



THE DELIVERY MODE HEURISTIC: A REFLECTIVE TOOL FOR DECISION MAKERS

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This article argues that in an age of ever increasing digital instructional possibilities decision makers need a generic and accessible tool to help them sort through the myriad of delivery modes at their disposal. We share the Delivery Mode Heuristic (DMH) that provides an overview of the spectrum of delivery modes available, addresses factors that need to be considered when making delivery mode choices, and provides practical scaffolding to facilitate the decision making process.

Keywords: Delivery modes, Online learning, Blended learning, Heuristic.

Introduction

Imagine yourself as Director of Educational Services at a school district office, or as a teacher in a classroom 50 years ago. You are planning a course and considering how it should be delivered. You may or may not realize that your options are, in fact, quite limited. You could experiment and set up an apprenticeship program in the community, or try a correspondence course delivery style. Television and radio education are also possible delivery modes, but not really accessible to most organizations. In all likelihood, you would end up teaching in a conventional classroom setting.

Now picture yourself planning the same course today. As a result of the explosion of technology and information over the last 15-20 years, the same Director or teacher has a plethora of options. There are still apprenticeship programs, correspondence courses and brick and mortar classrooms, but with digital technology and the Internet, even they look very different now. What makes matters more interesting is the possibility to mix and match delivery modes. So how does one decide on the optimal delivery mode for a course or program? What are the factors that need to be evaluated before deciding on a course of action? Keeping in mind that no one size fits all situations or all learners, where does one start? What are the factors that need to be evaluated before deciding on a course of action? And how should things unfold over time?

The goal of this article is to help educational and other decision makers make sound decisions when faced with selecting instructional delivery modes in an age of rapidly increasing technological possibilities. We use the broad term “delivery mode” to refer to the general process that instruction is provided to learners. It includes everything from face-to-face instruction and all its permutations to a wide range of print and digital possibilities. We acknowledge the awkwardness of the term, that is, the implication of a one-way direction instruction that is not consistent with the complex, relational and changing nature of most instructional contexts (Stewart, 2003). For the purposes of this paper, however, we will use it as it is well recognized in the field. Our definition of the term instruction is broad as well and refers to “any directive that elicits activity and development as the reorganization of consciousness

through activity” (Vygotsky, 1978). In other words, any intentional instructional act that leads to learning is understood as instruction. This includes the setting up of conditions for learning at one end of the instructional spectrum to conditions that are characterized by close and frequent feedback by one or many instructors and peers at the other.

Next we address why we believe educators need more support selecting appropriate delivery modes. Then we share a reflective tool we developed and named the Deliver Mode Heuristic (DMH) that we maintain will make the process of selecting and using instructional delivery modes more effective and pleasant than it is now. Finally we will address some final thoughts and future directions of this work

Rationale

Michael’s Experiences in the Field

Over the last ten years Michael Canuel (first author) has served as the CEO of Leading English Education and Resource Network (LEARN), a nonprofit education association in Quebec, Canada that provides a wide range of educational resources to the English educational community within our province and beyond. While LEARN has a reputation for being a leader in educational technology integration, it is sound pedagogical support more broadly, not technology per se, that is the focus of its work. Michael also serves as the Chair of the Board of Directors of Can E-LEARN, a society that provides leadership to champion success in online and blended learning across Canada, and is a doctoral candidate at Northcentral University. In performing these duties Michael has travelled extensively to educational and business locales in the province of Quebec, across the Canada and internationally. Although individuals and contexts are different, when it comes to talking about and deciding on why and how to integrate technology into instructional contexts, a recurring picture has emerged, and that is that decision makers (educators or other policy makers) often show unease and confusion, with many asking for guidance in this area. When sharing these experiences with Mary Stewart (second author) he recounted, with great expression:

In so many places I hear, “Michael, I really want to get into online instruction with our board (or business, or Ministry).” But when I ask why, so often the answer is, “We want to bring our board up to speed with the 21st century.” It seems there is this hope and expectation that technology will answer their needs, even if they are not able to articulate what those needs are. And for those who are further along on the process, they want help in fine-tuning their work, a kind of roadmap to help integrate technology into their instructional planning without angst, or at least not too much of it.

