Consultants in the Classroom: Pilot Study Assessing Multidisciplinary Center Collaboration

Carl Brown, Ashley B. Rapp, Adrienne Wallace, Jennifer Torreano, Melanie Rabine, & Patrick Johnson

Grand Valley State University

Communication center clients come in various forms. Many centers work with individuals and groups while some work with entire classrooms, departments, or colleges. Very few centers *both* partner with other campus consulting services *and* interact with large units. While a considerable amount of literature focuses on one-on-one consultations and some work focuses on collaboration between similar centers (McCall, Ellis, & Murphy, 2017), little, if any, research deals with these unique partnerships *and* how they collaborate to serve groups. This article examines how one communication center partnered with two other campus consulting services to create a purposeful and collaborative relationship with three sections of a communication course for an entire semester each. The goal of this work is to test effectiveness value of communication and similar consultants in the classroom, and to understand if one approach to consultant inclusion in the classroom is more empowering than another. To accomplish these goals, three groups, or classes, of students were used. The control group excluded all consultant participation. One experimental group had consultants embedded themselves into each class meeting. The other experimental group had consultants provide service-specific workshops during select class meetings. The collaborative partnership for this study included speaking, writing, and research center consultants and pre-and post-semester scales were used to compare empowerment levels and subject knowledge values between groups. Results suggest the workshop group produces higher empowerment and learning levels than other groups.
Key words: *communication centers, embedded consultants, empowerment, interdisciplinary, collaboration.*

The history of university communication centers is long and goes directly through the doors of university writing centers. While tracing a complete history is not the goal of this work, some context is beneficial. Writing centers were preceded by literary societies (Rudolph, 1976), founded as sites for remedial skill development (Boquet, 1999; Carino, 1995), brought mainstream with a broader focus on writing appreciation and writer empowerment in the 1970s (Kinkead, 2001), and are currently widespread on college and university campuses across the United States. One element that separates writing centers from other campus tutoring centers is the use of the Socratic method and its focus on asking questions to build knowledge (Tienken, Goldberg, & DiRocco, 2010). This effective approach to learning (Thompson & Mackiewicz, 2014) has been adopted by similar campus services including many oral communication centers, research centers, and math centers. At Grand Valley State University (GVSU), the writing, oral communication, and research centers all use the Socratic method and share a common goal of empowering students to become more effective writers, speakers, and researchers and to embrace these roles as part of their larger identities (Brown & Leek, 2016; Leek & Brown, 2015). These

similar missions and shared values led these three services to band together and form the Grand Valley Knowledge Market (GVKM).

As a united group comprised of three individual consulting services, the GVKM strives to add additional and effective ways to reach and benefit the campus community. While the services have individual home spaces, they share a common space in the university library during scheduled hours of the day. This common space and the resulting gathering of various center staff is designed to provide opportunities for both scheduled appointments and spontaneous collaboration in a space that serves as the campus' learning hub (Brown & Leek, 2016; Leek & Brown, 2015). However, the common space also serves as a natural limitation of the services' reach. In other words, while consultants are congregated in the shared space and visible to students who pass through the space, they are not in other locations where students might benefit from their assistance. Therefore, GVKM administrators, a group made up of each center's administrators, decided to pilot a program that inserted staff from each service where the learning happens—in the classroom. The general inquiry of this pilot study is to discover if placing consultants from multiple, collaborative consulting services into the classroom is a worthwhile endeavor. Moreover, this work seeks to identify the effectiveness of different approaches to that placement. It is possible that the presence of the consultants will be reassuring and helpful. It is also possible that this presence will be distracting and disruptive. This quantitative study evaluates students' responses to consultants in the classroom by measuring the variables of subject knowledge, as well as speaking, writing, and research empowerment across three different conditions.

Review of Literature

To better understand the variables examined in this study, this review covers university consulting centers' potentials for collaboration with one another and the limited literature available focusing on consultants inside of classrooms. Additionally, the dependent variable of empowerment is explained and measured.

Collaborative Consulting

This research focuses on cooperatives between services similar to the notion of a Learning Commons (Montgomery & Robertshaw, 2015). Learning Commons often include a relationship between a service and the university library. The types of cooperatives discussed in this study are more codependent and use the Socratic approach to client consultations. These cooperatives have the potential for great collaboration. This study's focus on consultants in the classroom is just one type of collaboration in which services can unite. Existing research in this specific area—communication centers collaborating with other similar campus services—is sparse. In fact, when including this article, only three are available (Brown, Torreano, Lane, & Gregory-Hatch, 2018; McCall, Ellis, & Murphy, 2017). Two of the three are pilot studies meaning this area is underexplored and in need of research.

Embedded Consultants

The majority of embedded-consultant-centered-research comes from the medical (Fivecoat, Cos, & Possemato, 2017), engineering (Halien, 2014), and software (Clarke, 2011) fields. Research on embedded writing center consultants does exist and largely focuses on working with first-year students (DeLoach, Elyse, Ebony, & Keebler, 2014; Gentile, 2014). At least one article discusses a possible training

model for embedded consultants (Titus, Boyle, Scudder, & Sudol, 2014) and another examines collaborative embedded consulting between writing tutors and research tutors (Pagnac, Bradford, Boertje, McMahon, & Teets, 2014). While literature aiming to evaluate the value of embedded consultants is thin, this work does exist (Murphree, 2015; Zamberlan & Wilson, 2015) but findings from embedded consultant research are contradictory.

On one hand, Zamberlan and Wilson (2015) discuss an effort to improve an existing embedded consultant model. The researchers explain that embedded consultants contribute to a "visible community of practice, support[s] the student learning experience, elevates senior students as ambassadors of the program, and reinforce[s] an emphasis on learning through collaborative exchange" (p. 5). These outcomes are accomplished through careful training, clear consultant roles, as well as the use of effective grouping behavior and workshops. Zamberlan and Wilson's findings suggest that student confidence may increase as a result of consultants in the classroom.

On the other hand, Murphree (2015) examined embedded consultants in the classroom but noted no significant increase in subject knowledge. This finding is in opposition to Zamerlan and Wilson's (2015) indication that consultants in the classroom support the student learning experience. Murphree's participants (2015) expressed that they did not perceive improvement in their writing skills as a result of the consultants. This may be attributed to the fact that Murphree reports insufficient student motivation to seek out the consultants' assistance. These studies' findings leave an unclear picture of the effectiveness of embedding consultants in the classroom.

Empowerment at the Center

Empowerment is associated with a student's ability to use critical thinking skills and to express their views and beliefs (Gawelek, Mulqueen, & Tarule, 1994). These skills for expression embolden them with a sense of agency and influence as they participate in society. In this sense, empowerment is comprised of both classroom-learning and engagement outside of the classroom (Pensoneau-Conway & Romerhausen, 2012). In the classroom, students are faced with potential overcrowding, standardization, and the intimidating but necessary judgment of the instructor. Collaborative centers offer one-on-one, personalized consulting in a judgment free zone. Therefore, centers are spaces used to overcome these barriers to empowerment.

Taken as a whole, empowerment in consulting centers is multifaceted (Leek & Brown, 2015). First, when students visit the center they are putting extra effort into their learning. As student effort increases, student perceived levels of confidence also increase. Second, students who use centers have high levels of perceived influence as a result of immediate positive feedback. Finally, collaboration between clients and consultants at the center provides an opportunity for practicing and developing skills (Adler & Goggin, 2005). More exposure and use of expression is associated with increased agency and civic engagement. Brown and Leek (2016) used this framework to develop the Public Speaking Empowerment Scale (PSES). While the scale is intended to measure only speaking empowerment, it will be tested for reliability and validity to ensure it is effective when used to measure writing and research empowerment. Theoretically, this scale identifies three key contributors to the overall construct of empowerment: confidence, influence, and agency.

Confidence

Research has operationalized confidence as the assurance of one's own abilities via increased self-esteem (Jones, 2001). As a result, Brown and Leek (2016) characterized confident public speaking as certainty of success, speaking with poise, feeling like a skilled speaker, and a high self-esteem.

Influence

Figueroa, Kincaid, Rani, and Lewis (2002) found that influence is the ability to create change through communication. Similarly, Brown & Leek (2016) characterized influence as a feeling of what one has to say is important, the ability to create significant change, and making an impact on an audience.

Agency

Finally, definitions of agency vary. Shapiro, Cox, Shuck, and Simnitt (2016) discuss agency in terms of understanding situations and taking action to influence them. Brown and Leek (2016) present the idea of personal agency through two lenses. First, increased agency is positively related to increased classroom engagement. For example, students with higher levels of personal agency may be more likely to speak in class and play active roles in their own educations than students with lower levels of agency. Second, agency is positively associated with increased social and civic engagement. This means that students who feel more empowered to speak are more likely to use their voices to impact their worlds than those with less agency. Together, agency results in participation, understanding, and action.

This review has established that one opportunity for centers to collaborate with one another and potentially positively impact groups of students is embedding consultants into classrooms. However, no clear training program for these consultants exists and no single model of attaching consultants to classrooms is known to effectively support student empowerment, especially for empowerment as defined in this study. Therefore, this study sets out to answer the following research questions.

RQ1: Is there a difference in reported subject knowledge between the embedded consultant group workshop group, and the traditional/control group?
RQ2: Is there a difference in reported speaking empowerment between the embedded consultant group workshop group, and the traditional/control group?
RQ3: Is there a difference in reported writing empowerment between the embedded consultant group workshop group, and the traditional/control group?
RQ4: Is there a difference in reported research empowerment between the embedded consultant group workshop group, and the traditional/control group?
RQ5: Is there a difference in reported total empowerment between the embedded consultant group workshop group, and the traditional/control group?

Methodology

In order to answer these research questions, an experimental study was designed. First, a confederate professor was identified and consultants were selected and trained as a requirement for participation in the study. Second, three conditions, or groups, were established and later compared. Quantitative methods were used to compare differences in participants' perceptions of subject knowledge, as well as speaking, writing, research, and overall empowerment levels. Pre-and post-tests were used to assess these values on the first and last class meetings of the semester. Each step is detailed below.

Confederate Selection

The first step in selecting confederates for this study was to identify a course where speaking, writing, and researching all happened congruently during a single semester. Fundamentals of Advertising was selected. The instructor, who taught three sections of this course during a single semester, was approached and agreed to participate. Each section was designated as either the control group, experimental embedded group, or the experimental workshop group. For the control group, the instructor was asked to teach the course as they typically would. Instructions were the same for experimental groups. However, the embedded group included embedded consultants from each service attending all, or nearly all, class meetings and participating in class activities as appropriate. The workshop group included subject specific (speaking, writing, researching) workshops from consultants at times of the semester that aligned with course content or activity. No consultants were fully embedded in the classroom in the workshop group setting. It is important to note that the instructor prepared the course schedules, content, evaluations, and supplemental materials in the same way across all conditions.

The second step in selecting confederates for this study was to identify consultants who would participate in the study. These consultants were selected by their availability to attend the class meetings. The consultants from the embedded group were not the same consultants from the workshop group. However, all consultants underwent the same training and had experience working with clients in other collaborative settings and delivering class workshops.

Consultant Training

Given that embedded consultant literature is sparse, no clear training program for embedded consultants exists. Instead, each service represented in this study (speaking, writing, and research) used a modified version of their traditional training. While the three services prepared consultants in very similar ways, some minor differences were present. For all services, general training covers performing a quick needs assessment, prioritization of goals, use of the Socratic method, effective time management, and providing quality feedback. Training specific to each service included: 1.) Speech consultants met with center administration and reviewed details of a lecture aimed at helping students turn research papers into presentations, as these specialized skills were applicable to course assignments, 2.) Writing consultants met with the administrative team to check consultant understanding of the writing styles pertinent to the advertising/public relations field and, 3.) Research consultants practiced small group discussions simulating those used in the course and participated in a workshop to practice facilitation techniques using topics generated in consultation with an advertising/public relations and communications liaison librarian. All consultants were encouraged to speak with the instructor, administrators, and colleagues throughout the process to clarify and/or resolve any questions or issues that developed. Finally, consultants were offered ongoing support through a mentor group where they shared struggles and successes, and offered professional advice to each other.

Participants

Study participants were students enrolled in each section of Fundamentals of Advertising. No study participants were included in more than one group. The control group was 24 undergraduates, seven

underclassmen and 17 upperclassmen, between 18 and 24 years of age. Participants identified as 14 females and 11 males, 22 Caucasians and three African-Americans, as well as 12 communication majors and 13 non-majors.

The embedded group was 26 undergraduates, nine underclassmen and 17 upperclassmen, between 18 and 24 years of age. Participants identified as 16 females and 10 males, 22 Caucasians, three African-Americans, and one Hispanic, as well as 10 communication majors and 16 non-majors.

The workshop group identified as 25 undergraduates, three underclassmen and 22 upperclassmen, between 18 and 24 years of age. Participants identified as 12 females and 13 males, 20 Caucasians, three African Americans, and two Hispanics, as well as six communication majors and 19 non-majors.

Procedure and Instrument

Participants in each condition completed a questionnaire during the initial class meeting that measured their levels of subject knowledge, as well as speaking, writing, research, and overall empowerment. The questionnaire was completed again at the end of the semester. The questionnaire was made up of 54 items: seven items focused on subject knowledge, 14 items on speaking empowerment, 14 on writing empowerment, 14 on research empowerment, and five were demographic questions. The questionnaire items related to empowerment were based on the Public Speaking Empowerment Scale (PSES) (Brown & Leek, 2016) that has been established as a valid and reliable instrument. Items were modified to fit the new target variables of research, writing, and overall empowerment. This modified instrument was then tested for reliability and validity. The questionnaire can be found in Appendix A.

Reliability

All groups' pre-test responses were used to assess the reliability of the new, expanded questionnaire using Cronbach's alpha via SPSS. Items for the subject knowledge subscale, as well as the speaking, writing, research, and total empowerment subscales produced excellent reliability coefficients as seen in Table 1. Coefficients of Cronbach's Alpha above .750 are considered reliable (Field, 2009).

Table 1. Cronbach's alpha values for questionnaire.

Scale	Cronbach's Alpha	*N* of Items
Subject Knowledge	.918	7
Speaking Empowerment	.954	14
Writing Empowerment	.936	14
Research Empowerment	.927	14
Total Empowerment	.945	42

Validity

All groups' pre-test responses were used to assess the validity of the questionnaire. A factor analysis was conducted to confirm that each subscale measured a unique variable and achieved convergent validity. Each specific empowerment scale loaded well on its own component when the factor analysis used a Varimax rotation with eigenvalues limited to three as seen in Table 2. Validity for the subject knowledge scale was established through expert and face validity approaches. The strong coefficients in Table 2 indicate that each scale is valid, thus the total empowerment scale, which is an aggregate of the three specific empowerment subscales, is also valid.

