Research has shown that active learning promotes better attainment of learning outcomes than passive learning. Even though faculty have identified active learning as best practices, faculty state the most common instruction method they use is a passive learning approach of traditional lecture. The objective of this study was to collect and summarize data available on within a School of Health and Kinesiology regarding the school’s current status on active learning.

Faculty and students within a School of Health and Kinesiology were recruited to complete an online survey assessing current use, perceptions and barriers to active learning within the classroom.

Data analysis showed faculty stated they have used active learning in the classroom and that it was effective. Students also agreed that active learning allowed them to learn more effectively. Different ethnic groups as well as first generation and other generation students differed in what types of active learning activities they preferred to learn most effectively. Students and faculty disagreed on the frequency of learning activities with a significant difference in how often the lecture method was provided in class. Students and faculty also disagreed on the specific type of active learning activity produced the most effective learning. Both groups did agree that certain active learning activities allowed students to learn better than lecture.

To improve the effectiveness of students accomplishing learning outcomes the first step in the process is to determine student and faculty perceptions. With this information, now an effective communication and continuing education platform can be developed.
STUDENT AND FACULTY PERCEPTIONS OF ACTIVE LEARNING

by

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Approved by

Dr. Michael Hemphill
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DEDICATION

I dedicate this work to my family who have shown nothing but encouragement through this process. To my wife Nikki, whose love and support has always been truly inspiring. To my three sons, Kaden, Drew, and Cam, you all have a special place in my heart and you all help me to keep my priorities in order.
This dissertation written by Mark Snow has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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CHAPTER I: PROJECT OVERVIEW

Research has shown that active learning promotes better attainment of learning outcomes than passive learning (Brethower, 1977; Deslauriers et al., 2019; Freeman et al., 2014; McLeisch, 1968; Pollio, 1984). Passive learning takes place when students are not directly participating in the learning process. Active learning has been shown to provide many benefits to students in comparison to passive learning practices. Student failure and withdrawal rates in courses are significantly reduced, course exam scores and final grades increase, and students achieve higher order thinking skills in classrooms that incorporate active learning. The knowledge gap that exists between different socioeconomic, ethnic, and generation students is reduced by half when instructors use active learning methods instead of traditional lecture methods (Eddy & Hogan, 2014).

In previous studies, faculty have identified active learning as best practices. Yet, these same faculty state the most common instruction method they use is a passive learning approach of traditional lecture (Bonwell & Eison, 1991; Miller et al., 2006; Miller & Metz, 2014; Patrick et al., 2016). Faculty identified barriers exist to the effective use of active learning in their courses. Students have been shown to resist active learning approaches and show a preference towards passive learning (Deslauriers et al., 2019; Henderson et al., 2012). An institutional overarching approach to improving active learning may not be the most efficient approach as research has shown that perceptions and barriers can vary by institution and department (Miller & Metz, 2014; Patrick et al, 2016). At this time, school’s administration do not collectively know the following: 1) kinesiology faculty’s understanding and application of active learning, and 2) kinesiology faculty and students’ perceptions and barriers to active learning. University school’s administration and faculty need to collect and summarize all pertinent information regarding the school’s current status towards active learning. This will ensure kinesiology students receive the necessary evidence-based instruction to allow them to achieve the higher order thinking skills necessary for students’ success in the professional world.

Ultimately, the **long-term goal** is to use this information to enhance a professional development platform on evidence-based methods of pedagogy for faculty. Later, the
methods of data collection can be re-examined to see if a positive change has been achieved. Therefore, the **objective** of this study is to collect and summarize data available on campus in regards to the school’s current status on active learning.

**Specific Aim #1: Determine faculty’s familiarity of and current use of active learning in the classroom.** This information will reflect on if faculty are currently using active learning in the classroom and how often.

**Specific Aim #2: Determine faculty and students perceptions and barriers to active learning.** This step will allow department administrators to see faculty and students’ perceptions of active learning and barriers towards its successful integration.

All data collected from research will allow for stakeholders within the School of Health and Kinesiology to have valuable information on faculty and students’ perceptions and barriers to active learning. With this information, more streamlined initiatives can be developed to help students better achieve learning outcomes and become successful in the professional world. The Whitehouse has recently proposed reform to the Higher Education Act (Miller et al., 2006). Within this proposal contains the principle of reprioritizing focus on student outcomes for the purpose of accreditation. Embedded in these outcomes is the importance of educational quality and student learning. To meet these outcomes, we must provide faculty with proper development of best practices to achieve these student outcomes. It has been established that faculty and students have specific and varying perceptions and barriers to active learning which may impede the successful accomplishment of these outcomes. Therefore, this project establishes a critical need to determine an overall summary of the current status of active learning. **Once this project is completed, effective methods can be designed towards the successful integration of active learning within the school and thus a better opportunity to achieve program and course outcomes is available.** This type of application of evidence-based professional practice is vital towards the success of students within the school.

**Background**

Cross (1986) identified that traditional lecture methods were a thing of the past and provided research from as early as the 1960's showing this method of passive learning resulted in poor retention of information (Brethower, 1977; McLeisch, 1968;
Pollio, 1984). Around the same time, active learning was identified as a method of pedagogy that helps students retain information better over traditional passive learning (Keller, 1968). Bonwell and Eison (1991) were among the first users of the umbrella term active learning and defined active learning as, “instructional activities involving students in doing things and thinking about what they are doing” (p.iii). Active learning encompasses many different constructivist learning theory approaches. These include, but are not limited to, the following student-centered approaches; cooperative/collaborative learning, discovery learning, experiential learning, problem based learning, and inquiry based learning.

**Benefits of Active Learning**

A meta-analysis performed by Freeman et al. (2014) reviewed 225 published and unpublished studies on the effects of active learning versus traditional lecture methods. Active learning performed better over passive learning practices in regard to reduced course failure/withdrawal rates, increased exam scores, and increased final course grades. Eddy and Hogan (2014) determined that the implementation of moderate course structure, this included a preclass preparation assignment followed by in class active learning activities, helps to significantly reduce the knowledge gap present between different student populations such as ethnic groups and first-generation students. In low structure courses, black students scored significantly lower exam scores than those ethnic groups who received the highest scores. In moderate structure courses, all students improved on exam performance by 3% with black students increasing their exam scores by 6.3%. The performance gap between the highest performing ethnic groups and black students was reduced by 50%. First generation students performed significantly lower than continuing generation students in low course structure courses. In moderate course structure courses, all students performed an additional 3.7% higher on exams with first generation students having a 6.1% increase on exam performance (Eddy & Hogan, 2014).

**Active Learning Within the Discipline of Kinesiology**

Within the profession of kinesiology and its sub-disciplines, active learning practices have been shown to improve critical thinking and problem-solving skills (Nelson & Crow, 2014; Pastuschkova, 2019). In activity-related courses, Van Dam et
al. (2019), found that using active learning provided a better understanding and enjoyment of the activity. Riskowski (2015) reported increased learning and a better understanding of biomechanical concepts with the use of just in time teaching. Lumpkin et al. (2015) stated that students' perceived active learning activities in kinesiology courses were impactful to their learning of the material and helped to make the learning process more enjoyable. Analysis of student comments from this survey identified four themes as to why active learning improved student learning. These activities were identified in Lumpkin et al. (2015) as “fun, learning collaboratively, challenging but helpful, and variety” (p. 352). Knudson (2016) proposed Kinesiology faculty need to strive towards excellence in teaching and the promotion of using evidence-based methods towards improving student learning.