Michael’s response to this recurring story has changed over time. At first intuitively, and then more consciously, he realized that there was a handful of considerations needing to be addressed across all contexts, and with a logical sequence to at least some of them. He saw too that he was suggesting ways to frame and address each of the necessary considerations, and was giving many of the same suggestions to everyone. He began to make deliberate use of this evolving framework, and when he did he noticed that conversations seemed to have more clarity and ease than they did previously. He felt a need for more explicitness with himself and others though, so began to write and read more widely on the topic. He also invited Mary Stewart (second author) to work with him. Mary’s extensive teaching background, her current work as Managing Editor of LEARN’s online open access peer-reviewed education journal, and her doctoral and subsequent work on instruction positioned her well to help refine this framework.

Literature Review

The literature on delivery mode selection in the digital age is plentiful and recent. Many studies are comparative (online versus face-to-face instruction, for example) and use test results and/or survey

findings to show results. One of the limitations of this type of research is that it fails to get at what specific teaching and learning processes are actually occurring. When delivery modes are broadly described rather than analyzed more deeply the reader is not equipped to fully understand what learning transpires and is therefore unable to learn a great deal from them. This work also fails to account for and address the many other variables at play in any instructional scenario.

Some studies do explore one or more features of delivery modes more deeply, however, such as, instructional delivery time (Overbaugh & Nickel, 2011). Other studies focus on one particular context in great depth such as Burke's work on hematology education for medical personnel using digital resources (2012). While such specific research is not generalizable in the quantitative sense, readers often find a resonance, or certain transferability in this work (Donmoyer, 1990). The value and applicability to broader contexts is real, particularly when studied alongside other work that identifies and interprets themes across contexts (Butler-Kisber, 2010). At present, however, a handy, generic tool that is accessible to all decision makers, to be used alone or alongside other research, directly or indirectly, is lacking.

Then there are places where quite general guiding questions are posted to help decision makers, but further scaffolding is not. An example where this sort of help can be found is on university web sites geared to instructors. The problem with this kind of work for our purposes became evident when sharing an early draft of our own guiding questions with a business colleague, whose immediate response was, "Where are the answers?" Without wanting to become overly prescriptive, we realized that the additional and much appreciated informal scaffolding Michael provided in person needed to be part of our heuristic, particularly perhaps, when supporting educators outside of typical academic settings.

In our review of the literature we did find extensive and detailed information about delivery modes, usually within densely written articles or books, and often accompanied by cryptic graphics. (One illustration looked more like an electronic circuit board than a helpful heuristic.) This work, while valuable to some, is not geared to busy decision makers who want to incorporate the expertise of others without being bogged down trying to assimilate more than necessary for their needs. We next turned to wedding and financial planning tools for guidance because they share some similar characteristics to what we felt was needed. Some were helpful in guiding our work, whereas others, as many brides will attest, simply overwhelmed.

The burgeoning literature on instructional delivery modes in the digital age is the focus of this review, however it must be noted that instruction, delivered with or without the support of digital resources, is a vast field that needs to be acknowledged. Our work is grounded in a social constructivist understanding of teaching and learning that incorporates the work of Dewey (1916), Lave and Wenger (1991) and Vygotsky (1978), among many others. The need to align research on delivery modes with existing theories of teaching and learning is important, especially to those that recognize the critical role that broad social and cultural factors play in the orchestration and meaning of instruction. However, when dealing with decision makers outside of the educational arena who are not likely to be well versed in educational terminology, the use of plain language is paramount.

As shared earlier, the need for some kind of delivery mode heuristic "bubbled up" over a span of years. A perusal of the literature validated this belief and helped to further shape the tool's nature and form by gradually revealing needed properties. We learned the importance providing enough but not too much scaffolding, of accounting for the individual, social and cultural context of teaching and learning, of offering an appealing and adaptive reflective tool that, while generic and accessible, encouraged a deep study of particular needs. All this contributed to how and why we came to develop the delivery mode heuristic (DMH).

