embrace and understand different viewpoints and cultures, where peers can appreciate one another without fear or judgment. For example, effective online educators allow space for students to share their cultural experiences.

Summary.

Online educators demonstrate excellence in promoting a safe, inclusive, and diverse community when they:

- Connect with students on a personal level.
- Learn to pronounce student's names correctly.
- Actively involve students in the process of building a community agreement together.
- Enforce norms in classroom language that help all learners feel safe.
- Set and reset explicit expectations.
- Use examples of people from diverse backgrounds and experiences.
- Encourage students to share experiences from their geographies and cultures.
- Acknowledge hard times and practice empathy.
- Model using personal pronouns.
- Allow anonymous participation.
- Add structure to small group discussions. For example, assign and rotate roles and provide clear instructions in the Chat or screen share.

Create active engagement.

When considering meaningful engagement, there are four types of engagement students participate in: skills engagement (studying, listening, and practicing), emotional engagement (relevance, motivation), participation engagement (having fun in class, participating in discussions), and performance engagement (doing well on exams or quizzes) (Handelsmann et al., 2005). Students report higher satisfaction with their online learning experience when an instructor creates active engagement by connecting students to the content they are learning, creating student-to-student interactions, and building relationships with their students (Schubert-Irastorza & Fabry, 2011).

Connecting students to content.

Andragogy is the art and science of teaching adults (Knowles, 1980). The principles of andragogy are useful to consider when planning strategies to build a connection between students and the content of a course. Among the assumptions of this theory are that adults need to know how their learning relates to real-world situations and problems (Gardner et al., 2022). Adults can draw upon their personal and professional life experiences to inspire new learning. Effective instructors encourage students to share this experience to build connections between their lives and the course content. Another relevant tenet of andragogy is the "readiness to learn" assumption (Knowles, 1980). Adult learners enroll in education programs with a breadth of personal and professional experiences, and they are more likely to connect

their completion of an educational program with expectations of a job promotion, higher wages, or self-fulfillment (Bengo, 2020). When planning instruction, it is important to relate materials to real-world scenarios to illustrate their importance and build on life and work experiences that can serve to inspire student learning. Effective instructors use strategies such as case studies, current events, real-world examples, experiences, and professional expertise that they have built over their career to help draw the connection between the information being presented and its practical application in a professional setting.

Creating student-student interactions.

Student-to-student interactions, also referred to as peer-to-peer learning, included in instruction lead to higher student engagement within a course (Dixson, 2010). As a result, student engagement in a digital classroom often incorporates collaborative learning activities such as group discussions, small group work, and other forms of student-to-student interaction. Students report that activities such as those involving problem-solving, case study analysis, discussion forums, labs, group projects, research, and current events are more engaging than content learned independently (Dixson, 2010).

Across disciplines, class discussions have been shown as an activity type that promotes deep learning and engagement amongst students (Dixson, 2010; Handelsmann et al., 2005; Nystrand & Gamoran, 1991; Williams & Lahman, 2011). Discussion activities can be wide-ranging in their design and modality. Examples include small group discussions in breakout rooms or forums that pair students together to answer questions or solve a problem of practice. Additionally, role-playing activities, which are particularly useful in disciplines that are client-centered, such as social work, nursing, and teaching, can engage students in practicing a needed skill relevant to their field. Student engagement through active learning produces better student learning outcomes; therefore, active learning is a more preferred method of teaching when compared to a lecture-based format (Acker, 2003).

Effective online educators can foster student-student interactions both by using tools in the learning management system such as discussion forums and by facilitating activities in the live classroom setting that encourage student-to-student interaction.

Building relationships with students.

Positive educator-student relationships are directly correlated with increased student engagement and learning outcomes (Morrison, 2021). The live classroom component of the flipped classroom model - where students complete asynchronous coursework before a live session facilitated by an instructor - provides a venue for instructors to engage in rapport-building activities instead of reviewing content. In an asynchronous course, instructors can build relationships with students by inquiring about their lives and

creating assignments that invite introspection and sharing of personal stories. In both synchronous and asynchronous learning, relationship building demonstrates to students that an instructor cares for them and their success both in the course and professionally. Effective online educators build trust with students by creating safe spaces to share their perspectives, which in-turn helps to connect learners to the content of the course (Milman, 2020).

