

**Blended Learning and the Global South. Virtual Exchanges
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Always Flipped? A Peer-Centred Cycle for Teaching and Learning in the English Literature Class

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Abstract In English departments, the default literary pedagogy of ‘read and discuss’ renders student performance particularly vulnerable to shortfalls in the area of deep reading. Where students rely on online content resources before reading literary texts, they effectively flip the class, *decreasing* rather than increasing active learning. This article presents a blended model for mitigating this trend by means of a reciprocal peer learning feedback loop. The Peer-Centred Cycle minimises direct instruction online or in class, and uses an online-to-classroom feedback loop to shift the majority of classroom activity to reciprocal peer learning, distinguishing it from both flipped classroom pedagogies, as well as from RPL as an occasional classroom strategy.

Keywords Reciprocal peer learning. Deep reading. Flipped classroom. Peerinstruction. Just-in-time teaching. English literature. Peer-centred cycle.

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1 Background. The English Exception

Asked in an online forum about the flipped classroom's continuity with traditional (pre-web) pedagogy, flipped classroom originator Jonathan Bergmann cedes the point that e-learning does not create the flipped classroom, but avoids a general bracketing with classroom 'prep' by citing the specific example of the literary classroom: "English teachers require students to read *Hamlet* before class so in that sense they have flipped forever" (Bergmann 2011). For Bergmann, a teacher of chemistry, the literary classroom works as an (ambivalent) exception, singled out simultaneously as traditional and progressive, its process both overestimated and underestimated. But the English classroom is better served by more careful attention to the sequencing and integration of in-class and out-of-class activity that blended learning (BL) can offer.

Bergmann's example assumes that students do read *Hamlet* before class, that teaching is designed to ensure this, and that the preparation is meaningful. These assumptions are challenged in practice. Ironically, given the vital role of active learning in the flipped classroom, this example positions the play text *Hamlet* as equivalent to the disciplinary content knowledge delivered by an instructor in a traditional classroom, rather than as a site of active meaning-making where disciplinary skills and knowledge can be developed and tested. Breaking this down, if read-[*Hamlet*]-and-discuss constitutes a flipped classroom, one must imagine this 'flipping' a 'normal' classroom in which *Hamlet* is read out to students as content. Evidently this is an absurd hypothetical. But an equally absurd situation pertains in universities in which literary students discuss *Hamlet* without reading it.¹

The internet's ubiquity can be seen as having created new problems for university English departments, as lecturers contend with short attention spans, shallow extractive reading practices, 'cut and paste' multitasking, and expanded opportunities for plagiarism. Alternatively, it might be seen not as producing, but as exposing essential problems at the root of 'English literature', which burgeoned as a discipline in the service of the colonial educational project (Viswanathan 1989) and, poorly fitted to the university's paradigm of knowledge production, struggles to justify or even define its role.

Though the end of the 'canon wars' toppled the once dominant idea of English literature serving to steward a corpus of 'great works', permitting the canon to be expanded or set aside as the 'turn to theory' substantially decentred network choices, literary syllabi still dis-

¹ This is distinct from scholarly or computational analysis in distant reading (Moretti 2013) or scientific reading (Martindale 1990).

play the persistence of the traditional English curriculum (Amoko 2013; Graff 1987).² The special embarrassment of university English literature however would be found not in the undergraduate reading list, but in the undergraduate maxim that ‘you don’t need to read the books to pass’, or even do well in the subject, the perception that skilful engagement with paratexts can, more than supplement, entirely substitute for, the direct engagement with literary texts that purports to be the core of the discipline.³ This practical wisdom, summed up in a Wikihow ‘How to get an A without reading the book’,⁴ points to a failure not of students but of the discipline, as it exposes the gap between what literary departments claim and what they really teach (and test).

Evidently the internet did not create this situation, although the profusion of online materials providing both the insights students are supposed to glean from texts and basic content information suggests that it could play a significant role in maintaining it. All academic subjects offer some predigested content. As students are quick to grasp, departments teaching canonical literature are in fairly equal competition with other resource providers offering content across a spectrum from formal recorded university lectures, to study notes, to full essay writing (cheat) services. Given the wide, flexible safety net that the internet provides, and the likelihood that they acquire some familiarity with using internet searches to solve everyday problems (before acquiring formal research skills), students might reasonably understand these external online materials not as supplementary, but as fundamental to their success. High rates of student absenteeism suggest, among other things, that significant numbers of students rely heavily on resources outside of the classroom. Regardless of whether their lecturers are investing in blended learning, students are taking a blended approach to their studies.

What matters is not the source of this content material, but its place in pedagogy. Returning to Bergmann’s example (recognising that reading the book may be the last, not the first, thing the student does) if read-then-discuss is the literary classroom standard, then students who access notes and summaries and/or attend lectures and classes to gain knowledge *before* reading the literary text (assuming that the object of discussion will at some point be read) are in effect flipping the class. Crucially, rather than increasing ac-

² The Wits curriculum follows strikingly the progression Amoko finds, citing Simon Gikandi: “periodization of English studies in epochs such as Medieval, Renaissance, Augustan, or Victorian” (Gikandi 2001, 648; Amoko 2013, 131).

³ This is different from the problem of students ‘not doing the reading’ or being ‘given too much reading’ in other humanities subjects where classroom inquiry is focused on a set of concepts, not the reading itself.

⁴ <https://www.wikihow.com/Get-an-A-Without-Reading-the-Book>.

tive learning, this strategic flipping reduces active learning, both in the class and outside of it.

The loss for learning in the classroom is obvious. Participating in discussion of a book one has not read evidently prioritises procedural display (Bloome 1986; Bloome, Puro, Theodorou 1989) over learning. Outside of the classroom, the student who reads a literary work knowing beforehand what they are expected to discover is still 'active', but minimises the time consuming and cognitively demanding processes of deep reading (Roberts, Roberts 2008) and deep learning.⁵ When deep reading is replaced with acts of surface reading, a student 'studying' a literary work may be *less* cognitively active than a general reader.

Avoidance and inexperience of deep reading limits students in other subjects (Roberts, Roberts 2008), but particularly in literary studies, where, notwithstanding the embedding of constructivist thinking across scholarly literary praxis (Easterlin 1999), it remains easier to train students to discuss a text's 'meaning' (given as content) than to understand how literary texts *work*. A primary reading experience, activating confusion, anticipation, and moment-to-moment revision, matters neither for any moral value (not cheating), nor for any experiential value (not cheating oneself / 'the pleasure of the text'),⁶ but for grounding meaningful analysis that factors in the constructive role of reading.

The constructivist understanding that knowledge is not acquired (as content), but built, through an active, contextualised process is commonplace in the humanities, particularly after the "cultural turn" (Bachmann-Medick 2016). Following social constructivist principles (pedagogic and epistemological) students of literature would not receive knowledge from an authoritative source, but establish the 'knowledge' necessary to interpretation through their experiences as readers, both individually and collectively (Vygotsky 1978; Piaget 1971). As Raf Vanderstraeten observes, constructivist epistemology does not disallow more authoritative teaching (2002, 244). But class discussion could allow students to access the rich range of readings that a text supports and to better understand their own reading experience in the context of these possibilities, positioning peers as a

5 "Deep reading" is defined differently (and variously) in literary scholarship contexts, where scholars use it to mean different things within their arguments (likewise its antipode, surface reading). I use "deep learning" in the more general and stable sense assigned in educationalist discourse, where it is closely related to deep learning.

6 The argument that 'good' students will engage primary material for intrinsic reward, is essentially a flawed moral argument that forgets that, particularly in a country as unequal as South Africa, such 'good' students are likely to be the more privileged, who can afford to hazard higher risk for uncertain reward rather than working in the most efficient way to meet basic requirements. See also Roberts, Roberts 2018.

vital resource at the centre of the classroom experience.

This requires that students invest in the process of reading and suspend their investment in an authoritative interpretation. But this orientation to knowledge and learning is not the default of discussion. Students can be motivated by the desire to receive the correct reading (confirmed by the lecturer) and/or to fulfil the needs of procedural display. Colleagues complain of finding themselves lecturing in seminars, faced with passive unprepared students. The lecture is meanly served by teaching and learning scholarship, where it most often appears as a control group and foil against which innovative teaching approaches are measured and validated. In reality, lectures may be variously interactive and, far from becoming obsolete, the practice of sustained collective listening may have particular value now (Kennedy, French 2017). Small group teaching can equally yield passive teaching and learning dynamics, or activity that does not meaningfully promote active learning. In useful terms that also correlate with deep versus surface learning (Stanger-Hall 2012)

[c]ognitively active learning can occur with behaviorally active learning or with behaviorally passive learning, and cognitively passive learning can occur with behaviorally active learning or with behaviorally passive learning. (Mayer 2002, 105)

Lecturing is not necessarily a problem. But there *is* a problem when small group seminars slide towards ‘lecture’ (i.e. transmissive) mode because students are not adequately prepared for active learning.

Guided discussion is the default in English departments, the core teaching method in the discipline, and something of an article of faith. Taking active discussion for granted however might limit the extent to which instructors design their teaching to address factors inhibiting meaningful active learning. Active learning has been vigorously engaged where discussion is not the default, in sciences teaching. The flip can reduce thinking about teaching to a crude content delivery teaching activity binary. But understanding literary study as an interpretive, not a content, discipline (students develop skills of interpretation aided by disciplinary tools, rather than acquiring disciplinary knowledge), flipped class strategies might be used not to move content-transfer online to make space for active learning but to make *both* in- and out-of-class work active and part of a cycle of active learning. Constructivist principles (pedagogical and epistemological) argue for and support this approach. A blended learning design combining peer learning and structured feedback loop makes this practicable.

2 Theory and Methodology

Bergmann's example, *Hamlet*, presents distinct challenges for students' reading and meaning-making that I would argue are best met by blended pedagogies specifically designed to engage these challenges.⁷ The peer-centred approach I describe here was created and used for teaching premodern (Medieval) poetry, but offers a general blended strategy combining targeted reading exercises and collaborative elaboration that can be used for all literary texts, bearing in mind the above rider.

This method was developed in the context of an elective course taught over 6 years at the University of the Witwatersrand, Department of English (2014-19).⁸ The course's blended learning approach, like its content and pedagogy, evolved over time: from the practical necessity of making resources available online (reducing costs), to occasional and then more regular use of preparation and follow-up tasks, and later a structure in which the blended component is integral to the course's pedagogy and becomes difficult to evaluate as a separate component. In the last two years of teaching the course saw significant student achievement, which may be attributed to this more fully integrated blended approach (the main change). But this chapter is not an attempt to prove this, nor to assert the efficacy of this model or 'blended learning' in general. Rather it is an attempt to describe the complexity and interdependence of a blended approach that complicates such claims.

As Martin Oliver notes,

[m]any of the proposed advantages of scientific methods, designed for use in controlled conditions, such as transferability and replicability [...] simply do not apply in the ill-defined, authentic world of education practice. (2000, 87)

While Scholarship of Teaching and Learning (SoTL) has been reasonably criticised by educationalists for lacking theory or method to align with educational research (Kanuka 2011), the claims, explicit or implicit, of blended learning research to produce valuable data and generalisable insights are weak when a basic conceptual incoherence leaves "no coherent way of synthesising the findings of studies, let alone developing a consistent theoretical framework with which to

⁷ Teaching Renaissance drama, I use a blended learning platform that engages students with frameworks of expectation (and focus assessment on this activity) to activate multimodal literacies. The challenges of novel-length narratives may be usefully answered with collaborative (online) annotation.

⁸ The Invention of Love: Medieval Love Poetry, a course elective within ENGL2005 Medieval Literature.

interpret data" (2005, 24). In this context where, as Oliver and Trigwell have argued, the discourse of blended learning "bolsters the subservient relationship of higher education to industry" (2005, 21), data-driven rigor has a primarily rhetorical function, helping to legitimise BL as a face-saving mechanism for the corporate training industry and cost-cutting universities (Oliver, Trigwell 2005, 21), while generating research 'productivity'.

As an academic in a literary humanities discipline, my role is to deliver high-quality learning in a research-intensive university context. For teaching academics in the disciplines, research design is not a part of teaching design. But it is not so much the absence of research design as the requirements of teaching that create problems for the experimental reporting model. Teaching involves constant data gathering and adjustment, made on an ongoing basis, in the context of a continuous feedback cycle. Oliver notes that

[e]xperiments are predicated on the ability to control the context in which they take place [...] in order to isolate the variables to be studied. In an educational setting, it is often impossible to do this on pragmatic and ethical grounds. (2000, 88)

This fundamental problem for SoTL is not addressed by the norms of research ethics (Kincaid, Pecorino 2004).

The blended strategy which I describe here evolved in the context of teaching as a set of responses to specific problems in my own discipline, rather than as an attempt to apply Just-in-Time Teaching (JiT) and Peer Instruction (PI) to a literary studies context, and combines the two in ways that significantly alter their operation. I choose to describe and position my practice in terms of these specific strategies since this affords insights from this body of scholarship and a way to forge connections between my work and others'. Importantly, JiT and PI denote flexible strategies (broadly covering web-based preparation and reciprocal peer learning) that may be used in varied teaching contexts under the same or different names. Colleagues may use similar approaches under other names, although there is little evidence of Peer Instruction (the core of my approach) being used (consciously) to support literary teaching outside of ESL.