The DMH

The delivery mode heuristic includes three parts. The first is an overview of the wide **Delivery Mode Spectrum**. Such overviews can be found elsewhere in greater detail, however, the one we provide is appropriate for our purposes and provides a needed background for parts two and three that we present

together. Parts two and three are the heart of our reflective tool and can stand alone if decision makers already have a good understanding of the spectrum of instructional delivery mode options. Part two is called **Considerations**. It shares seven key factors (goal, budget, organizational readiness, learner profile, teacher profile, time and space) to address when making delivery mode choices and directs action in one of more areas. Part three is called **Notes**. It is a short list of implications and/or deeper reflections, and follows each of the seven key factors. Notes is rooted in the many different, yet similar, informal conversations that Michael has had in the field.

Part One: Delivery Mode Spectrum

As digital delivery modes become more common there is a tendency to differentiate instruction with such terms as face-to-face, online and blended instruction. Such wide-sweeping categorizations do not reflect the many permutations and combinations that exist. With face-to-face instruction, for example, one to many, many to one, peer coaching and mentoring, are just some variations that can have different instructional objectives, processes and outcomes. The same is true when referring to online delivery that can be synchronous or asynchronous. Blended learning has at least six different variants. To complicate things further, delivery modes can be classified in varying ways. While we have not done so here, some schemas classify virtual delivery modes as a form of face-to-face instruction, for example. The issue that is core to our heuristic is to get beyond surface classifications when selecting from the many instructional delivery mode possibilities to ensure the best match to needs.

DELIVERY MODE SPECTRUM

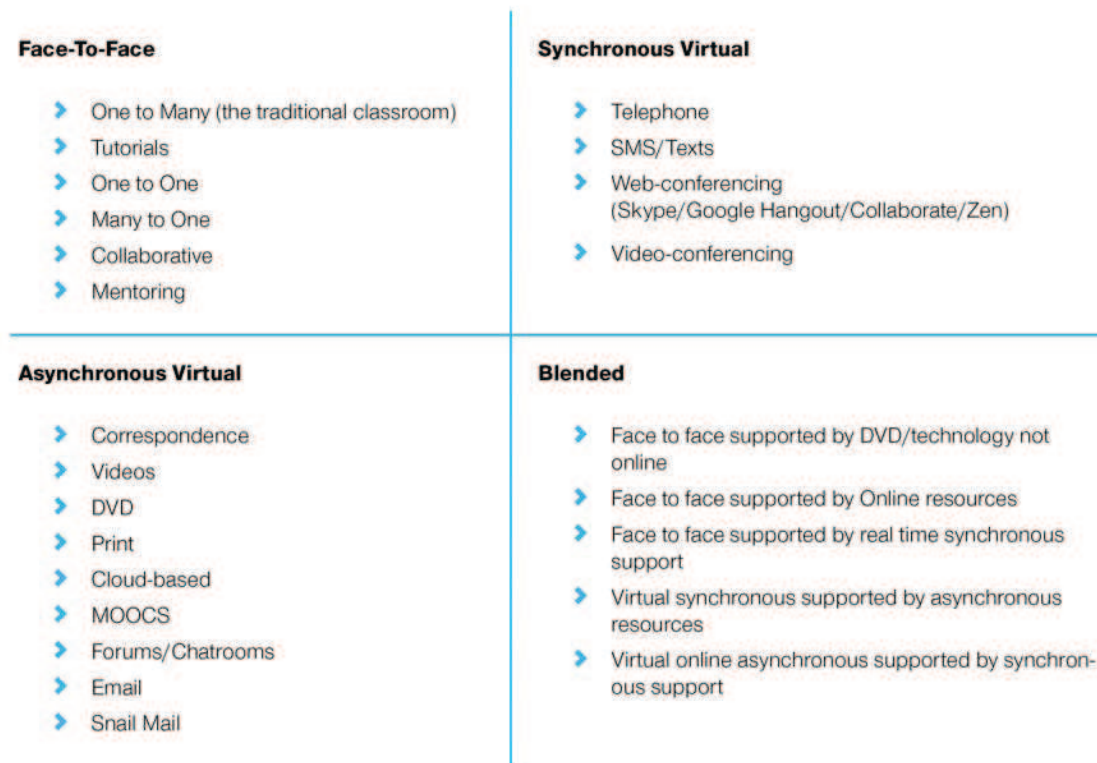


Figure 1. Delivery Mode Spectrum

Parts Two and Three: Considerations and Notes

First we share the heart of the DMH by first presenting an overview of all seven Considerations (see Figure 2 below). Next we share each Consideration (Goal, for example) with its respective Notes section, followed by a brief discussion before progressing to the next Consideration (Budget, for example).

