Teaching IS Cases Online? Set A Rhythm

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TEACHING IS CASES ONLINE? SET A RHYTHM

Research Paper

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Abstract

We propose that a rhythmic course design contributes to constructivist student learning in case-based courses, across a range of f2f and online modalities and in varied institutional contexts. Our multiple-cases study explored whether and how rhythmic course designs (multiple similar short-duration assignments and other design choices) support student learning in IS case courses. We provide evidence based on two sections (one blended traditional f2f with some online synchronous work, and one was delivered fully online, with synchronous and asynchronous elements) of a partially case-based undergraduate IS capstone course, taught by NewProf at a large state university, and two sections (one online asynchronous, one hybrid) of a fully case-based MBA Strategic IS Management course taught by OldProf at a small private university. The study findings provide initial support for our proposition and research questions, and yield helpful directions for further studies on benefits and challenges of rhythmic IS course designs.

Keywords: Case Teaching, Case Method, Pedagogy, Rhythmic Course Design

1 Introduction

Before the COVID-19 pandemic, proponents argued that well-designed case-method courses can successfully differentiate a business school’s programs, whether delivered online or face to face (f2f) (Andersen & Schiano, 2014). As a discipline, IS has a “strong foundational role in understanding, explaining, and continuously improving how most organized human activities work and can be improved” (Topi, 2019, p. 3). Use of timely discussion cases in the IS curriculum can play an important role here, given the rapid pace of change in digital technologies and related organizational strategies, structures and practices. Case-based learning is well suited to courses on IS Management, IS governance and audit, IS operations, IS project management, and cyber-security. In these case-based courses, a rhythmic design (paced schedule of many similar short assignments, with similarly-paced instructor feedback based on a common rubric) helps students cope with constructivist learning challenges (Fosnot 2005). The exploratory study described here retroactively compared two IS management courses, delivered in several modes at two universities: blended (f2f with some asynchronous online elements), synchronous hybrid of online and f2f, fully online synchronous and fully online asynchronous (with some optional synchronous activities).

In spring 2020, accelerating an already-underway trend toward online learning, most IS programs (including case-method IS courses) moved fully- or partially online due to COVID-19, as university administrators sought ways to safely engage and retain students. This unexpected shift online motivated us to conduct the study described here. Before the pandemic, it was clear that e-learning was not universally embraced; some scholars argued it is more appropriate for training employees (Chang 2016) and delivering continuing education (Niederman, et al. 2016). Today, some college administrators assert that pandemic-sparked e-learning innovations “will continue to be valued and expected by students beyond the crisis” (Brammer & Clark 2020, p. 454). In contrast, critics caution that in 2020 emergency online learning was a “necessary stopgap” (Hodges 2020); optimal long-term solutions will require deeper planning and stakeholder involvement (Teras et al. 2020). Surveys revealed various challenges that impeded students’
online engagement and learning (Rayburn et al. 2020). Indeed, students expressed a strong desire to return to traditional f2f learning (Aguilera-Hermida 2020). Some colleges plan to return to f2f learning, supported by continuity planning to enable a quickly switchover to online mode when necessary (Rayburn et al. 2020). Other colleges plan to offer an ongoing mix of f2f, online synchronous, online asynchronous and hybrid courses. Meanwhile, new e-learning tools, fueled by artificial intelligence will likely fuel further disruption in higher education (Krishnamurthy 2020).