The social constructivist principles informing the development of the Peer-Centred Cycle likewise have a disciplinary basis in literary and cultural studies, rather than the imposition of blended learning models like the Community of Inquiry (CoI) Framework. While the Framework has developed beyond a compensatory BL emphasis on social and teaching presence, focusing more on the goal of cognitive presence (Garrison, Anderson, Archer 2010) and can as a whole inform design decisions, it is still used primarily for coding online transcripts, i.e. evaluating an online component (Castellanos-Reyes 2020).

As an academic, the aim of my teaching has always been integrating learners into a knowledge community, the process that, for Vygotsky (1978, 57), effectively constitutes all learning. Tasked with introducing students to specific disciplinary knowledge and more broadly inducting students into academic practice I, like many colleagues, use the classroom to model intellectual community.

Using Garrison's terms, I would argue that cognitive presence ("the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse") and community of inquiry are essential both to traditional notions of academic excellence and to the inclusive pedagogies of presence required for decolonised classrooms (Garrison, Anderson, Archer 2001, 11; Mbembe 2015). To this end, rather than using a CoI framework to support blended learning (in a deficit model), I use blended learning to support community of inquiry.

3 Creating a Peer-Centred Cycle for Teaching and Learning

3.1 Peer Instruction and Just-in-Time Teaching

Peer Instruction (PI) and Just-in-Time Teaching (JiTT), both originating in physics teaching, stand independently as major contributions to active learning pedagogy, but they are also regularly combined. JiTT prioritises and makes space for active student-centred learning by (1) moving the content-transfer element of the course to (web-based) pre-class preparation tasks (flipping the class). The online element facilitates the second, and defining, step (2) creating a feedback loop between preparation and class. The instructor reads student's submissions just before teaching to gauge levels of understanding and select appropriate learning activities.

PI likewise relies on a feedback loop, in this case to replace teacher elaboration, where feasible, with active reciprocal peer learning (RPL). A PI teaching session may incorporate many PI cycles, opened when the lecturer poses a question to test understanding and closed once understanding is established. A classroom response system (typically clickers) gives the instructor immediate feedback on the proportion able to supply the correct answer. If there is significant but not excessive confusion (PI's creator, Eric Mazur, suggests between 30% and 70%), students find a peer with a different answer and discuss until there is consensus (a vital element). Answers are then resubmitted, the lecturer may clarify and confirm understanding (Mazur uses a quiz), and the cycle is closed (Mazur 1997).

PI was designed as a lecture strategy and can be deployed as such without web mediation (and without classroom response technology) but Mazur acknowledges that meaningful active learning ben-

efits from preparation. “[F]or this method to be most effective, students need to come to class with some basic understanding of the material” (Watkins, Mazur 2010, 39). Mazur thus proposes incorporating JiTT in peer instruction to facilitate student preparation and more targeted design of PI questions (Watkins, Mazur 2009), while PI is recommended as a “universally applicable” complement to JiTT (Maier, Simkins 2010, 71). Both are thus associated with the ‘flipped classroom’, though PI is used within a context of direct (lecture) instruction.

As David Boud notes,

[r]eciprocal peer learning is often considered to be incidental – a component of other more familiar strategies, such as the discussion group [...]. As a consequence, until recently, reciprocal peer learning has not been identified as a phenomenon in its own right that might be used to student’s advantage. (2001, 4)

Because the method I outline here significantly minimises direct instruction either online or in class, and uses an online-to-classroom feedback loop (JiTT) to shift the majority of classroom activity to reciprocal peer instruction I will refer to it as the peer-centred cycle (PCC), distinguishing it both from its individual elements and from RPL as an occasional classroom strategy.⁹

3.2 The Peer-Centred Cycle

PCC joins individual (online) and group (class) learning in a cycle that connects action and reflection to promote deep learning, with a particular emphasis on metacognition as a driver for meaningful learning. Students move through individual activity (submitted online), collaborative elaboration and reflection (in class), and individual reflection (in class) informing the next cycle of action (submitted online).

1. a. Students complete a preparation task. Rather than a JiTT ‘warm-up’, this is a substantial exercise that can allow for comparative elaboration over one or even two sessions. A range of exercise types is beneficial, but a typical exercise could involve reading one or more poems and answering a series of scaffolded questions.¹⁰ An autograded test could equal-

⁹ Since its inception, JiTT has been explicitly understood as an evolving, flexible teaching strategy that requires different implementation in different disciplines and teaching situations (Novak 2011).

¹⁰ These would range from basic questions designed to identify and bring awareness to possible difficulties and interpretive divergences in the text (e.g. who is the speak-

- ly provide substantial learning opportunities, even across multiple sessions.¹¹
- b. Students submit online (via LMS) any time before the teaching session; after this time, the submissions tab is closed.
 2.
 - a. At the start of class, the instructor facilitates a very short discussion (5-10 minutes) identifying difficulties and questions shared by the class.
 - b. Students compare answers in small groups (2-3 students). As in PI, where there is disagreement, students explain and compare their interpretation and reasoning.
 - c. If students cannot find agreement on a point, they consult with the instructor (circulating) or with another group. If there is no disagreement in a group, equally students call the instructor. Through the instructor they may be questioned on their reasoning, given a further step to think through, or connected with another group.
 - d. In the final 10-15 minutes, the instructor invites groups to share key insights and points of debate. The instructor helps to draw out connections and patterns.
 3. The instructor uses insights gleaned from the session and student feedback to create, or modify, the next preparation task.

3.3 Interdependency and Flexibility

In PCC learning design, the two blended learning techniques (JiT and PI) are not just combined, but highly interdependent. Structured individual preparation (JiT) makes it possible for classes to be by default framed and prioritised as a space for collaborative elaboration via reciprocal peer learning (RPL). Less obviously, the continuity and the predictable shape of classes proceeding automatically as RPL, mitigates the need for the instructor to read and respond to on-line preparation and design active learning activities in advance of teaching. This reduces the time spent on reading, responding, and planning and gives the instructor slightly more flexibility (see below).

er of a line, what is the speaker's assumed gender, to what does a particular deictic refer) to higher level questions affecting the poem as a whole (e.g. tone or intention).

11 E.g. students are given a pack of poems in a genre. A set of questions encourage students to read the poems, identify patterns (mid-level interpretation and genre competency) and find significant variation (higher-level interpretation). This is scaffolded with questions that direct attention to fundamental elements in the text that may cause interpretive confusion. E.g. How many poems have multiple speakers? In how many poems is the speaker a woman?