**Faculty Barriers to Active Learning**

Leaders from the U.S. Department of Education have pressed institutions to promote active learning in the classroom, but yet evidence has shown that faculty still prefer traditional lecture over active learning in the classroom (Bonwell & Eison, 1991; Miller et al., 2006; Miller & Metz, 2014; Patrick et al., 2016). Faculty and students' perceptions and barriers to active learning were documented by Miller and Metz (2014). Faculty and students within one department at a university were surveyed. Miller and Metz found that faculty identified lecture as the most commonly used method of instruction. Faculty also identified educational games/activities was the least used method. This was in large contrast to students as they identified active learning methods like educational games/activities and problem solving as more effective than lecture. Faculty identified time as a major barrier in the effective use of active learning strategies. Faculty also stated that they were more comfortable with traditional lecture methods versus active learning activities (Miller & Metz, 2014). The work initially done by Miller and Metz (2014) was also replicated by Patrick et al. in 2016. In this study, a larger sample size of students and faculty from multiple departments were used. Patrick et al. (2016) found that faculty and students both agreed that active learning as best practice. Faculty identified activities such as problem solving and collaborative learning as best practice. Patrick et al. (2016) also reported that perceptions and barriers to active learning did vary by department. Researchers stated that “a one-
sized-fits-all approach to faculty development should not be used across institutions, or even departments within institutions, because we cannot assume that the barriers and incentives necessary to achieving institutional or departmental change will be uniform across institutions or disciplines” (Patrick et al., 2016, p. 61).

**Occupational Socialization Theory**

The reluctance of using active learning could be linked back to occupational socialization theory. This theory describes the different social aspects in a professional's life which affects what type of profession they choose as well as their perceptions and beliefs on teaching. Typically, socialization theory includes three phases (acculturation, professional, and organizational) (Richards & Gaudreault, 2017). The acculturation phase includes social interactions occurring before an individual decided to pursue teaching. This could include how instructors were taught within their secondary and postsecondary schooling. The professional socialization phase includes the knowledge and skills learned for these individuals to become effective educators. The organizational phase occurs when these individuals are currently working within a university as a full time or part time faculty member. It is theorized that if effective pedagogical practices like active learning are not experienced within the acculturation phase, then these faculty may be reluctant towards the introduction of active learning within the professional phase and organizational phase of their careers. Some part-time or full-time faculty do not pursue a course of study in education at the undergraduate or graduate level. If this is the instance, then whatever these professionals experienced during the acculturation and professional phases will affect what types of pedagogy they practice. It is also theorized that if active learning is not reinforced or supported during the organizational socialization phase then faculty may revert to previous experiences on how to effectively teach (Gawrisch et al., 2019).

**Student Barriers to Active Learning**

Successful implementation of active learning does have its challenges. It is reported that up to one-third of faculty who use active learning revert back to passive learning. One of the main reasons for this change is students' opposition to active learning (Henderson et al., 2012). Research has shown that students perceive they learn more in a passive learning environment in comparison to an active learning
environment (Deslauriers et al., 2019). In fact, the same research study showed just the opposite. Researchers feel that the increased level of cognitive effort needed in an active learning course may be the reason students feel they are not learning (Deslauriers et al., 2019). When, in fact, this increased effort can lead to a deeper understanding of the subject. The student preference towards a passive learning environment can affect the implementation of active learning in the classroom. This dissatisfaction with active learning could affect student’s evaluations of the instructor at the end of the course (Deslauriers et al., 2019).

The works cited above provide significant details into understanding faculty and students’ perceptions and barriers to active learning. The research done by Patrick et al. (2014) identified that perceptions and barriers to active learning can vary by institution and department. One cannot assume every institution has the same perceptions of and barriers to active learning.

In conclusion, to support faculty with the integration of active learning, we must first determine the university’s faculty and students’ perceptions and barriers to active learning. This way we can create a more streamlined and collaborative effort to improve active learning practices. Based on the overwhelming information on the effectiveness of active learning, Knudson and Meaney (2018) created a “Promoting Active-Learning Instruction and Research (PALIR) initiative” (p. 328). This initiative was an interdisciplinary effort within a Kinesiology department. Included in this included voluntary active learning professional development as well as student and faculty surveys before and after implementation of active learning methods. At the end of this initiative, the Kinesiology department was recognized by the university as one of the leaders of active learning which led to Kinesiology faculty serving on new university wide active learning initiatives.

Methods

Specific Aim #1: Determine faculty’s familiarity of and current use of active learning in the classroom.

Specific Aim #2: Determine students and faculty’s perceptions and barriers to active learning.
**Introduction**

Active learning has been identified within the research as best practice within higher education. The effective implementation of active learning has been emphasized by the United States Government via the Higher Education Act (Miller et al., 2006). Barriers still exist towards the successful integration of active learning in the classroom. These barriers could have a negative effect on faculty’s use of active learning in the classroom even when there is support from the university and professional development resources are readily available (Silverthorn, Thorn, & Svinicki, 2006). At this time, there has not been a collection and summarization of data towards the faculty and students’ perceptions and barriers to active learning within a School of Health and Kinesiology which was selected to participate in this study. The main objective with this project is to collectively attain and summarize data points that provide faculty and students’ perceptions and barriers to active learning at the university’s School of Health and Kinesiology. The design of this research is an exploratory case study using an online survey designed to determine the status of active learning within the School of Health and Kinesiology at a four-year University.

**Setting and Participants**

A School of Health and Kinesiology located within a metropolitan university agreed to participate in this research project. Two target populations were chosen for participation in this study. The first consisted of all undergraduate students enrolled in the School of Health and Kinesiology at the university on a full-time status as of the Spring 2021 semester (N=384). At the completion of the survey time period, 127 student responses were collected. Of those responses, 93 surveys made the criteria requirements for data analysis. Ninety of the surveys were completed entirely and 3 surveys were at least 50% complete. The second population consisted of all faculty (both full time and part time) who were currently teaching in the School of Health and Kinesiology at the same university within the same semester. (N=47). At the completion of the survey period, 12 survey responses were collected. Of those responses, 9 made the criteria for data analysis.
Measures

Surveys were completed to determine faculty and students’ perceptions and barriers to active learning. The survey is similar to the survey used by Patrick et al. (2016) but slight modifications have been made that directly apply to the current University (See Appendix A & B). The goals of the survey tied directly back to the aims of the research. The first aim was to determine faculty’s familiarity of and current use of active learning as determined by both faculty and students. For example, one question included in the faculty survey asked the following; please provide the frequency that you use the following instructional methods in the classroom. Included in this question was a list of active and passive learning activities. A similar question was also included in the student survey in which the students were asked the frequency they experienced the following activities in the classroom. The second aim was to determine faculty and students’ perceptions and barriers to active learning. One prompt that was included in the student survey asked the following; please rate the following activities according to the way you learn most effectively. This question was followed by a list of active and passive learning activities. A similar question was also included in the faculty survey where faculty were asked on the effectiveness of the active or passive learning activity. The online survey instruments consisted of yes/no, ranking, slider bar, fill in the blank, and Likert scale questions. The survey consisted of four parts: consent and inclusion criteria, demographics, current use of active learning, and perceptions and barriers to active learning. Upon completion of the demographics portion of the survey, a definition of active learning was provided before the completion of the active learning portion of the survey.