DELIVERY MODE HEURISTIC (DMH)

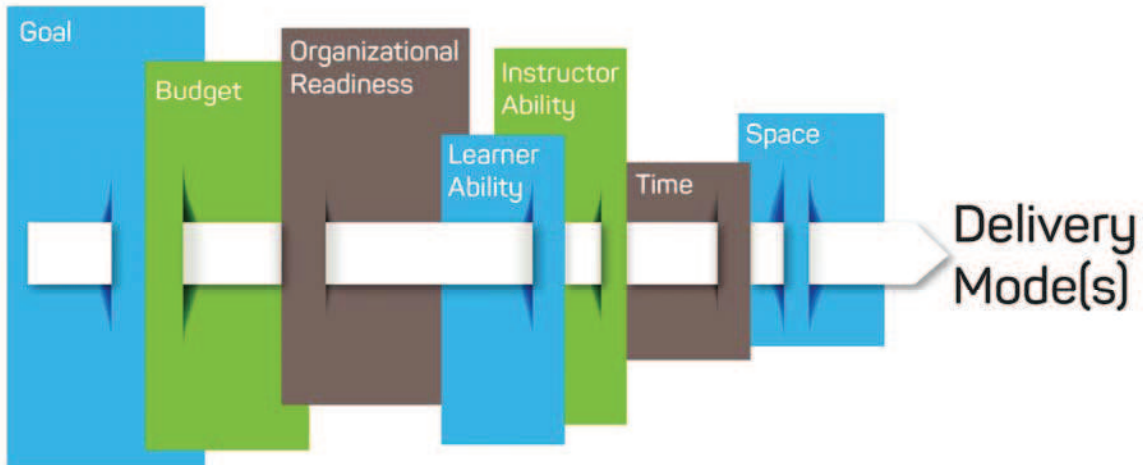
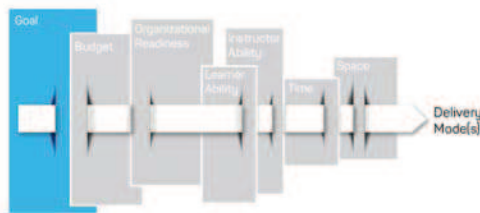


Figure 2. The Delivery Mode Heuristic (DMH)

GOAL



Considerations.

- Determine your ultimate goal
- Identify indicators of reaching your goal (what success will look like in very specific terms)
- Identify what instructional components are needed to meet the goal
- Determine where needed instruction is individual, guided or social

Notes.

- Individual learning: all DM can be used but asynchronous may be cheaper and easier (books, podcasts, web sites, lectures, articles in online journals etc.)
- Guided learning: instructor feedback is needed; how often and how "close" determine possible DM (face-to-face, synchronous teaching, snail mail, emails, remarks on papers are all theoretically possible)
- Social learning: a group is needed to learn from and with others (face-to-face, synchronous or asynchronous); immersion in authentic learning situations is often important

Figure 3. Goal

The goal is the first consideration. It is possibly the most difficult to work through because it requires careful thinking through three steps, but is essential groundwork for what follows. First, one must identify the end goal. Next, one must identify the evidence that will be used to show successful goal attainment, in other words, what success will look like. Finally one must determine possible instructional delivery modes. An example of lifeguard training program demonstrates these steps. If the goal is to ensure that lifeguard candidates at a town pool are prepared to save lives by meeting National Lifeguard tests, the criteria for meeting this goal needs to be established before making instructional decisions. In this case criteria for success would likely include an ability to demonstrate power and endurance in the water, an ability to react appropriately during simulations in and out of water, and an understanding of human anatomy, physiology and pool maintenance procedures and standards. Building on the above, instruction would, at minimum, need to include poolside coaching of swim skills, guided class experiences with rescue simulations followed by debriefing, and content delivered on the topic of human anatomy, physiology and pool maintenance.

