

# FOSTERING PROFESSIONAL CAPITAL IN A FACULTY LEARNING COMMUNITY BY EXPLORING COOPERATIVE LEARNING STRATEGIES TO TEACH GROUP/ TEAMWORK SKILLS IN A COLLEGE OF AGRICULTURE AT CLEMSON UNIVERSITY



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## Abstract

Research-based practices and strategies to help both faculty and students become more successful through delivery and participation in teamwork, an important 21st century employability skill, was the topic for developing a Faculty Learning Community (FLC). The FLC set out to foster professional capital and attracted six participants to engage in monthly FLC meetings and included a variety of teaching faculty in the College of Agriculture, Forestry, and Life Sciences (CAFLS) at Clemson University. FLC leaders consulted with a STEM education research expert specializing in faculty professional development and together developed a strategy for qualitative data collection including creating a participant reflection protocol and plan to use group discussion at each meeting. Findings revealed participants felt more confident identifying assignments to meet the criteria for group/teamwork. Some participants indicated they needed more help learning best practices for assessing group/teamwork assignments, while others indicated they gained more tangible examples to utilize from hearing

other FLC participants' strategies. Participants more clearly stated connections between group/teamwork and career readiness after participation in the FLC. We recommend providing instructors with research-based tools such as peer assessment instruments, team charter documents, and other resources to foster professional capital and build self-efficacy to develop assignments that are appropriate when using cooperative learning as the method of instruction.

*Keywords:* Cooperative Learning, Faculty Learning Community, Group Work, Teamwork, Professional Capital.

Collaboration, group work, and teamwork skills are common cooperative learning strategies utilized in undergraduate coursework for application and assessment of learning to prepare students to develop skills they need for the world of work. Many students struggle with managing how to work collaboratively with their peers and many instructors grapple with individual assessment and accountability of the group assignments included in the lecture or laboratory for the course they teach. A Faculty

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Learning Community (FLC; Cox & Richlin, 2004) was developed to engage instructors in scholarly research to learn how to successfully assess and prepare their students enrolled in courses in the College of Agriculture, Forestry, and Life Sciences (CAFLS) to be "Ready for Work". The FLC members engaged in conversations with experts, discussed strategies, and implemented activities and resources to effectively utilize cooperative learning in their teaching over one academic year. As a baseline for interpretation of this project to determine student perspectives about their group experiences, the FLC participants also modified a pre/post student survey tool and administered it in the courses they taught. Throughout one academic year over two semesters (fall and spring) strategies were explored to improve FLC participants' teaching effectiveness using group/teamwork strategies. Group/teamwork projects were selected, and strategies were implemented to demonstrate and practice collaboration, an important 21st century employability skill for undergraduate students (DiBenedetto & Myers, 2016). Repeated exposure to cooperative learning offers benefits, in terms of social, peer learning, and transferable skills (Healy et al., 2018).

The objectives and targeted outcomes for the participants in the FLC included (a) developing a plan to test/practice teaching strategies; (b) assisting members with comparing and contrasting scholarly teaching and the scholarship of teaching and learning (SoTL); (c) reviewing the Institutional Review Board (IRB) process; (d) designing a plan for scholarly research/output; and (e) reflecting on personal and collaborative experiences.

To meet the targeted outcomes for the participants in the FLC, seven stages were outlined for the fall and spring semesters. In the fall the first three stages included implementation of the plan; progress review; and student impact and outcomes on achievement. In the spring semester stages four through seven included continued implementation of the plan; data analysis; planning for reporting results; and taking informed action. The purpose of this research was to develop a FLC to foster professional capital (Hargreaves & Fullan, 2015) to support faculty members' experiences using cooperative learning as a method of instruction to teach group/teamwork activities to prepare undergraduates to be 'career ready'. The research objectives were to determine if involvement in the FLC influenced participants' confidence in facilitating group work and to describe participants' beliefs about the value of teaching students how to work in teams.

