

Original Paper

Age is Not Just a Number: Perceptions of Pedagogical Content Knowledge, Transformational Teaching, Student-Professor Engagement in Learning, and Deep Learning in the Graduate Classroom

Jennifer Economos, Ed.D.^{1*} & Albert Inserra, Ed.D.²¹ Touro College, Graduate School of Education, NY, USA² Long Island University C.W. Post, College of Education, Information and Technology, NY, USA

* Jennifer Economos, Ed.D., Touro College, Graduate School of Education, NY, USA

Received: February 14, 2020 Accepted: February 28, 2020 Online Published: March 3, 2020

doi:10.22158/fet.v3n1p40

URL: <http://dx.doi.org/10.22158/fet.v3n1p40>**Abstract**

Graduate students in higher education need pedagogical strategies that prepare them with knowledge and critical thinking for their careers. Research conducted in this area concluded that teaching students how to integrate knowledge into the real-world continues to be a challenge for educators across various disciplines in higher education. While scholars have studied effective teaching practices for decades, a broad definition has not been determined. Graduate students' perceptions of professor pedagogical content knowledge, transformational teaching, student deep learning, and age were compared to determine the behaviors that influence deep learning in business and education programs in the United States and internationally. A survey was administered to 137 students. Findings show that non-traditional learners did not feel as strongly about individualized consideration as traditional learners. The findings suggest that graduate students perceive humor, learning struggles, and relatable content differently.

Keywords

pedagogical content knowledge, deep learning, effective teaching, and pedagogy

1. Introduction

Students need pedagogical approaches that prepare them with information and skills to be successful in their professional fields (McGuire, Lay, & Peters, 2009). Since the 1930s, researchers studied and defined the components of effective teaching (Weimer, 1990). However, a universal definition of effective teaching has not been determined (Yamhill & McLean, 2001; Trigwell, 2001). Hildebrand (1973) identified five components of effective teaching, which include (a) command of the subject; (b) clarity; (c) instructor-group interaction; (d) instructor-individual student interaction; and (e) enthusiasm. Other researchers have argued for these components and came up with various observations.

Starting with Sherman (1987) who expanded this concept and determined that, Hildebrand's (1973) notions of enthusiasm and clarity were correct, but added that effective teaching also included (a) attention to preparation; (b) ability to stimulate interest; (c) thinking about the subject matter; and (d) love of knowledge. Elton (1998) added that organization, presentation, relationships, assessment, evaluation, reflection, innovation, curriculum design, and pedagogical research contribute to effective teaching.

Similarly, Hativa, Barak, and Simhi (2001) found:

Exemplary university teachers are well prepared and organized, present the material clearly, stimulate students' interest, engagement, and motivation in studying the material through their enthusiasm/expressiveness, have a positive rapport with students, show high expectations of them, encourage them, and generally maintain a positive classroom environment. (pp. 701-702)

Various characteristics make an exemplary teacher who is able to connect classroom knowledge with real-world challenges. Kane, Sandretto, and Heath (2004) found common attributes among lecturers, these may include but not limited to (a) subject knowledge; (b) skills; (c) interpersonal relationships; (d) teaching research connection; (e) personality and (f) reflective practice. These were regarded as 23 useful models for development and understanding of effective teaching.

In the educational arena, there is a new aspect of the shift of focus of attention from the teachers' perspective to students' perspectives. Some educational institutions have transitioned from lecture-based pedagogy to student-centered activities to enhance student-learning outcomes (Floyd, Harrington, & Santiago, 2009). Students have obtained higher levels of understanding with this transition (Fink, 2003; Majeski & Stover, 2007; Floyd et al., 2009). Despite this change, teaching students to use the skills gained in class to the real-world application of knowledge continues to challenge professors across disciplines (Burnett, Philips, & Ker, 2008). Previous research has primarily focused on pre-college student perceptions of teaching (Grossman, 1990). More research is needed to study college student perceptions of teaching in higher education (Jang, 2011).

1.1 Deep Learning

Deep learning is defined as approaches in which students theorize and make connections between course concepts and prior knowledge (Biggs & Tang, 2007). Biggs contended that while surface learners can perform well on assessments using memorization skills, deep learning skills in which students synthesize ideas are superior. Biggs' assertions have aligned with prior research that has shown deep learning strategies in the classroom are related to higher-quality teaching and student learning outcomes (Marton & Säljö, 1997; Trigwell & Prosser, 1991, 1998).

