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Community of Practice Influence on Nontraditional Students’ Persistence in Online and Traditional

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COMMUNITY OF PRACTICE INFLUENCE ON NONTRADITIONAL STUDENTS’ PERSISTENCE IN ONLINE AND TRADITIONAL LEARNING ENVIRONMENTS
Unlike the field of Fine Arts, that visually stimulates individuals' emotions and intellect, the **Applied Arts** design utilitarian everyday products that makes individuals' life more comfortable as well as aesthetically pleasing (Merryman et al, 2007).


By 2018 the Applied Arts fields of Graphic Design and Interior Design are predicted to grow by 19 percent, while Architecture and engineering fields are estimated to grow by 10 percent (The U.S. Bureau of Labor Statistics' (USBLS) *Occupational Outlook Handbook - 2010-2011*).
The National Center for Educational Statistics (2006) estimates that from 2004 to 2014 there will be an enrollment increase of 15% in the number of individuals 25 years of age and older in post-secondary education programs.

Hensley and Kinser, (2001) define nontraditional students as any student over the age of 25 that experiences at least one of the following: being a parent, working, second degree, attending college part-time, being a high school dropout or delaying college for at least one year.
The purpose of this study was to examine community of practice influence on nontraditional students' persistence in online and traditional learning environments utilizing students’ studying in the applied arts fields.
Overarching Question:

- **Research Question 1:** Is there a significant difference in terms of student perceptions of community of practice influencing persistence rates between applied arts nontraditional students enrolled in online courses and face-to-face courses?

- **Research Question 2:** Is there a significant difference in student persistence in terms of interdependence of student perceptions of community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses?

- **Research Question 3:** Is there a significant difference in student persistence in terms of student perceptions of trust of the community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses?
Overarching Question:

- **Research Question 4**: What are the perceptions and lived experiences of Applied Arts nontraditional students enrolled in online courses and face-to-face courses?

- **Research Question 4a**: What are the barriers and challenges in using technology and for completion of online courses and face-to-face courses by nontraditional students?

- **Research Question 4b**: What are the motivations in terms of community of practice of Applied Arts nontraditional students enrolled in online courses and face-to-face courses?
This study adds to the body of knowledge of nontraditional students and postsecondary applied arts programs.

While nontraditional students are eager to take advantage of online learning, whether because of their personal and professional goals, an examination of the barriers that nontraditional students may face needed to occur.

The NCES (2002) reports that 50% of nontraditional students drop out of their program of study three years after beginning their academic endeavors.

This researcher collected data that dealt with the communities of practice and persistence of nontraditional students in applied arts programs. This research becomes even more critical as numbers of nontraditional students continue to grow, computer technology becomes indispensable in the application of academic creative arts projects, and activity based learning.
Methodology - The Participants

- **Number of Participants:** 53
- **Method of Sampling:** A purposive selection method of sampling was used to focus on a selected group of participants that met a fixed criterion supporting the study's purpose.
- **Selection Criteria:** Research participants met the following criteria: 25 years of age or older, enrolled in a traditional course or an online course in the applied arts, and enrolled at the institution after fall of 2009. In addition, the research participants were current full-time students enrolled in one of the applied arts field of studies, such as graphic design, interior design, fashion design, web design or advertising.
Methodology - Negotiating Access

- **Research Site:** The research study took place on the campus of Design University, a pseudonym for a private multi-campus higher education institution that specializes in applied arts and culinary art fields located in the southeastern portion of the United States.

- Design University offers four-year baccalaureate degrees and associate diplomas. The various fields of study prepare students for entry-level positions in design, media arts, fashion, and culinary arts.

- **Participants:** Participants were sub-divided or stratified into three age groups: (a) group one--ages 25-35; (b) group two--ages 36-45; and (c) group three--ages 46 and older. The research participants were furthered divided according to mode of instructional delivery: (a) group A--students enrolled in traditional courses; and (b) group B--students enrolled in online learning.
53 nontraditional students chose to participate in phase one, the quantitative portion of the research study. Of the 53 participants, 51 students were female and two were males.

The total participants included 35 participants in traditional courses and 18 participants in online courses.

In regards to the type of applied arts, 34 participants in traditional courses were enrolled in the interior design program and one participant was enrolled in the web design program.

- Of the 34 participants studying interior design 33 were females and one was male. The participant studying web design is male.

- Of the 18 participants in online courses 17 were females and enrolled in the interior design program, while the additional participant, a female, was in the web design program.

