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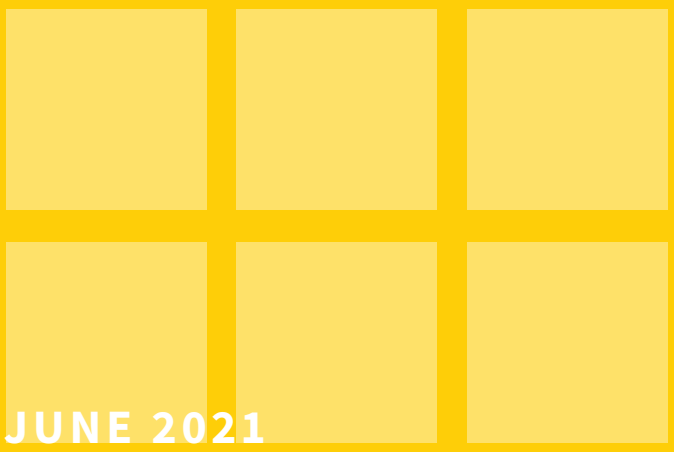
Business Education Disrupted: An Opportunity for Redesign



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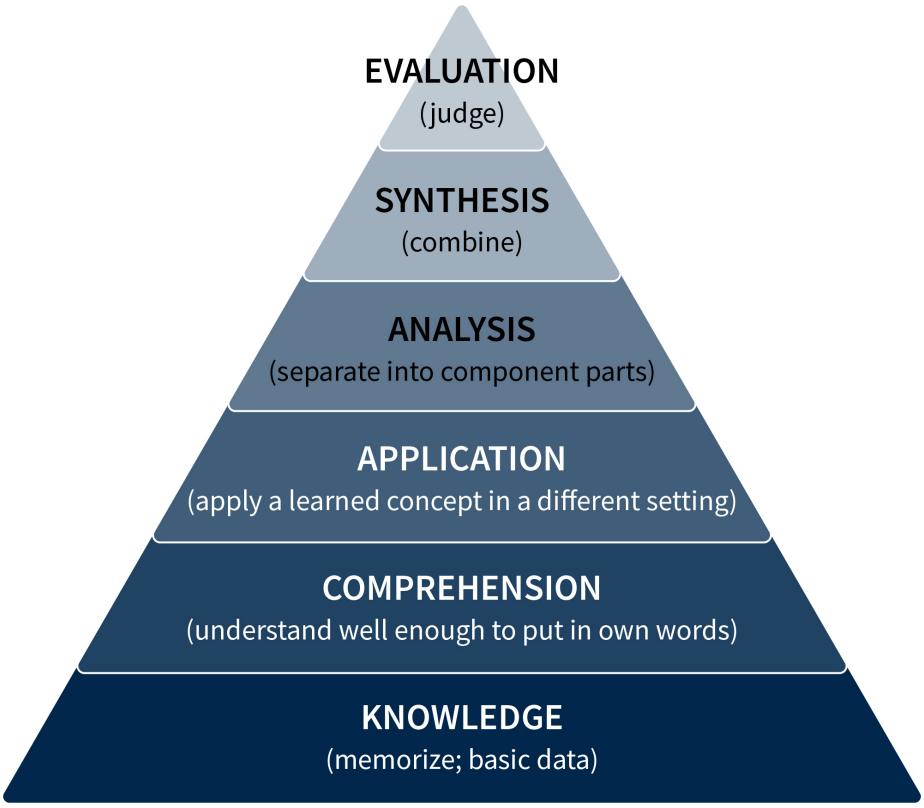
Introduction

COVID-19 hastened the transformation that was already underway in business education. Instructors have tested new methods and tools in a time of emergency transition to online learning. How might we adapt business education to better suit the needs of a fast-changing, post-Covid world?

Education, as a form of communication, can take place in a variety of ways: synchronously, asynchronously, video, audio, in person, in group settings, one on one. Each of these modes has its place. But is there a systematic approach we can use to determine which mode would be most effective in a given situation? We believe there is, and that it draws on a framework developed over 60 years ago: Bloom's taxonomy. While this framework can be applied to almost all of the choices an educator makes, in this article we focus on its application in three types of teaching: asynchronous (online), synchronous but online versus in-person, and in-person.