Once evidence for reaching a goal is clearly stated, it is necessary to determine appropriate instruction. It is also helpful to move one's thinking for a time from a descriptive to a conceptual level to ensure a deep and shared understanding of instructional processes. As the Delivery Mode Spectrum shows (Part One), there is a great deal of new terminology in the field and endless ways it is represented, as some modes overlap and individuals use a multitude of frameworks and terms to represent their work. The need to understand fundamental instructional characteristics is perhaps more difficult and important than ever. General terms such as online teaching, lectures, direct instruction and flipped classrooms conjure up ideas of instructional processes that may or may not reflect what actually transpires in a particular instructional setting, or align with what others understand to be happening. A lecture delivered without much awareness of one's audience, for example, is considerably different from one tailored to what the instructor gleaned from student assignments submitted the previous week and since evaluated. In the first scenario, information is delivered to learners individually, even if students are all together in a university auditorium. The fundamental learning process is similar to accessing a podcast (the recorded lecture, in this instance) and should be thought of this way when choosing appropriate delivery mode options. In the second example, however, the lecture is closer to and shares some characteristics of guided learning, meaning that it takes into account learner progress, and tries to teach what they are ready to learn next based on previous feedback. Asynchronous instruction in this case would only be a suitable substitute if it could be designed and uploaded after the instructor had evaluated student assignments submitted following his previous lecture. This caveat has obvious time implications and shows the importance of moving past buzzwords, and even common descriptive words such as "lecture", so that decision makers are able to make sound instructional decisions.

The nature of learning and instruction has been and continues to be analyzed deeply and through many lenses (Stewart, 2003). For the purpose of choosing effective delivery modes we suggest that decision makers simply think of instruction as individual, guided, or socially situated. Returning to the example of lifeguard training, some instruction needs to be **socially situated** (Lave and Wenger, 1991) that is, take place in a social setting where students can interact and learn from and with each other. More specifically, students need to engage in and then reflect on a range of group rescue situations. Instruction also needs to be **guided** (Vygotsky, 1978), that is, an instructor needs to provide moment-to-moment feedback to students so that they can improve their lifesaving abilities (strokes, skills, etc.). Finally, some instruction likely is **individual**. Not all learning and instruction needs to be adjusted to learner feedback, or take place within group settings. Some lifeguarding knowledge such as anatomy, and physiology can be acquired through podcasts, reading and so on.

Certain delivery modes are possible with, or at least better suited to, certain instructional types. In general, the fewer people required for effective learning, the greater the menu of instructional choices. Using the lifeguard example again, while a student may be able to learn the basics of pool maintenance by watching a podcast and/or reading a text, (individual learning), this could also be accomplished with the guidance of an instructor or within a group setting (virtually or in person). And there may be real benefits to that. However, a more socially situated instructional need, in this case the need to learn and practice

rescues, simply cannot be accomplished without some time spent as a group. So, similar to the lecture example shared earlier, one can see that the wide spectrum of delivery modes available is a good fit to some instructional needs and not others. By matching possible delivery modes to one or more of the three types of instruction decision makers can begin to understand the vast delivery mode landscape better and begin to narrow the choices available for their particular instructional contexts.

BUDGET



Considerations.

- Determine the budget you can count on
- Account for all costs (equipment, staffing, buildings, PD, marketing)
- Determine possible increases or decreases in budget (future enrollment may affect this)
- Determine what free options fit with your security needs

Notes.

- The smaller the budget the greater the reliance on free digital platforms such as Google Hangout, Skype, Collaborate, emails, etc.
- Upfront asynchronous program development costs can be recovered over an extended time

Figure 4. Budget

Educators frequently refer to ideal scenarios where learners are provided with all the tools they need to succeed in an environment that is conducive to optimal results. The reality is that the vast majority of decision makers have to live with budgetary constraints. For this reason, we believe that a serious assessment of the funds available for an educational project should be undertaken early in the decision making process. If the funds are unlimited, then clearly the options are wide open, however few live in this world. Consequently, choices need to be made. Face-to-face classes often come with the expense of securing a classroom and instructor, whereas, at the other end of the spectrum, a course can be delivered online in a synchronous fashion using any of the “free” web-conferencing platforms such as Skype or Google Hangout. The cost of instructors, however is not usually free, nor is the cost of curriculum development or technological infrastructure. In addition, if the intent of the decision maker is to generate revenue, then the matter of a return on investment needs to be carefully considered. In the case where a course lasts only a day or relatively short period of time, cost recovery must reflect this whereas an asynchronous course delivered over an extended period of time allows for cost recovery or revenue generation during this timeframe. Each delivery mode has different cost implications and the decision maker needs to be full aware of this prior to embark on a course of action which may render undesired results.