Effective online educators focus on building rapport with their students in a variety of ways, such as providing clear expectations and meaningful feedback. An instructor's willingness to be actively present throughout the course impacts student engagement and is demonstrated when an instructor is engaged and available for assistance (Schubert-Irastorza & Fabry, 2011). Educators can support the development of swift trust, which is the type of trust that unfolds in temporary systems such as an online course. Trust can also be developed through icebreaker activities that allow learners and educators to get to know one another, and a shared community agreement that outlines the goals, norms, roles, and responsibilities of everyone in the class (Milman, 2021).

Summary.

Online instructors demonstrate excellence in creating meaningful engagement when they:

- Point out specific examples of how learning content is used in real-world settings.
- Integrate guest speakers, case studies, and other diverse professional experiences.
- Build on the conversations that happened asynchronously in forums, discussion posts, or knowledge checks.
- Utilize the tools within the live classroom such as breakout rooms to provide an environment for student collaboration.
- Create spaces and activities outside of the classroom for students to connect.
- Build group assignments that model real collaborations that occur in your industry.
- Create space to talk about personal and professional goals and experiences.
- Provide timely and actionable feedback on student work.
- Set expectations for two-way communication.

Target meaningful feedback.

Depending on the model of online instruction being used, the institution, the program of study, and even the type of course, online educators have varying degrees of autonomy over the design of their course. However, feedback is one aspect of teaching where most online educators have significant control. Effective online educators provide supportive and constructive feedback, encourage conversational feedback, and conduct in-the-moment assessments.

Providing supportive and constructive feedback.

The majority of research on providing student feedback contains two major themes: effective feedback is both supportive and constructive (Getzlaf et al., 2009; Ferguson, 2011; Singh, 2016). Supportive feedback that is not constructive often fails to promote learning while constructive feedback lacking a supportive tone often fails to motivate the student. To maximize the likelihood that students act on feedback that promotes their learning, both elements must be present.

Supportive feedback can be characterized as positive comments that encourage the student along their learning journey. Supportive feedback is directed towards the student's work or effort rather than the self (e.g., "I like how you supported your claim with evidence." versus "You're so smart!"). Research shows that the former leads to higher levels of achievement and may enhance self-efficacy in completing tasks (Hattie & Timperley, 2007; Nicol & Macfarlane-Dick, 2006). While the latter may provide pride in their work, it does not help students to advance learning.

The constructive portion of feedback targets areas in which the student can improve their output. The highest quality constructive feedback poses questions that promote metacognition, or an awareness of one's own thinking and learning, rather than providing suggestions that direct students what to do (e.g., "How did you arrive at this conclusion?" versus "Please support your claim with at least two pieces of evidence.") (Bjork, Dunlosky & Kornell, 2013). The first prompts students to consider why they took certain actions, which can lead them to arrive at how they might improve their work on their own, compared to the second which specifically tells them what corrective action to take. As with any feedback, it should be provided in a timely manner so that students have information to improve in advance of their next assignment.

Encouraging conversational feedback.

Many teachers think of feedback as flowing in only one direction–educator to student. However, feedback should be a conversation rather than a monologue. As noted above, the best kind of constructive feedback asks the student continual questions about their work. Those questions should not be rhetorical. They are an invitation to the student to begin a conversation about their learning and promote metacognitive action.

When engaging in conversational feedback, it is not enough to simply ask one question. An effective online educator is intentional about creating space for these conversations to occur and setting expectations. For example, if students do not have the opportunity to make revisions to their work based on feedback, they are less likely to engage with it. Requiring multiple drafts, or writing the essay in parts, is one way to create that space. Setting expectations is equally important. At the beginning of a course, the educator should

discuss the importance of feedback to learning, what quality feedback looks like, and the expectations for how students should engage with the feedback they receive. Because not all students have experience with these expectations, it may be helpful to require students to interact with the feedback by making observations or asking clarifying questions.