Bloom's taxonomy:



In 1956, Benjamin Bloom and his colleagues created a hierarchy of cognitive skills to promote higher forms of thinking and learning. Bloom's taxonomy has been widely used for course planning and assessment—it was designed in part to make it "easier to plan learning experiences."[1] The taxonomy builds on itself as one moves up the pyramid. The skills developed in "analysis and synthesis," for instance, build on and depend on the knowledge gained at the base levels. We believe that Bloom's concept of the different levels of complexity of skills and thinking can be used to guide decisions about the communication approach to use (e.g., asynchronous, in-person, etc.).

1 Bloom, et al. 1956, p 12

In our present discussion, we are limiting ourselves to three options: asynchronous, synchronous but not in-person, and in-person. The question to address in designing a course is which approach is the lowest-cost method of teaching the material. The answer to that is more complex than would first appear. Consider the choice between two of the options we are considering: asynchronous vs. in-person. The most obvious answer is that the asynchronous option is lower cost (here, the term "cost" includes any pecuniary or non-pecuniary costs such as time or convenience). Asynchronous delivery might be expected to be lower cost because there is a very low cost of delivering content once it is developed. Further, the recipient can choose a time and place that is most convenient, and thus the cost of receiving the information is lower. However, some topics that could be taught through a series of videos or written material could be taught much more quickly—and at a lower total cost—in-person where the instructor can address students' questions in real time and can evaluate students' reactions and adjust their teaching accordingly.

In some cases, it may be nearly impossible to teach something asynchronously. Think here about situations where immediate feedback would be beneficial or even necessary. In management education, an example would be a simulated negotiation. That would entail quite a bit of back and forth with the party with whom one is negotiating. Having an instructor on hand in real time to comment and facilitate a course correction would be invaluable. The lowest-cost method of teaching is thus going to be a function of the type of information being transferred. That is where Bloom's taxonomy comes in. Understanding the complexity of the information to be transferred—where Bloom's taxonomy can be used as a proxy—and combining that with an understanding of timing can guide the optimal method of instruction.

Asynchronous instruction

Knowledge, the base level in Bloom's taxonomy, entails basic facts to learn and recall and is a one-way transfer of information. "Distance learning" at this level dates back centuries—at least to Gutenberg's 15th Century printing press, which brought about widespread distribution of books. Since the 1990s, the Internet has engendered online learning, giving us the ability to serve content online in the form of text, audio and video. While the online experience may be more engaging and entertaining than the static, no-frills book, the bottom line is the same: information is flowing in a single direction from the source to the student.

Assessment requires information flowing back in the other direction and can be achieved online, asynchronously. For example, online quizzes can follow instructional videos for asynchronous assessment. This works as long as the benefits of real-time interaction, such as observing the reaction of the student to question and clarify in real time, are relatively low. Many lectures fall in this category, with no opportunity for questioning or other information sharing flowing in the direction of the instructor.

In an age when we can capture on video the most dynamic instructors delivering information—engaging students so information is more likely to stick—the benefits to in-person lectures are limited. From an administrative perspective, in-person lectures are costly. From a learning perspective, they leave a lot to chance. A given instructor may not offer the optimal delivery of the content. Further, when replaying class lecture, students may re-watch parts they did not understand or use it to review content for an exam.

Synchronous but not in-person instruction

Comprehension may also be accomplished at some level asynchronously. However, it is more likely that including some synchronous elements will allow the student to reach comprehension at a lower cost than relying solely on asynchronous. Concepts introduced by videos that student watched on their own time (asynchronous learning) can be further developed in a synchronous discussion with some questions that simultaneously cover the information in the video and compel the students to confront questions they may not have absorbed when learning on their own. Asynchronous online discussion forums can also be used, with curation from the instructor.

Will a course that blends synchronous or asynchronous be the most cost effective? The answer will vary. For some concepts, an exclusively asynchronous format may be sufficient and less costly because people do not need to coordinate schedules. Indeed, for students that benefit from being able to process information over a longer period of time, the asynchronous option spread over days could be preferable. However, for other concepts, the amount of explaining and the need to ask clarifying questions will result in the inclusion of a synchronous component being preferable.