3.4 Feedback Loop for Instructors

JiT's feedback loop connects online preparation and classroom work by giving the instructor insight to design activities before the teaching session (Marrs, Novak 2004). With the PCC, the essential and regular feedback loop that connects online preparation and classroom work is created at a different point: *after* the class and just before the next task is published. This is particularly useful in university humanities study where the curriculum is flexible. Just-in-time amendments to online tasks also allow for pacing adjustments responsive to the needs and interests of the class.

The option to consult students' submissions before any class still exists. But "talking points" (Novak, Patterson 1998) may equally be gathered in class while students are engaged in discussion, "just in time" to connect threads of discussion, or to bring to the end of class wrap-up. The instructor still actively monitors responses, but is particularly active in the class, moving between groups, facilitating peer discussion and gathering information while students are engaged in RPL. As in JiT, instructor learning happens importantly alongside student learning (Watkins, Mazur 2009, 41). But emphasis is given to instructor responsiveness and learning in the collaborative classroom.

3.5 Feedback Loop for Students

PCC maximises not just active learning, but feedback during learning, what Biggs and Tang identify as "[a]rguably the most powerful enhancement to learning" (2007, 97). Having provisionally committed to an answer in the online preparation, students receive initial feedback in class in the form of knowledge of peers' answers (1). This is partial feedback in two senses, since students know only their discussion partners' answers, not the pattern for the whole class, and since the instructor does not furnish a correct answer. This initial feedback is still sufficient to prompt reevaluation, increasing confidence or driving questioning.

Proceeding from this first reevaluation, students elicit explanations from their peers and/or provide elaborations of their reasoning, feeding a second cycle of feedback and reevaluation.¹² Students benefit (in distinct ways) from hearing peers explain their thought

¹² Some applications of PI leave out collaborative elaboration assuming that knowledge of peer's answers generates sufficient reflection. However, testing by Van Dijk, Van Der Berg, Van Keulen (2001) suggests that where instructors leave out the peer discussion and consensus-building elements of PI, students achieve lower test results.

process (2), from articulating their own thought processes, and from receiving direct peer feedback (3).

Having gone through these fundamental stages of peer discussion, groups may seek input from the instructor to clarify points or move the discussion forward. The instructor may meet this need by directly engaging the group (4), or introduce their debate into another group's collaborative evaluation cycle, feeding further cycles of elaboration and reevaluation (5). If the instructor is not available and a group has reached an impasse (disagreement or complete consensus), students engage nearby groups. Once groups merge their discussion and seek consensus, the instructor can again be called in to respond and the process can be repeated.

Toward the end of the session, the class comes together to identify and close feedback loops. This may be initiated by calling on all groups to address a question posed to the instructor. Snowballing may also mean that the class reaches this point organically. Rather than going through the answers, students are prompted to share shifts in perspective from their discussions and any remaining points of disagreement or uncertainty. The emphasis at the end of the session is on establishing insights or reasoning/reading techniques that can be used in the future. Accessing the views of peers and instructor, students can establish the answers and evaluate their original performance. However, focus is shifted to their current reasoning, and finally to what has been called feedforward (shifting from past to present to future).¹³ Classes engage students in a spiral of action and feedback, the goal being sustainable feedback as defined by Carless et al.: "dialogic processes and activities which can support and inform the student on the current task, whilst also developing the ability to self-regulate performance on future tasks" (2001, 397).

In every PCC class, students 'receive' large quantities of feedback. But what is significant is less the quantity or quality of the feedback than the (learning-oriented) action that precedes and follows it. Working from a constructivist understanding of feedback as co-created active meaning making, the PCC method maximises feedback experienced as a regular part of active learning, rather than as passive transmission, whether from an instructor or from peers. It emphasises dialogic feedback (otherwise hindered by the power asymmetry between students and instructor) and works to reduce the distance between peer and instructor feedback.

Where feedback is associated with assessment, it may be a challenge to shift students away from surface or strategic attitudes to

13 Marshall Goldsmith's corporate coaching concept of feedforward does not articulate anything that is not present in standard understandings of formative assessment best practice, but names a useful emphasis.

feedback (Sadler 1989; 2009). The PCC class seeks to associate and connect feedback with learning, rather than with assessment. ‘Flipping the semester’ (see below) may also help in this respect.

3.6 Online Feedback and Keeping Students in the Loop

The literature on blended learning stresses delivery of timely, specific, comprehensive, personalised online feedback. JiTT prescribes use of autograding to deliver feedback and minimise instructor workload (Marrs, Novak 2004). Maier and Simkins additionally recommend giving short written feedback on JiTT responses wherever possible, recognising that workload may make this impracticable (2010, 138). However, trade-offs other than workload may inform a decision not to give online feedback. Immediate feedback (autograded or instructor) can have the effect of furnishing an early exit from the peer-centred cycle.

Reciprocal peer learning in class instead generates a set of reference answers collaboratively created, following general constructivist principles as well as the understanding that students learn better working with “authentic” examples (Simkins 2010, xiv). While in JiTT authentic examples are brought in by the instructor accessing preparation tasks unseen by the class, authentic examples are particularly powerful (and memorable) when students encounter ideas as they are generated and articulated by their authors in class.

As noted above, autograding, which has specific benefits (immediate feedback; novelty; labour saving; catering to different learning styles) can be used in the PCC model, as long as feedback does not close the cycle. For example, students are given a numbered set of poems to read and asked to identify which poem/s contain/s certain features. Students are given a grade and possibly an option to retake and regrade to assess their performance, but autograding does not supply answers.

3.7 The Flipped Semester (Pacing)

JiTT is frequently described in terms of time optimisation, as a method for maximising the efficacy of class-time (and overall time on task). In a PCC design, the continuous, predictable cycle of online tasks followed by in-class RPL reduces time spent setting up and framing class activities. In terms of overall course design, it can also facilitate more meaningful pacing of assessment.

A common pattern of student engagement sees low effort and course engagement (including neglect of unassessed reading) up to the point where assessments are due, with most time spent at the

end of the course, when students are focused on assessment and 'catching up' and time on task is offset by low attendance. Continuous assessment mitigates this somewhat, improving engagement between assessments but without shifting the overall pattern. Maximisation of learning and achievement of deep learning requires inverting this pattern.

The regular rhythm of the online and class feedback loop can support this more extreme kind of structural rebalancing, as in the example below.

The first half of the course features *high task load with substantially reduced assessment*. There are no essay assignments in the first half, only one test of acquired reading skills (short questions on seen and unseen material) at the end of the section (25%). Classes, focused on students reading, responding, and assessing their beliefs and strategies, offering practice and feedback for the test. This reduces the need for additional grade incentive. 5% is awarded for regular completion and submission of tasks across the whole course. Reducing the number and weighting of assessments allows students to focus on rapidly gaining the contextual knowledge and familiarity required for reading primary material, setting them up for expert (versus novice) learning.