Table 2. Rotated component matrix showing separate measures.

	Component		
	1	**2**	**3**
Speaking Empowerment	**.959**	-.014	.282
Writing Empowerment	-.010	**.995**	.097
Research Empowerment	.289	.111	**.951**

Data Analysis

A *MANOVA* was used to compare pre-test responses between groups and post-test responses between groups. It also provided a comparison between pre-and-post-tests between and within all groups. Next, Tukey *post-hoc* testing was conducted to pinpoint any specific significant differences within or between groups. Throughout, all significant alpha values were set at .05, indicating a confidence level of 95% accuracy, and were calculated using SPSS statistical program (Field, 2009).

Results

In this section, the results of the *MANOVA* and Tukey *post-hoc* test are detailed. Global results of the *MANOVA* are provided and visualized while findings for each research question are listed in the order in which they were posed. Answering these questions was possible using comparisons of post-test scores because all three pre-test conditions produce similar responses. Since all *p*-values are above the level of .05, no significant differences exist between responses from pre-test groups. This indicates all participants reported very similar starting values for all dependent variables and that post-tests values can be directly compared. The *MANOVA* results for pre-tests are seen in Table 3.

Table 3. Pre-test *MANOVA* output showing no significant differences in responses.

	Dependent	*SS*	*df*	M^2	*F*	*p*
Pre-Tests	Subject Knowledge	56.713	2	28.357	1.519	.226
	Speaking Empowerment	34.702	2	17.351	.173	.842
	Writing Empowerment	36.130	2	18.065	.234	.792
	Research Empowerment	123.292	2	61.646	1.290	.282
	Total Empowerment	394.695	2	197.347	.637	.532

Research Questions

The research questions assessed differences in participant ratings of subject knowledge, as well as speaking, writing, researching, and total empowerment between the control, embedded, and workshop groups. As seen below in the global output found in Table 4, a *MANOVA* found significant differences in the three groups' responses. As seen in Table 5, a closer examination of these differences using the Tukey HSD *post-hoc* tests showed no significant differences in responses between the control and embedded groups. However, it did indicate significant main effect differences between the workshop group and the other two conditions. Table 5 displays comparisons between all groups' responses, as well as the differences between those response values. No interaction effects were identified.

Table 4. Global post-test *MANOVA* output showing significant differences in responses.

Dependent	*SS*	*df*	M^2	*F*	*p*
Subject Knowledge	200.908	2	100.454	10.917	.000
Speaking Empowerment	1649.009	2	824.505	13.848	.000
Writing Empowerment	618.582	2	309.291	5.374	.007
Research Empowerment	1886.842	2	943.421	16.719	.000
Total Empowerment	11241.691	2	5620.845	26.249	.000

Table 5. Tukey HSD specific multiple post-test comparisons by mean difference.

Variable	Post Test (A)	Post Test (B)	Mean Difference (A-B)*	*p*
Subject Knowledge	Control	Embedded	1.70	.185
	Control	Workshop	2.32	.057
	Embedded	Workshop	4.02	.000**
Speaking Empowerment	Control	Embedded	3.26	.380
	Control	Workshop	8.10	.006**
	Embedded	Workshop	11.36	.000**
Writing Empowerment	Control	Embedded	0.16	.998
	Control	Workshop	6.32	.034**
	Embedded	Workshop	6.48	.010**
Research Empowerment	Control	Embedded	3.63	.283
	Control	Workshop	13.10	.000**
	Embedded	Workshop	9.47	.000**
Total Empowerment	Control	Embedded	0.25	.999
	Control	Workshop	27.52	.000**
	Embedded	Workshop	27.31	.000**

1. (*Differences expressed as absolute values)
2. (**Significant value)

RQ1: Are there differences in reported subject knowledge between the control, embedded, and workshop groups?
The answer to this question was affirmative. The workshop group (*M*=32.13) produced higher ratings of participant subject knowledge than the embedded group (*M*=29.81) or the control group (*M*=29.21). No significant difference exists between the control and embedded groups. Examining the demographic data collected from participants identified a main effect indicating that participants who were enrolled in the course as part of their major reported significantly higher post-test levels of subject knowledge than non-majors. Details of this main effect are seen in Table 6.

Table 6. Comparison of mean subject knowledge by major across all post-tests.