2 Case Method for Distinctive Online Constructivist Learning

Pre-pandemic, eLearning studies revealed that course management systems, social media, and other digital resources serve students’ information seeking, convenience, connectivity and content management needs (Wang et al. 2007, Guo et al. 2010; Schroeder, et al. 2010). Technology acceptance studies tested technical and non-technical elements’ effects on student e-learning attitudes and behavior (Al-Busaidi, 2012, Kim et al. 2012, Krotov, 2015, Mohammadi 2015, Eryilmaz et al. 2018), and how motivation and an ability to self-regulate affect learning outcomes and student satisfaction (Eom & Ashill 2018; Panigrahi et al. 2018). Other studies examined challenges associated with online assessment (Wu et al. 2010), mandatory versus voluntary online tool use (Van Slyke et al. 2010), and cultivating online learning communities (Eom & Ashill 2016). One study (Freeman & Urbaczewski 2019) reports that programmatic design uniformity (e.g., common course management system, standard syllabus design, etc.) is valued by students. We contend that these types of institutional uniformity help students to spend less time and attention learning how to work with an unfamiliar course management system or how to find relevant information in a syllabus, and thus focus sooner on a course’s primary learning objectives (which should mean they start learning faster). If some institutional uniformity across courses is helpful, it follows that some uniformity within a course may also be helpful. We conceptualize uniformity of design as one rhythmic element that helps students engage in productive learning activities. Other rhythmic design elements include a fast and repetitive pace and similarly rapidly-paced instructor feedback, guided by a consistently-applied rubric. We further assert that rhythmic design is especially helpful when applied to case-based courses, by virtue of the structure it provides that counterbalances the challenges of less-structured constructivist learning (described below).

In case-method courses, students are expected to read and thoroughly analyze each case before discussing it in class A well-written discussion case is a true story, told from the perspective of a manager in a particular context, confronting a problem or decision at a moment in time. It engages students on an emotional level (Ramiller 2003; Mesny 2013, Gogan & Murungi, 2018). Guided by an instructor, students share ideas, debate recommendations, and uncover layers of meaning to reach a collective appreciation of each complex business challenge. Guided case discussions emphasize “situated judgment and the importance of context; the primacy of the particular over the general.” (Mesny 2013, pp. 56-58). In instructor-facilitated online discussions, students achieve greater and “deeper” problem-space coverage, by “discussing more aspects … in more detail, and spending more time on relevant … issues and … solutions” (Ertmer & Koehler 2015, p. 91). After each discussion, students are advised to reflect on what they learned from their peers.

Case method is thus a process of mutual discovery (Christensen 1991; Harrington & Garrison 1992; Merseth 1991) that engages students and supports constructivist learning (Hackney et al. 2003; Currie & Tempest 2008; Drake 2019); students “search for patterns, raise questions, and model, interpret, and defend their strategies and ideas” (Fosnot, 2005 Preface). Over time, students improve their “critical and reflective abilities” (Currie & Tempest 2008), “high-order reasoning skills” (Hackney et al. 2003) and their ability to spot familiar patterns in novel situations. Thus, over many case discussions “a repertoire of experienced situations is built up ... appropriate action becomes intuitive and immediate” (Ramberg, et al. 2019, p.4).

Case method should align with institutional circumstances (Razali & Zainal 2013). Some faculty believe students need guidance and structure to benefit from case-based learning (Pilz & Zenner 2018). Instructors
may use cases to a great extent\(^1\) or combine case discussions with other pedagogies. Some emphasize individual preparation, others prefer to assign team case analyses (Taneja 2014) and some instructors emphasize role-play (Kerr et al. 2003). In online case-based courses, instructors have “less control of the ‘choreography’ of discussion” (Heckman & Annabi 2006, p. 149) -- partly because students use social media to discuss and analyze cases without the instructor (Racham & Chen 2013, He et al. 2014).

A case-based learning platform for case analysis (Choi & Lee 2009), informed by constructivist learning theory (Jonassen 2000, Oliver 2000, Jonassen & Hernandez-Serrano 2002) supports analysis in stages (Table 1). First, Student articulates a case problem and begins to consider possible solutions to it. In successive stages, Student refines their understanding of the problem and continues to consider possible solutions. By analytically “peeling the onion,” Student may discover that several problems are embedded in a larger problem or that a different problem is more important. Our study builds on this staged approach and two key prior arguments about learning from discussion cases: 1) Analyzing many cases helps Student develop useful repertoires (Ramberg, et al. 2019, p. 4). 2) Over time, Student develops managerial judgment, applicable to new situations (Christensen 1991). We build on these prior works by proposing: In a constructivist case-based course, a rhythmic course design contributes to student learning.