Organizational readiness, as with all of the options, is not a simple black and white consideration. There are many ways to illustrate this point however if we start with mindset, it will provide insight into the general notion of organizational readiness. An obvious and frequent example is of the traditional brick and mortar school that has built its reputation on a conventional pedagogy but which now for a variety of reasons decides it wants to expand into the online education setting. The initial reaction most commonly encountered is resistance from a portion of the school’s staff and enthusiastic approval from a small segment. Beyond the mindset come all of the practical issues such as infrastructure, servers, Internet access, equipment, experience using it and access to support.

ORGANIZATIONAL READINESS



Considerations.

- Access what needed infrastructure is in place or can readily be put in place (bridges, computers)
- Assess the ability of individuals within your organization to adapt to new instructional delivery modes with available support

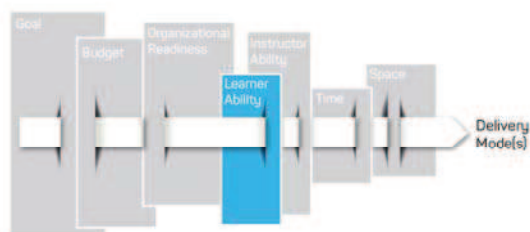
Notes.

- Enthusiasm (with or without technology) comes more easily when support is available, timely and ongoing
- Enthusiasm without thoughtful reflection and planning is problematic and needs to be addressed

Figure 5. Organizational Readiness

Staying the course and maintaining the same delivery mode for some organizations may simply be the right solution especially when the conditions within the school simply make any alternate delivery mode not feasible. Similarly, enthusiasm for a new delivery mode and access to the necessary technology and infrastructure may not be sufficient if the necessary expertise to adopt a new delivery mode is not accessible. Knowing when the organization is ready to take on a new delivery mode requires a detailed environmental scan undertaken with a degree of impartiality. Making assumptions in this area can easily lead to disaster.

LEARNER



Considerations.

- Assess learner profile as a group and, where possible, individually
- Look at age, motivation, ability, ease with technology etc.

Notes.

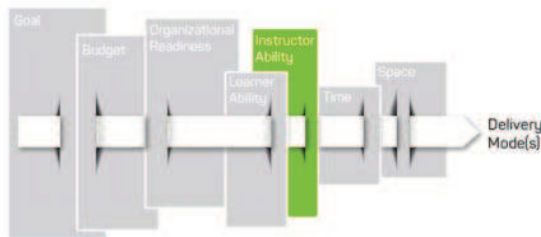
- A helpful "way in" to this process is to access learner profile(s) through the lens of self-regulation
- In general, the greater the learner(s) self-regulation the greater options available, although a great deal is possible with proper support
- For learners new to online instruction keep sessions/modules short

Figure 6. Learner

The most familiar starting point when planning for instruction is the learner. As we have shown, we are working a little differently in taking the perspective of an organization because not all organizations are mandated to put the individual needs of their students first. While schools exist to serve students, many organizations and businesses exist to serve other stakeholders. For financial and/or ethical reasons businesses may provide exemplary learning opportunities to their employees but the personal growth of their staff is not the “raison d’etre” of the organization. For this reason, while the learner profile is important, starting with that as the prime consideration is not how our heuristic unfolds.

The factors that need to be considered when addressing the needs of individual learners are complex, inter-related, changing and too vast to be addressed in depth here. Instead we will focus on general considerations with online instruction, with the understanding that many of these considerations extend to face-to-face contexts as well. Of the many factors to be considered some are age, ability (cognitive, social and emotional), familiarity with technology, and motivation and attitude. While very young children can and do respond very favorably to online instruction older learners (with some exceptions) generally need less scaffolding than younger ones. Likewise, more experience with technology generally trumps less experience. High motivation, resulting from a learner’s perceived need and/or by having choice, and a positive attitude are also factors that afford a wide array of instructional delivery options.

INSTRUCTOR



Considerations.

