How does disruption disrupt award-winning faculty's instructional decision-making?

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Shortened Abstract:

Abstract

Covid-19 disruption fueled the frequency of instructional decisions. Our study found that faculty embraced online tools to deliver instruction when left without a choice. While justifying instructional decisions, faculty reported choosing the strategies that best reflected their instructional principles and capitalizing on their technological repertoire, instead of changing their instructional principles, strategies, and tools completely or seeking additional help. Recommendations for faculty development are shared.

Introduction and Background

Instruction is a purposeful and systematically planned sequence of events intended to address a performance gap, defined as a lack of skills and/or knowledge. Instruction includes “all the events that may have a direct effect on human learning of a human being, not just those set in motion by an individual who is a teacher” (p. 3) (Gagne, Briggs, Wager, 1974). Instruction is delivered by teachers, computer software, self-help manual, job aid, workbooks, etc. In higher education institutions, faculty plan, implement, and evaluate instruction and employ supplemental instructional materials such as software, textbook, etc. Instructional decision-making is the process of choosing an option between alternative instructional approaches. Faculty make instructional decisions pre-, during, and post-implementation of instruction. These instructional decisions determine and affect learning goals, content, activities, assessments, and instructional tools and resources (Gordon et al., 2020; Johnson et al., 2020).

This study focuses on tenured faculty members’ instructional decisions during significant disruption caused by the spread of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) resulting in a global pandemic affecting millions of people around the world (Centers for Disease Control and Prevention, 2022). COVID disrupted multiple dimensions of human life including health, industry, economy, politics, education, personal, professional, social life, and education. To halt the transmission of COVID at physical campuses, many higher education institutions immediately switched to remote instruction in replacement of face-to-face instruction. Gradually, campuses re-opened for hybrid and face-to-face with on-campus public health safety protocols such as mask mandates, social distancing, testing, and quarantine requirements. In addition to facing economic, health, and family-related challenges; all stakeholders in higher education had to adapt to first online and then the hybrid medium of instruction and work (Bonk, 2020).

Faculty were forced to change their instruction to online and/or blended formats, despite differences in preferences, skill sets, and knowledge about the new technologies, being employed such as online conferencing software like Zoom and MS Teams (Gallagher & Palmer, 2020). During this significant disruption, faculty made rapid instructional decisions to adapt to the unanticipated online teaching, followed by hybrid and socially distanced face-to-face instruction though often unplanned in advance (Gallagher & Palmer, 2020). Examples of instructional
decisions included changes in content of teaching, technological tools, instructional activities, and assessments (Crawford et al., 2020; Gordon et al., 2020; Johnson et al., 2020).

Theoretical Framework

Jonassen presents two approaches to decision-making: (a) normative (rational) and (b) naturalistic approaches (Jonassen, 2012) (see Figure 2). Normative approaches assume that humans are rational beings, and therefore, they make decisions after evaluating utility, costs/risks, and benefits. In contrast, naturalistic approaches assume “decisions are often made or influenced by unconscious drives and emotions as well as previous experiences.” (Jonassen, 2012, p. 333). Human decision-making is more naturalistic than normative, whereby decisions are influenced by multiple personal and societal factors, in addition to the individual’s consideration of concrete available information, cause and effect of the decision, and rewards available (Jonassen, 2012).

Purpose of the study

The purpose of this qualitative interview-based study was to investigate university-based award-winning tenured faculty’s instructional decisions regarding their instructional methods and corresponding factors that influenced their instructional decision-making. The study was conducted at a private research university in New York State conducted in the Spring 2021.

Three faculty members out of 22 award-winning faculty at the university, who received the award in the past 10 years, volunteered to participate in the study. Nine online interviews were conducted with three award-winning faculty members, over the semester period. Three interviews were conducted with each faculty member: first at the beginning, second in the middle, and third at the end of the semester. Award-winning faculty members were chosen because they are likely to better articulate instructional decisions and their justifications.