- The number of participants based on age and instruction mode is as follows: a) 19 Age group one traditional students, b) 11 Age group one online students, c) 14 Age group two traditional students, d) 7 Age group two online students, and e) 2 Age group three traditional students.
A total of 17 participants were interviewed.
Ten nontraditional students participated as students enrolled in traditional courses.
  - Nine students were female and one was male.
  - Four were in age group 1, while six were in age group 2.
  - The only male participant was in the web design program and classified to age group 1. All females were in the interior design program.
Seven nontraditional students participated as students enrolled in online courses.
  - All participants were female.
  - Of the students enrolled in online courses, three were in age group 1 and four were in age group 2.
  - All the participants in online courses were enrolled in the interior design program except for one female that was enrolled in web design.
Seven questions from the survey were used for the analysis of research question one. The survey questions are: 2, 4, 6, 8, 14, 16 and 18.

- The researcher ran an independent samples t-test using the mean score for all of the community of practice questions. A Levene's test for equality of variance of 3.9 was insignificant (p>.05), indicating an equal variance among groups.

The results of the t-test indicated that the difference in mean scores between participants in traditional class (m=3.8367) perception of community of practice and participants in online class (m=3.4042) is statistically significant (p=.028).

- Participants in traditional class reported a more positive perception of their experience with community of practice. The Cohen's d test indicated a 0.621 result and a small to moderate effect size of r = 0.296 for student perceptions of community of practice.

The researcher rejected the null hypothesis (H<sub>0</sub>) because the results of the independent samples t-test indicated that there is in fact a statistically significant difference (p=.028) between the mean scores of participants in traditional class (m=3.8367) versus those in online class (m=3.4048).

- The alternate hypothesis (H<sub>A1</sub>) states: There is a significant difference in terms of student perceptions of community of practice influencing persistence rates between applied arts nontraditional students enrolled in online courses and face-to-face courses.
Research Question 2 - Is there a significant difference in student persistence in terms of student perceptions of interdependence of the community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses?

The following five questions from the survey were used in the analysis of research question two: 3, 7, 9, 15 and 19. The researcher performed a reliability test to examine if the five questions were all measuring the same construct, and the Chronbach's Alpha value of .807 was found, which indicated that the construct is reliable.

The respondents in traditional courses scored higher (m=3.5314) on perceptions of interdependence than respondents in online courses (2.9333). A Mann-Whitney U Test was conducted in lieu of an independent samples t-test because the normality test calculated a p = .005, p < .05 result that indicated that the data was not a normal distribution.

Because the Mann-Whitney U Test compares medians, a median of 3.80 for students in traditional courses and a median of 3.10 for students in online courses indicate that students in traditional courses reported significantly higher levels of interdependence in fellow students than online students reported. The Mann-Whitney U test results revealed that the differences between the two groups was statistically significant, U = 187, p < .05, (p = .015).

Two Independent Samples Test Ranks for Student Perceptions of Trust calculated the sum of the ranks for students in traditional courses equal to 1073 (N = 35) and 358 (N = 18) for online students (Table 12). The z score (z = -2.423, p = .015) a standardized score associated with the significance score was high and indicating that the probability value p < .05 (p = .015) result is statistically significant. The calculated effect size r = .045 indicates a no effect to small effect.

The null hypothesis is rejected because statistically significant differences (p=.015) were found in the perceptions of interdependence between students in traditional courses and students in online courses. The alternate hypothesis (HA2): There is a significant difference in student persistence in terms of interdependence of student perceptions of the community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses.
Research Question 3 - Is there a significant difference in student persistence in terms of student perceptions of trust of the community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses?

- Trust was measured using the survey question 11 "I trust others in this course."
- A median of 2.00 for participants in traditional courses and a median of 3.00 for participants in online courses was calculated.
- A Mann-Whitney U Test was conducted in lieu of an independent samples t-test because the normality test calculated \( p = .000, p < .05 \) indicating that the data was not a normal distribution.
- The Mann-Whitney U test revealed statistically significant differences between the two groups, online students and traditional students, \( U = 198, p < .05 \) with the sum of the ranks equal to 1062 (\( N = 35 \)) for students in traditional courses and 369 (\( N = 18 \)) for online students. The z score was high (-2.403, \( p = .016 \)) which indicated that the difference was statistically significant with students in traditional courses reporting significantly higher levels of trust in fellow students than online students reported (\( p = .016 \)). The effect size of \( r = .045 \) indicates a no effect to small effect size.
- The null hypothesis is rejected because statistically significant differences (\( p = .016 \)) were found between the two groups of students. Students enrolled in traditional courses rated their feelings of trust in other students in their class (\( m = 3.7429 \)) higher than students in online courses rated their trust in other students in their class (\( m = 3.000 \)).
- The alternate hypothesis (HA3): There is a significant difference in student persistence in terms of student perceptions of trust of the community of practice of applied arts nontraditional students enrolled in online courses and face-to-face courses.
Research Question 4 for Online Course: How would you describe your perceptions and lived experiences as an Applied Arts nontraditional student enrolled in an online course?