	Majors		Non-Majors			
	N	*M*	*N*	*M*	*t*	*p*
Subject Knowledge	39	30.95	27	28.44	3.07	.002

RQ2: Are there differences in reported speaking empowerment between the control, embedded, and workshop groups?
The answer to this question was affirmative. The workshop group (*M*=62.91) produced higher ratings of participant speaking empowerment than the control group (*M*=54.81) or the embedded group (*M*=51.56). No significant difference was seen between the control and embedded groups. Examining the demographic data collected from participants identified a main effect indicating that participants who were enrolled in the course as part of their major reported significantly higher post-test levels of speaking empowerment than non-majors. Details of this main effect are seen in Table 7.

Table 7. Significant mean differences for speaking empowerment by major across all post-tests.

	Majors		Non-Majors			
	N	*M*	*N*	*M*	*t*	*p*
Speaking Empowerment	39	58.31	27	53.41	2.21	.031

RQ3: Are there differences in reported writing empowerment between the control, embedded, and workshop groups?
The answer to this question was affirmative. The workshop group (*M*=59.26) produced higher ratings of participant writing empowerment than the control group (*M*=52.94) or the embedded group (*M*=52.78). No significant difference was seen between the control and embedded groups. Examining the demographic data collected from participants identified a main effect indicating that participants who identified as female reported significantly higher post-test levels of writing empowerment than participants who identified as male. Details of this main effect are seen in Table 8.

Table 8. Significant mean differences for writing empowerment by sex across all post-tests.

	Male		Females			
	N	*M*	*N*	*M*	*t*	*p*
Writing Empowerment	25	52.40	41	56.71	2.15	.035

RQ4: Are there differences in reported research empowerment between the embedded consultant, workshop, and control groups?
The answer to this question was affirmative. The workshop group (*M*=61.91) produced higher ratings of participant research empowerment than the control group (*M*=48.81) or the embedded group (*M*=52.44). No significant difference was seen between the control and embedded groups. No other main effects were identified.

RQ5: Are there differences in reported total empowerment between the embedded consultant, workshop, and control groups?
The answer to this question was affirmative. The workshop group (*M*=184.09) produced higher ratings of participant total empowerment than the control group (*M*=156.56) or the embedded group (*M*=156.78). No significant difference was seen between the control and embedded groups. No other main effects were identified.

Discussion

The results provided interesting findings for center administrators attempting to train, employ, and position consultants effectively and efficiently in classrooms. This discussion includes the study's results, feedback from the instructor and consultants from both experimental groups, applications of these findings in communication centers, and a reflection on the study's heuristic value for future research and limitations for which it should control.

Consultants in the Classroom

Center administrators who want to insert consultants in the classroom now have a suggestion for direction: insert consultants in the classroom using a workshop approach. The embedded group did not increase student empowerment or subject knowledge over the semester. In the case of all but one variable, writing empowerment, the embedded group produced *lower* post-test values than the control group. While this study is too small to make a generalizable statement, this finding suggests that if the options are no consultant inclusion or

embedded consultant inclusion, *no inclusion is the better option*. As an alternative to the embedded group, the workshop group seems to be a much more effective and efficient way to insert consultants in the classroom. The workshop group produced significantly higher values than the embedded group across *all* variables. Additionally, the embedded group requires at least one consultant to be present in the classroom for each meeting, while the workshop group only requires consultants, a single consultant or a small team, to attend one or two class meetings per semester. This saves the consultants time and, potentially, the centers money. If a course meets for three hours per week for a 15-week semester, the embedded group will require a 45-hour commitment while the workshop group will only require about a six-hour commitment. That's a difference of 39 labor hours. If a consultant makes $10.00 per hour, this equates to a savings of $390.00 per semester. As a point of reference, this amount of money could pay conference registrations at the National Association of Communication Centers for one faculty and four students (with change to buy lunch). For communication centers that wish to connect more broadly with their campus but are financially restricted, this is a helpful and hopeful finding for accomplishing growth while not busting the budget.

Instructor & Consultant Feedback

As a coauthor of this research, the confederate instructor in this study is able to supply feedback for both experimental groups. Both pros and cons were cited but, ultimately, a preference was shown for the workshop model. Consultants also provided feedback. Feedback from both is discussed below.

Embedded group

The instructor identified three major drawbacks of the embedded model. One drawback was that consultants became distractions when they were not actively included in the class or became visibly bored. This seemed to leave students wondering why the consultants were there and made the learning environment awkward. Another drawback was that while consultants became familiar with the subject matter of the course, they were not always knowledgeable of prerequisite information. While consultants are not expected to be content experts, students had to spend time catching consultants up, in some cases, before the task at hand could be discussed. Finally, less than sufficient communication between consultants, center administrators, and the instructor was cited as an issue with the embedded group. The instructor noted the need to meet with consultants regularly in order to prepare them to perform as effectively and efficiently as possible. This became a logistical challenge and added one more layer to the model. In terms of benefits, this model provided more contact with and access to consultants than the workshop model. While this regular attendance might increase familiarity for consultants with students, the instructor, and the material, it did not seem to benefit the larger classroom experience.