Our reasoning is that a paced design that incorporates multiple similar study sessions and rapid instructor feedback guided by a common rubric provides comforting structure that helps a student avoid becoming paralyzed by stressful uncertainty. Thus, the student should also more rapidly develop repertoires and judgment. The Choi & Lee platform described above offers a system-supported rhythmic design, provided students use it for multiple case analyses in a single course (the five analytic stages is a rhythmic element).

<table>
<thead>
<tr>
<th>Learning Stages</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
<th>Stage 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Environment Design Model</td>
<td>Case Problem Identification Multiple Perspectives</td>
<td>Multiple Options Theories &amp; Literature</td>
<td>Reflection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Case-Based Learning for Classroom Management Problem Solving (Choi & Lee, 2009, adapted from Jonassen 2000; Jonassen & Hernandez-Serrano 2002)

The Harvard Business School MBA program has a rhythmic design (yet they do not label it as such): a case analysis process is repeated over many short-duration sessions in a demanding pace (alleviated by weekend breaks). Consider OldProf’s recalled experience as a Harvard MBA student (Class of 1980) in a traditional f2f classroom: “Many aspects of being an HBS MBA student were expected and appreciated.

I did not anticipate how strong the program rhythm would be. In our first year we discussed three cases a day (Monday–Friday), in the same seats in the same classroom. Sunday afternoon through Friday evening, I stuck to a predictable, repetitive, demanding pace: I devoted 2½ to 3 hours of prep work per case. Each morning I met briefly with my study group, before the first class. After

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\(^1\) In two years, an HBS student discusses about 500 cases: https://www.hbs.edu/mba/academic-experience/Pages/the-hbs-case-method.aspx as of 3 Feb 2020.

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the last class on Friday, my classmates and I celebrated; another week completed! Saturdays I did [personal chores] and relaxed. Sunday afternoon, I got back to work. As a Second Year Mentor, my advice to new First Years was: Stick to a rhythm. If you do, you will survive cold calls and will not need to cram for final exams (each exam is just one more case analysis).”

We set out to explore whether and how a rhythmic case-based course design contributes to students’ constructivist learning at other institutions. Our study addressed the following research questions. In multiple modes (from fully offline f2f delivery to fully-online synchronous or asynchronous delivery):

**RQ1:** Does a rhythmic case-based course design, delivered by experienced or new instructors, support undergraduate and graduate students’ learning?

**RQ2:** How do specific rhythmic elements support or impede students’ learning?

### 3 Method

We conducted an exploratory retrospective configurational multiple-case study. Yin (2017) explains that “multiple cases resemble multiple experiments;” analytic generalization can be supported either by precisely duplicating case conditions or selecting cases configured based on theoretically-important differences. This latter approach is appropriate, since prior studies reveal that multiple paths to configurations for case-based courses can generate favorable online case learning outcomes. By picking four differently configured course cases, our study allows us to consider the applicability of rhythmic course designs across a range of institutions, levels of emphasis on cases in the course, instructors and other factors.

When these courses were taught (in 2018 and 2019), we did not anticipate writing about them. We were able to conduct this retrospective case study because course materials and student papers were saved on our universities’ course management systems. Our selection criteria for the four cases emphasized varied instructor experience (NewProf, OldProf), course level (undergrad, MBA), institutional setting (large state university, small private university), and case emphasis (OldProf assigned 12-14 cases, NewProf assigned 6 to 8 cases). For each Instructor/Institution combination we selected one fully-online (asynchronous or synchronous) and one partially-online (hybrid or blended) instance of a strategic IS course.