- The analyzed interview data uncovered the following four themes starting with the most frequently cited theme: a) Amount of course work, b) Communication with others, c) Balance of work and family and d) Computer dependency.
- **Amount of Course Work.** Many of the participants reported how difficult it was to complete their course work within the 5 ½ weeks provided for the online course, rather than the 10 weeks duration of traditional courses. Furthermore, the course work typically was based on several weekly deadlines, rather than the longer deadlines typically assigned in traditional courses.
- **Communication with others.** The nontraditional students reported frustration when attempting to communicate with their instructor and others because the only mode of communication available was through the computer. Furthermore, the delay of receiving timely feedback from the instructor affected student work.
- **Balance of work, family and school.** Students reported the importance of having time management skills that allowed participants to pursue academic studies and fulfilling life's daily responsibilities.
- **Computer Dependency.** Participants cited selection of online courses was based on the flexibility and convenience that online courses afforded the student so that the student may pursue their academic goals and fulfill academic requirements.
Nontraditional students in traditional courses cited the following four themes starting with the most frequently cited theme: a) the balance of work, family and school, b) communication with others, c) academic preparedness and d) encouragement of creative expression.

**Balance of work, family and school.** Students reported their struggles in managing their time in order to pursue academic studies and fulfillment of life's daily personal responsibilities.

**Communication with others.** The students cited the ability to communicate face to face with the instructor and fellow classmates in the classroom as valuable and important to them. The ability to communicate face to face with the instructor and classmates made students feel connected to their peers in the course as well as throughout the department. Students cited that traditional courses provided them with a sense of being and community.

**Academic Preparedness.** The nontraditional students' spoke of the challenge of being academically prepared to return to higher education or beginning their higher education as older students.

**Encouragement of creative expression.** The students cited in an almost joyful tone how encouraging it was to be in an academic environment that provided their students with the freedom to express themselves creatively. Furthermore, the students reported how they were personally encouraged and influenced to be creative by their fellow classmates.
The data uncovered that participants cited the following themes starting with the most frequently cited theme: a) computer/software competency, b) access to school website, c) communicating with others and d) balance of work, family and school.

**Computer/software competency.** The participants cited knowledge of computers and its various software as well as skills in general office technologies as being important in their attempt to be successful in the course. Because online courses are solely dependent on computers and other technologies, the participants expressed angst and frustration when having to quickly adapt to new technical skills and learn new software programs at an ever-changing pace.

**Access to school website.** The participants cited access to the school website as a barrier because the website was not always available to the students. Students had to work around time zones and maintenance issues in order to submit assignments or access the school's site. Students reported that it was challenging to understand the school's requirements on turning in assignments to a drop box assigned by the school.

**Communicating with others.** All communication with the instructor and classmates is handled thru one medium, electronic communication via the computer.

**Balance of work, family and school.** The participants indicated that because of their family and work responsibilities as well as academic goals, the ability to plan and schedule responsibilities are a challenge to completing their online course.
Research Question 4a for Traditional Course: What are the barriers and challenges in using technology and for completion of your traditional course as an Applied Arts nontraditional student?

- The data uncovered that participants cited the following themes starting with the most frequently cited theme: a) computer/software competency, b) communicating with others and c) finances.

  **Computer/software competency.** The participants reported that the constant upgrade of computer software was challenging because students had to quickly learn and adapt their computer skills in order to integrate the new software into their assignments. Computer and software competency varied with certain students finding their experience with computers and the various software easier than other students do. Even though technology is challenging, it is a challenge that needs to be overcome in order to meet workplace standards.

  **Communicating with others.** Participants reported that communicating with others was frustrating when instructors and peers do not have knowledge of certain software used in the course. Sharing information face to face was a better method of communicating with one another than online learning. Participants cited that it was comforting to know that while in class their fellow classmates and instructors were available to assist and answer any questions the participants may have.

  **Finances.** The participants cited following three challenges pertaining to the theme of finances: a) school's allocation of resources and procurement of computers and software used in the respective applied art fields, b) school requiring students to purchase e-books rather than traditional hardcover textbooks and c) purchasing additional computer software in order to complete course assignments satisfactorily.
Research Question 4b for Online Course: What are the motivations in terms of community of practice for completion of your online course as an Applied Arts nontraditional student?

