Qualifier Question

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What is flipped learning? What is blended learning? Give your opinion on which of these would be best applied to technical fields and non-technical fields.

Flipped and blended learning are modern teaching strategies that combine digital learning with in-class sessions. Both are widely used by educators; however they are used by and best fit different fields of study. In this writing, flipped and blended learning are introduced, then they are considered for which best applies to technical and non-technical fields.

Definitions

Flipped learning reverses the activities that typically take place in the classroom and at home: instruction takes place individually outside of the classroom, and group time is an interactive session where the concepts are applied and engaged. This means that the learner is responsible for familiarizing themselves with concepts on their own time. According to Network (2014), there are four pillars that must be followed to elevate from having a flipped classroom to a fully flipped learning approach: "flexible environment", "learning culture", "intentional content", and "professional educator". Essentially, they must focus the group time on providing collaborative learning moments as opposed to lecturing. Morgan (2014) credits Jonathan Bergman and Aaron Sams in 2007 with introducing the method. Most of the benefit is claimed to be with letting learners "work at an appropriate pace" (Morgan 2014) and provide direct feedback to the students while applying the materials. This also helps to ensure that learners don't fall behind. Flipped learning takes the traditional concepts of "homework" and "classwork" and flips them on their heads.

For educators, flipped learning is credited with "allowing colleagues to learn from each other" (Morgan 2014). It also is said to help reduce costs, since it removes the dependencies on textbooks (Morgan 2014), replacing them with free or cheap online materials. Many instructors state their reason for not attempting other approaches is the amount of required preparation time compared to lectures (Roach 2014). Flipped learning frequently means instructors recording their lectures ahead of time and making them available in an online course library. However, this investment represents reusable effort that can help the educator focus on interactive time with the student outside of the lecture. Combined with leveraging creative materials from colleagues, flipped learning may just be the answer needed for educators to see benefits typically achieved by low student to teacher ratios (Roach 2014).

Blended learning is "to blend text-based asynchronous Internet technology with face-to-face learning" (Garrison and Kanuka 2004). Put differently, it "combines multiple delivery media" (Singh 2003) to create a more convenient learning environment that matches learners needs. This is distinct from fully online courses, as there is some component of in-person learning activity that is taking place. It allows for complementary learning environments to exist: self-paced online and in person "verbally quick" (Garrison and Kanuka 2004) conversations. Blended learning also is an opportunity for teachers to introduce "more active and meaningful learning activities" (Garrison and Kanuka 2004). To the learner, it's a combination of many different learning approaches to help them learn in more intuitive ways.

For educators, blended learning challenges their traditional course design. Policies must exist even before this to support the tools necessary for blended learning. Blended learning also challenges educators by introducing unstructured learning, like hallway conversations or e-mails; incorporating these into knowledge repositories challenges educators differently from their typical responsibilities (Singh 2003). Complex support systems must also be in place, since the online tools don't end at the lecture: they may also include group activities, discussions, and peer reviews. Institutions and educators need specialized capabilities to facilitate this sort of learning. Blended learning forces educators to consider many different learning venues.

Technical fields are those that pertain to computers and technology. Examples include engineering, IT, data analysis, nursing, and accounting. These fields tend to require a deep subject knowledge in a core area. They also often interact with computers on a daily basis, and frequently they have some component of analysis and report writing needed for their work.

Non-technical fields are those that don't center on the use of computers and technology. Instead, these tend to depend on interpersonal and communication skills. This includes fields like journalism, communications, project management, sales, and music. Other necessary skills may include things like broad knowledge in design, literature, and economics. Instruction for these fields tends to heavily rely on tangible, real-world examples and applications.

Applications in Technical and Non-Technical Fields

Blended learning is best applied to technical fields because it fosters written word and problem solving. Blended learning's use of collaborative online media helps by "encouraging reflection and precision of expression" (Garrison and Kanuka 2004). This reinforces problem solving and critical thinking skills, which are often needed in technical fields. Literature suggests successful application of these techniques in training technical professionals (Garrison and Kanuka 2004). Course materials for engineering typically depend on computer models, so it is natural to move these activities to digital. Online forums and peer review systems also prove to be low hanging fruit to help enhance a sense of community. Blended learning proves to be a good fit for technical fields.

There are many examples today where blended learning is used in engineering fields, such as for computer engineering (Yigit et al. 2014). Problem based learning is one of the stated learning techniques (Roach 2014). In many technical fields however, these occur on an individual basis: whether it's working on laboratory reports or creating case studies. Even more critically, these activities often become part of the familiarization process rather than a response to a lecture. For these reasons, blended learning is more fitting than flipped learning.

Flipped learning is best applied to non-technical fields. This best builds the communication skills needed for this sort of work. Some specific examples were given where flipped learning was employed in business school (Roach 2014), which let students learn at their own pace while still participating in in-class discussion, workshops, and projects. Journalism tech students looking to learn generalized data-anlysis skills also found success with this model; the authors attribute success due to watching lectures prior to "in-person ... direct discussion and collaborative, peer-learning techniques" (McGregor 2015). This is in part due to these students looking to ground skills to concrete tasks from their previous work (McGregor 2015); abstract learning posed a unique challenge for these learners, and face-to-face interaction with peers who had similar learnings proved valuable.

Examples of flipped learning in use tend to be for core topics, non-technical fields, and K-12 education. Learners can still progress at their own rate however they benefit from the face-to-face interactions necessary. While there are some examples of blended learning in these areas (Singh 2003), frequently they begin and end with lectures being put online. In these cases, the remainder of the learning, like group discussion, take place in the classroom. This is in fact closer to the activities of flipped learning, and as such

flipped learning is actually the better fit.

Ultimately, blended and flipped learning are similar, and the instructional methods exist on a continuum. Blended learning materials encountered for this writing largely focused on higher education, whereas flipped learning focused on K-12, trade school, and professional training. While blended learning is suggested for technical fields and flipped learning is suggested for non-technical fields, either may be effectively utilized assuming the materials and policies are in place to support them.

References

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