Procedures

Following approval of the Institutional Review Board (IRB) at the University of North Carolina Greensboro, a link to the online survey was sent out via email communication to students and faculty. The survey was administered using Qualtrics software. Those participants who participated in the survey were eligible for a drawing for a gift card. A reminder email was sent to students and faculty approximately two weeks after the initial email was sent to complete the survey. Recruitment emails for students and faculty are provided in Appendix C and D.
**Data Analysis**

Data analysis was performed using IBM SPSS software. Descriptive statistics was used to provide overall results of faculty and students. A Mann-Whitney U-test was used to determine if significant differences existed between student genders. The same test was also used to determine differences between first generation versus other generation students. The Mann-Whitney U test was also used to determine significant differences between faculty and students. An Independent Samples Kruskal-Wallis test was used to determine if significant differences existed between student ethnicity and year in college. If differences existed, then a pairwise comparison was used. It was the intention to run tests of significance within faculty as well, but due to the low response rate of faculty surveys this was unable to be performed.

**Results**

**Faculty's Familiarity of and Current Use of Active Learning in the Classroom**

Of the faculty that responded to the survey, 89% stated they have personally used active learning in the classroom. Of those who have used active learning, 75% stated that the active learning was effective. Educational activities were shown on average to be the most used learning activity by faculty (55% of the time in class). This is followed by lecture (51%) group/collaborative learning (48%), and problem solving (46%) (See Figure 1 in Appendix E).

When asked about current versus best practices faculty surveyed responded they feel they should be using active learning more often and lecture less in the classroom. Faculty stated their current use of active learning is on average about 60% of the class period. When asked how much of class time should incorporate active learning the average percentage was 71%. When asked what percentage of class time faculty currently use towards lecture the average was 35%. When asked how much time should be used for lecture, faculty stated an average of 30% of class time (See Figure 4 in Appendix E).

**Student Survey Results**

Twenty-five percent of the respondents were male students (n=23) while 75% were female students (n=70). The survey respondents consisted of 20% Freshman (n=18),
21% Sophomore (n=19), 16% Junior (n=15), and 43% Senior (n=39) students. Seventy-four percent of students reported their ethnicity as White followed by Black (8.6%), Asian (7.5%) and other (8.6%). Thirty-nine percent of the student respondents (n=36) stated they were first generation college students. Student demographics were similar to the demographic reported by the University website for the College of Education, Health, and Human Sciences by gender and ethnicity. In regard to the percentage of time taken during class of each educational activity, students responded lecture as the most reported frequency of teaching method (85% of class time) followed by; reading textbook, notes, or journal articles (60%), group collaborative learning (53%), and online resources (52%) (See Figure 5 in Appendix F). Students rating of the effectiveness of the learning activity by comparing mean scores (1=very effective to 4=not effective) shows students surveyed perceived educational activities (mean=1.62) as the most effective learning activity. This was followed by videos (1.87), problem solving (1.88), and group/collaborative learning (1.96). Smartphone/smrtpad applications was found to be the least effective method by students (mean=2.42), followed by reading(2.27), online resources 2.13, and educational games (2.09) (See Figure 6 in Appendix F).

A Kruskal-Wallis H test was conducted comparing perceptions of students by school year. A significant result was found (H(91) = 7.909, p < 0.05). in the effectiveness of a learning activity was the activity of reading. This indicates that the students from different school years differed on if reading was a method that allowed them to learn most effectively.

The Kruskal-Wallis test was used to determine if student perceptions varied by ethnicity. A significant difference was found among different ethnic groups on the effectiveness of the following learning activities; online resources (H(93) = 11.357, p < 0.05) a pairwise comparisons showed students who identified themselves as Asian preferred online resources more than students who identified themselves as white (See Figure 7 of Appendix F), and smartphone/smrtpad applications (H(93) = 13.851, p < 0.01) a pairwise comparisons showed students who identified themselves as Asian preferred smartphone/smrtpad applications more than students who identified themselves as white (See Figure 8 of Appendix F).
A Mann-Whitney U test was calculated comparing first generation students to non-first-generation students. A significant difference existed on the effectiveness of educational activities with first generation students rating educational activities significantly less effective (M place = 56.03) than non-first-generation students (M place = 41.30; U = 701.00, p < 0.01) (See Figure 10 of Appendix F). A Mann-Whitney U test showed no differences amongst male and female students.

Upon review of potential barriers towards the use of active learning activities, 60% of students stated that faculty prefer lecture over other teaching methods (60%). This is followed by the perceptions that there is not enough time in class to perform the activities (44%) (See Figure 10 in Appendix F). When using the “other” option as a reason for perceived barriers students wrote predominantly that the current situation of the Covid 19 outbreak along with the use of more online learning were other potential barriers to active learning.

Overall, students feel positive towards active learning and its benefits. The majority of students agreed or strongly agreed on the following: enjoy the use of active learning in the classroom (86%), are more motivated to learn when active learning is used (80%), feel their exam performance will improve with the use of active learning (77%), and feel the current classroom environment is conducive to the use of active learning (80%) (See Figure 11 of Appendix F).

The majority of students also stated they learn better from engaging lectures as compared to strictly didactive lectures (87%). Ninety percent of students also the use of active learning is important for long-term retention of information (90%).

Faculty Survey Results

Six males and three females participated in the study. Survey respondents consisted for 7 full-time professors, 1 part-time professor, and one staff instructor. Respondents averaged a mean of 12.5 years of teaching at a post-secondary institution (Range of 3-37 years, SD=11.02). On average these professors taught about 2.56 courses per semester (Range of 1-5 courses, SD=1.67). Of the faculty that responded to the survey, 89% stated they have personally used active learning in the classroom. Of those who have used active learning, 75% stated that the active learning was effective. Educational activities were shown on average to be the most used learning
activity (55% of the time in class). This is followed by lecture (51%) group/collaborative learning (48%), and problem solving (46%) (See Figure 1 of Appendix E).

In regard to the effectiveness of learning activities (1=very effective to 4=not effective), faculty responded group/collaborative learning as the most effective reported method with a mean score of 1.22. Problem solving and educational activities followed with both having a mean score of 1.44. The lowest reported score was videos (2.44) followed by lecture (2.33), and smartphone/smartpad application (2.33)(See Figure 2 of Appendix E).

Faculty stated that the most perceived barrier to active learning was that faculty prefer lecture-based methods over active learning (78%). This was followed by lack of training on active learning (67%) (See Figure 3 of Appendix E).

When asked about current versus best practices faculty surveyed responded they feel they should be using active learning more often and lecture less in the classroom. Faculty stated their current use of active learning is on average about 60% of the class period. When asked how much of class time should incorporate active learning the average percentage was 71%. When asked what percentage of class time faculty currently use towards lecture the average was 35%. When asked how much time should be used for lecture, faculty stated an average of 30% of class time (See Figure 4 of Appendix E).

All faculty stated that students do enjoy active learning in the classroom and are more motivated to learn when active learning is used. Eighty-seven percent of faculty agreed that performance on exams would increase from the use of active learning.

Comparison of Student and Faculty Survey Results

A Mann-Whitney U test was calculated to determine differences between students and faculty. A significant difference existed on the frequency of learning activities. Faculty stated the frequency they used the following applications significantly lower than students; smartphone/smartpad applications (M place = 26.78 versus 53.89; U = 196.00, p < 0.01), online resources (M place = 32.83 versus 53.31; U = 250.50, p < 0.05), videos (M place = 30.83 versus 53.50; U = 232.50, p < 0.05), reading (M place = 27.39 versus 53.83; U = 201.50, p < 0.05), and lecture (M place = 22.78 versus 54.28; U = 160.00, p < 0.01) (See Figure 12 in Appendix G).
A Mann-Whitney U test was calculated to determine student and faculty differences to the effectiveness of a learning activity. Faculty rated group/collaborative learning significantly more effective (M place = 29.06) than students (M place 53.67; U = 216.50, p < 0.05). Students rated videos significantly more effective (M place = 49.83) than faculty (M place = 68.78, U = 263.00, p , 0.05). There was a trend towards faculty problem solving as more effective (M place = 35.28) than students (M place = 53.07; U=272.5) but the results were not significant (p = 0.051) (See Figure 13 in Appendix G).