### Literature Review

Professional development for teachers presents an ongoing career-long activity. Factors including the duration of experience, content, and sustained support are features of high-quality professional development to improve teaching effectiveness according to Desimone (2009). It appears that teachers' self-efficacy impacts instructional practices and the continuation of one's career. Teacher self-efficacy is a complex, multifaceted topic. The concept, founded on Bandura's (1977) social cognitive theory, captures the teachers' beliefs in their ability to guide students' learning,

even in demanding situations; thus, teachers must be able to solve problems and manage well (Martin & Mulvihill, 2019). Self-efficacy impacts instructional practices, individual and collective efforts among teachers, and persistence to remain in the career (Martin & Mulvihill, 2019). The literature suggests that self-efficacy positively predicted teaching experiences and student engagement within that same space but negatively across spaces (McDavid, 2018). Wheatly (2002) argued; however, that self-efficacy doubt can motivate teachers to investigate and develop new skills which may lead to a more effective learning environment.

Self-efficacy and confidence perception by a teacher may impact their choice of teaching methods to use in their classrooms (Fishback et al., 2015). Social cognitive theory (Bandura, 1977) describes the teachers' beliefs in their abilities. Only self-efficacy in active learning spaces positively predicts student-centered strategy use. According to Ruys (2010), one's self-efficacy and the implementation of cooperative learning are to be taken under scrutiny. Cooperative learning may be implemented sporadically; however, that may not be sufficient enough to support teachers' ability to teach teamwork skills. A teacher may choose instructional activities such as cooperative learning if their sense of self-efficacy is positive to the successful implementation of the strategy. Cooperative learning as a method of instruction is defined as organized small groups of students working together while learning the content of the course. When appropriately planned and implemented, cooperative learning can improve student achievement (Slavin, 2010). Findings from literature challenge the assumption that skilled faculty will feel successful in any space and suggest professional development is needed.

Professional capital suggests viewing teaching as a sustainable investment with positive returns over time. Teachers apply a variety of effective teaching practices that are developed, utilized, and enhanced in collaboration with colleagues to build professional culture and community (Hargreaves & Fullan, 2015). When describing professional capital Hargreaves and Fullan (2015) posit individuals can be professional or they can be a professional. One's character and qualities represent being professional. Being a professional refers to seeking and gaining knowledge, sharing practices, commitment to lifelong learning, and continuous development. Hargreaves and Fullan (2015) proposed professional capital merges human capital, social capital, and decisional capital. Human capital examines investment in teacher talent. Social capital suggests utilizing the combined talents of a group or community of teachers to build trust and connections among teachers in a shared professional setting. Decisional capital signifies one's ability to make informed choices. Decisional capital can be attained by learning through others, practicing new strategies and teaching methods, and through reflection. When blended, human capital, social capital, and decisional capital materialize into professional capital (Hargreaves & Fullan, 2015).

FLCs are defined as "a continuous process of learning and reflection, supported by colleagues, with an intention of getting things done" (McGill & Beaty, 2001, p. 11). An FLC is more than just a seminar series, formal committee, project

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team, faculty support, self-development, or counseling group. FLCs meet for a period of at least six months, have voluntary membership, gather at a designated time in an environment conducive to learning, and treat individual projects in the same way (Cox & Richlin, 2004). FLCs employ the Kolb (1984) experiential learning cycle to develop empathy among members, operate by consensus, develop their own culture, foster openness, and add trust. The process helps to energize and empower the participants.

In this research, the FLC was defined as a group of transdisciplinary faculty (N = 8) who were engaged in an active, collaborative, yearlong program. Through the lens of professional capital (Hargreaves & Fullan, 2015), we sought to create a professional community for the participants to share teaching practices, learn from one another, and reflect on the experience. Our goal was also to specifically enhance the participants' effectiveness to educate their students about cooperative learning skills using group/teamwork assignments in the courses they teach. To meet the research objectives to determine if involvement in the FLC influenced participants' confidence in facilitating group work and to describe participants' beliefs about the value of teaching students how to work in teams, an introduction to the scholarship of teaching and learning (SoTL), and strategies to build a community among the faculty participants were used.

Evidence from as early as the 1930s indicated learning communities are positive supports to study transdisciplinary curricula (Dewey, 1933; Meiklejohn, 1932). FLCs increase faculty interest in teaching and learning and provide safety and support for faculty to investigate, attempt, assess, and adopt new methods of instruction (Cox, 2004). FLCs include more emphasis on the team aspect, while still consulting about and developing everyone's project, and on the ultimate beneficiaries of the program, namely the students in the participants' courses (Cox & Sorenson, 2004). Additionally, professional capital (Hargreaves & Fullan, 2015) suggests a collective community is required to support teachers to become professionals.