With recent advancements in technology, many synchronous activities can now be accomplished online and do not require in-person interaction. Tech-savvy instructors can often lead discussions as effectively online, using a platform like Zoom, as in a classroom. Sending students into breakout sessions for peer-to-peer discussions works effectively with features like Zoom breakout rooms. These can actually be more efficient than their in-person analogues because with a tap of the mouse, students can be automatically assigned to their rooms. No need to collect backpacks and figure out where the breakout room is located!

In-person instruction

Within almost every class, invariably topics will emerge that require more nuance in their application. Consider again, a class on negotiations. This is typically taught by introducing some basic concepts in lecture style. These concepts can be taught online, asynchronously. But at the heart of the negotiations course is in the application, the third layer of Bloom's taxonomy: the simulations whereby students each receive a sheet of paper detailing their role in a negotiation and work with classmates to conduct the negotiation. They then debrief on their experience as a class and distill learnings, tying them back to the concepts taught. Can this entire experience be moved online with no loss in learning?

Yes and no. Yes, in that the negotiations can take place online—that can happen synchronously or asynchronously. Many negotiations take place fully online, so this is actually good practice for "the real world." However, many negotiations take place in-person and being able to practice reading and controlling body language is surely useful. In other words, the best training in how to conduct an in-person negotiation is to actually do so. Therefore, if we were building a negotiations course from scratch now, we would move everything related to memorizing and understanding basic concepts to online instruction and incorporate both online and in-person elements for applying the content.

As we move up Bloom's taxonomy, the likelihood that in-person interactions will be the most cost-effective option increases. Consider teaching the ability to analyze—break into component parts, in Bloom's terms—a manufacturing plant. The director of a plant could lecture on how operations are structured there. That could take place in-person or online. The plant director however, would be presenting his or her view of how the plant operates, perhaps neglecting to take into account his or her existing knowledge. There are at least two important implications of this. First, much relevant information may be omitted, not deliberately, but because it is part of the director's tacit knowledge and thus not recognized as something that needs to be taught. The students' ability to observe the plant will result in learning that can't take place by hearing from someone else. Second, the director may assume things are happening in the operation based on embedded history, a historical database that may no longer reflect reality. Students with fresh eyes might 'see' the reality in a given situation more accurately than the experienced director.

For similar reasons, synthesis and judgement (the top levels of Bloom's taxonomy) are going to benefit from increased in-person interactions. Our experience with action-based learning over the past 20 years—with the last year and half being online—confirms this. Much can be accomplished asynchronously or remotely. However, there is no substitute for observing practices in person.

Concluding remarks

The application of Bloom's taxonomy extends well beyond formal business education to imparting business knowledge in the real world. Accountants "teach" managers about the actual expenditures relative to budgets. A team of engineers developing a new product are "teaching" each other about their experiences, knowledge and perspective so that they can collectively arrive at an improved product. Managers "teach" direct reports how to do those aspects of their job they might not be familiar with and how to improve based on an evaluation of their performance. Indeed, there is extensive literature on the application of information flow analysis to organizational structures. [2]As the line between management education and business continues to blur, the tools used for each will become increasingly interchangeable. Bloom's taxonomy is a tool that belongs in both the management educator's and the businessperson's toolbox.

The Covid-19 pandemic sped up changes already taking place in management education. Of necessity, even those universities that were late adapters had to adopt online education. As instructors consider how best to move forward in their course design, we are likely to see much more integration of technology. Bloom's taxonomy offers a helpful way to guide their planning.

2 Clyde 2015; Azoulay 2004, Kogut and Zander 2003 also discuss the relationship between organizational choice and complexity of information flows.

References

Azoulay, Pierre. 2004. Capturing knowledge within and across firm boundaries: Evidence from clinical development. *American Economic Review 94* (5) (December 2004): 1591-612.

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R.. 1956. *Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain* New York, Longmans, Green.

Clyde, Paul. 2015. Information flow analysis and the theory of the firm. *Managerial and Decision Economics* 36 (6) (Sep 2015): 384-400.

Kogut, B., and U. Zander. 2003. Knowledge of the firm and the evolutionary theory of the multinational corporation. *Journal of International Business Studies* 34 (6) (November 2003): 516-29.

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