Students and faculty surveyed agreed that the most occurring barrier to active learning is that faculty have become accustomed to lecture based methods. Class time was the second highest chosen for students while faculty did not consider this an issue. Faculty noted lack of training in the area of active learning as their second highest concern while a lower percentage of student stated this would be an issue. A similar percentage felt not enough time to develop materials for active learning in the classroom could be an issue as well (See Figure 14 in Appendix G).

When asked how much active learning would improve exam scores, faculty (23%) and students (25%) believed active learning would improve exams scores by more than 20%. In comparison of current use and best practices in active learning. A Mann Whitney U test was used to calculate significant difference in the amount of time learning activities were used in the classroom. Students stated faculty use lecture significantly more (M place = 54.28) than faculty reported (M place = 22.78, U = 160.00, p < 0.05). Students and faculty did state that best practice would be to increase the amount of active learning in the classroom. A Mann Whitney U test calculated that faculty significantly want to increase more time in class dedicated to active learning (M place = 67.13) than students (M place = 45.11, U = 501.00, p < 0.05).

**Discussion**

The objective of this study was to collect and summarize data available on within the School of Health and Kinesiology regarding the school’s current status on active learning. This includes determining an understanding on current use of active learning as well as perceptions and barriers towards its successful implementation within the classroom. At this time, no previous research has been done within a kinesiology department to determine perceptions and barriers to active learning.
The first aim of this study was to determine faculty’s familiarity of and current use of active learning in the classroom. The majority of faculty stated that they have used active learning the classroom and when it was used it was effective. Educational activities were reported by the faculty as the most used teaching method followed by lecture with both having an average percentage of class time just over 50% (See Figure 9). Students surveyed reported lecture as the most often used method at 85% of class time. This is statistically a significant difference between faculty and students. Ebert-May et al. (2011) stated that research has shown faculty tend to overestimate the amount of active learning that is performed within the classroom. Consideration must also be given to the small number of faculty responses to this survey and how this may, in effect, alter the results. Furthermore, there was a low response rate (3%) provided by faculty who were not considered to be full time. Consideration must also be given that this study does not represent those individuals who teach at the University who are not considered full time status.

The second aim was to determine student and faculty’s perceptions and barriers to active learning. Students and faculty agree that active learning is effective towards achieving learning outcomes. Perceptions towards the effectiveness of some active learning strategies do differ by students from different demographics. Significant differences existed between different ethnic groups and between first generation and continuing generation students on the effectiveness of active learning activities. It is important to ensure that all students recognize the benefits of active learning activities in the accomplishment of learning outcomes. Eddy and Hogan (2014) found that the knowledge gap on exam performance that exists between different ethnic groups and between first generation versus continuing generation students can be reduced by as much as half. Both faculty and students rank active learning strategies (educational activities, group/collaborative learning, and problem solving) more effective than lecture. Students and faculty do disagree on the effectiveness of specific active learning strategies such as problem solving and group/collaborative learning. Clinton and Kelly (2020) state that students’ negative perceptions of active learning can be improved upon if faculty begin the semester/course by stating information on the benefits of the active learning activities used within the course. Deslauriers et al. (2019) also found
that if faculty begin the semester by presenting information about active learning and its effectiveness then student perceptions of active learning improve. The most identified barrier of faculty and students is the feeling that faculty have become accustomed to instructor centered learning. This concept could relate back to occupational socialization theory. If faculty are not exposed to active learning within first few phases of becoming an educator, there may be reluctance to adopting active learning in the classroom (Garwisch et al., 2019). At this institution, there is a feeling among faculty and students that a lack of training in the area of active learning is a barrier towards its success. Research has previously stated that if active learning is not reinforced within the organizational socialization phase, then faculty may revert to previous experiences on how to effectively teach (Gawrisch et al., 2019).
CHAPTER II: DISSEMINATION

The results of the study were reproduced in the form of a presentation (Appendix C). This presentation will be provided to the administration to the School of Health and Kinesiology at the University where the surveys were completed. This presentation may also be shared with faculty within the school.

The presentation will share the findings described in Chapter one. This presentation was completed in the Fall of 2021. The following is an overview of the presentation.

Presentation Overview

Description

Active learning has been identified within the research as best practice within higher education (Brethower, 1977; Deslauriers et al., 2019; Freeman et al., 2014; McLeisch, 1968; Pollio, 1984). The effective implementation of active learning has been emphasized by the United States Government via the Higher Education Act (Miller et al., 2006). Even through research and government support of active learning, barriers still exist towards the successful integration of active learning in the classroom. These barriers could have a negative effect on faculty’s use of active learning in the classroom even when there is support from the university overall and professional development resources are readily available for faculty (Silverthorn, Thorn, & Svinicki, 2006). Currently, there has not been a collection and summarization of data towards the faculty and students’ perceptions and barriers to active learning within the School of Health and Kinesiology at the university. The main objective with this study is to collectively attain and summarize data points that provide faculty and students’ perceptions and barriers to active learning at the university’s School of Health and Kinesiology.

Objectives

Upon completion of this presentation, administration and faculty will be able to:

1. Evaluate the current status of active learning within the School of Health and Kinesiology
2. Determine student and faculty perceptions of active learning within the School of Health and Kinesiology
3. Determine student and faculty barriers to active learning within the School of Health and Kinesiology
4. Compare and contrast differences amongst student demographics

*Slide 1.*

Hello, I am Mark Snow, a Doctor of Education in Kinesiology candidate at the University of North Carolina Greensboro. In this presentation I will be sharing my research findings from a survey conducted with faculty and students within the School of Health and Kinesiology at your University on perceptions and barriers to active learning.

*Slide 2.*

Upon completion of this presentation the goal is you will be able to meet the following objectives: Evaluate the current status of active learning, Determine students and faculty perceptions of active learning, Determine student and faculty barriers to active learning, and to compare and contrast these perceptions amongst different student demographics.

*Slide 3.*

Background: To begin I want to speak a little bit about the history of active learning as well as what some of the research has shown on its benefits. Active learning has been talked about as early as the 1960’s when concerns arouse about passive learning resulted in poor retention of information. Active learning was first termed by Bonwell & Eison in 1991 as the following “instructional activities involving students in doing things and thinking about what they are doing’ (p.iii). Research has shown that active learning is more successful than active learning on the following: reduced course failure/withdrawal rates, increased exam scores, increased final grades, reduction in the knowledge gap between students from different demographics, and improved self-efficacy of the student (Eddy & Hogan, 2014; Freeman et al. 2014).

Even though research shows many of the benefits towards using active learning, traditional lecture methods are still most prominently used. Barriers exist towards the proper installment of active learning in the classroom and these barriers can vary from
department to department. Some researchers have found that student’s opposition to active learning may be one reason faculty are moving back to traditional lecture methods. Students perceive a preference towards passive learning and feel this method will produce better learning. It is hypothesized that the increased cognitive effort required during active learning may be the reason for the negative perception of the active learning activities (Deslauriers et al., 2019).

Barriers that can exist within faculty can relate to the Occupational socialization theory. This theory includes three phases (acculturation, professional, and organizational) (Richards & Gaudreault, 2017). The acculturation phase includes what the faculty member experienced when they were a student. The professional phase includes the pedagogy that was instilled in them while they were preparing to become a faculty member. Finally, the organizational phase includes the environment they have taught within as they are currently teaching as a faculty member. What research has shown is if active learning is not experienced within the acculturation phase, then these faculty may be reluctant towards the introduction of active learning within the professional phase and organizational phase of their careers. It is also theorized that if active learning is not reinforced or supported during the organizational socialization phase then faculty may revert to previous experiences on how to effectively teach (Gawrisch et al., 2019).