### Methods

#### Designing the FLC

An FLC orientation, program framework, and incentives were provided for the project team leaders and participants by the Office of Teaching Effectiveness and Innovation (OTEI) at Clemson University. The duration of the Preparing College of Agriculture, Forestry, and Life Sciences (CAFLS) Students to be "Ready for Work" FLC occurred over one academic year. One member of the OTEI staff was included as a participant in the FLC to guide practices and share experiences. The two team leaders of the FLC also served as co-chairs of the CAFLS teaching and learning committee. The FLC team leaders first consulted with a science, technology, engineering, and mathematics (STEM) education research expert specializing in faculty professional development and developed a strategy for qualitative data collection including constructing the FLC

faculty participant plan and reflection protocol for mid-point and end of year FLC participant reflection data collection. A review of how to engage FLC faculty to document notes on process and progress using a journaling technique was shared as an example and adapted for the reflection protocol.

A reflective approach was introduced to engage the FLC participants to maintain notes on the process and progress of their application of cooperative learning strategies for the group work assignments they identified for their course. Time for group discussion at each monthly meeting was provided for reflection to increase engagement in the FLC and build professional capital (Hargreaves & Fullan, 2015). The dedicated time and the topics discussed were used to enhance the participants' experience throughout the academic year. Reflection was used to enhance engagement to benefit the FLC participants throughout the duration of the entire academic year.

The FLC team leaders consulted with institutional scholars from the Departments of Engineering and Science Education, and Psychology recognized by OTEI as teamwork scholars and recommended to advise and assist in the development of a successful plan. The concept of introducing the SoTL process and an introduction to the application of team contracts was identified. The consultations with the experts in the Departments of Engineering and Science Education, and Psychology resulted in introduced methods and practices to train the FLC leaders with skills to provide useful feedback before the FLC began. The scholarly experts indicated several guiding practices for the participants to follow when teaching group/teamwork projects and activities. For example, giving project roles/parts to students to help develop interdependence within a course. Students should be directed to outline roles, and faculty should teach students how to provide useful feedback to team members on these roles throughout a group/teamwork project. FLC participants were directed to monitor peer feedback and comments on individual students' progress to share at the monthly FLC meetings. Development of specific pre/post-student survey questions ensued during the fall meetings to gain student perspective of the course group/teamwork activity for data that was collected for another research project.

Guest speakers were identified and invited by the FLC team leaders to present research-based practices aligned with the seven stages of the FLC. The areas of expertise included specific research on models for teaching effective student teams, team charters, and SoTL. The FLC targeted the presence of a variety of faculty in one college at Clemson University, attracting six faculty participants to engage in the monthly FLC. Team leaders and invited speakers led the FLC to explain their firsthand experiences using cooperative learning and group/teamwork strategies to provide examples for the participants. One team leader brought expertise in teaching and learning, curricular design, and professional development as a teacher educator in the agricultural education program. The other brought expertise in science laboratory management utilizing teamwork, and extensive teaching and outreach experience.

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### Preparing the participants for the FLC

To establish a consistent protocol for the participant to follow, during the fall semester, the first three stages of the FLC focused the discussions and training on implementing the plan, reviewing progress, and preparing for student impact and outcomes on achievement. Each FLC participant selected an assignment in one of their courses that was previously taught using groups or teams (see Table 1). The purpose of selecting one assignment in one course was to adopt the protocol for the semester for the participants to dedicate 15 - 20 minutes of class to introduce a career readiness presentation. The career readiness presentation was created by the FLC leaders with input from the participants. The presentation described identified industry expectations for group/teamwork and explained a team contract that would be used for the group/teamwork

assignment identified in each course. All participants administered a pre and post-survey to the students in their courses to collect data for another study. The FLC leaders reviewed and discussed the group/teamwork activity each FLC participant selected. Each assignment was evaluated, and the activities all met the criteria expected of students to practice group/teamwork skills using cooperative learning as the method of instruction.