Findings

Participants Demographics

Three participating faculty (named PC, SC, TC) were full professors from varied disciplinary backgrounds: public administration, public health and anthropology, and geography. By the requirement of the award applications, all faculty members were tenured when applying for the award. All faculty had a doctorate degree from the United States in their area of teaching and had more than 20 years of experience teaching undergraduate and graduate courses. Participants did not have formal degrees in teaching or instructional design. PC and SC had experienced teaching at multiple institutions and TC joined the current university and continued teaching at the current university. SC and TC had used technological tools such as zoom and blackboard in their teaching, however, PC had used multiple data analysis tools such as GitHub and personal websites featuring the instructional units even before COVID. None of the faculty members had taught fully online courses.
Faculty selected the course that they were currently teaching so that their instructional decision-making could be studied over the period of the semester. Information about their courses is mentioned in Table 1. All three participating faculty taught graduate-level courses and redesigned their courses from face-to-face to online during Spring 2021. Participants did not have formal qualifications in teaching or instruction. Two of the three faculty (SC & PC) initiated their course design and one faculty member (TC) redesigned most of the instruction (including the readings, sequence, and instructional strategies) used in the course that he inherited from the previous faculty while retaining the core concepts from previous year’s course syllabi.

**Participants and their courses**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Participant 1 (TC)</th>
<th>Participant 2 (PC)</th>
<th>Participant 3 (SC)</th>
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<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
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<td>Female</td>
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<td>Institutional Rank</td>
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<td>Public Administration &amp; International Affairs</td>
<td>Public Health &amp; Anthropology</td>
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<td>Ph.D. Economics</td>
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<td>Data Analytics</td>
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<tr>
<td>Class Size</td>
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<td>55 students</td>
<td>50 students</td>
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<tr>
<td>Key instructional strategies</td>
<td>Workshopping a proposal and peer feedback</td>
<td>Problem sets and ongoing feedback</td>
<td>Community members as guest speakers</td>
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<td>Instructional Tools</td>
<td>Learning Management System, Zoom</td>
<td>Open-access website for sharing learning resources, Slack, Google Classroom, Zoom</td>
<td>Learning Management System, Zoom</td>
</tr>
</tbody>
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**Instructional Decisions**

Faculty reported several factors that influenced their instructional choices as they switched their instructional medium from face-to-face to completely online in Fall 2020. This paper will concentrate on the instructional decisions related to the choice of instructional strategies and tools the instructors and the corresponding factors, to keep the paper focused and comprehensive. Other choices and corresponding factors will be discussed in future publications.
The instructional strategies that faculty members used include “workshopping the write-up” (TC), inviting community-based guest speakers (SL), and using problem-sets and in-class exercises (PC).

TC engaged students through “workshopping the write-up” which implies that students read multiple research proposals during the semester. Prior to covid-19, these workshops were held in a room where students sat on tables, however, due to social distancing and masking requirements, zoom synchronous discussions were used. Corresponding to the instructional topic of the class, they wrote segments of the proposal each week such as research epistemology, problem statement, research aim, research methods, and ethical underpinning. Students shared their writeups every week with their peers and faculty member in the synchronous session and received iterative and intensive faculty and peer feedback facilitating the improvisation of the paper before the final submission.

TC justified his instructional decision-making by sharing his instructional beliefs, stating students learn best when real-life situations such as drafting a National Science Foundation style proposal are required from them – thus asking them to transfer learning to real-life problems, and iterative cycles of instructor and peer feedback are provided by peers and instructors. He noted that the proposal develops in a phased approach, where students write a component of the research proposal per week such as research epistemology, problem statement, research aim, research methods, ethical underpinning, etc. He believed that the structure of the proposal and moving from simple elements to complex whole helped students to make significant progress. He reported learning these principles from trial and error in the classroom, observing his own instructors, and reflection on his instruction. He also subscribed his skills in using conferencing software such as zoom to the attendance of professional work meetings and participation in online conferences.

PC engaged students in online problem-based discussion and provided varied in-class “temperature check” exercises through google classroom to engage students in problem-solving during class, in replacement of face-to-face paper-based problem exercises. Students uploaded in-class exercises and programming assignments on Google Classroom to minimize the exchange of documents between the students and the faculty member. In parallel to in-class exercises, students also completed multiple programming assignments on a weekly basis and regularly sought feedback from the instructor via Slack (a messaging application) – the asynchronous messaging via messaging application served as an alternative to in-person office hours. Some questions that students asked included: where to get the data from? how to analyze the data? what are the issues in the coding? He reported fewer messages were around the issues in installing the programming software on their computers compared to the interpretation or correctness of results of the given problem.

PC justified his instructional decisions of using problem-based exercises and in-class exercises (which he called “temperature checks”) by iterating that students learn from iterative feedback on exercises. He explained that he uses problem-based discussion because problems mirror real-life situations that students encounter currently or will encounter in the future. This
helps them transfer their conceptual learning to practice and apply it to solve problems. He also reported that using problem-based exercises helps stimulate student attention and sustain it until the solution of the problem. In addition, he reported the provision of iterative feedback on problem exercises helps students learn the concepts better.