Table 2 summarizes key features of the two Instructor/Institution cases and their embedded course instance cases. Group case discussion was optional and ungraded in OldProf’s asynchronous writing-intensive course; participation was graded in OldProf’s hybrid section and NewProf’s two sections. Both instructors used a course management platform (Canvas or Blackboard) to disseminate course materials, support threaded discussions, and store and grade student analyses. Neither course required a textbook. Each instructor incorporated rhythmic elements in their course design (described in Study Findings section).

<table>
<thead>
<tr>
<th>NewProf, Big Public University</th>
<th>OldProf, Small Private University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Strategic IS Capstone course, required of IS Majors</td>
<td>MBA Strategic IS Management course, required of all MBA students</td>
</tr>
<tr>
<td>Course Platform: Canvas</td>
<td>Course Platform: Blackboard</td>
</tr>
<tr>
<td><strong>1: Mostly Offline, Some Online (blended)</strong></td>
<td><strong>1: Partly Online (hybrid)</strong></td>
</tr>
<tr>
<td>Enrollment: 37 students.</td>
<td>Enrollment: 34 students.</td>
</tr>
<tr>
<td>15 week semester mode (2 meetings per week)</td>
<td>15 week semester mode (1 meeting per week, plus final)</td>
</tr>
<tr>
<td>All students f2f in classroom, two 75-minute sessions/week.</td>
<td>Most students attended f2f in classroom; some students Zoomed.</td>
</tr>
<tr>
<td>Grading: 8 cases (40 pts) and a capstone project (60 pts)</td>
<td>Grading: 14 cases (60 pts), 2 reflection papers (20 pts) final exam (20 pts)</td>
</tr>
<tr>
<td>Synchronous online threaded discussions were required</td>
<td>Asynchronous online threaded discussions were optional</td>
</tr>
</tbody>
</table>
Focal Cases (regraded per a common rubric): Cloudy + Blocky

2: Fully Online, Mostly Synchronous
Enrollment: 39 students
15 week semester mode (1 synchronous online meeting per week)
6 required synchronous f2f discussions
6 cases (40 pts), participation (10 pts) capstone project (50 pts)
Focal Case (regraded per a common rubric): Blocky

Focal Case (regraded per a common rubric): Cloudy

2: Fully Online, Mostly Asynchronous
Enrollment: 19 students
6-week, writing- (and grading-) intensive
3 optional synchronous interactive sessions
12 cases (50 pts), reflections (30 pts), final exam (20 pts)
Focal Case (regraded per a common rubric): Blocky

Table 2. Four-Case Study Design (two NewProf course instances, two OldProf course instances)

NewProf and OldProf (co-authors), shared our syllabi and students’ (anonymized) final course grades, for a structured comparison of final learning outcomes across the four cases. To consistently measure students’ early case-learning outcomes, we identified two strategic IS cases that students analyzed in at least one section for each instructor (in one NewProf section, both Blocky and Cloudy were discussed). Thus, each Instructor/Institution case contained at least one course instance in which students submitted an analysis of the Blocky case and one analysis of the Cloudy case, in the first half of the term. We shared students’ analyses (student IDs blinded to both of us, and stored in our study repository). The five case-analysis batches included 55 Blocky cases and 101 Cloudy case analyses (156 submissions in total; because some students did not submit an analysis of an assigned case, the N for case analyses is lower than the number of students enrolled). Since this was an exploratory case study, control groups were not utilized (we did not set out to test a priori hypotheses). A rubric (Table 3) that guided our blinded case grading contains elements similar to other published rubrics:

- Choi & Lee (2009): consider multiple perspectives in identifying the problem/s; articulate plausible options; compare options; offer actionable recommendations.
- Ramberg et al. (2019): formal knowledge (correct terminology; appropriate application of strategic IS frameworks/theories) and appropriate problem-solving process (identifying relevant problem/s, supporting analysis with case data; offering a plausibly strong recommendation).