The FLC participants included faculty from Genetics, Packaging Sciences, Agricultural Education, Forestry and Environmental Conservation, Food Science & Nutrition, and the OTEI. Courses represented were: Agricultural Business, Application of Polymers in Packaging, Diversity, Equity and Inclusion in Natural Resources, Biochemistry, Teaching Agriscience, and Food Product Development. The FLC members assembled once a month over one academic year. Each meeting was scheduled for two hours, and lunch was

**Table 1**

*Description of group work activities assigned by instructors in seven courses in CAFLS.*

Course Title	Group Work Activity
Agricultural Business AGRB 3190	Students in AGRB 3190 worked as a group to identify a company and create a strength, weakness, opportunities, and threats (SWOT) analysis. The project had a written proposal and a presentation. The career readiness presentation was presented at the beginning of the semester. The pre/post survey and a modified version of the team charter was applied.
Agricultural Business (AGRB 4560)	Students in AGRB 4560 worked in a group of three (formed by themselves) to read between 4 and 6 articles of 5 to 10 pages on the topics discussed in class. A 10 minute slide presentation was required. Effective presentation skills were demonstrated to enhance student performance. The career readiness presentation describing industry expectations was presented at the beginning of the semester. A modified team charter and the pre-and post-surveys were applied.
Application of Polymers in Packaging (PKSC 4160)	In PKSC 4160, students were assigned groups (at random) to complete 4-5 lab report for the semester. Students were asked to complete a team charter to set reasonable boundaries and expectations. They conducted the in-person lab exercises together and were required to complete a full-length scientific lab report on the lab activity. The reports include an Introduction, Background, Hypothesis, Materials & Methods, Results, Discussion & Conclusion. Mid-semester, students completed a reflection survey on how their team members contributed, the skills they learned from each team member, and how they felt these activities would help them in their careers. The career readiness presentation was presented at the beginning of the semester. A modified team charter and the pre-and post-surveys were applied.
Diversity, Equity, and Inclusion in Natural Resources (DEI)	In DEI 4230, students conducted a debate/case study. Students were given a recent, relevant environmental issue, and selected a stakeholder/position within that issue (e.g., industry/farmers). Students then researched the different affected groups and debated the ethical positions behind the problems. The career readiness presentation describing industry expectations was presented at the beginning of the semester. The team charter was not applied. Pre and post surveys were administered.
Biochemistry (BCHM 3050)	Students in BCHM 3050 worked in small groups to describe the structure, function, and relationship what the students usually view as the most challenging topics for the course. Group assignments combined asynchronous and synchronous components to practice detailed examples of biochemical systems commonly difficult for students. Students first individually completed an asynchronous component (recorded lecture(s) and a quiz(es)) to gain a foundational understanding of the content. After completing the asynchronous component, students worked synchronously in small. The career readiness presentation was presented at the beginning of the semester. The team charter was not applied. Pre/post surveys were administered.
Teaching Agriscience AGED 2030	The team charter was applied to bring together four research teams to collaborate on similar research questions (within groups) to conduct an agriscience fair project which is a major assignment in the course. Students completed individual proposals but worked together in designing and presenting research posters. The career readiness presentation describing industry expectations was presented at the beginning of the semester. The team charter and the pre-and post-surveys were applied.
Food Nutrition and Packaging - FDSC 4010/6010	Students were assigned to four teams of four to design, test, and present a new food product to an industry panel at the end of the semester. The career readiness presentation describing industry expectations was presented at the beginning of the semester. The team charter and the pre/post-surveys were applied.

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provided. The fall semester introduced the first three stages of the FLC which included 1) implementation of the plan, 2) progress review, and 3) student impact and outcomes on achievement. The spring semester began with a participant reflection and the beginning of a semester-long course implementation protocol for each of the FLC participants. The instructors (FLC participants) selected up to the three primary tools that were designed in the fall semester for the project which included a pre/post survey, a career readiness presentation describing industry expectations, and a team charter. Stages four through seven were completed in the spring semester and included 4) continued implementation of the plan, 5) begin data analysis, 6) begin a plan for reporting results, and 7) take informed action.

To help build professional capital (Hargreaves & Fullan, 2015), specific objectives and targeted outcomes designated for this research to test/practice teaching strategies relative to group work were woven into the academic FLC meeting schedules. Thus, a strategic layout of the year implemented reviews of the scholarship of teaching and learning (SoTL) concept, the human subjects review process, design of

the FLC group work strategy plan, and the final faculty reflections. In outline form an abbreviated schedule for the eight FLC participant meetings follows in Table 2.