He explained that he selected digital tools such as slack (a messaging app), GitHub for sharing problem sets, Google-classroom for in-class exercises, and zoom for synchronous online instruction because he has seen these tools have been used in workplaces, and always wanted to try it out and see if they work in the classroom settings. He explained that covid provided him an opportunity to test these tools and to his surprise, students used the tools and found them useful in continuing their learning when in-person sessions were not possible.

SC designed a community-engagement experience for the students in replacement of face-to-face community bus tours. She redesigned the bus tour into an invited community member led discussions. She prepared community members for their discussions. Community members joined the class virtually and presented their lived experiences through synchronous zoom-session. SC stated,

So, there are topics that lend themselves to working with community members. For every such course, I link with community members. In the Public Health course, we have this bus tour of a city in Upstate New York. bus tours led by community members so that the students all learn about places where there’s excess lead poisoning, places where there’s been violence, food deserts, etc. For the online offering of the course, I helped community members to prepare presentations so that they can share their experiences in the class (SC, Interview 4, June 23, 2021).

SC anchored her decision of engaging community members in teaching the session because she believed that community members can better speak for themselves and share their experiences, given their living experiences and strong affiliation with the community. She believed that community-engagement exercises engage students in understanding and solving real-life problems with community members allowing students to transfer their learning to practice.

SC teaching as advocacy because of her affiliation with public health discipline, where there is a high rise need for understanding issues of community and clearly communicating with them to improve health outcomes. SC learned about community-based approaches in education through her visits to Middle East where she was awarded a ford foundation grant to study problem-based education in medical sciences. She also described that her experiences of working with and for communities have inspired her to figure out ways to engage students in co-creating solutions with the community to real-life problems.

Faculty justified their rapid instructional decisions through their tried-and-tested instructional principles instead of developing abrupt instruction. Even during disruption, they
continued to choose the instructional tools and strategies that (i) stimulate attention and sustain motivation, (ii) determine instructional goals, (iii) activate prior knowledge, (iv) present the information in a clear, logical, and engaging way, (v) promote collaboration, (vi) transfer learning to real-life problems, (vii) guide through feedback, (viii) assess learners' performance in varied situations, (ix) involve students in instructional tasks, (x) build relevance of instructional tasks with learners' professional and personal lives (xii) exhibit problem deconstruction, and (xiii) allow co-creation of solutions to community-based problems with community members. All 13 instructional principles are largely supported by the evidence-based literature in instructional design (Ambrose, 2010; Boettcher and Conrad, 2021; Gagne & Briggs, 1974; Merrill, 2000). Faculty reported learning these principles mostly from observing their own teachers, trial and error during instruction, engaging with disciplinary ways of thinking, and reflecting on instruction. In a few instances, faculty also justified their instructional decisions through their prior readings in adult learning and exploring different technological applications. None of the faculty reported seeking help from their peers or the center for teaching and learning to explore tools and strategies that could help them achieve their learning outcomes, in an enhanced manner, perhaps because of their self-confidence to thrive through the disruption, independently.

Conclusion

Catastrophic events, for example, wars, pandemics, sharp decline in institutional funding, advancements in technology, changes in labor markets, trends in demand for graduates, and the emergence of new fields of study are inevitable. Therefore, it is important to investigate how individuals make instructional decisions in these times and develop support mechanisms to support faculty in making evidence-based and effective instructional decisions, even in emergency situations.

Implications of the study suggest that the award-winning faculty developed instructional beliefs while undertaking personal journeys into understanding and experiencing instruction, however, the time and effort spent by new faculty on designing evidence-informed instructional decisions can be reduced by supporting them to articulate their principles, corroborating their principles with the evidence-base in instructional design, and hook their instructional decisions in the principled approaches to instruction.

Faculty development programs focusing on online instruction must help faculty to make instructional decisions underpinned by personally relevant and evidence-based instructional principles. These principles are likely to serve as an anchor, motivation, and justification for faculty to learn new instructional strategies and tools that help achieve instructional outcomes (Darling-Hammond & Oakes, 2021; Green et. al. 2013; Haras, 2018). Besides, continuous engagement of award-winning faculty as peer facilitators in faculty development workshops may increase senior faculty’s engagement in learning more about teaching, while mentoring new faculty to use time-tested and evidence-based instructional principles and investigate their practice for continuous improvement.
References


Bonk, C. J. (2020). Pandemic ponderings, 30 years to today: Synchronous signals, saviors, or survivors?. Distance Education, 41(4), 589-599.