Slide 4.

The specific aims of the study performed was the following: determine faculty’s familiarity of and current use of active learning in the classroom, and also to determine faculty and students perceptions and barriers to active learning.

Slide 5.

Methods: The total number of eligible students for the survey who identified a major within the School of Health and Kinesiology was 384 students. Forty-seven part time and full time faculty currently teaching in the Spring 2021 semester were also asked to participate in the survey. An online survey link through Qualtrics was sent to faculty and students at the beginning of the Spring 2021 semester. Data was compiled and analyzed within SPSS software. Descriptive statistics were used. Significant differences were determined between two independent groups by using a Mann-
Whitney U-test. Significant differences were determined with more than two independent groups by using an Independent Samples Kruskal-Wallis. If significant differences did exist between groups a Pairwise Comparison was used to determine which groups had a significant difference.

**Slide 6.**

Results for Aim #1: Nine faculty responded to the survey with 8 out of those 9 faculty being full time status. Of those faculty, a majority stated they have used active learning. Seventy-five percent of those who stated they have used active learning at that it was effective. Faculty reported they should be doing more active learning than they are currently using. They all agree on the benefits of active learning. In regards to current use, faculty who responded to the survey stated they use educational activities most often (55% of overall class meetings) followed by lecture, group/collaborative learning and problem solving. In regards to the effectiveness of the learning activity, faculty who responded stated that group/collaborative learning was the highest rated method to achieve learning outcomes. This was followed by educational activities and problem solving. There was a definite gap between the top three rated activities and the rest of the activities listed. Please notice that lecture was termed close to last in effectiveness.

**Slide 7.**

This slide shows a bar graph that included ratings of very effective, moderately effective, minimally effective and not effective towards the effectiveness of the learning activities noted by faculty responses.

**Slide 8.**

Aim 2 results: Ninety-three students responded to the survey (24% of student population). Student demographics were similar to the demographic reported by the University website for the College of Education, Health, and Human Sciences by gender and ethnicity. In regards to frequency, student significantly differed on the frequency of lecture as they reported 82% of overall class meetings involved lecture. In regards to effectiveness educational activities were felt as most effective followed by videos, problem solving and group/collaborative learning. There were no significant differences in frequency or effectiveness of learning activity by year in school as well as gender. A
Kruskal Wallis test found a significant difference by those students who identified themselves as Asian preferred online resources and smartphone/smart pad apps more than students who identified themselves as white. A Mann Whitney U test found a significant difference between first generations students and continuing generation students on the effectiveness of educational activities with first generation students rating educational activities significantly less effective than continuing generation students.

**Slide 9.**

Shown on this slide is a bar graph that includes ratings of effectiveness on learning activities.

**Slide 10.**

In performing a Mann Whitney U test to determine significant differences between faculty and students, faculty reported they used the following activities significantly lower than students reported. The biggest gap that existed was lecture. In regards to the perceived effectiveness of the learning activity, Faculty rated group/collaborative learning significantly higher than students. There was the same trend towards problem solving but this value was not less than .05 but was less than .10. Students perceived the effectiveness of videos significantly higher than faculty.

**Slide 11.**

On this slide we have a comparison of mean ranks between students and faculty on the frequency of use of the learning activity. Previous studies show faculty tend to overestimate the amount of time they spend in the classroom performing active learning (Ebert-May et al., 2011).

**Slide 12.**

On this slide we have a comparison of the mean ranks of the perceived effectiveness of the learning activity between faculty and students. The lower the mean rank, the more effective the learning activity was rated.

**Slide 13.**

This slide shows a bar graph with perceived barriers towards the successful implementation of active learning by faculty in the classroom. Time was stated by students to be of a concern which was previously reported by Miller and Metz (2014).
and Patrick et al. (2016). This was not of particular concern with faculty. Faculty and student both stated that faculty being accustomed to lecture based methods would be the most prominent barrier towards active learning followed by a lack of training in the area of active learning. This also relates back to occupational socialization theory if active learning is not experienced within the acculturation phase then these faculty may be reluctant towards the use of active learning (Richards & Gaudreault, 2017).

Furthermore, it is theorized that if active learning is not reinforced or supported during the organizational phase then faculty may revert to previous experiences on how to teach.

**Slide 14.**

Discussion: Importance of faculty to communicate with students on the first day of the semester on the benefits of active learning. Deslauriers et al. (2019) found that if the benefits of active learning is communicated with students then they perceive they learn better by active learning and have a better outlook on performing these activities. This study showed some significant differences on the perceived effectiveness of learning activities by student demographic. It is important to ensure that all students recognize the benefits of active learning activities in the accomplishment of learning outcomes. Eddy and Hogan (2014) found that the knowledge gap on exam performance that exists between different ethnic groups and between first generation versus continuing generation students can be reduced by as much as half.

Ideally, I would like to reintroduce this survey before presenting to faculty to see if I can get a higher response rate as well as comparing perceptions and barriers to active learning between full time and part time faculty.

**Slide 15.**

In closing I have some take home items for faculty. One active learning has many benefits that have been listed in this presentation. If you would like to learn more about active learning and all the different methods that can be used, an infographic will be created listing all the information from this presentation and valuable resources. One particular resource I would recommend is going to [www.kpcrossacademy.org](http://www.kpcrossacademy.org). This website is a valuable resource on active learning and provides videos and downloads on several different active learning activities that can be performed in your classroom.
The activities can be organized by teaching environment, activity type, teaching problem addressed, and learning taxonomic dimension. Finally, please communicate with students on the first day of class on the benefits of active learning. This research has been shown by Deslauriers et al (2019) to improve perceptions of active learning. Stay tuned for an infographic that you can hand out or post online for students to help you introduce active learning.
CHAPTER III: ACTION PLAN

The results of this study will be provided to the School of Kinesiology administration. It is highly recommended to complete the faculty survey again in an attempt to gain more participation from full time and part time faculty who teach within the School of Health and Kinesiology. In the short term, these results will be shared with the administration of the School of Health and Kinesiology. Results will also be shared to the faculty who participated in the survey through a one to two page summary. Two infographics will be created. The first infographic will be created to help educate faculty who teach within the school. This infographic will contain a definition of active learning, a summary of the benefits of active learning, a summary of methods that can be used to help overcome barriers to active learning, and a list of resources on active learning and getting started. The idea behind the faculty infographic is to ensure faculty understand active learning and have the resources available to them in process of successfully integrating active learning within their courses. The second infographic will be designed to better educate students on the definition of active learning, a summary of all its benefits, and refer to Deslauriers et al. (2019) research on how students perceive to learn more in passive learning classrooms when in fact they learn more in an active learning environment. The idea behind the infographic is that it will be delivered to students on the first day of class to help improve perceptions of active learning that was also indicated by Deslauriers et al. (2019).