We each graded per the rubric. If a student analysis was judged to be close to the boundary between any two levels, each author indicated this with a √ + or √ - (√ indicates Satisfactory). Once we each read, graded and recorded all 156 submissions, we compared our round one evaluations of each batch (we compared our Blocky case analysis grades for students in NewProf’s two course instances and one OldProf course instance, and we did likewise for the Cloudy case analyses).

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Needs Improvement</th>
<th>Satisfactory</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well organized, concise, clear</td>
<td>Grammar/spelling problems Main point is unclear</td>
<td>Clear logic from evidence to student’s recommendations (if required) and appropriate conclusion</td>
<td>Also: formatting visually reinforces the presentation of relevant factual evidence and analytical reasoning.</td>
</tr>
<tr>
<td>Analysis based on pertinent factual case evidence</td>
<td>Builds on student’s opinion and prior experience, but does not explicitly or sufficiently analyze relevant case facts.</td>
<td>Applies appropriate analytic tools (e.g., PEST, RBV, strategic grid, other tools) to analyze pertinent case facts. Some evidence is less-compelling or has some flawed logic.</td>
<td>Most evidence cited is compelling, and the strong analysis may also account for contradictory or interacting evidence (i.e., student recognizes situational complexity).</td>
</tr>
<tr>
<td>Persuasive</td>
<td>Did not follow instructions (e.g., student lists several factors but assignment required one factor) Weak or no conclusion</td>
<td>Directly answers the question. Reaches a reasonable evidence-based conclusion about the situation.</td>
<td>Strong evidence-based conclusion with an important insight, such as implications of a lesson learned from this case to another situation.</td>
</tr>
</tbody>
</table>

Table 3  Grading Rubric for Blinded Grading of Two Focal Cases (Cloudy and Blocky)

We agreed it was not necessary to achieve consensus if either instructor held to a strong position. However, through discussion, we did reach a comfortable consensus on a final joint grade for each submission. Where we indicated adjacent grades (e.g., one author indicating $\checkmark$ versus the other’s $\checkmark+$ or $\checkmark-$), we discussed whether the evidence pointed more strongly to a $+, \checkmark$ or NI (needs improvement). A few inconsistencies were due to a grader failing to note a flaw in Student’s logic (e.g., categorizing unknown but obtainable information as “risk” or justifying a chosen option based on a factor common across all options). A few discrepancies were due to a grader recording error, and in a few instances we debated whether a strong insight in an otherwise weak analysis justified a passing grade; through discussion, we reached consensus.

From these papers, we then captured examples of very weak (NI) and very strong (+) papers. These are contained in an Appendix (available from authors). We then compared students’ case analysis grades and their final course grades, in order to support our interpretative analysis of the possible contribution of a rhythmic design to students’ case-based learning in fully online, hybrid and mostly-offline courses.

4 Study Findings

In NewProf’s undergraduate IS capstone course (NewProf1, NewProf2), students discussed 6 to 8 cases and worked on a semester-long (15 week) team project. NewProf1 was a traditional f2f classroom-based course with some synchronous online threaded discussions (blended), and NewProf2 was fully online with a mix of synchronous and asynchronous activities. A rhythmic design guided students’ case-based learning: for every case, students submitted a written pre-discussion analysis, then participated in a case discussion, and then submitted a post-discussion written Reflection (describing new insights from the class discussion). In both of NewProf’s sections, for each case students answered three generic case-analysis questions for the pre-discussion case analysis assignment (graded per the rubric described in Table 3):

1. **What is the Key Issue, based on your analysis of the case?**
2. **Given this Key Issue, what do you recommend Protagonist do?**
3. **Support your recommendation with facts from the case and any additional information you find about relevant business issues, company(s) and technologies discussed in the case**