The consultants in this group provided similar feedback as the instructor. First, consultants said that more communication was needed in order to fully grasp the expectations and requirements of the course and assignments. Consultants often sat in class meetings without a clear goal aside from "being ready just in case" and did not feel needed during each meeting. Second, consultants noted that, during many class meetings, they felt like they were in the way and were distracting to students. This seems especially true during larger

group discussions or activities that required students to move around the room. This aligns with the instructor's feedback of consultants as distractions from time to time.

Workshop group

For the workshop group, the instructor also noted pros and cons of this design. The major drawback of this group is the limited time with consultants. Hosting one specific group of consultants for a workshop during one or two class meetings makes choreographing and aligning course content with the workshop a challenge. For example, more contact with the consultants would allow them to use more course-specific or appropriate examples during their workshops. However, this model had substantial benefits. First, there was a lack of student procrastination due to the limited-time-nature of a workshop model. Workshops were held at points of the semester where they best fit with course content. This timing, along with a scarcity-of-knowledge mindset that the consultant will only be in the classroom once, seemed to facilitate student engagement with the workshop. In other words, the limited time offer of the workshop motivated students to seek assistance while the consultant was visiting the classroom. Second, students saw the workshops as useful and a nice change of pace. Workshops seemed to break up any monotony of a semester's routine and allow students to learn in new ways. Third, this model used a flipped classroom design (Sams & Bergmann, 2013). As such, this model uses what would typically be out of class activities and moves them into the classroom and incorporates consultant support.

Consultants participating in the workshop group also had positive feedback. The consultants found it useful to put additional energy into creating an effective workshop that helped them connect to students. A few consultants noted, similarly to the embedded group, the need for a clearer understanding of the course material.

It is important to note that all drawbacks from both models can likely be remedied for future implementations through clear, consistent, and structured communication between consultants, administrators, and instructors.

Additional Findings

This study produced three findings in addition to those related to the research questions. First, students enrolled as majors reported higher levels of subject knowledge than non-majors. Second, students enrolled as majors reported higher post-test levels of speaking empowerment than non-majors. These findings can be explained by accounting for the majors' additional interest in and exposure to the specific field. The additional subject knowledge seems to positively correlate with speaking empowerment. This aligns with the common notion that speakers are more comfortable speaking about familiar topics than unfamiliar ones. In terms of work done at communication centers, these findings signal that clients should be encouraged to speak on topics with which they are familiar whenever appropriate.

Finally, female participants reported significantly higher levels of writing empowerment than males. Female participants scored higher than males on *every* writing item. However, the analysis indicates that the majority of the overall significant difference for writing comes from one item: *Writing is a normal part of life*. Females seem to see writing as a normal part of life much more so than males. This should be explored further for potential generalization, to understand why females see writing this way, and to learn how educators can help males feel similarly.

Future Research and Limitations

The findings produced by this study have heuristic value. should spark future research even though it has limitations, and that future research should account for these limitations. First, the sample size used in this study is not large enough to produce generalizable findings. Future research should include more participants. One approach to increasing the sample size is careful selection of multiple courses. Another might be designing a study that uses multiple universities. The findings should be checked for differences between individual groups (locations/subjects) and approaches.

Second, and similar to the first limitation, this study only looks at one course. How will these models work in other courses? How will they work in other areas of study or with other instructors? Additional courses, areas of study, and instructors should be used for future research.

Finally, while university consulting centers would prefer students use our resources more frequently than they do, we know it is a challenge to get them in the door. One solution could be that *we* to go to *them*. Exposing students to the centers increases the likelihood of additional consultations (King & Atkins-Sayre, 2012). Also, the most effective way to get students in the center is for the instructor to categorize center visits as extra credit or parts of assignments. Inserting consultants in classrooms would expose instructors to our work and could convince them of our value. While we still do not have a *best practice* training or model for inserting consultants in classrooms future research should pursue developing this training.

This study provides communication centers with an increased ability to make informed decisions about attaching consultants to the classroom and to continue investigating new opportunities for growth and development. Communication centers have experienced substantial growth in the recent past. One possibility to continue this growth is to form alliances with other campus peer-consulting centers. Highlighting our unique skills and the ways in which they complement one another is encouraged, and can be delivered directly to where the learning happens—the classroom.

References

Adler, R. P., & Goggin, J. (2005). What do we mean by "civic engagement?" *Journal of Transformative Education, 3*(3), 236-253.

Boquet, E. H. (1999). "Our little secret:" A history of writing centers, pre-to-post-open admissions. *College Composition and Communication, 50*(3), 463-482.

Brown, C. J., & Leek, D. (2016). *Empowering students in the center: Public speaking empowerment scale*. Paper presented at the National Association of Communication Centers Conference, Pittsburgh, PA.

Brown, C. J., Torreano, J., Lane, J., & Gregory-Hatch, S. (2018). Stronger together: Nonsummativity and the Grand Valley State University Knowledge Market. *Communication Center Journal, 4*(1), 75-85.

Carino, P. (1995). Early writing centers: Toward a history. *Writing Center Journal, 15*(2), 103-115.