- Determine the type(s) of instruction needed at this point to match suitable DMs
- Determine if you can select instructor(s) or if they are assigned
- Determine what formal qualifications are needed
- If current instructor(s) are not at ease with some of the suitable DM determine the support/training available and the willingness to learn

Notes.

- Many teaching scenarios require a continual orchestration of a wide range of instructional skills simultaneously (individual instruction, guided instruction and socially situated instruction)
- Demands on instructor are different than in a dynamic virtual classroom or a face-to-face classroom; some instructional material may be developed by instructional designers to be accessed individually
- The greater the complexity of instructional demands, the greater the need for instructors with deep teaching skills

Figure 7. Instructor

Our experience with online instruction has shown it helpful to view individual learner qualities through the lens of self-regulation when online delivery options are being considered. The learner’s profile in this area determines to a large extent the degree and nature of support he or she needs to be successful, which in turn filters instructional options. Self-regulation refers to the process of planning, integrating and adapting one’s behaviors over time to support ones learning (Bandura, 1991). In our context we embrace this broad meaning and apply it in specific ways, such as referring to the process of

being in control of one's learning without being easily distracted, without the need for ongoing over the shoulder guidance, and so on. Very generally then, the greater the self-regulation of students, the greater the instructional options available to them with regard to online instruction. While every situation needs to be considered carefully, in an online context students who are less self-regulated often do better where there is synchronous instruction because this enables timely instruction that is carefully adjusted their progress (guided instruction). If this is not possible then asynchronous instruction with face-to-face support nearby may work well by enabling a student to benefit from expertise that a classroom teacher may not have, or have time to deliver individually in a class of diverse learners. Online teaching reflects all teaching, however, in the sense that support needed in one, circumstance may be totally different in another. A struggling high school student looking to get math credit may require close and attentive synchronous guidance for one course but do well with asynchronous learning modules in another. In any rich educational context the delivery mode must suit the learner and not the other way around, and at the same time be capable of fulfilling the overall objective.

While many attributes of good teaching are shared across all delivery modes there are skills and strategies particular to online teaching. When asked to describe needed characteristics for effective synchronous instruction a seasoned mathematics teacher at LEARN emphasized “good teaching times 100!” (Audrey McGoldrick, personal communication, June, 2015). Other teachers elaborated by stating the need for extra careful planning and communication. One shared the strategy of how to make thinking time visible when pondering questions by simply typing “thinking time” into a textbox on one's computer to signal that a question was heard and is being processed.

Where there is unfamiliarity with online delivery and/or how to co-ordinate it with more familiar teaching practices professional development must be available.

Not all instructional scenarios require the same teaching expertise, however. For asynchronous instructional modules provided to businesses, for example, excellent instructional design is more important than a moment-to-moment sensitivity to learner cues. In this instance instructional modules must be appealing and easily understood without the support of a teacher.



Considerations.

- Establish time needed to reach goal (days, months, years) and break into manageable chunks that correspond with curricular units
- Establish any logical or necessary order of units
- Establish time sensitivity (fixed time, somewhat flexible, time insensitive)
- Establish if enrollment is rolling or fixed
- For guided and socially situated learning establish the ideal and minimal timeframe for feedback from instructor/others

Notes.

- The greater the time to reach goal the greater the likelihood of the need to adapt instruction to reflect learner progress and life changes (schedules, location etc.)
- Younger or more novice learners often need quicker and more immediate feedback than older more accomplished learners doing the same task

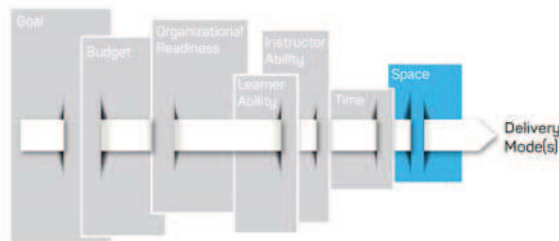
Figure 8. Time

Time needs to be approached several ways. First, one needs to consider the absolute time available to reach the entire instructional goal or some phase of it. Some need to be reached quickly- within a day, week or a few months. A lifeguard program may need to begin and end during a two summer camp session, for example, (however it could be that only the swimming and actual lifesaving parts need to take place then). Other goals, such completing a university degree can span years.