OldProf taught two sections of a required fully case-based MBA class (Strategic IT Management, with 12 to 14 cases, plus a final examination case). In both sections, most students were working professionals. Supplementing the cases were 12 readings, short OldProf video lectures on technology and strategic fundamentals (posted on Blackboard and linked to Powerpoints). Students were also expected to regularly read The Wall Street Journal to spot relevant IT-related news. A repetitive modular structure contributed to rhythmic design in OldProf’s two sections: After two introductory case discussions, the remainder of the course was delivered in three modules. In each module, students read and analyzed four cases and wrote one reflection paper (with one break from the rhythm: a CyberAttack simulation was scheduled midway through the course). Students’ case analyses were guided by four tailored (not generic) case-preparation questions, and all students were instructed to submit a written answer to Question 4.

OldProf1 was a semester-long “Hybrid” section (many students participated in traditional classroom-based f2f evening case discussions; some participated synchronously online, via Zoom). Participation was 30% of students’ final grades. In this course, students were required to submit one written case analysis per module and they were permitted to submit more analyses. Their best case analysis grade per module counted Twenty-Ninth European Conference on Information Systems (ECIS 2021), [Marrakesh, Morocco|A Virtual AIS Conference].
toward their final grade. Most students submitted two written analyses per module; some submitted an analysis of every case. In OldProf2 (6-week fully online asynchronous writing-intensive) students were required to submit an answer to one question for all four cases in each module (12 cases total; in this section, students’ lowest two scores were discarded). OldProf provided detailed feedback on 12 case analyses and 3 reflection papers, guided by a common rubric, within 36 hours of each submission.

To summarize each instructor’s rhythmic course design: NewProf assigned both a pre-discussion and post-discussion analysis of every case; students answered three generic questions each time. OldProf’s course had a 3-module structure (4 cases, 4 readings, one reflection paper per module), with four questions per case (tailored, not generic); students submitted a written analysis of Q4 each time. Both instructors provided rapid feedback guided by a common rubric and, aligned with the tightly-paced schedule of assignments.

5.1 Grade Distribution Results

Table 4 presents students’ focal-case grades (based on both authors blind-grading all 156 papers, and discussing discrepancies to achieve consensus), and students’ actual final course grades.

The “Cloudy” case, taught in two NewProf and one OldProf course instances, describes a CIO about to select a cloud services provider for his company’s first attempt to deliver a cloud-based service to their customers (Daniel & Gogan, 2017). A pre-publication draft of the “Blocky” case (Goode & Gogan, 2020) describes a planned blockchain-based secure chain-of-custody system, to safely and accurately dispense and distribute donated medications to needy patients.

In all four sections, most students’ final course grades showed strong improvement from their early case analyses. The final grades (actually conferred in 2017 or 2018) are strikingly similar for NewProf2, OldProf1, and OldProf2: 44% to 47% of students earned B or B+ and 42% to 47% earned A or A- in these three sections. Many more students in NewProf1 (mostly traditional f2f in-classroom mode) earned final grades in the Excellent range (70%) than in NewProf2 (42%). This finding might indicate NewProf was more effective in engaging and motivating students in f2f mode than online, or it might indicate that undergraduates who select fully-online mode are less engaged in their studies (due to job or personal schedule conflicts that necessitated the online choice, or due to different personality traits, or perhaps because NewProf’s capstone project teamwork is more easily accomplished f2f than in online mode).