Mid term goals would include data analysis from the reintroduction of the faculty survey to include comparison of full time and part time faculty to see if any significant differences exist in regards to perceptions and barriers to active learning. From this analysis and the previous research, a presentation can be revised and provided to the administration and faculty within the School of Health and Kinesiology at the University. The long-term goal is to present this research in the form of a presentation at the National Association for Kinesiology in Higher Education (NAKHE) Annual Conference. It is also planned to propose to present at a Lilly Conference on evidence-based teaching and learning. Furthermore, the researcher would like to continue to collect data from other institutions using a format similar to the current survey used to help provide a snapshot of each institution’s Kinesiology department on its current status on
perceptions and barriers to active learning. After the compilation of several institutions, data can be analyzed to see if differences exist amongst different institutions.
REFERENCES


https://doi.org/10.1152/advan.00064.2006


https://doi.org/10.1080/08924562.2018.1538834
APPENDIX A: STUDENT SURVEY

Start of Block: Default Question Block

The purpose of this research project is to provide a snapshot of the current state of active learning at your University. Your participation in this study is voluntary. We will be only using aggregate data for this research study and by no means will we ask for any identifying information. Upon your completion of the survey you will be moved to another external survey where you may enter your email address to be entered in a drawing for one of several $100 Amazon Gift Cards.

End of Block: Default Question Block

Start of Block: Block 1

By completing this survey you are agreeing that you read the consent statement, or it has been read to you, and you fully understand the contents of the document and are openly willing consent to take part in this study. You also agree that all of your questions concerning this study have been answered. By completing this survey, you are agreeing that you are 18 years of age or older and are agreeing to participate in this study described to you.

- Yes, I am 18 years of age or older and agree to participate in this study (1)
- No, I am not 18 years of age (2)
- No, I do not agree to participate in this study. (3)
This survey is for all full time students at your University who are pursuing a degree/major under the School of Health and Kinesiology. Please indicate you fulfill both of these requirements.

- Yes, I am a full-time student currently within a School of Health and Kinesiology Major (1)
- No, I am not a full-time student (2)
- No, I am not currently pursuing a degree/major within the School of Health and Kinesiology (3)

1. Currently, what year in school are you?

   ▼ Freshman (1) ... Senior (4)

2. What is your Gender

   - Male (4)
   - Female (5)
   - Transgender (6)
   - Prefer not to say (7)
3. What is your Ethnicity?

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6)
- Prefer not to answer (7)

4. Are you a first generation college student?
   (A first-generation college student is defined as a student whose parent(s)/legal
guardian(s) have not completed a bachelor's degree.)

- Yes (1)
- No (2)

End of Block: Block 1

Start of Block: Block 2

For purposes of this survey, Active Learning is defined as an instructional method in
which students become engaged participants in the classroom. Students are
responsible for their own learning through the use of in-class written exercises, games,
problem sets, clickers, debates, class discussions, and other classroom activities that engage students in the learning process.

You will be providing information based on courses that you have taken at your University. When answering, please indicate what would be present with most typical courses within your major. Please exclude any 1 credit hour courses, activity courses, labs, internships, clinicals, and practicums when answering these questions please.

End of Block: Block 2

Start of Block: Block 3

5. Rank the use of the following teaching methods in the classroom according to the frequency you experience the method during class time.

<table>
<thead>
<tr>
<th>0% of class meetings</th>
<th>100% of class meetings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 10 20 30 40 50 60 70 80 90 100</td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Percentage</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Educational Games ()</td>
<td></td>
</tr>
<tr>
<td>Educational Activities ()</td>
<td></td>
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<tr>
<td>Group or Collaborative Learning ()</td>
<td></td>
</tr>
<tr>
<td>Lecture ()</td>
<td></td>
</tr>
<tr>
<td>Problem Solving ()</td>
<td></td>
</tr>
<tr>
<td>Reading the textbook, notes, or journal</td>
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<tr>
<td>articles ()</td>
<td></td>
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<tr>
<td>Videos ()</td>
<td></td>
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<tr>
<td>Online Resource ()</td>
<td></td>
</tr>
<tr>
<td>Smartphone/Tablet App ()</td>
<td></td>
</tr>
</tbody>
</table>
6. Please rate the following activities according to the way you learn most effectively.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very effective (1)</th>
<th>Moderately effective (2)</th>
<th>Minimally effective (3)</th>
<th>Not effective (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Games (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Activities (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group or Collaborative Learning (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading the textbook, notes, or journal articles (6)</td>
<td></td>
<td></td>
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<tr>
<td>Videos (7)</td>
<td></td>
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<tr>
<td>Online Resource (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smartphone or Smartpad Application (9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. What percentage of classes have you taken at your University that have used active learning in the classroom? (Reminder: please do not include 1 credit hour courses, activity courses, labs, internships, clinicals, and practicums). Please provide in numeric form.

8. What do you feel are the main reasons that faculty at your University do not use active learning in the classroom? (check all that apply):

- Do not feel that active learning is a productive use of class time (1)
- Do not see active learning as a useful tool (2)
- Have become accustomed to lecture-based methods (3)
- Lack of administrative support (4)
- Lack of training in area (5)
- Not enough class time to use active learning (6)
- Not enough time to develop the materials (7)
- Not feasible given class sizes (8)
- Unaware of method (9)
- Other (please explain): (10)

________________________________________________
9. In your major courses at your University, how much of class time on average is currently dedicated to active learning?

Not at all  A lot

0  10  20  30  40  50  60  70  80  90  100

Class Time for Active Learning ()
10. Please select the response that best describes your feelings about the following statements:
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy the use of active learning in the classroom.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>(1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am more motivated to learn when active learning is used in the classroom.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>(2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My performance on exams improved from the use of active learning in the classroom.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>(3)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
I believe the classroom environment allows for an active learning environment to take place (4)

11. I feel that the use of active learning can change my exam scores by ____%. (Please provide a numeric form, you may use negative if you wish)

___________________________________________________________
12. Please select the response that best describes your feelings about the following statements:

<table>
<thead>
<tr>
<th>I learn better from engaging lectures that incorporate active learning than strictly didactic lectures. (1)</th>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active learning is important for long-term retention of information. (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel that more active learning should be added to the undergraduate level curriculum. (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
13. What percentage of class time in your major classes should be dedicated to active learning? (Enter % from 0-100):

<table>
<thead>
<tr>
<th>Class Time Dedicated to Active Learning</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>()</td>
<td>0 10 20 30 40 50 60 70 80 90 100</td>
</tr>
</tbody>
</table>

14. Would you like to enter a drawing to win one of many $100 Amazon gift cards?

- [ ] Yes (1)
- [ ] No (2)

End of Block: Block 3
The purpose of this research project is to provide a snapshot of the current state of active learning at your University. Your participation in this study is voluntary. We will be only using aggregate data for this research study and by no means will we ask for any identifying information. Upon your completion of the survey you will be moved to another external survey where you may enter your school email address to be entered in a drawing for a $100 Amazon Gift Card.

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- Yes, I am 18 years of age or older and agree to participate in this study (4)
- No, I am not 18 years of age (5)
- No, I am not agreeing to participate in this study (7)
This survey is to be completed by full time and part time faculty who are currently teaching within the School of Health and Kinesiology. Please indicate that you meet these terms.

- Yes, I am currently teaching in the School of Health and Kinesiology (1)
- No, I am not currently teaching in the School of Health and Kinesiology (2)

1. What is your gender?
   - Man (3)
   - Woman (4)
   - Transgender (5)
   - Prefer not to say (6)

2. What is your current teaching position at your University?
   - Part Time Professor (1)
   - Full Time Professor (2)
   - Staff (3)
3. How many years have you been teaching at a Post-secondary Institution? (Please enter numeric form)

________________________________________________________________

4. On average, how many courses do you teach per semester? (Please enter numeric form)

________________________________________________________________

End of Block: Block 1

Start of Block: Block 2

For the purpose of this survey, Active Learning is defined as an instructional method in which students become engaged participants in the classroom. Students are responsible for their own learning through the use of in-class written exercises, games, problem sets, clickers, debates, class discussions, and other classroom activities that engage students in the learning process.