- The data uncovered that participants cited the following themes starting with the most frequently cited theme: a) encouragement from classmates and others, b) personal goals and self-motivation and c) rejection of online learning.

  - **Encouragement from classmates and others.** The participants reported that knowing successful professionals and attending professional events provided helpful insights into the profession as well as encouragement to complete their degree and begin working in their respective field.
    - Participants cited that the frequent review of their classmates' work motivated participants to work harder for a grade.
    - Participants also reported that the amount of course work in their online course prohibited them from contacting their online peers.

  - **Rejection of the online community.** The qualitative data analysis indicates that participants were not motivated to be active participants in their online course. These same participants viewed their online course as a necessity, rather than a community for learning.

  - **Personal goals and self-motivation.** Participants reported that their personal goals were their motivation to be academically successful. Participants own self-motivation contributed to completion of their online course.
Research Question 4b for Traditional Course:
What are the motivations in terms of community of practice for completion of your traditional course as an Applied Arts nontraditional student?

- The data uncovered that participants cited the following themes starting with the most frequently cited theme: a) encouragement from classmates and others and b) personal goals and self-motivation.
- **Personal goals and self-motivation.** The participants cited personal goals and their own innate drive to fulfill personal goals as motivators for completing traditional courses. Participants reported their personal academic goals formed from the beginning have not wavered from when participants initially began their higher education experience. Furthermore, the participants cited that their positive experiences at the higher education institute have also been a motivator to continue and complete their education.
- **Encouragement from classmates and others.** The participants reported how motivating and helpful it was to view in-person the work of their peers because students were able to look at techniques and the various possible creative solutions for a course assignment. Participants further cited how helpful it was to view in-person their classmates' verbally presentations of assignments.
  - Friendly competition motivated participants to complete their course work.
  - Participants cited meeting with industry professionals and attending professional events as motivators to complete traditional courses.
The research study's **quantitative findings** indicated that applied arts nontraditional students in traditional courses perceived a more favorable view of community of practice than nontraditional students in online courses.

- In terms of interdependency of community of practice, traditional students indicated a greater positive perception of their courses than nontraditional students in online courses. **Quantitative findings further indicated that nontraditional students in traditional courses reported a greater sense of trust of others in the course when compared to nontraditional students in online courses.**
The qualitative findings lend support to the quantitative findings of nontraditional students in traditional and online courses by revealing the influences of social connectivity of a community of practice and direct face-to-face interactions on student persistence and a successful academic experience.

- The qualitative results revealed that both groups of nontraditional students perceived similar influences on their lived experiences in online and traditional courses such as communicating with peers and instructor, time management, acquisition and proficiency of technical skills, motivation, and balancing personal responsibilities.
The firm EcoSol, a leading architectural and engineering design firm has decided to establish a 12,500 sq. ft. southeast district office in Atlanta, Georgia by merging with an established design firm in Atlanta.

As an Interior Designer from the Atlanta design firm that is merging with EcoSol, you have been entrusted with designing 3 prototype private offices.

- Design a furniture plan layout for each private office using the furniture pieces to the right of the private office plan.
- You may chose not to use all furniture pieces, but you may not add more furniture than is given.
- All existing walls and door shall remain.
Traditional students:
  1) Lay out the prototype plans.
  2) Verbally review your designs with your neighbor for feedback.

Online students:
  1) Lay out the prototype plans.
  2) In a written format only review your designs with your neighbor for feedback.
EcoSol Design Assignment – Prototype A - Example

EXECUTIVE CORNER OFFICE

DESK AREA WITH A BACK CREDENZA

BOOK CASE 60” HIGH

INFORMAL SEATING AREA
EcoSol Design Assignment – Prototype B

Executive Corner Office

No furniture inside box because of door clearance

Informal Seating Area

Desk area with a back credenza

Bookcase
EcoSol Design Assignment – Prototype C

EXECUTIVE CORNER OFFICE

BOOKCASE

INFORMAL SEATING AREA

NO FURNITURE INSIDE BOX BECAUSE OF DOOR CLEARANCE

DESK AREA WITH A BACK CREDCENZA
Questions and Answers

Thank you for your interest and attendance!