The first three stages during the fall semester of the FLC were intended to influence the FLC participants' confidence in administering a group/teamwork assignment in a course. The fourth through seventh stages were woven throughout the spring semester. January began with an FLC participant reflection designed by the team leaders with input from the OTEI. Many considerations and practices were discussed during the fall semester in planning and facilitating student group work activities. The guided instructor reflection consisted of three open-ended questions. After a brief FLC group discussion, each participant responded to the questions by digitally receiving and returning a document to one of the FLC team leaders. The data from the guided reflections was collected and organized by an external researcher.

**Table 2**

*Abbreviated schedule for eight FLC participant meetings.*

Meeting	Stages	Description of Activity
Meeting #1 September	Stage 1. Implementation of the plan	Co-directors of FLC participants led discussion on the organization and objectives of the FLC year-long project on Group Work. Provided reading materials for the FLC participants and together this first meeting yielded a plan and participant assignments.
Meeting #2 October	Stage 2. Progress review	Group discussion and plan for the year was developed.
Meeting #3 November	Stage 2 Continued	Guest speaker from the Office of Teaching and Instruction who was also a member in the FLC provided a discussion of implementation of Teamwork as the identified strategy. A plan for the FLC faculty research methodology for data collection on Group Work began.
Meeting #4 December	Stage 3 Prepare for student impact and outcomes on achievement	Provided a workshop with Psychology Department leadership on tools for teams. Introduction and discussion on tools included: Team Charter, and examples of Feedback/peer review documents.
Meeting #5 January	Stage 3 Continued	Participants were asked to complete a reflection on the FLC group work from Fall as we were at mid of FLC plan. Three personal reflection items were applied: 1) Capture information on the influence that FLC participation had for us on confidence in leading group work activities 2) Identify together practices that FLC faculty are willing to or planning to adopt for our course in spring semester (2022) and 3) ask each FLC participant what their perception is today of their role as someone training students in applying effective group work.
Meeting #6 February	Stage 4 Continued implementation of the plan and Stage 5 data analysis begins	Participants shared feedback on process and progress.
Meeting #7	Stage 6 Begin plan for reporting results	As a debriefing session the FLC participants shared how team projects/assignments, use of team charter discussions, and peer evaluation plans are progressing in the individual courses.
Meeting #8	Stage 7 Taking informed action begins	Final FLC group meeting to include discussion on data review and next steps. Through professional development FLC experiences members reconnected. Throughout the professional development experiences over the academic year the FLC participants shared their course team projects with monthly discussions. Thus, individual FLC participants were able to enhance their confidence in leading team assignments in a course, generalize their work during the academic year and comment accordingly.

This research was approved through the Clemson University Institutional Review Board (IRB) Number: IRB2021-0981 as Exempt Category D2. Qualitative data analysis was used to determine truth and confirm theoretical knowledge about the participants in the FLC. The FLC leaders used a thematic analysis (Braun & Clark, 2022) through which data were collected from the guided reflection protocols to categorize the data to make sense of the text and generate themes (Creswell, 2015). Each participant response from the guided reflection protocol was analyzed to identify codes which were further categorized and developed into themes. The coding process built a general theoretical concept about the qualitative evidence provided by the FLC participants. According to Saldana (2021), coding helps discover truth from qualitative data through an analytic process; however, it is not an exact science. The FLC leaders followed Gibbs (2007) recommendations for phases of coding in thematic analysis to become familiar with the data, generate codes, search for themes, review the themes, and name the themes. Creswell (2015) suggested qualitative data analysis as a recurring process and recommended analysts read and reread the dataset multiple times. Using the guided reflection protocol the FLC team leaders separately analyzed the text and coded for themes. The FLC leaders read the reflection protocols twice, shared summaries, and collaborated to compare the data analysis and then met to discuss and refine the findings and establish the results.

Table 3 presents the guided reflection protocol used to collect the FLC participants' experiences after they facilitated group/teamwork projects in the courses they taught.