Second, the goal needs to be considered through the lens of time sensitivity. Instruction may need to occur during fixed times such as a scheduled school period, while other delivery times may be more flexible. If the live presence of a teacher or peers (virtual or face-to-face) is needed during instructional periods, this has to occur during times when everyone can be available but not necessarily at a particular time each week. Some aspects of instruction may be time insensitive though, that is, they can be accessed “any time, any place,” as the saying goes.

Instructional sequence is the third lens. One needs to determine whether program enrollment will be fixed or rolling, and what features or modules of instruction may need to occur before others. Each instruction situation is different, however our experiences have shown that, very generally and not unlike teaching in brick and mortar classrooms, the longer the instructional period, the greater the need to adapt instruction to reflect learner progress, to adapt to life changes, such as schedules and locations, and to maintain interest and motivation through variety.

SPACE



Considerations.

- Determine geographical location of instructor and students and what constraints this may place on DM
- Establish physical space constraints within classes (class size in number of students, size of classroom and availability of nearby “spaces”)

Notes.

- The greater the physical distance the greater the likelihood of virtual DM
- Individual learning can just as easily occur online, and perhaps more cheaply, but look closely first to establish if other instruction is informally taking place through conversations etc.

Figure 9. Space

We may tend to think of asynchronous delivery modes as time insensitive but in practical terms this may not be correct. If students need to travel to a school building to access asynchronous online modules the expression “any time any place” does not apply. This example shows how space, defined here as physical space and classroom location, needs to be looked at in very particular terms when making delivery choice decisions. It also points to how time, space and organizational structure are all closely related. (In the previous section on organizational readiness we addressed the larger infrastructure of an organization.)

The geographical location of students and instructors needs to be considered, however it would be a mistake to assume that close physical proximity translates to a preference for face-to-face instruction. Many university students who live within walking distance to campus still prefer to access lectures

online. If lectures are delivered to hundreds of students at one time with little or no adaptation to student feedback and no facilitation for student interaction there is little incentive to attend class when the same material can be accessed online when convenient. On the other hand, face-to-face instructional opportunities that provide timely feedback to students, easy and natural opportunities for collaboration and conversation, and opportunities for hands on instruction should not be overlooked in an attempt to get on the “technology bandwagon.” Not surprisingly, face-to-face environments that incorporate online components are often a very desirable approach to take. With or without technology options available, it must be restated that instructional planning is an ongoing orchestration of multiple factors.

Class size is an important dimension of physical space. The number of students in a class or program may create opportunities or obstacles in the selection of the delivery mode. If the face-to-face venue is constrained or already dedicated to other courses, going online may be an option to offer what is needed. However, if the class is too big, it may not be viable to do this online in a synchronous manner. Synchronous teaching to large groups can become problematic on a technical and organizational level. The solution here may be to break the class in to smaller ones and have one group work synchronously with an instructor at a time while the rest of the groups accesses asynchronous dimensions of the course then or during another time period.

Discussion

The DMH is a generic, adaptable, ongoing planning heuristic that attempts to balance pedagogical integrity with accessibility for an audience of scholars as well as lay people in business and the wider community. While we have necessarily presented the DMH a linear manner we recognize instructional decision making as a complex, recursive process. As we have tried to show, considerations are not discreet from others and each context is unique. We recognize too that, other than Goal and Budget, different contexts may suggest a different ordering of the DMH. If space or instructor availability presents a significant constraint, for example, then these may be best addressed before some other considerations. We argue, however, that without a clear understanding of one’s goals and budget further planning is not effective.

Space has not allowed us to share in detail the varying contexts where the DMH has been useful to date. It is encouraging to report, however, that it seems to adapt well to projects of much larger scope than the lifeguard example shared in this paper. For example, it has been very helpful at both the government and school level with an English Second language program that is currently being implemented countrywide in Thai schools.

This heuristic should be considered a work in progress as the landscape of instructional delivery modes is constantly changing. Further, we expect that with more intentional, focused and documented use, richer insights will be gleaned to help refine this work. It is research of this kind, that is, practitioner research carried out by people who are already in the field (Cochran-Smith & Lytle, 2009), that we feel is most appropriate here. Our next step is to plan how this might unfold in greater detail so that, ultimately, decision makers are more comfortable and equipped to make decisions about instructional delivery modes.

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