<table>
<thead>
<tr>
<th></th>
<th>NewProf1</th>
<th>NewProf2</th>
<th>OldProf1</th>
<th>OldProf2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focal Case</td>
<td>Blocky</td>
<td>Cloudy</td>
<td>Cloudy</td>
<td>Cloudy</td>
</tr>
<tr>
<td>Level</td>
<td>UG IS</td>
<td>UG IS</td>
<td>UG IS</td>
<td>MBA</td>
</tr>
<tr>
<td>Mode</td>
<td>Blended</td>
<td>Blended</td>
<td>All Online</td>
<td>Hybrid</td>
</tr>
<tr>
<td>Blinded Case Grades:</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>grade +</td>
<td>6 16%</td>
<td>5 14%</td>
<td>1 3%</td>
<td>8 25%</td>
</tr>
<tr>
<td>grade ≤</td>
<td>20 54%</td>
<td>24 69%</td>
<td>24 70.5%</td>
<td>21 66%</td>
</tr>
<tr>
<td>grade NI</td>
<td>11 30%</td>
<td>6 17%</td>
<td>9 26.5%</td>
<td>3 9%</td>
</tr>
<tr>
<td>N =</td>
<td>37 100%</td>
<td>35 100%</td>
<td>34 100%</td>
<td>32 100%</td>
</tr>
<tr>
<td>Final Course Grade:</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>A or A- ( + )</td>
<td>→ 26 70%</td>
<td>→ 26 42%</td>
<td>→ 16 47%</td>
<td>→ 8 42%</td>
</tr>
<tr>
<td>B or B+ ( √)</td>
<td>→ 9 24%</td>
<td>→ 11 47%</td>
<td>→ 15 44%</td>
<td>→ 9 47%</td>
</tr>
<tr>
<td>B – or lower ( NI)</td>
<td>→ 2 5.4%</td>
<td>→ 2 10%</td>
<td>→ 3 9%</td>
<td>→ 2 11%</td>
</tr>
<tr>
<td>N=</td>
<td>→ 37 100%</td>
<td>→ 39 100%</td>
<td>→ 34 100%</td>
<td>→ 19 100%</td>
</tr>
</tbody>
</table>

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Table 4  Post-hoc Blinded Case Grades and Students’ Actual Final Course Grades

<table>
<thead>
<tr>
<th></th>
<th>OldProf1</th>
<th>OldProf2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final grades</td>
<td>A/A:- 47% vs 42%; B/B+ 44% vs 47%; B- or lower: 9% vs 11%</td>
<td></td>
</tr>
</tbody>
</table>

In OldProf1 (hybrid) three students’ work was judged as weak (NI) on both their early case analysis and final course grade. Similarly, in OldProf’s 19-student asynchronous course section, two of three students with grades of NI for their early case analysis earned final course grades in that range. This finding might indicate that 10% of students entering the asynchronous MBA program lacked necessary writing and critical thinking skills to a degree that impeded their mastery of this course. Other plausible explanations: some students might dislike the topic of strategic IT management (this is a required MBA course) or dislike case-based learning, or could not effectively juggle work and school demands.

To summarize: our findings are consistent with an assertion that a rhythmic course design helps most students achieve the course learning objectives, across a variety of case-based course modalities.

6 Discussion, Limitations, Conclusions

For most students in this study, grades (presumably reflecting learning) improved over time, consistent with prior research that indicates case-method learning benefits from exposure to multiple case situations set in multiple industries. Our courses assigned fewer cases than a typical HBS course (NewProf’s undergraduate courses assigned 6 to 8 cases, OldProf assigned 12 – 14 cases). Because each course instance utilized a rhythmic design, we cautiously infer that most students benefited from the rhythm (which, we contend, helps students overcome typical constructivist learning challenges more quickly, and thus start learning sooner). Since this was a retrospective exploratory case study, we had no opportunity to directly measure students’ level of stress early in the course (this phenomenon is mentioned in prior case-method papers), nor did we measure whether stress declined once students fell into the course rhythm.

NewProf’s final course grades improved more dramatically than OldProf’s. Is this because less-mature undergraduates rely more heavily on early instructor feedback before they settle into strong work habits and produce more insightful analyses? Or, is NewProf more effective at engaging and motivating the weaker students than OldProf? Or is NewProf an “easier” grader? Do undergraduate IS majors’ personality or skill dimensions differ from MBA students (most of whom do not major in IS)?