**Table 3**

*Guided reflection protocol*

Question	Sub Questions
<p>1. Please tell us how your participation in this FLC has influenced your confidence in facilitating group work. If appropriate, please name any specific components of this FLC (e.g., resources, discussions, participant exercises, guest speakers etc.) that were particularly influential.</p>	<p>1a. What are some specific things related to student group work that you feel confident about right now?                      1b. What are some specific things related to student group work that you do not (or not yet) feel confident about?</p>
<p>2. We have discussed many considerations and practices related to planning and facilitating student group work activities such as group member assignment, full semester group work or part of a semester group work, using a team contract etc. Are there any practices we have explored that you are willing or planning to adopt for your class in future semesters?</p>	<p>If No-why?                      If Yes, please name 1 or 2 practices and describe why you would adopt these practices.</p>
<p>3. As we have discussed in our meetings, faculty hold varying views about their role in training students to work effectively in groups. At this point in time, how would you describe your beliefs about the value of faculty teaching students how to work in teams?</p>	<p>How did your experience teaching students how to work in teams/groups evolve or change with your participation in the FLC?</p>

The themes that emerged from the analysis included an increase in confidence, connections between group/teamwork and career readiness, student guidance, and a need for additional support. Based on the research objectives to determine if involvement in the FLC influenced participants' confidence in facilitating group work and to describe participants' beliefs about the value of teaching students how to work in teams, the findings suggest the participants felt more confident and recognized an important relationship between teaching group/teamwork and building career readiness.

*How did your experience teaching students how to work in teams/groups evolve or change with your participation in the FLC?* Participants in the FLC shared their perceived increase in confidence to use and teach group/teamwork assignments and skills in several areas. While the FLC participants also indicated a need for more support, this finding is encouraging and indicates human and social capital may have been fostered for the individuals and overall community of learners that was established. Clear connections between teamwork skills and career readiness and confidence with an overall 'fit' of the assignment or project, and the relevance of student teamwork assignments were revealed. This finding reflects faculty understand their multifaceted role in designing courses that are both content-specific and provide opportunities for their students to engage in activities to build group/teamwork skills.

*Please tell us how your participation in this FLC has influenced your confidence in facilitating group work.* Through the guided reflection, FLC participants indicated they gained confidence in understanding the importance of teams, planning topics for teams, use of a team charter, and using reflections from student feedback on individual and team performance to improve the outcome of the group/teamwork project or assignment they selected for the course they taught. This finding suggests an increase in participants' self-efficacy to teach using new methods of

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instruction and strategies. FLC participants felt students would benefit from the integration of more guidance, tools, and resources to fully engage in group/teamwork assignments. FLC participants also indicated their students required more guidance in managing the team assignment. Such findings reveal that continued support for professional development is needed to assist both the teacher and their students to become more informed and confident with group/teamwork assignments.

FLC participants also shared they did not feel fully confident in the following areas and reflected on the need for additional support to implement best practices for assessing teams, using peer evaluation, conducting mid-point reviews, strategies for creating teams (assigned vs random), and using time during class as opposed to outside of class for student cooperative learning success. Specifically, FLC participants called for more help in assessment strategies, assigning grades for teamwork, grading team presentations, and facilitating peer evaluations. Implications of such findings are again inspiring and an indication that the FLC members truly reflected on their strengths and weaknesses when teaching group/teamwork assignments. Consistent with Wheatly (2002) self-efficacy doubt can motivate teachers to investigate and develop new skills which may lead to a more effective learning environment.

*Are there any practices we have explored that you are willing or planning to adopt for your class in future semesters?* FLC participants said they felt more confident identifying assignments that met the criteria for group/teamwork. One participant stated, "I also like the idea of making a simple change such as team project vs group project, as language is powerful." FLC participants felt the purpose of the group/teamwork assignments contributed to the objectives for the courses they taught. The FLC participants supported the idea that teamwork and cooperative learning as a method of instruction were worthwhile, and important skills students need to acquire to be 'career ready.'

*How would you describe your beliefs about the value of faculty teaching students how to work in teams?* One participant reflected "Since joining the FLC, the importance of me introducing the value of groupwork to students has developed. Though I have been using group-based-work for many years, I have never taken the time to explain to my students how group cooperation will help them move forward." FLC participants also indicated they felt they gained more tangible examples to utilize in class from hearing other FLC participants,' as well as guest speakers,' viewpoints, and strategies. As intended by the collaborative environment the FLC established to foster professional capital (Hargreaves & Fullan, 2015), participants learned not only from the resources that were provided at each monthly meeting but also from the guest speakers and each other. Additionally, as theorized by Dewey (1933) and Meiklejohn (1932) learning communities are positive supports to study transdisciplinary curricula. Consistent with Cox (2004) we found FLCs increase faculty interest in teaching and learning and provide support for faculty to investigate, attempt, assess, and adopt new methods of instruction.