Conducting in-the-moment assessments.

For an online educator to properly support learning, they have to ascertain students' current level of understanding. The best way to accomplish this in a synchronous session is to elicit feedback by conducting an in-the-moment assessment. An in-the-moment-assessment could be an activity, such as a multiple-choice quiz or poll, designed to provide the educator with instant feedback related to student learning that can be used to inform instruction during a synchronous session. These assessments can be as simple as posing a question and asking for a show of hands, to as complex as having students solve a detailed problem or equation.

Pre-planned assessments can also elicit feedback about student understanding of asynchronous coursework. Whether graded or ungraded, simple knowledge checks administered before, during, or after content is delivered work well for instructors to gain insight into how much students understand at the start of a module compared to how much they have learned after. This insight can be used to provide additional feedback to students if needed or to determine if adjustments to the learning design should be made.

As with constructive feedback, not all in-the-moment or pre-planned assessments are created equal. The instructor should consider the design of the activity, when it is deployed, whether students are required to participate, if responses are anonymous, and how results are shared, to evaluate the effectiveness of the assessment. The ultimate success of the assessment, however, is determined by the extent to which the data is used to improve teaching and learning. Understanding what students know and what they do not know is critical to being able to deliver effective instruction that is engaging, supportive, and timely.

Summary.

Online educators demonstrate excellence in targeting timely feedback when they:

- Provide feedback in a timely manner so students can make improvements on the next assignment.
- Offer constructive, yet positive feedback that promotes deeper understanding and guidance towards change rather than just compliments.
- Set expectations around the importance of feedback and how to engage with it.
- Deploy timely formative assessments to measure students' current understanding.

Self-evaluate your impact.

One of the most important qualities of effective online educators is their consistent self-evaluation by assessing their teaching practice. Effective online educators take the time to reflect on how they are doing on all points of the IMPACTS principles and make improvements accordingly. Self-evaluation is a process of critical reflection, increasing pedagogical skill, and building self-efficacy.

Critically reflect on teaching practice.

Effective online educators prioritize time to reflect on their teaching in a critical way by asking questions of themselves, their engagement strategies, and their learning goals. As Cranton (1996) explains: “In order to understand the process, we need to observe what we do, critically question ourselves, and reflect on our actions within their context” (p. 19). Part of emancipatory learning discussed in an earlier part of the principles, is the educator’s ability to free themselves from the constraints of what they think they know. Effective online educators accept that their best practices may not actually be the best. It is this humble act of knowing there is always room for growth that sets effective online educators apart from the rest.

In order to transform teaching practices, effective online educators must undergo a continual process of self-reflection on performance and examine the impact it made on students. Educators learn about their practice by reviewing what teaching approach worked or did not work, then deciding what changes to make the next time. This iterative process sometimes occurs during synchronous sessions, or when reviewing asynchronous responses, since very often teachers get the impression in-the-moment that something is not working. As Cranton (1996) explains, “Reflection could be, for different people, unarticulated intuitions, a detailed review of an experience, a logical analysis, or an evaluation of feelings” (p. 78). This learning during experience helps educators to question their teaching techniques and think critically about their own improvement, much like the continual assessment they do with students. Most often, self-reflection occurs at the end of a term when educators can take time to critically reflect on the entirety of the course and make larger changes to its design or their individual lesson plans.

Increasing pedagogical skill.

The need for educators to engage in professional development activities cannot be overstated. Higher education faculty consistently report increases in their knowledge about differentiated instructional practices, awareness of student needs, and a positive attitude towards teaching after completing professional development (Ebert-May et al., 2011; Wynants & Dennis, 2017). Additionally, research shows

that instructors who attended training and development about online education specifically, positively impacted student learning (Baran et al., 2011; Brinkley-Etzkorn, 2018). Many educators also claim increased motivation to improve their teaching after completing professional development (Owen et al., 2018). This motivation assists educators in expanding their personal, social, and emotional growth as well (Avidav, 2000). Online educators who participate in training and development specifically about technology use report gains in student learning overall (Gerard et al., 2011).