When a professor consistently facilitates real-world experiences in the classroom, students engage in deep learning approaches and are ultimately more satisfied (Nelson-Laird, Shoup, Kuh, & Schwartz, 2008). Professors can facilitate deep learning by including learning activities that require critical thinking and reflection, and by excluding assessment tools that only measure rote memorization skills. In the absence of these skills, professors need to revise assignments to foster such higher-order and reflective practice, even if some students may not achieve deep learning (Biggs & Tang, 2007). Platow, Mavor and Grace (2013) found that deep learning approaches positively impact student academic self-concept, and keep students continuously engaged. It was also discovered that deep learning approaches are a valuable contribution to the classroom, as students learn deeply achieve short-term academic goals, and remain motivated to continuously engage in the discipline.

1.2 Pedagogical Content Knowledge

Another concept, which is also the focus of this study, is pedagogical content knowledge. Shulman (1986) has defined pedagogical content knowledge as the methods of presenting content in ways that make it understandable for others, as well as an understanding of skills that students may find challenging. Pedagogical content knowledge is the strongest predictor of deep learning (Economos, 2013), and it shapes the quality of instruction. It has rarely been assessed due to a lack of appropriate survey instruments for valid assessment (Zlatkin-Troitschanskaia, Shavelson, & Kuhn, 2015). Therefore, perceptions of this variable may vary, and there is a need for additional measurement tools.

1.3 Transformational Teaching Practices

Also transformational teaching practices... Pounder (2008) has found a positive relationship between student perceptions of their professor leadership behaviors in the classroom and student ratings. Pounder has concluded that professors who students perceived as transformational were able to inspire greater effort from students and increase overall student satisfaction. Bolkan and Goodboy (2011) have affirmed that transformational leadership behaviors in the classroom link to previous research on effective teaching based on student perceptions. Bolkan and Goodboy (2009, 2011) have suggested that if transformational leadership produced positive learning outcomes in an organization coupled with intrinsic motivation, it is likely that the same will occur in the classroom.

1.4 Intellectual Stimulation

Further, intellectual stimulation, encouraging students to think critically and innovatively to influence learning outcomes (Bass, 1985), has proved to be the largest indicator of positive student involvement in the classroom (Bolkan & Goodboy, 2011). Dionne, Yammarino, Atwater, and Spangler (2004) determined that one who practices individualized consideration encourages continuous individual development (Modassir & Singh, 2008). Intellectual stimulation leads to innovative ways of thinking (Bolkan & Goodboy, 2011).

1.5 Individualized Consideration

Harrison (2011) found that professors have demonstrated individualized consideration by treating each student as an individual and assisting them in their personal growth. Students have benefited from professors who have shown genuine concern for students' needs, interests, and abilities (Husband, 2013). It is recommended that professors have to be willing to establish relationships with students beyond the official course requirements. Also, professors have to be willing to validate the perspectives of their students to improve the learning quality in their courses, which can lead to better interactions in the classroom, and enhance teaching effectiveness (Husband, 2013). This is what determined the effect on individuals' learning outcomes where self-confidence is built.

1.6 Student-Professor Engagement in Learning

Sidelinger and Booth-Butterfield (2010) reported that "The entire responsibility for student involvement should not fall on students alone" (p. 166). Professors must promote a supportive and connected learning environment for students to be academically successful. Professors need to connect with students and provide opportunities in the classroom for students to connect and participate. Participation results in increased student motivation, enhanced communication skills, group interactions, and self-reported positive changes in character (Armstrong & Boud, 1983; Berdine, 1986; Junn, 1994). Participation enhances skills such as critical thinking interpretation, analysis, and synthesis (Smith, 1977; Garside, 1996; Crone, 1997).

1.7 Age

Knowles (1990) identified that childhood learning and adult learning were different based on assumptions about the teaching-learning transaction. Children typically learned in teacher-centered environments in which they need to learn was expected and knowledge was dictated by the teacher. In contrast, adult learning fostered a voluntary, autonomous learning environment in which students applied knowledge holistically.

Adult learning theories were grounded in theories that emphasize a readiness to learn, autonomous learning, active engagement in learning, critical thinking and reflection, and real-life relevance (Knowles, Holton, & Swanson, 1998; Merriam, 2001; Trotter, 2006). However, earlier research by Aslanian and Brickell (1980) found the opportunity or desire to learn did not guarantee that adults learned. Adults often waited for a life event or circumstance to trigger a desire to engage in learning activities. They concluded that adults needed to find a *need* to learn.

Merrill (2001) examined the relationship between adult students and professor behaviors across disciplines. The qualitative findings indicated that while professors enjoyed teaching adult students, most had not modified their teaching styles to adult student needs. