

# Growth of Pedagogical Practice in an Active Multidisciplinary FLC on Flipped Learning

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## Abstract

Faculty Learning Communities (FLCs) have gained a lot of attention in higher education. Research has shown that they support student learning, faculty development, and congenial relations among faculty. This paper will shed light on a successful, multidisciplinary FLC comprised of nine faculty members who engaged in Flipped Classroom pedagogy over a two-year period. Guided by Cox's (2015) recommendations, the FLC members sought to improve their students' learning while at the same time enhance their instructional practice. Participation in the FLC led to (1) course redesign, (2) instructional redesign, (3) professional growth, and (4) a sense of community.

*Faculty learning communities create connections for isolated teachers, establish networks for those pursuing pedagogical issues, meet early-career faculty expectations for community, foster multidisciplinary curricula, and begin to bring community to higher education (Cox, 2004, p. 5)*

For over three decades, experts in the field of higher education have advocated for the growth of faculty learning communities (FLCs; e.g., Lenning & Ebbers, 1999). A number of theorists and researchers have noted the benefit for faculty members participating in FLCs in terms of reaching both professional and personal goals. FLCs afford collegial connections and relationships that can improve a sense of belonging and connection, and they thus create an opportunity for faculty members to enhance their teaching through deepened pedagogical knowledge and collaborative reflection on pedagogical practices (Layne, Froyd, Morgan, & Kenimer, 2002). For example, Glowacki-Dudka and Brown (2007) found that university faculty participating in FLCs reported an enhanced ability to network with colleagues. Faculty also reported a greater benefit to learning better teaching strategies when the FLCs were more structured than unstructured (Glowacki-Dudka & Brown, 2007). Moreover, with increased attention to scholarship of teaching and learning (SoTL), FLCs provide an additional opportunity to further professional goals regarding scholarship, at least in the SoTL domain (Richlin & Cox, 2004; Maurer, Sturges, Shankar, Allen, & Akbarova, 2010). FLCs may be organized around any shared purpose, such as faculty commitment to a particular instructional approach, like flipped learning.

Flipped classrooms have been promoted as an important innovation in pedagogy designed to facilitate self-teaching, self-assessment, and self-regulation around the student's own learning (Talbert, 2017). Although many advocates emphasize the benefit for student learning associated with flipped classrooms, others note the overall lack of rigorous, empirical research on this topic (Abeysekera & Dawson, 2015). A recent review, however, found that flipped learning was associated with both improved academic grades and increased faculty and student satisfaction (O'Flaherty & Phillips, 2015). Still, there is likely a great deal of variability in terms of how flipped learning is implemented in higher education classrooms. Thus, a multidisciplinary FLC around flipped classrooms provided an ideal opportunity to foster growth of pedagogy, collegiality, and SoTL research on flipped learning, which led to the creation of the FLC described here.

This FLC on flipped learning was designed with a set of three specific goals in mind, each of which contributed to its success. The primary goal was to build community. In general, faculty tend to learn about a new technique at a one-time only workshop and then fail to incorporate the technique into their pedagogical practice. This multidisciplinary FLC by design built in ongoing dialogue, sharing, and accountability. A second goal was to facilitate engagement in evidence-based teaching practices. Finally, members sought to engage in scholarly endeavors around teaching and learning and to share those SoTL outcomes via conference presentations, workshops for colleagues with resources for instructors to enhance their teaching, and journal article publications.

In the summer of 2017, the Center for Teaching Excellence (CTE) at the FLC's institution offered a "Flipped Classroom" workshop, which was well received by faculty from multiple disciplines. Engagement in the discussion that followed led to the creation of this highly successful FLC on flipped learning, which has remained active for two years now. In fact, all authors of this paper were members of this FLC. This article will describe the implementation of this multidisciplinary FLC, which was guided by the 16 recommendations outlined in Cox (2015), as shown in Table 1.

## History of the FLC

This FLC is in a public, four-year, open access, majority-minority institution in the southeastern United States. The class size at this institution is relatively small with approximately 28 students in each class. The student body is academically, ethnically, and socioeconomically diverse. A significant number of students are non-traditional and/or first-generation, many of whom work off campus and commute. Also, many of the students are identified as underprepared for college-level mathematics and English and so take related support courses upon arrival to help them succeed. These facts motivate faculty to enhance their pedagogical practices to promote student success.

	<b>Cox's (2015) Recommendations</b>	<b>How This FLC Met Them</b>
1	Limit FLC to 8 to 10 members	This FLC had nine members
2	Membership should be voluntary	Members voluntarily joined after attending initial workshop on flipped learning
3	Consider associate partners (e.g., consultants)	CTE director and associate director were regular consultants
4	Have multidisciplinary members (to enhance curiosity, innovation, and break from dysfunction within units); multidisciplinary FLC topic	Members from four schools (business, education, liberal arts, and science/technology) representing seven disciplines; flipped learning cuts across all disciplines
5	Schedule planned meetings from the onset for the year	FLC met once/month for 1-2 hour meetings; calendar invitations at the beginning of the semester
6	Because it is not a committee, build social community (e.g., food)	Always had food at meetings (e.g., donuts, coffee, pizza) and sometimes went out to lunch
7	Facilitator should be a key member who models desired behavior and facilitates goal-setting	Author 1 led and consistently fostered FLC goals and facilitated progress; set high expectations of members
8	Members contribute to objectives, topics, budget	Members contributed to decisions on readings, SoTL project, etc.
9	Obtain and maintain commitment to FLC	Author 1 facilitated members' communication and solicited commitment each year; energized members
10	Assess FLC impact on professional development, student learning, and FLC components	Members reflected on the FLC's impact on faculty development, SoTL project on student learning, etc.
11	Use an approach that contributes to SoTL	Implemented SoTL study on Learner Logs and self-regulated learning
12	Present FLC outcomes on campus and at conferences	Shared products at institutional and local SoTL conferences as well as discipline-specific regional and national conferences
13	If applicable, blend online/distance FLCs with in-person meetings	N/A, although utilized Zoom video conferencing if members were unable to attend in-person meetings; used Academic Commons and Microsoft Teams
14	Provide rewards, recognition, and celebration	Held end-of year luncheon celebrations
15	Embed FLC within the institution's Teaching and Learning Center	FLC supported by institution's CTE, meetings held at CTE conference room, etc.
16	Adapt FLC to fit institution's culture and faculty needs	Host institution voices support for multidisciplinary collaboration and faculty scholarship and creativity, fitting with the FLC, which evolved over time as faculty development evolved

As stated previously, this FLC was sparked from a CTE workshop that inspired faculty to try something different and more engaging than traditional lecture, specifically, Flipped Learning. According to the Academy of Active Learning Arts and Sciences (2019), "Flipped Learning is a framework that enables educators to reach every student [emphasis added]. The Flipped approach inverts the traditional classroom model by introducing course concepts before class, allowing educators to use class time to guide each student through active, practical, innovative applications of the course principles" ("Updated Definition of Flipped Learning" webpage). This approach has been shown to cultivate student engagement, academic performance, and ownership of learning (Bergmann, & Sams, 2014; O'Flaherty & Phillips, 2015).

The design of the FLC was to build a community of faculty to implement the Flipped Classroom approach in their respective disciplines and to share accompanying pedagogical practices. Nine members from various disciplines voluntarily joined this FLC after attending the workshop mentioned above. This number of members is in line with Cox's (2015) first and second recommendations (see Table 1), which is to limit the FLC to approximately eight to 10 members. The members' fields of study were: economics, psychology, education, biology, mathematics, chemistry, and history. Having multidisciplinary members is in line with the fourth of Cox's (2015) list of recommendations, as the goal is to enhance multidisciplinary FLC topics. The FLC was important to all members of this group, who were committed to the flipped learning process. Various tools and techniques were utilized in implementing the flipped learning approach, such as Bloom's Taxonomy, technology tools, and formative assessments. The next section will highlight further the many activities and frequency of meetings of this Flipped Learning FLC.