5. Within your typical classroom 2-3 credit hour course, please provide the frequency that you use the following instructional methods. (Please do not report on any of the following types of courses; activity courses, labs, practicums, clinical experiences, or internships)
6. Please provide the frequency that you use the following instructional methods in the classroom.

<table>
<thead>
<tr>
<th>Instructional Method</th>
<th>0% of total class meetings (no classes)</th>
<th>100% of total class meetings (every class)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Games ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
<tr>
<td>Educational Activities ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
<tr>
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<td><img src="image" alt="Bar Graph" /></td>
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<tr>
<td>Lecture ()</td>
<td><img src="image" alt="Bar Graph" /></td>
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<tr>
<td>Problem Solving ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
<tr>
<td>Reading the textbook, notes, or journal articles ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
<tr>
<td>Videos ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
<tr>
<td>Online Resources ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
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<tr>
<td>Phone/Table Apps ()</td>
<td><img src="image" alt="Bar Graph" /></td>
<td><img src="image" alt="Bar Graph" /></td>
</tr>
</tbody>
</table>
7. Please select the response that best describes your feelings about the following statements:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am interested in improving my teaching skills. (1)</td>
<td></td>
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<tr>
<td>I am familiar with the term &quot;active learning&quot; and its use in Post-secondary Education. (2)</td>
<td></td>
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</tr>
</tbody>
</table>
8. Please rank the activity on its effectiveness in helping students learn effectively in the classroom.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Very effective (1)</th>
<th>Moderately effective (2)</th>
<th>Minimally effective (3)</th>
<th>Not effective (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Games (1)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Educational Activities (2)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Group/Collaborative Learning (3)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Lecture (4)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Problem Solving (5)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Reading the textbook, notes, or journal articles (6)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Videos (7)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Online Resources (8)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Smartphone or smartpad application (9)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>
9. In your department, are you involved in: (check all that apply)

☐ Developing or implementing new teaching methods (1)
☐ Educational Research and Publishing (2)
☐ Online Learning (3)
☐ Curriculum Development or Modification (4)

10. Have you observed active learning being used in a classroom setting.

☐ Yes (1)
☐ No (2)
☐ Unsure (3)
11. If yes was selected, please answer the following question.

<table>
<thead>
<tr>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>When you observed active learning in a classroom setting, it was used effectively. (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Have you personally used active learning in a classroom session?

- Yes (1)
- No (2)
- Unsure (3)

Skip To: Q18 If Have you personally used active learning in a classroom session? = No
Skip To: Q17 If Have you personally used active learning in a classroom session? = Yes
Skip To: Q18 If Have you personally used active learning in a classroom session? = Unsure
13. If yes was selected, When you used active learning in a classroom setting,

<table>
<thead>
<tr>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was effective (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. What do you think is (are) the main reason(s) that other faculty members do not use active learning in the classroom? (check all that apply):

- [ ] Do not feel that active learning is a productive use of class time (1)
- [ ] Do not see active learning as a useful tool (2)
- [ ] Have become accustomed to lecture-based methods (3)
- [ ] Lack of administrative support (4)
- [ ] Lack of training in area (5)
- [ ] Not enough class time to use active learning (6)
- [ ] Not enough time to develop the materials (7)
- [ ] Not feasible given class sizes (8)
- [ ] Unaware of method (9)
- [ ] Other (please explain): (10)
15. What percentage of class time during classroom sessions do you currently dedicate to the following: (Please do not report on any of the following types of courses; activity courses, labs, practicums, clinical experiences, or internships)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Learning Techniques ()</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture ()</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. In the classes you currently teach, what percentage of class time do you think should be dedicated to the use of the following. (Please do not report on any of the following types of courses; activity courses, labs, practicums, clinical experiences, or internships)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Learning Techniques ()</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture ()</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17. Please select the response that best describes your feelings about the following statements:
<table>
<thead>
<tr>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students enjoy the use of active learning in the classroom. (1)</td>
<td>□ □ □ □ □</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students would be more motivated to learn when active learning is used in the classroom. (2)</td>
<td>□ □ □ □ □</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student performance on exams would improve from the use of active learning in the classroom. (3)

18. I feel that the use of active learning would change exam scores by ______% (numeric value please)

__________________________________________________
19. Please select the response that best describes your feelings about the following statements:
<table>
<thead>
<tr>
<th>Strongly Agree (1)</th>
<th>Agree (2)</th>
<th>Neither agree nor disagree (3)</th>
<th>Disagree (4)</th>
<th>Strongly disagree (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students would learn better from engaging lectures that incorporated active learning than strictly didactic lectures. (1)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Active learning is important for long-term retention of information. (2)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
I feel that my University has provided resources that has allowed me to be successful in my ability to incorporate active learning in the classroom. (3)
I feel that the classroom environment allows me to be successful in my ability to incorporate active learning in the classroom. (4)

20. Would you like to enter the drawing for a $100 Amazon Gift Card?

○ Yes (4)
○ No (5)

End of Block: Block 2
APPENDIX C: STUDENT RECRUITMENT EMAIL

Hello,

My name is Mark Snow and I am a Doctorate of Education in Kinesiology student at University of North Carolina Greensboro. For my dissertation, I am performing a survey on active learning on your campus. *This study has received IRB approval from the University of North Carolina at Greensboro.*

The reason I am reaching out to you is to complete a student survey on perceptions of active learning. Participation in this survey is strictly voluntary and you may refuse to participate at any time. This survey will take 6-8 minutes to complete. There are no personal identifiers associated with this survey as your responses will remain anonymous. Please answer all questions as honestly as possible and to the best of your ability. Once the survey is completed, you will be sent to a separate website to enter your information for a drawing for one of five $100 Amazon Gift cards.

I want to personally thank you for your support in my research.

Sincerely,

Mark Snow, MA
Hello,

My name is Mark Snow and I am a Doctorate of Education in Kinesiology student at University of North Carolina Greensboro. For my dissertation, I am performing a survey on active learning on your campus. *This study has received IRB approval from the University of North Carolina at Greensboro.*

I am reaching out to ask your participation to complete a faculty survey on perceptions of active learning. Participation in this survey is strictly voluntary and you may refuse to participate at any time. This survey will take 8-10 minutes to complete. This survey is strictly voluntary. There are no personal identifiers associated with this survey as your responses will remain anonymous. Please answer all questions as honestly as possible and to the best of your ability. Once the survey is completed, you will be sent to a separate website to enter your information for a drawing for a $100 Amazon Gift card. You can access the survey by clicking here.

I want to personally thank you for your support in my research.