Participants indicated that the structure and schedule of the FLC was organized and fluid. They appreciated the

opportunity to collaborate with 'experts in the field' of teaching and learning. The FLC leaders found the participants to be dedicated to the tasks they were assigned each month. Wholesome and collegial conversations were elicited in the meetings and after the reflection protocol was discussed. This indicated the FLC participants felt comfortable and safe in the environment to share successes, challenges, and shortcomings. It is recommended to improve the FLC by adding a final stage at the end of the academic year. Implementing stage eight (reflection) would allow more time for the participants to share the results, findings, and reflections from their students who were involved in the group/teamwork assignments they taught in their courses. This collaboration may help respond to the immediate need that was identified for more support and learning about a variety of group/teamwork assignments.

### Summary

In summary, the focus of this research was to develop a FLC to foster professional capital (Hargreaves & Fullan, 2015) to support faculty members' experiences using cooperative learning as a method of instruction to teach group/teamwork activities to prepare undergraduates to be 'career-ready'. The research objectives were to determine if involvement in the FLC influenced participants' confidence in facilitating group/teamwork and to describe participants' beliefs about the value of teaching students how to work in teams.

Through a collaborative learning environment established by the FLC, participants planned and implemented cooperative learning as an instructional method to improve academic performance and teach group/teamwork skills to undergraduate students. By improving outcomes in group/teamwork projects in courses using cooperative learning the FLC team leaders observed an improved self-efficacy of instructors during meeting discussions and reflections. FLC participants reflected on firsthand experiences in the course they selected to teach for this research and the collaborative experiences within the FLC embedded activities aligned with career-ready practices to plan and implement cooperative learning as an instructional method that is valuable to teach group/teamwork skills. Consistent with Fishback et al. (2015) the team leaders found self-efficacy and confidence perception by an instructor may impact their choice of teaching methods to use in their classrooms. For use in a secondary research study participants administered a pre/post survey and collected data from the students enrolled in their courses to be introduced to the SoTL process.

We recommend instructors implement research-based tools such as peer assessment instruments, team charter documents, career readiness presentations, and other resources to effectively teach group/teamwork skills using cooperative learning as an instructional method. Using the resources that were provided in this FLC helped build instructor self-efficacy as evidenced from the participants' guided reflections, and participation in group discussions. Participants identified and developed projects that were

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appropriate when using cooperative learning as the method of instruction to demonstrate teamwork skills. They were encouraged by the positive classroom environment and feedback received from their students.

In bringing together a group of transdisciplinary faculty the FLC leaders realized that by describing the value of group/teamwork as it relates to preparing students to be ready for work, positive changes in teaching practices were observed. Clear connections between teamwork skills and career readiness were frequently mentioned and applied throughout each of the seven FLC stages and meetings. Finally, the FLC provided opportunities for the participants to engage in action research to clarify a strategy for improving confidence to use cooperative learning as an effective instructional method. During participation in the FLC participants determined the importance of teaching students how to work in groups and on teams. Applying this collaborative experience from the FLC by identifying an appropriate project to teach a group/teamwork approach to enhance the content in the course is important and valuable to prepare students to be 'career ready.' McGill and Beaty (2001) defined an FLC as "a continuous process of learning and reflection, supported by colleagues, with an intention of getting things done" (p. 11). The FLC participants found the effort they dedicated to making changes in their courses while participating in the year-long process where reflective practices, support from colleagues, and a predetermined set of goals improved their overall views of group/teamwork. The FLC participants also expressed a self-perceived sense of improved self-efficacy that positively impacted their beliefs about teaching group/teamwork skills and using group/teamwork projects and assignments in the courses they teach.

To quote Hargreaves and Fullan (2015) "Good learning comes from good teaching". We highly recommend FLCs be developed to support faculty professional growth to positively impact teaching and learning and build professional capital (Hargreaves & Fullan, 2015). FLCs are an important, and timely approach to support teachers to become professionals and model effective teaching practices, while also teaching and developing the skills students need to be 'career ready.'

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