### FLC Experience and Activities

Since its inception, the Flipped Learning FLC has met once a month (approximately four to five times per semester) for

60-minute meetings at the campus' CTE conference room. Cox's (2015) fifth recommendation states that FLCs should meet every 3 weeks for 2 hours for one academic year and decide on meeting days and times up front (see Table 1). Meeting times for the entire semester were set up before the start of the FLC using a Doodle Poll to determine members' availability. The FLC leader (first author) then sent out Microsoft Outlook calendar invitations for the semester to lock in the selected dates prior to the start of each semester. Meeting formats were face-to-face, with the opportunity for members to join live via Zoom video conferencing when needed. Various activities included reading books on and discussing pedagogies and other concepts around flipped learning, implementing selected pedagogies in classrooms, and then sharing these experiences with fellow FLC members for feedback. Meetings followed a flexible format, with the FLC leader setting the agenda for the hour and serving as the timekeeper. The leader also captured and shared meeting notes.

The first meeting was a kick-off meeting in which goals and objectives of the FLC were laid out, FLC rules were agreed upon, and a volunteer schedule for leading various components of the FLC was established. Brookfield's (2017) *Becoming a Critically Reflective Teacher* was the first book read and discussed. At subsequent meetings, the FLC discussed assigned chapters from the book, including ways to modify teaching strategies to fit the flipped classroom context. The group also read and discussed *Creating Self-Regulated Learners* (Nilson, 2013), *Learner-Centered Teaching: Five Key Changes to Practice* (Weimer, 2013), and *Flipped Learning: A Guide for Higher Education Faculty* (Talbert, 2017). These followed the same cycle of read/learn, modify/plan, implement, reflect, and share with the group. This approach allowed the FLC to bridge the gap often seen between learning a new teaching strategy and implementing it. Each member was accountable to the group. Typically, one or two FLC members were assigned as discussion leader(s) for a chapter or chapters of the book. This format allowed for shared responsibility within the FLC. As

Cox (2015) specifies in his seventh recommendation (see Table 1), the FLC leader was an active participant of the FLC with shared responsibility in leading and facilitating book discussions. In summer 2018, the group's reading of Talbert (2017) led to the redesign of most members' flipped learning practice.

In line with Cox's (2015) sixth recommendation to provide opportunity for socials, community building, and food at meetings (see Table 1), coffee, donuts, pizza, pies, or other snacks were always available at scheduled meetings. The FLC also held celebratory luncheons at the end of most semesters. Attendance at meetings was strong with perfect attendance at most meetings. As per Cox's (2015) ninth recommendation in Table 1, it was the leader's responsibility to focus on sustaining FLC member commitment by sending meeting reminders, encouraging members to attend, checking on absent members, and keeping the FLC updated on discussions by circulating meeting notes within 24 to 48 hours of each meeting. For asynchronous communication between meetings, the FLC used the Academic Commons platform, which is a virtual community of practice intended to support digital scholarship.

To get a sense of the needs and reasons for participation in the Flipped Learning FLC, at the onset of the FLC, the leader gathered information about members' prior experience with flipped learning and their goals for the upcoming fall semester as it related to flipping their classes. Three members indicated that they had attempted to flip their classes prior to the FLC, and six members indicated a desire to partially or fully flip in the coming semester. Five members indicated that they would like to create and use flipped videos during the semester. Reasons for participating in the flipped learning FLC included needing assistance with: designing pre-class work (PCW) and in-class activities, conducting a SoTL research study on flipped learning from start to finish for publication, incorporating technology aspects (such as creating flipped videos), and holding students accountable in a flipped classroom. Cox's (2015) eighth recommendation is to have members determine FLC objectives (see Table 1); therefore, information gathered at the start of the FLC guided the forming of initial goals for the FLC. FLC activities were driven by members' need to learn more about flipped methodology, design of the various components of the flipped classroom, and design and implementation of a SoTL project around flipped learning. Finally, at the end of fall 2018 (four semesters in), the leader gathered feedback from members on the impact of the FLC on advancing their flipped learning pedagogy, building community, and fostering the scholarship of teaching and learning.

### FLC Accomplishments

Based on assigned readings, members of the FLC experimented with different techniques in their flipped classrooms and thus expanded their repertoire of pedagogical skills. Techniques included a formative assessment technique known as Learning Audits (Brookfield, 2017), a model for effectively designing a flipped lesson called Guided Practice (Talbert, 2017), and a web-enabled/formative assessment student response tool for in-class quizzing called Socrative, an app. Other techniques used were Cornell Notes for pre-class preparation and Learner Logs for reflective writing. Learner Logs were adapted from Nilson's (2013) learning logs to introduce reflective writing in the flipped classroom.

In addition to the skills gained in the classroom, FLC members increased in their scholarship. FLCs present a unique opportunity to facilitate both pedagogy and research. In fact, Cox's (2015) 11<sup>th</sup> recommendation (see Table 1) compels FLC members to contribute to SoTL research. Accordingly, in the spring of 2018, all nine members of this FLC participated in a SoTL project to evaluate the extent to which reflective writing enhances students' self-regulated learning in flipped classrooms. The study was performed across a semester of flipped learning in multiple courses and disciplines. Initial results from this large multidisciplinary study have been accepted for publication (Robbins et al., in press). Thus, scholarly productivity is another benefit of an active FLC.

As a result of implementing novel flipped learning pedagogical techniques and conducting the SoTL study described above, all nine members of this FLC presented at a total of 16 institutional, regional, or national conferences, which fits with Cox's (2015) 12<sup>th</sup> recommendation (see Table 1). Many of these conferences were discipline specific (e.g., American Economic Association, American Chemical Society National Meeting and Exposition and Association of Teacher Educators). To help support some of the conference travel, the FLC submitted a grant proposal to the institution's National Science Foundation-STEM Mini Grant fund in fall 2017. The FLC was awarded a grant in spring 2018, and the grant helped support the purchase of books as well as conference travel from fall 2018 through spring 2019. Another benefit of this multidisciplinary FLC was that members were afforded the opportunity to consider discipline specific manuscripts and whole group manuscripts. To date, six manuscripts are underway, representing the following disciplines: economics, psychology, education, chemistry, and biology.

### FLC Member Reflections and Lessons Learned

In conjunction with Cox's (2015) 10<sup>th</sup> recommendation (see Table 1), the FLC leader asked fellow members after they had participated in the Flipped Learning FLC for two years to reflect on the impact of the FLC in relation to their own professional growth, the experience of the FLC, and their views on student learning. The reflection prompts were modified from Martinez, Bishop-Clark, and Dietz (2016). Faculty members shared that as their understanding of flipped learning deepened, it was important to rethink their course shells, instructional delivery, and teaching styles. Greater attention was given to what students do outside of class to prepare them for in-class tasks and activities. Overall, faculty members began to move away from their instructional comfort zones to implementing alternative teaching methods and became more reflective educators.

When asked about what they valued most from participating in the Flipped Learning FLC, members described foremost valuing the sense of community and the collegial relationships that were formed through the FLC. Members expressed the significance of working alongside colleagues across different disciplines, which presented an asset in integrating interdisciplinary perspectives. Members cherished the opportunity to share pedagogical teaching methods with one another and the opportunity to learn from the experiences of other faculty. Secondly, participants valued the scholarship and the facilitation of reading and learning more about flipped learning, as members were encouraged to read three books related to teaching and learning. Participants also valued the opportunity to present collaboratively at teaching and learning conferences. Referring to attending a conference, one

member stated, "It was helpful and inspiring to see how colleagues address many of the same issues I experience in the classroom."

Members were asked what pedagogical changes they had made as a result of participating in the Flipped Learning FLC. All members shared that they attempted multiple teaching strategies, such as reflective writing, online quizzes, in-class collaborative tasks, and even video-recorded lessons. One faculty member stated that they had already been using the flipped approach for several years; however, reflective writing had never been used. The member stated, "I will try to incorporate some reflective learning techniques in class, but not Learner Logs." Another member shared that they have taken more ownership of their role as a flipped learning professor. Course syllabi were revised with language to indicate the role of student actions before, during, and after class meetings. These expectations were reviewed and discussed on the first day of class to ensure students understood the course requirements. For pre-classwork, chapter videos were created as an extra resource. As one faculty member stated, "I have tried different techniques for assessment and different assignments through my time in this Flipped Learning FLC, although admittedly none of these has persisted in my ongoing teaching practice. I intend to continue utilizing different techniques and assignments in the semester ahead."

FLC members were also asked to reflect on how their perceptions of themselves as flipped learning teachers might have changed. The responses to this statement were mixed, with some members noting significant changes and others stating that their teaching had not changed. For example, one member expressed that they had become convinced that lecturing was better than flipped instruction unless one was working with highly motivated students. In contrast, though, most faculty members shared that they became more aware of themselves as teachers and their role in the student learning process. Some shared that reflective writing assisted them in understanding student needs, which aided them in adjusting instruction and instructional decisions. One faculty member stated:

First, I feel more confident in facilitating my students' effort in initially learning basic material through guided instruction on their own, encouraging them to take more ownership of (and be more accountable for) their own learning...second, learning about different strategies, techniques, technological approaches, etc., has sometimes made me feel, to the extent that I do not do these things, that I am not the best teacher I can be...to some degree, for me, focusing on techniques or technology, has detracted some from what I most love about teaching, which is more relational.

Finally, members were asked to recommend any changes to the FLC in the future. Some participants expressed that it would have been helpful to have had more time to review the literature and existing scholarship related to the SoTL study that was implemented. One member stated, "I would benefit from more structured time for reading, reviewing, and discussing the relevant literature, which would deepen not only the knowledge base and familiarity with the literature but also better inform our future empirical pursuits." Members also mentioned that peer classroom observations would be a valuable practice for future participants. Incorporating such observations by colleagues would have provided opportunities for feedback on techniques that were implemented within their individual classrooms, and peer classroom observations could potentially have provided

colleagues with the opportunity to learn and gather ideas that could be utilized in their own classrooms. Another suggestion for modification of the form of the FLC was to use a meeting time or work day to plan courses to ensure that all members were on the same page and consistent across classes with the flipped learning teaching style. Overall, the reflections of FLC members attest to the success of this Flipped Learning FLC for fostering professional growth. Still, some lessons learned for future FLCs would include implementing peer observation in the classroom and preserving more time for the development of SoTL projects, which may be especially complex across multiple discipline.

## CONCLUSION

Overall, implementing Cox's (2015) 16 recommendations (Table 1) helped with the sustainability of this FLC group and the pedagogical growth of individual group members. Application of these principles stimulated members' participation, reflection, and modification of practice to facilitate student learning. Cox's (2015) recommendations around membership, meetings, commitment, and contributions to the profession were built-in and resulted in a successful multidisciplinary FLC. A key factor in this success was a strong facilitator who demonstrated effective leadership and organizational skills. The FLC leader spearheaded generation of clear goals at the onset, set high expectations of members for participation and collaboration, and advanced the FLC agenda. The director and associate director of the CTE provided consultation and support to the group. Specifically, they suggested relevant articles on flipped learning, prioritized meeting space for the FLC through advanced reservation of their suite's conference room, and offered general encouragement of the group's endeavors. In summary, the FLC achieved its goals of building community, enhancing pedagogy, and producing SoTL scholarship.

Although highly successful, the FLC experienced some challenges. Much planning, preparation, and ongoing work is involved in implementing flipped learning strategies. In light of other faculty duties, demands, and responsibilities, some FLC members felt at times overwhelmed by the inherent workload in transforming their instructional design to flipped learning, incorporating new techniques in courses like the Learner Logs, and gathering data for the SoTL study. For dedicated academics, the tendency to take on too much is a potential danger, leading to possible burnout. Accordingly, some FLC members have chosen to only partially flip future courses, to remove some of the components discussed here (e.g., Learner Logs) based on experiences in their individual courses, or to take a break from another immediate SoTL study. Still, the majority of FLC members have remained committed to flipped learning, and their professional growth noted in the above reflections would likely not have been feasible without the success of the community and support fostered via this FLC.

Overall, the benefits of a successful FLC are well documented (Maurer, et al., 2010; Hoyte, Myers, Powell, Sansone, & Walter, 2010; Beach & Cox, 2009; Richlin & Cox, 2004). Adhering to Cox's (2015) recommendations worked for creating and sustaining a successful FLC around flipped learning. Successful FLCs tend to have goals that are embedded within an institutional mission and departmental practices. In the case of this FLC, membership was voluntary, the group was headed by a competent and dedicated facilitator, and members established and were committed to the FLC goals. The institution also expressly supports multidisciplinary collaboration and faculty scholarship and creativity, as scholar-

ship and creativity constitute components of the annual portfolio through which faculty are evaluated. When faculty activities like participation in an FLC are built into the system of performance expectations, they become integral and are more likely to succeed. Notwithstanding, institutions must recognize and accommodate the enormous amount of planning and preparation that goes into participation in an active FLC and make provisions (e.g., reduced course loads) to facilitate faculty engagement in them.

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