Sincerely,

Mark Snow, ABD, ATC, CSCS

.
Figure 1. Faculty reported percentage of class time currently used for learning activities
Figure 2. Faculty mean scores on effectiveness of learning activity

Figure 3. Faculty count to perceived barriers to active learning
Figure 4. Current versus ideal percentage of class time spent on active learning and lecture
Figure 5. Student reported frequency of learning activity
Figure 6. Student mean scores of effectiveness of learning activity

Figure 7. Ratings by ethnicity of the effectiveness of online resources
Figure 8. Ratings by ethnicity of the effectiveness of smartphone/smartpad applications
Figure 9. Ratings by generation of the effectiveness of educational activities
Figure 10. Student barriers count to active learning

Figure 11. Students' perceptions on active learning
APPENDIX G: FIGURES ASSOCIATED WITH FACULTY AND STUDENT COMPARISONS

Figure 12. Frequency of use of learning activity as reported by faculty and students
*statistically significant with a p<.05 (numbers displayed as mean rank)
Figure 13. Student and faculty comparison of effectiveness of learning activity

*statistically significant difference (p<.05)
**statistically significant difference (p<.10)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Faculty</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smartphone/Smartpad app</td>
<td>37.83</td>
<td>49.63</td>
</tr>
<tr>
<td>Online Resources</td>
<td>51.11</td>
<td>65.76</td>
</tr>
<tr>
<td>*Videogame Faculty</td>
<td>49.63</td>
<td>50.72</td>
</tr>
<tr>
<td>*Videogame Student</td>
<td>51.54</td>
<td>61.58</td>
</tr>
<tr>
<td>Reading Faculty</td>
<td>35.28</td>
<td>33.07</td>
</tr>
<tr>
<td>Reading Student</td>
<td>63.82</td>
<td>63.82</td>
</tr>
<tr>
<td>**Problem Solving Faculty</td>
<td>34.26</td>
<td>44.22</td>
</tr>
<tr>
<td>**Problem Solving Student</td>
<td>62.06</td>
<td>62.06</td>
</tr>
<tr>
<td>Lecture Faculty</td>
<td>50.61</td>
<td>53.67</td>
</tr>
<tr>
<td>Lecture Student</td>
<td>44.22</td>
<td>44.22</td>
</tr>
<tr>
<td>*Group/Collaborative Faculty</td>
<td>29.06</td>
<td>22.20</td>
</tr>
<tr>
<td>*Group/Collaborative Student</td>
<td>50.31</td>
<td>50.31</td>
</tr>
<tr>
<td>Educational Activities Faculty</td>
<td>44.22</td>
<td>44.22</td>
</tr>
<tr>
<td>Educational Activities Student</td>
<td>22.20</td>
<td>22.20</td>
</tr>
<tr>
<td>Educational Games Faculty</td>
<td>51.45</td>
<td>51.45</td>
</tr>
<tr>
<td>Educational Games Student</td>
<td>51.45</td>
<td>51.45</td>
</tr>
</tbody>
</table>

Figure 14. Percentage of faculty and students on barriers towards active learning
Figure 15. Mean percentages of faculty and students on current use versus best practice
Perceptions & Barriers to Active Learning within the School of Health and Kinesiology

Mark Snow

Objectives of this presentation

- Evaluate the current status of active learning
- Determine student and faculty perceptions of active learning
- Determine student and faculty barriers to active learning
- Compare and contrast differences amongst student demographics and faculty and students
### Background

<table>
<thead>
<tr>
<th>Active Learning</th>
<th>Benefits</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Instructional activities involving students in doing things and thinking about what they are doing&quot;&lt;br&gt;Bonwell &amp; Eison, 1991</td>
<td>• Course F/W rates&lt;br&gt;• Exam scores&lt;br&gt;• Final grades&lt;br&gt;• Knowledge gap&lt;br&gt;• Self Efficacy</td>
<td>Students&lt;br&gt;• Prefer passive?&lt;br&gt;Faculty&lt;br&gt;• Vary by dept&lt;br&gt;• Time&lt;br&gt;• Preference</td>
</tr>
</tbody>
</table>

#### Occupational Socialization Theory

<table>
<thead>
<tr>
<th>Acculturation</th>
<th>Professional</th>
<th>Organizational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Experience</td>
<td>Program to Become Faculty</td>
<td>Environment(s) as a faculty member</td>
</tr>
</tbody>
</table>

### Specific Aims

- **Specific Aim #1:** Determine faculty’s familiarity of and current use of active learning in the classroom.

- **Specific Aim #2:** Determine faculty and students perceptions and barriers to active learning.
Methods

<table>
<thead>
<tr>
<th>Setting &amp; Participants</th>
<th>Measures &amp; Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>• School of Health &amp; Kinesiology</td>
<td>• Online Survey Through Qualtrics</td>
</tr>
<tr>
<td>• Metropolitan University</td>
<td>• Spring 2021 Semester</td>
</tr>
<tr>
<td>• Undergraduate Students (N=384)</td>
<td></td>
</tr>
<tr>
<td>• Faculty Full time &amp; Part time (N=47)</td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis

SPSS Software
Descriptive Statistics
Mann-Whitney U-test
Independent Samples Kruskal -Wallis – Pairwise Comparison

Results Aim #1-Faculty (n=9)

<table>
<thead>
<tr>
<th>Familiarity</th>
<th>Current Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 89% of faculty have used AL</td>
<td>• Educational Activities most used (55% of overall class meetings)</td>
</tr>
<tr>
<td>• 75% stated AL was effective</td>
<td>• Lecture (51%)</td>
</tr>
<tr>
<td>• Feel they should be doing more AL</td>
<td>• Group/Collaborative (48%)</td>
</tr>
<tr>
<td>• Agree on the benefits of AL</td>
<td>• Problem Solving (46%)</td>
</tr>
</tbody>
</table>

Effectiveness

1. Group/Collaborative Learning
2. Educational Activities & Problem Solving (Tie)
3. Educational Games & Online Resources (Tie)
4. Reading
5. Smartphone/Smartpad Apps & Lecture (Tie)

Support

• Resources
• Classroom Environment
Slide 7

Faculty - Effectiveness of Learning Activity

Slide 8

Aim #2: Students (n=93)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture (82%)</td>
<td>1. Educational Activities</td>
</tr>
<tr>
<td>Reading (60%)</td>
<td>2. Videos</td>
</tr>
<tr>
<td>Group/Collab Learning (53%)</td>
<td>3. Problem Solving</td>
</tr>
<tr>
<td>Online Resources (52%)</td>
<td>4. Group/Collab Learning</td>
</tr>
<tr>
<td>Videos (47%)</td>
<td>5. Lecture</td>
</tr>
<tr>
<td>Problem Solving (46%)</td>
<td>6. Educational Games</td>
</tr>
<tr>
<td>Educational Activities (45%)</td>
<td>7. Online Resources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School Year</th>
<th>Gender</th>
<th>First Generation Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>No significant differences</td>
<td>No significant differences</td>
<td></td>
</tr>
<tr>
<td>Effectiveness of Reading</td>
<td></td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Online Resources</td>
<td></td>
<td>Educational Activities</td>
</tr>
<tr>
<td>Smartphone/Smartpad Apps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Slide 9

Student ratings of learning activity effectiveness

Slide 10

Aim #2: Faculty/Student Comparison

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty significantly lower than students on:</td>
<td>Faculty Significantly Higher</td>
</tr>
<tr>
<td>• Lecture</td>
<td>• Group/Collab Learning</td>
</tr>
<tr>
<td>• Smartphone/Smartpad Apps</td>
<td>• Trend towards Problem Solving (p&lt;0.10)</td>
</tr>
<tr>
<td>• Online resources</td>
<td>Student Significantly Higher</td>
</tr>
<tr>
<td>• Videos</td>
<td>• Videos</td>
</tr>
<tr>
<td>• Reading</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

- Importance of communicating to students the benefits of active learning (Deslauriers et al., 2019)
- Effectiveness of activities differ by different demographics
  - Active learning has been shown to decrease the knowledge gap between student demographics (Eddy & Hogan, 2014)
- Need more feedback from faculty, especially part time faculty
Take Home Items

- Active learning has many benefits for students
  - Students may perceive differently
- Need resources?
  - Please reach out
  - [https://koprossacademy.org](https://koprossacademy.org)
    - Videos
    - Downloads
    - Active Learning activities by environment, activity type, teaching problem and learning taxonomy dimension
- Communicate with students on the first day of class on the benefits of active learning
  - Infographic for students - stay tuned