Clarke, A. (2011). Interview with Aaron Clarke: Embedded systems consultant. Aspen Core Network. Retrieved from https://www.eeweb.com/featured-engineers/interview-with-aaron-clarke

DeLoach, S., Elyse A., Ebony, B., & Keebler K. (2014). Locating the center: Exploring the roles of in-class tutors in first year composition classrooms. *Praxis: A Writing Center Journal, 12*(1), 9-14.

Field, A. (2009). *Discovering statistics using SPSS.* Los Angeles, CA: Sage.

Figueroa, M. E., Kincaid, D. L., Rani, M., & Lewis, G. (2002). Communication for social change: An integrated group for measuring the process and its outcomes. *The Rockefeller foundation and Johns Hopkins university center for communication programs.* New York, NY: The Rockefeller Foundation.

Fivecoat, H.C., Cos, T.A., & Possemato, K. (2017). Special ethical considerations for behavioral consultants in the primary care setting. *Professional Psychology: Research and Practice, 48*(5), 335-342.

Gawelek, M. A., Mulqueen, M., & Tarule, J. M. (1994). Woman to women: Understanding the needs of our female students. In S. M. Deats & L. T. Lenker (Eds.), *Gender and academe: Feminist pedagogy and politics* (pp. 179-198). Lanham, MD: Lexington Books.

Gentile, F. (2014). When center catches in the classroom (and classroom in the center): The first-year writing tutorial and the writing program. *Praxis: A Writing Center Journal, 12*(1), 33-38.

Jones, H. K. (2001). Academic self-confidence scale: A psychological study in two parts. *University of Tennessee Honors Thesis Projects.* Retrieved from http://trace.tennessee.edu/utk_chanhonoproj/472

King, M. L., & Atkins-Sayre, W. (2012). Focusing on faculty: The importance of faculty support to communication center success. In E. L. Yook & W. Atkins-Sayre (Eds.), *Communication centers and oral communication programs in higher education: Advantages, challenges, and new directions* (pp. 147-161). Lanham, MD: Lexington Books.

Kinkead, J. (2001). The National Writing Centers Association as mooring: A personal history of the first decade. In R. W. Barnett & J. S. Blumner (Eds.), *The Allyn and Bacon Guide to Writing Center Theory and Practice* (pp. 29-40). Boston, MA: Allyn and Bacon.

Leek, D., & Brown, C. J. (2015). *The many faces of public speaking practice among undergraduates*. Paper presented at the National Association of Communication Centers Conference. Fredericksburg, VA.

McCall, J. D., Ellis, E., & Murphy, M. (2017). It takes three to enhance: A pilot study of collaboration in the basic course. *Communication Center Journal, 3*(1).

Montgomery, S., & Robertshaw, S.D. (2015). From co-location to collaboration: Working together to improve student learning. *Faculty Publications, 121*. Retrieved from h p://scholarship.rollins.edu/as_facpub/121

Murphree, D. (2015). Flipping the history classroom with an embedded writing consultant: Synthesizing inverted and WAC paradigms in a university history survey course. *The Social Studies, 106*(5), 218-225.

Pagnac, S., Bradford, S., Boertje, C., McMahon, E., & Teets, G. (2014). An embedded model: First-year success in writing and research. *Praxis: A Writing Center Journal, 12*(1), 39-44.

Pensoneau-Conway, S. L., & Romerhausen N. J. (2012). The communication center: A critical site of intervention for student empowerment. In E. L. Yook & W. Atkins-Sayre (Eds.), *Communication centers and oral communication programs in higher education: Advantages, challenges, and new directions* (pp. 39-54). Lanham, MD: Lexington Books.

Rudolph, F. (1976). *The American college and university: A history.* New York, NY: Alfred Knopf.

Sams, A., & Bergmann, J. (2013). Flip your students' learning. *Educational Leadership, 70*(6), 16–20.

Shapiro, S., Cox, M., Shuck, G., & Simnitt, E. (2016). Teaching for agency: From appreciating linguistic diversity to empowering student writers. *Composition Studies, 44*(1), 31.

Thompson, I., & Mackiewicz, J. (2014). Questioning in writing center conferences. *The Writing Center Journal, 33*(2), 37-70.

Tienken, C., Goldberg, S., & DiRocco, D. (2010). Questioning the Questions, *Education Digest, 75*(9), 28-32.

Titus, M. L., Boyle J. R., Scudder J. L., & Sudol, A. (2014). Dialoging a successful pedagogy for embedded tutors. *Praxis: A Writing Center Journal, 12*(1), 15-20.

Zamberlan, L., & Wilson, S. (2015). Developing an embedded peer tutor program in design studio to support first year design students. *Journal of Peer Learning, 8*, 5-17.