Lilia Gomez-Lanier
References

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## Appendix A - Research Design

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<th>Introduction</th>
<th>Phase One</th>
<th>Phase Two</th>
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<tr>
<td>The research study utilized a sequential explanatory mixed methods research approach in which phase one, the quantitative research, the researcher will gather relevant data (Creswell, 2009).</td>
<td>Phase one, the quantitative portion, used a non-experimental design employing a pre-structured online survey instrument. According to Creswell (2009) and Muijs (2004), survey instruments identify and gather background characteristics, opinions, and experience data from a small group of individuals in order to generalize findings to a larger group.</td>
<td>Phase two, the qualitative portion, used a qualitative phenomenology strategy using two semi-structured interviews. According to Patton (2002) and Creswell (2009), qualitative methods typically produce in-depth information about smaller numbers of individuals and cases, while increasing the depth of understanding the situations or settings being studied and reducing generalization.</td>
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Appendix B - Definitions of Terms

- **Andragogy learning theory**: The Andragogy theory deals with the quality and extent of the educational experience an adult gains throughout their life (Knowles, 1984).

- **Asynchronous learning**: Asynchronous learning refers to learning environments where people are not online simultaneously (Dede, 2006).

- **Collaborative learning**: Collaborative learning is an instructional strategy where small groups of students cognitively and cooperatively engage in a common task to achieve a shared goal (Nihalani et al., 2010).

- **Communities of practice**: A community of practice forces students to acquire certain beliefs and behaviors and as the student moves from the border of a community to its center, the student becomes more active and engaged with the culture as well as assumes the role of expert (Lave & Wenger, 1991).

- **Computer literacy**: The ability to process and handle information with a computer and the ability to use computer technology effectively (Pont & Werguin, 2001).

- **Distance learning**: Distance learning refers to instruction that occurs when there is a difference in time, location, or both, including instruction where learners and instructors are at a distance but connected through the Internet (Conceicao, 2006).
Appendix B - Definitions of Terms

- **Intrinsic motivation**: The degree to which students perceive themselves to be participating in a learning task for reasons such as challenge, curiosity, and mastery (Pintrich, Smith, Garcia, & McKeachie, 1991, as cited in Bye, Pushkar, & Conway, 2007, p. 143).
- **Lived experiences**: Creswell (2009) defines lived experiences as the unique experiences in the life of the research participant. Patton defines the lived experiences of co-participants as "how people describe things and experience them through their senses" (Patton, 2002, p. 105).
- **Motivation**: Motivation refers to the internal state of the individual that leads to persistence, energy, and direction of behavior (Corsini & Auerbach, 1996).
- **Nontraditional student**: A nontraditional student as any student who satisfies at least one of the following criteria: being a parent, working, pursuing a second degree, attending college part-time, GED recipient, student that did not graduate with their starting class or delaying college for at least one year (Hensley and Kinser, 2001).
- **Online learning**: Online learning, also referred to as distance learning, occurs using computer networks, such as the Internet. The interaction between instructor and students, as well as the managing of resources, occurs over the computer network system (Conceicao, 2006).
- **Persistence**: Persistence refers to the student's desire and actions toward beginning a higher education program and completing all required academic requirements for graduation (Berger & Lyons, 2005).
Appendix B - Definitions of Terms

- **Scaffolding**: Scaffolding is related to Vygotsky's (1978) concepts of the "zone of proximal development" and the "more knowledgeable other," and "describes support for learning that is gradually removed or faded over time" (Clinton & Rieber, 2010, p. 766).

- **Sense of community**: "A feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (Wighting, Liu and Rovai, 2008; McMillan & Chavis, 1986, p. 9).

- **Situated learning**: Lave and Wenger (1991) describe situated learning as embedded within and inseparable from participating in a system of activity and argue that learning is situated because as it normally occurs, learning is found embedded within activity, context, and culture.

- **Student engagement and participation**: Student engagement and participation are the time and effort invested in educationally purposeful activities (Pascarella & Terenzini, 2005).

- **Student success**: Student success is defined as academic achievement, acquisition of desired knowledge, and persistence (Kuh et al., 2006).

- **Synchronous learning**: Finkelstein (2006) defines synchronous learning as "real time" learning. "In physical setting, live discussions and real time human interactions are the life blood of academic life and adult learning" (Finkelstein, 2006, p. 2). According to Dede (2006), examples of synchronous learning include computer chat rooms, face-to-face instruction, text based discussions, video, audio, and document sharing.
Technology: "Technology represents a set of skills necessary to solve real world problems" (Tomei, 2010).

Traditional learning: Traditional learning is based on face-to-face contact between instructor and students at the same time and place (Dabbagh & Bannan-Ritland, 2005).

Traditional student: Strage (2008) defines the traditional student as being primarily between the ages of 18-22, a recent high school graduate that immediately enrolls in higher education, and shows a preference toward campus-based social and entertainment options such as fraternities and sororities, clubs, and academic societies. The traditional student plans to attend school full time and primarily receive instruction on the principal campus of the school instead of at extension centers (Pascarella & Terenzini, 1998).