The second half of the course features *increased assessment and reduced classwork demand*. Students write a similarly structured test (20%) covering material from the whole course, but also submit an essay (40%) and engage in written peer feedback on essay concepts and abstracts (10%). Tasks and classes continue to introduce new material. But students can more easily make connections and draw on prior knowledge (competence), easing the work burden. Students are given greater choice and encouraged to use classroom discussions as a resource, identifying and promoting lines of discussion that might connect with their essay interests (promoting autonomy). In this way, students working toward their essay assessment are encouraged to identify not only interests, but *expertise*, in themselves and each other, the ability to make particular contributions in class (relatedness).

The flipped semester aims to support transition from a situation promoting extrinsic motivation (avoiding failure, avoiding risk, securing grades) to a situation promoting intrinsic motivation, where autonomy, competence, and relatedness (see above) play a key role (Ryan, Deci 2000).

4 Observations and Discussion

4.1 Flipped Attendance

In the two out of six years when I used this full blended approach to teach my elective class, there was a marked improvement in attendance. While it is common for colleagues to teach electives at less than half capacity (despite a nominal attendance requirement of 80%), particularly later in teaching blocks, attendance in these years was high and stayed high across the semester, averaging above 90%.

The blended learning literature contains little discussion of the effects of BL on attendance for active learning classrooms. Studies typically focus on large class (lecture) pedagogy, with several assessing online participation as an alternative form of attendance.¹⁴ Stockwell, Stockwell, Cennamo, and Jiang (2015) noted higher face-to-face class attendance in a course using a video assignment versus a textbook assignment and attributed this basically to agreeableness, “a video is a more engaging way to present new and complex material to students and stimulates students to be interested in learning more about the topic by attending class” (2015, 934). Besides the connection being weak, this effectively compares two delivery methods for asynchronous activities, the advantage being audiovisual rather than online. More meaningfully, JiTT has been found to correlate with higher attendance. But studies compare JiTT-enabled active learning with traditional lecture formats which make no space for active learning.¹⁵ Deslauriers, Schelew and Wieman recorded improved attendance in lectures that incorporate a broad range of active learning elements, some (though not all) enabled by JiTT (2011, 862). JiTT and PI might promote attendance insofar as they promote active learning, although in class polling in PI can also be used to electronically monitor (and incentivise) attendance.

When I taught through PCC, rules on attendance remained unchanged (departmental standard) and there was no penalty applied and negligible grade incentive (5%). Further, students were told that if they could not attend a session, online submission of preparation would count toward attendance. While students did take advantage of this flexibility, overall attendance did not decrease.

¹⁴ Hakala and Myllymaki’s “A Blended Learning Solution and the Impacts on Attendance and Learning Outcomes” (2017) compares participation figures of students attending face-to-face lectures, accessing lectures video content, or given a choice, and does not record the effect of blended pedagogy on lecture attendance. See also Riffell, Sibley 2004.

¹⁵ Novak (2011) reported an increase from 50% to over 80% attendance introducing JiTT into an introductory physics course, with significant improvement in retention, and “similar results” from colleagues in other disciplines in the 15 years following.

High preparedness might drive high attendance. Students were not incentivised to attend, but incentivised to prepare (doing the work associated with the session). Reducing extrinsic motivators, attending class was no longer framed as meeting a workload obligation and the perception of effort and obligation was moved to preparation. Students who had submitted work before the class had already done the work and could demonstrate the fact and the face-to-face class was reframed as a resource for students. Attendance remained high even when students were told that model answers generated in the class would be made available online.

High attendance would suggest that students found face-to-face classes structured as collaborative elaboration sessions valuable to their learning or at least necessary to their success in the course. Emotions, positive and negative, might have driven attendance: curiosity, interest, and engagement on the one hand, anxiety on the other. Among these “activating emotions”, anxiety stands out less for its negative valence than for its correlation with extrinsic motivation (Pekrun 2006; Pekrun, Frenzel, Goetz 2007).

4.2 Negative Feedback and Activating Emotions

Kanuka (2011) cites scholarship that suggests that absence of anxiety along with intrinsic motivation allow for deep processing. Students had relatively high intrinsic motivation entering the course since 1) this was an elective; and 2) the most popular elective option, requiring early sign up or special written motivation. The PCC method was combined with a flipped semester structure (see above) to reduce the role of extrinsic motivation and to promote intrinsic motivation for deep learning. But PCC was not able to achieve absence of anxiety. While student achievement was high and feedback was overall very positive, in ongoing feedback (class check-ins), mid-semester feedback, and final course evaluations, students reported anxiety in their experience of the course. Anxiety was reported in relation to higher than usual course expectations (concern with control), but more often – and more significantly in respect of the blended approach – students described anxiety associated with not receiving written feedback on preparation tasks, also citing frustration.

This was framed as desire for feedback. But, in discussion, students indicated that they would want feedback on their *original* performance, not a revised performance, maintaining this preference even though reciprocal peer learning in class (including peer feedback, self-assessment, and instructor feedback) would render this feedback no longer meaningful. Students were unwilling to do more work to receive usable feedback. This suggests that the issue was not insufficiency of feedback (in either quantity or quality).

Although every class cycle functioned to rehearse assessment and generate extensive feedback, students lacked written instructor feedback *measuring* their performance without peer and instructor feedback. I was able to address this need using preparation assignments with limited autograding. The flipped semester structure further aims to reduce anxiety by avoiding, in Pekrun's terms, a high value low control situation, allowing students to gain mastery (control) with low assessment stakes (value) promoting positive activating emotions in the classroom (Pekrun, Stephens 2010, 238).

Anxious demand for feedback might reflect resistance to preparation that is not grade incentivised (Cookman 2010, 172-3), a perception that submission of written work entitles students to feedback even where this feedback does not aid learning. I worked to promote this shift from feedback for assessment to feedback for learning tacitly, by routinising active, dialogic feedback, and explicitly, by making students aware of multiple functions of feedback.

Transmissive feedback that does not produce reflection or action does not lead to learning (in the constructivist sense) or promote independence (Carver 2017, 1706). Authoritative instructor feedback can override the work of dialogic feedback as active meaning making and promote dependency. It also undermines attempts to move students from an idea of literary meaning as inherent in the text, to a social constructivist understanding of literary meaning, where multiple readings are revealing about audiences and the text's possibilities. Whether transmissive feedback replaces anxiety with (positive deactivating) relief or with (negative deactivating) disappointment (depending on the gap between self-image and assessment) in both cases it is deactivating in terms of motivation and particularly for the peer-centred cycle.

As Winstone and Carless note:

The broader literature on emotion and learning tells us that the distinction between positive and negative emotions, where negative emotions lead to detrimental outcomes, is far too simplistic to account for the impact of emotions on behavior in the context of feedback. (2019, 150)

This is particularly the case for negative activating emotions (anxiety and frustration), and positive deactivating emotions which are anxiety's opposite: relief and relaxation. Failure-related anxiety *can* negatively impact intrinsic motivation, but can also strengthen motivation (Pekrun, Frenzel, Goetz 2007, 26). Anxiety is most detrimental to learning as it directs cognitive resources away from task, while positive activation emotions create task-related flow experiences and correlate with positive performance outcomes.

Alignment between feedback and self-perceptions has been found to correlate with constructive engagement with feedback, while mis-

alignment produces less adaptive responses (Winstone, Carless 2019, 152). Crucially, the peer-centred cycle allows students to maximise feedback and minimise this gap while focusing attention on task.

4.3 In(ter)dependence and Performance

Teaching with PCC, the signal outcome was a significantly high standard of work produced across the class, academic essays and peer review contributions that met (and in some cases exceeded) expectations at Honours level. Students lacked scholarly grounding in the field, this being their first (single semester) exposure to Medieval literature, or to any premodern literary study outside of Shakespeare. But in generating arguments from independently selected material, reflecting on the limitations of arguments, students were closer to the processes and expectations of academia, the steps required to produce a reading with interest to the field, than the limited close reading and essay writing skills required by undergraduate essays.

Performance metrics for blended learning share many of the same problems as performance metrics for face-to-face learning. Student satisfaction metrics¹⁶ and course site data are given prominence in evaluating blended learning courses (Bowyer, Chambers 2017), but do not evaluate *learning*. Significantly Deslauriers et al. find that “students in the active classroom learn more, but they feel like they learn less” (2019, 19251), attributed in part to increased cognitive effort, and conclude that student evaluations of teaching “could inadvertently favor inferior passive teaching methods over research-based active pedagogical approaches” (19256). With these considerations, I took the quality of student’s output as the key measure of success for the course.¹⁷ When I was awarded a faculty teaching award for teaching this elective in 2018, it was on the basis of a submission of written work (essay abstracts) from every student in the class.

¹⁶ Course evaluations in the form of a Monkey Survey were embedded in the LMS (Sakai).

¹⁷ Sakai’s statistics offer valuable user interaction data (user visits, user interactions with course tools, and user interactions with resources) which allow a course designer to observe broad patterns across the cohort and also to monitor where individual students are interacting or not interacting with particular tools or resources. This is useful for ongoing course and resource adjustment, for monitoring individual students, and for evaluating the blended learning aspect of the course. However, though these tools appeared as available in 2018 and 2019, no data could be accessed due to the tools not being supported by technical staff in the university in both years, with negative implications for teaching (ongoing course evaluation), ongoing design (final evaluation) and research. It was thus impossible to determine whether, as other scholars have found (Chen, DeBoer 2015), there is correlation between performance and frequency of engagement with online materials.

It is significant that students produced this work with a high degree of independence from their instructor. In the second half of the course, an online forum (Sakai forum tool) was made available on the course site for students to post their essay concepts (thesis statement) and working titles. In final class sessions which workshoped articulating and revising ideas, I used early posts to the forum as examples, motivating both those who had and those who had not yet committed to publishing draft ideas. Posting ideas was optional, but giving feedback was mandatory. Students were urged to read and engage with peers' postings on the forum both to deepen their understanding of the essay task and to broaden their exposure (drawing on the expertise of others) as preparation for the general coverage test.

The forum was most successful in 2019 when attendance at a conference put a strict limit on my participation. Although initial uptake was slow, in the final days before submission the site became extremely active. Students referred peers to discussions elsewhere on the forum, recalled and modelled instructor prompts, and published on average 500 words of peer response.

Students' meeting of high expectations and the role played by interpersonal scaffolding align with Vygotsky's (1978) important concept of the "zone of proximal (or potential) development" (ZPD), what the student can potentially achieve in the social space of learning, developed further in Moll and Whitmore's positing of collective ZPD (1993, 20). Interaction with "more capable peers" (Vygotsky 1978, 86) as much as direct teacher instruction, can allow students to "perform [...] in collaboration with one another that which they have not mastered independently" (87) and what the student is able to do collaboratively in the ZPD, as the zone of possible learning, "He will be able to do independently tomorrow" (211) in what Vygotsky terms the "zone of actual development". As Wells notes, this does not require a more advanced learner, since capability may be distributed across a group for different tasks, expertise being mobilised within the group (1999, 323). Mahn and John-Steiner likewise emphasise complementarity, particularly for learning environments where high cognitive demands may diminish ZPD, aspects of which may include "a common understanding of the task at hand, an appreciation of one another's cognitive, social and emotional development, and potential contribution" (2002, 49). These help to account for the rapid development, synthesis, and mastery of ideas in the Forum. By the end of the course, these were developed to a sufficient level for students to work and learn online as a community of inquiry in the absence of an instructor.

5 Conclusion

The contrast between blended learning and ‘normal’ teaching practice has long, and perhaps always, been a false one. In 2011, Norberg et al. (2017) characterised blended learning as the “new normal” in teaching (Dzubian et al. 2018). Oliver and Trigwell argued that the term had been so ill-defined and the practices it encompasses so widespread as to make it redundant (as well as incoherent) in educational contexts (2005, 21). Whatever the definition, however, arguments for and about blended learning are bound to look different in the wake of recent and current events.¹⁸ Recognising that higher education is facing a compounded crisis, this chapter does not make general claims for blended learning.¹⁹ It does not offer generalisable techniques to reduce face-to-face teaching or reduce the difficulties of online teaching, two practical questions now urgently engaging universities. ‘Online learning’ features in this account not as an element that can be imported into teaching programmes, reducing or substituting for contact teaching, but as a hard-won educational outcome achieved with a full contact teaching presence that is itself achieved with the help of online tools. The question the intervention addresses is not how to blend online and face-to-face learning, but how to give face-to-face learning, where it is available, its proper value. It is a question I expect will look slightly different, but will still be relevant, in the new ‘new normal’.