APPENDIX A: STUDY QUESTIONNAIRE

1 | PRE COM275

1. When giving an oral presentation, I am able to influence others.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
2. When giving an oral presentation, I feel that what I have to say is important.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
3. When giving an oral presentation, I can persuade others to agree with me.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
4. When giving an oral presentation, I can cause significant change in the attitudes of others.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
5. When giving an oral presentation, I can make an impact on my audience.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
6. When giving an oral presentation, I feel confident.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
7. When giving an oral presentation, I feel certain of success.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
8. I speak with poise.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
9. I feel like a skilled speaker.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
10. I have high self-esteem when speaking.
    Strongly Disagree Disagree Neutral Agree Strongly Agree
11 I am likely to volunteer for a speaking role when working in a group.
   Strongly Disagree Disagree Neutral Agree Strongly Agree
12. I am comfortable speaking in front of strangers.
    Strongly Disagree Disagree Neutral Agree Strongly Agree
13. I would apply for a job that requires public speaking.
    Strongly Disagree Disagree Neutral Agree Strongly Agree
14. Public speaking is a normal part of life.
    Strongly Disagree Disagree Neutral Agree Strongly Agree
15. I feel my writing is able to influence others.
    Strongly Disagree Disagree Neutral Agree Strongly Agree

16. I feel that what I write is important.
Strongly Disagree Disagree Neutral Agree Strongly Agree

17. Through writing, I can persuade others to agree with me.
Strongly Disagree Disagree Neutral Agree Strongly Agree

18. Through writing, I can cause significant change in the attitudes of others.
Strongly Disagree Disagree Neutral Agree Strongly Agree

19. Through writing, I can make an impact on my audience.
Strongly Disagree Disagree Neutral Agree Strongly Agree

20. I feel confident when I write.
Strongly Disagree Disagree Neutral Agree Strongly Agree

21. I feel certain of success when I write.
Strongly Disagree Disagree Neutral Agree Strongly Agree

22. I write with poise.
Strongly Disagree Disagree Neutral Agree Strongly Agree

23. I feel like a skilled writer.
Strongly Disagree Disagree Neutral Agree Strongly Agree

24. I have high self-esteem when writing.
Strongly Disagree Disagree Neutral Agree Strongly Agree

25. I am likely to volunteer for a writing role when working in a group.
Strongly Disagree Disagree Neutral Agree Strongly Agree

26. I am comfortable sharing my writing with strangers.
Strongly Disagree Disagree Neutral Agree Strongly Agree

27. I would apply for a job that requires writing.
Strongly Disagree Disagree Neutral Agree Strongly Agree

28. Writing is a normal part of life.
Strongly Disagree Disagree Neutral Agree Strongly Agree

29. I feel I can use research to influence others.
Strongly Disagree Disagree Neutral Agree Strongly Agree

30. I feel that my research is important.
Strongly Disagree Disagree Neutral Agree Strongly Agree

3 | PRE COM275

31. Through research findings, I can persuade others to agree with me.

Strongly Disagree Disagree Neutral Agree Strongly Agree

32. Through research findings, I can cause significant change in the attitudes of others.

Strongly Disagree Disagree Neutral Agree Strongly Agree

33. Through research findings, I can make an impact on my audience.

Strongly Disagree Disagree Neutral Agree Strongly Agree

34. I feel confident when I research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

35. I feel certain of success when I research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

36. I research with poise.

Strongly Disagree Disagree Neutral Agree Strongly Agree

37. I feel like a skilled researcher.

Strongly Disagree Disagree Neutral Agree Strongly Agree

38. I have high self-esteem when researching.

Strongly Disagree Disagree Neutral Agree Strongly Agree

39. I am likely to volunteer for a research role when working in a group.

Strongly Disagree Disagree Neutral Agree Strongly Agree

40. I am comfortable sharing my research with strangers.

Strongly Disagree Disagree Neutral Agree Strongly Agree

41. I would apply for a job that requires research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

42. Research is a normal part of life.

Strongly Disagree Disagree Neutral Agree Strongly Agree

43. I am familiar with the role of communication research in society.

Strongly Disagree Disagree Neutral Agree Strongly Agree

44. I am familiar with the process of communication research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

45. I am familiar with the parts of a research paper.

Strongly Disagree Disagree Neutral Agree Strongly Agree

46. I am familiar with metatheoretical assumptions associated with communication research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

47. I am familiar with and able to apply appropriate research practices.

Strongly Disagree Disagree Neutral Agree Strongly Agree

48. I am familiar with and able to apply research methods in diverse settings.

Strongly Disagree Disagree Neutral Agree Strongly Agree

49. I am familiar with and able to apply written, spoken, and visual techniques to report research.

Strongly Disagree Disagree Neutral Agree Strongly Agree

50. Which best describes your sex (not gender)?

Male Female

51. Which best describes your ethnicity?

Caucasian African-American Hispanic Asian-American Native-American Other

52. What is your age group?

18-24 25-32 32+

53. What is your academic standing?

Freshman Sophomore Junior Senior Graduate Student

54. What is your major(s)? Please list below:

_____

Thank you for your participation!