Increasing pedagogical skill can also be self-directed as educators gain resources and ideas from other teachers, conduct their own online research, or engage in collective learning spaces such as professional communities of practice or informal sites of inquiry. In these cases, effective online educators seek out novel instructional techniques, experiment with students, and assess their continual use with their peers. Once educators have undergone this process they have more confidence to improve their instructional practices. Continual professional development has been shown to increase positive belief in teaching abilities (Richter & Idleman, 2017).

Building self-efficacy.

Self-efficacy is a person's belief in their ability to exert control over their situation enough to make the changes necessary to be successful. Bandura (1977) simply explained self-efficacy as "how well one can execute courses of action required to deal with prospective situations." The effective online educator exhibits a high self-efficacy in their belief of their own ability to help students achieve learning objectives and inspire lifelong learning. Research shows that online educators have more self-efficacy when they are satisfied with online teaching, have a desire to continue in the medium, and perceive student learning is equal to that of traditional educational models (Horvitz et al., 2014.). Effective online educators demonstrate their self-efficacy by changing pedagogical practices for the better, often after completing professional development.

The ability to recognize a pedagogical challenge and adjust in the moment to increase student learning is a skill that comes from professional development, practice, and experience. Building self-efficacy can be an arduous task but the benefits pay off when an educator has the confidence to try out new instructional practices. This helps to inspire students to adjust their thinking in the moment as well and display a growth mindset. As Dweck (2015) states, "In a growth mindset, people believe that their most basic abilities can be developed through dedication and hard work—brains and talent are just the starting point." Effective online educators also exhibit a growth mindset by continuously developing their own expertise and skill mastery (Rubin et al., 2019; Richardson et al., 2020; Aragon et al., 2018; Dweck, 2006). Educators who exemplify a growth mindset are more likely to accept challenges, value hard work, and persevere when facing

adversity (Rubin et al., 2019). Such qualities are vital for lifelong learning, in both instructors and students. Therefore, effective online educators can inspire their students by modeling and cultivating a growth mindset in the classroom.

Learning about teaching is a robust combination of continual professional development, participation in communities of inquiry, practicing self-reflection, and working to transform pedagogy. Ultimately, these steps are about educators becoming a researcher on their own practice. Taking time to reflect and become aware of assumptions, questioning those assumptions, and revising perspectives, is an essential process of transforming teaching practice to improve in the work of educating others (Cranton, 1996).

Summary.

Online educators demonstrate excellence in self-evaluation when they:

- Develop a personal process for reflection and improvement.
- Assess performance by engaging colleagues and students in feedback.
- Continually iterate lesson plans and learning outcomes as needed.
- Seek out and attend professional development opportunities.
- Subscribe to industry publications and newsletters to keep abreast of the latest pedagogical advancements in online education.
- Join a community of practice and engage in discussions with other online educators.
- Take advantage of new training opportunities and practice with technology.
- Try out advanced teaching tactics and learn from failures.
- Look for ways to challenge yourself and your students each term.

Teaching with 2U.

2U aligns services to support each aspect of the Educator IMPACTS Principles by working closely with educators throughout their online teaching journey. From strategy on course creation in our learning management systems, to training on the specific technology they will be required to use, to ongoing support and professional development, 2U consistently supports educators to continually build their competence and confidence in online education. Our goal is to help online instructors create a seamless and positive online learning experience by providing continuous, just-in-time training and support to assist with technical and practical knowledge. In addition, we provide professional development and informal collaborations to gain emancipatory knowledge in areas such as: student motivation and engagement, inclusion and belonging, organization and lesson planning, and feedback and assessment. Using technology in the service of pedagogy and andragogy, 2U emboldens instructors to make the best use of online teaching tools to achieve positive student outcomes.

Conclusion.

Effective teaching is rooted in generating positive student outcomes and requires instructors to operate under a variety of roles, rather than simply performing as a disseminator of knowledge. The instructor who recognizes and cultivates these roles will be a lighthouse for students along their learning journey. The seven attributes identified in 2U's Educator IMPACTS Principles are by no means exhaustive, but serve as a bedrock for which online instructors at 2U can build upon.

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