Bibliography

- Amoko, A. (2013). “Race and Postcoloniality”. Wake, P.; Malpas, S. (eds), *The Routledge Companion to Critical and Cultural Theory*. London; New York: Routledge, 127-39. https://doi.org/10.4324/9780203412688_chapter_11.
- Bachmann-Medick, D. (2016). *Cultural Turns. New Orientations in the Study of Culture*. Berlin: De Gruyter.
- Bergmann, J. (2011). “The History of the Flipped Class”. *FlippedClass.com*. <https://flippedclass.com/the-history-of-the-flipped-class>.
- Biggs, J.; Tang, C. (2007). *Teaching for Quality Learning at University*. 3rd ed. New York: Open University Press.
- Bloome, D.; Puro, P.; Theodorou, E. (1989). “Procedural Display and Classroom Lessons”. *Curriculum Inquiry*, 19(3), 265-91. <https://doi.org/10.2307/1179417>.

¹⁸ Including (but not limited to) the 2020 global pandemic.

¹⁹ Grimaldi and Ball’s (2019) nuanced assessment of blended learning’s neoliberal investments and Naomi Klein’s (2008) analysis of the logic of “disaster capitalism”, both urge caution.

- Bloome, D. (1986). "Building Literacy and the Class Community". *Theory into Practice*, 25(2), 71-6. <https://doi.org/10.1080/00405848609543203>.
- Boud, D. (2001). "Introduction. Making the Move to Peer Learning". Boud, D.; Cohen, R.; Sampson, J. (eds), *Peer Learning in Higher Education. Learning From and with Each Other*. London: Kogan Page, 1-20.
- Bowyer, J.; Chambers, L. (2017). "Evaluating Blended Learning. Bringing the Elements together". *Research Matters*, 23, 17-26. <https://www.cambridgeassessment.org.uk/Images/375446-evaluating-blended-learning-bringing-the-elements-together.pdf>.
- Carless, D. et al. (2010). "Developing Sustainable Feedback Practices". *Studies in Higher Education*, 36(4), 395-407. <https://doi.org/10.1080/03075071003642449>.
- Carver, M. (2017). "Feedback, Feedforward, or Dialogue?. Defining a Model for Self-Regulated Learning". Cano, E.; Ion, G. (eds), *Innovative Practices for Higher Education Assessment and Measurement*. Hershey (PA): IGI Global, 1696-713.
- Castellanos-Reyes, D. (2020). "20 Years of the Community of Inquiry Framework". *TechTrends*, 64, 557-60. <https://doi.org/10.1007/s11528-020-00491-7>.
- Chen, X.; DeBoer, J. (2015). "Checkable Answers. Understanding Student Behaviors with Instant Feedback in a Blended Learning Class". *2015 IEEE Frontiers in Education. Launching a New Vision in Engineering Education = Conference Proceedings* (El Paso, TX, 21-24 October 2015). IEEE Xplore, 1-5. <https://ieeexplore.ieee.org/abstract/document/7344045>.
- Cookman, C. (2010). "Using Just-in-Time Teaching to Foster Critical Thinking in a Humanities Course". Simkins, Maier 2010, 163-78.
- Deslauriers, L. et al. (2019). "Measuring Actual Learning versus Feeling of Learning in Response to Being Actively Engaged in the Classroom". *Proceedings of the National Academy of Sciences*, 116(39), 19251-7. <https://doi.org/10.1073/pnas.1821936116>.
- Deslauriers L.; Schelew, E.; Wieman, C. (2011). "Improved Learning in a Large-Enrollment Physics Class". *Science*, 332, 862-4. <https://doi.org/10.1126/science.1201783>.
- Dziuban, C.; Graham, C.R.; Moskal, P.D. et al. (2018). "Blended Learning: the New Normal and Emerging Technologies". *International Journal of Educational Technology in Higher Education*, 15(3). <https://doi.org/10.1186/s41239-017-0087-5>.
- Easterlin, N. (1999). "Making Knowledge. Bioepistemology and the Foundations of Literary Theory". *Mosaic. An Interdisciplinary Critical Journal*, 32(1), 131-47.
- Garrison, R.D.; Anderson, T.; Archer, W. (2001). "Critical Thinking, Cognitive Presence, and Computer Conferencing in Distance Education". *American Journal of Distance Education*, 15(1), 7-23. <https://doi.org/10.1080/08923640109527071>.
- Garrison, R.D.; Kanuka, H. (2004). "Blended Learning. Uncovering Its Transformative Potential in Higher Education". *The Internet and Higher Education*, 7(2), 95-105. <https://doi.org/10.1016/j.iheduc.2004.02.001>.
- Garrison, R.D.; Anderson, T.; Archer, W. (2001). "Critical Thinking, Cognitive Presence, and Computer Conferencing in Distance Education". *American Journal of Distance Education*, 15(1), 7-23. <https://doi.org/10.1080/08923640109527071>.

- Garrison, R.D.; Anderson, T.; Archer, W. (2010). "The First Decade of the Community of Inquiry Framework. A Retrospective". *Internet and Higher Education*, 13(1-2), 5-9. <https://doi.org/10.1016/j.iheduc.2009.10.003>.
- Gikandi, S. (2001). "Globalization and the Claims of Postcoloniality". *The South Atlantic Quarterly*, 100(3), 627-58.
- Graff, G. (1987). *Professing Literature. An Institutional History*. Chicago: University of Chicago Press.
- Grimaldi, E.; Ball, S.J. (2019). "The Blended Learner. Digitalization and Regulated Freedom. Neoliberalism in the Classroom". *Journal of Education Policy*, 36(3), 393-416. <https://doi.org/10.1080/02680939.2019.1704066>.
- Hakala, I.; Myllymäki, M. (2017). "A Blended Learning Solution and the Impacts on Attendance and Learning". *International Journal of Emerging Technologies in Learning*, 6, 42-9. <https://doi.org/10.3991/ijet.v6is2.1658>.
- Kanuka, H. (2011). "Keeping the Scholarship in the Scholarship of Teaching and Learning". *International Journal for the Scholarship of Teaching and Learning*, 5(1), 1-14. <https://doi.org/10.20429/ijstl.2011.050103>.
- Kennedy, G.; French, S. (2017). "Reassessing the Value of University Lectures". *Teaching in Higher Education Critical Perspectives*, 22(6), 639-54. <https://doi.org/10.1080/13562517.2016.1273213>.
- Kincaid, S.; Pecorino, P. (2004). "Ethical Issues in Pedagogical Research". https://www.qcc.cuny.edu/socialsciences/ppecorino/Profession-Education-ethical-issues.html#_edn12.
- Klein, N. (2008). *The Shock Doctrine. The Rise of Disaster Capitalism*. Toronto: Knopf.
- Mahn, H.; John-Steiner, V. (2002). "The Gift of Confidence. A Vygotskian View of Emotions". Wells, G.; Claxton, G. (eds), *Learning for Life in the 21st Century. Sociological Perspectives on the Future*. London: Wiley-Blackwell, 46-58.
- Maier, M.H.; Simkins, S.P. (2010). "Using Just-in-Time Teaching in Economics". Simkins, Maier 2010, 129-52.
- Marrs, K.A.; Novak, G.M. (2004). "Just-in-Time Teaching in Biology. Creating an Active Learner Classroom Using the Internet". *Cell Biology Education*, 3(1), 49-61. <https://doi.org/10.1187/cbe.03-11-0022>.
- Martindale, C. (1990). *The Clockwork Muse. The Predictability of Artistic Change*. London: Harper Collins.
- Mayer, R.E. (2002). "Multimedia Learning". *Psychology of Learning and Motivation. Advances in Research and Theory*, 41, 85-139.
- Mazur, E. (1997). *Peer Instruction. A User's Manual*. Upper Saddle River (NJ): Prentice Hall.
- Mbembe, A. (2015). "Decolonizing Knowledge and the Question of the Archive". Presentation at the University of the Witwatersrand, Johannesburg, 22 April.
- Moll, L.C.; Whitmore, K.F. (1993). "Vygotsky in Classroom Practice. Moving from Individual Transmission to Social Transaction". Forman, E.A.; Minick, C.; Stone, C.A. (eds), *Contexts for Learning*. New York: Oxford University Press, 19-42.
- Moretti, F. (2013). *Distant Reading*. London: Verso.
- Norberg, A.; Dziuban, C.D.; Moskal, P.D. (2011). "A Time-Based Blended Learning Model". *On the Horizon*, 19(3), 207-16. <https://doi.org/10.1108/107481211111163913>.
- Novak, G.M. (2011). "Just-in-Time Teaching". *New Directions for Teaching and Learning*, 128, 63-73. <http://webphysics.iupui.edu/JITT/ccjitt.html>.

- Novak, G.M.; Patterson, E.T. (1998). "Just-in-Time Teaching. Active Learner Pedagogy with WWW". *IASTED International Conference on Computers and Advanced Technology in Education = Conference Proceedings* (Cancun, Mexico, 27-30 May). <http://webphysics.iupui.edu/JITT/ccjitt.html>.
- Oliver, M. (2000). "Evaluating Online Teaching and Learning". *Information Services and Use*, 20(2-3), 83-94. <https://doi.org/10.3233/isu-2000-202-304>.
- Oliver, M.; Trigwell, K. (2005). "Can 'Blended Learning' Be Redeemed?" *E-Learning*, 2(1), 17-26. <https://doi.org/10.2304/eLea.2005.2.1.2>.
- Pekrun, R. (2006). "The Control-Value Theory of Achievement Emotions. Assumptions, Corollaries, and Implications for Educational Research and Practice". *Educational Psychology Review*, 18(4), 315-41. <https://doi.org/10.1007/s10648-006-9029-9>.
- Pekrun, R.; Frenzel, A.C.; Goetz, T. (2007). "The Control-Value Theory of Achievement Emotions. An Integrative Approach to Emotions in Education". Schutz, P.A.; Pekrun, R. (eds), *Emotion in Education*. Burlington (MA): Academic Press, 13-36. <https://doi.org/10.1016/b978-012372545-5/50003-4>.
- Pekrun, R.; Stephens, E.J. (2010). "Achievement Emotions. A Control-Value Approach". *Social and Personality Psychology Compass*, 4(4), 238-55. <https://doi.org/10.1111/j.1751-9004.2010.00259.x>.
- Piaget, J. (1971). *Psychology and Epistemology. Towards a Theory of Knowledge*. New York: Grossman.
- Riffell, S.K.; Sibley, D.F. (2004). "Can Hybrid Course Formats Increase Attendance in Undergraduate Environmental Science Courses?". *Journal of Natural Resources and Life Sciences Education*, 33(1), 16-20. <https://doi.org/10.2134/jnr.lse.2004.0016>.
- Roberts, J.C.; Roberts, K.A. (2008). "Deep Reading, Cost/Benefit, and the Construction of Meaning". *Teaching Sociology*, 36(2), 125-40. <https://doi.org/10.1177/0092055x0803600203>.
- Ryan, R.M.; Deci, E.L. (2000). "Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being". *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066x.55.1.68>.
- Sadler, R.D. (1989). "Formative Assessment and the Design of Instructional Systems". *Instructional Science*, 18(2), 119-44. <https://doi.org/10.1007/bf00117714>.
- Sadler, R.D. (2009). "Indeterminacy in the Use of Preset Criteria for Assessment and Grading in Higher Education". *Evaluation in Higher Education*, 34(2), 159-79. <https://doi.org/10.1080/02602930801956059>.
- Simkins, S.P. (2010). "An Introduction to Just-in-Time Teaching". Simkins, Maier 2010, iii-xxiv.
- Simkins, S.P.; Maier, M.H. (eds) (2010). *Just-in-Time Teaching. Across the Disciplines, and Across the Academy*. Sterling (VA): Stylus Publishing.
- Stanger-Hall, K.F. (2012). "Multiple-Choice Exams. An Obstacle for Higher-Level Thinking in Introductory Science Classes". *Cell Biology Education. Life Sciences Education*, 11(3), 294-306. <https://doi.org/10.1187/cbe.11-11-0100>.
- Stockwell, B.R.; Stockwell, M.S.; Cennamo, M.; Jiang, E. (2015). "Blended Learning Improves Science Education". *Cell*, 162(5), 933-6. <https://doi.org/10.1016/j.cell.2015.08.009>.

- Vanderstraeten, R. (2002). "Dewey's Transactional Constructivism". *Journal of Philosophy of Education*, 36(2), 233-46. <https://doi.org/10.1111/1467-9752.00272>.
- Van Dijk, L.A.; Van Der Berg, G.C.; Van Keulen, H. (2001). "Interactive Lectures in Engineering Education". *European Journal of Engineering Education*, 26(1), 15-28. <https://doi.org/10.1080/03043790123124>.
- Viswanathan, G. (1989). *Masks of Conquest. Literary Study and British Rule in India*. New York: Columbia University Press.
- Vygotsky, L. (1978). *Mind in Society. Development of Higher Psychological Processes*. Cambridge (MA): Harvard University Press.
- Watkins, J.; Mazur, E. (2009). "Using JiTT with Peer Instruction". Simkins, Maier 2010, 39-62.
- Wells, G. (1999). "The Zone of Proximal Development and Its Implications for Learning and Teaching". Wells, G. (ed.), *Dialogic Inquiry. Towards a Socio-Cultural Practice and Theory of Education*. Cambridge: Cambridge University Press, 313-34.
- Winstone, N.; Carless, D. (2019). *Designing Effective Feedback Processes in Higher Education. A Learning-Focused Approach*. London: Routledge.