Another interesting puzzle is that students in OldProf2 (writing-intensive asynchronous online) showed similar improvement as students in OldProf1 (hybrid). Most case-method proponents argue that the case discussions generate much of the students’ learning. This study challenges that notion (in the writing-intensive course threaded discussions and two Zoom discussion were optional and ungraded, and few students participated in them).

Our exploratory retrospective four-case study cannot solve puzzles such as these, but future studies can capture students’ and instructors’ attitudes and behavior before, during and at the conclusion of case-based courses taught in multiple modes, to shed light on puzzles such as this and reveal new insights.

Findings from this exploratory retroactive multiple-case study do provide suggestive evidence that a rhythmic approach contributes to students’ learning in case–based IS courses -- both an MBA IS management course (for students who do not plan to pursue IT careers), and in an undergraduate capstone course for IS majors, and whether a course is partially case-based or fully case-based, and in four different modes (blended, hybrid, mostly-synchronous online, and mostly-asynchronous online), at both a small private business university and a large state university. We were able to begin to consider these different configurations in light of two approaches to achieving a course rhythm (Table 5).
We cannot say whether fast feedback for us to assert line discussion or Pesso’s efficient in a class, “Conference]. Twenty OldProf2’s student feedback is su... The findings indicate that students’ ability to analyze and learn from cases improved over time. This was not a positivist study (we neither proposed hypotheses nor evaluated case data in light of null hypotheses). Our study design does not make it possible for us to assert whether it is more effective to deliver a fully case-based IS management course or one that combines cases with other pedagogies, nor from this study can we say whether a traditional f2f discussion is more effective than a synchronous online discussion or online threaded discussion of an IS management case. We cannot say whether fast-but-brief instructor feedback is sufficient in a class in which students participate in full-class discussions of each case, nor definitively assert whether extensive written feedback compensates for having no required synchronous student-centered discussions. We cannot say whether videos tied to Powerpoints were more important for OldProf2’s online-only asynchronous-mode students compared with students in OldProf1 (most of whom attended class on campus for most of the sessions).
The study findings suggest that no one case-based course configuration is clearly superior. This is encouraging news for faculty who will be expected to continue teaching in multiple delivery modes post-pandemic. Because each instructor set a demanding but doable pace of student work, carried out similarly each time and with regular instructor feedback (guided by a common rubric), this rhythm, across varied configurations, likely supported student learning, and apparently did not impede learning. Future studies can utilize experimental designs to test the separate contributions of different course design elements. Other studies can use surveys or interviews to tap students’ and instructors’ opinions about strengths and weaknesses of each course configuration, and to gain further insight into specific contexts in which a rhythmic course design supports strong case-based student learning. Are some “rhythmic” elements helpful because they are applied uniformly (same day of week and time for each analysis deadline, use of same generic questions, same modular structure with four articles, four cases, four questions per case), and/or because they set a demanding but doable pace, and/or because expectations are simple and clear?

Our study contributes to inclusive digital education research in several ways: 1) Only a few prior studies directly analyzed case-method learning outcomes (based on student grades, mapped to rubrics); we did so in both fully-online (synchronous or asynchronous) and partially-online (blended or hybrid) course instances. 2) Our study reveals that a case-based course with a rhythmic course design can usefully support student learning in varied delivery modes and varied institutional contexts. 3) By revealing specific ways to support undergraduate and graduate students’ case-based learning through rhythmic designs applied to different full- or partial-online modes, our study addresses some faculty concerns about moving online.

Based on our findings, we propose: Requiring students to repeat similar study and analysis behaviors in multiple short-duration case assignments provides a comfortable structure that helps them fall into a predictable rhythm, supporting skill development and constructivist learning – particularly when faculty adhere to a similar grading pace. We look forward to discussing these ideas with ECIS 2021 colleagues, and we encourage other scholars to adopt a configurational approach in future studies of online learning.

References


Gogan et al./Rhythmic IS Case Teaching Online


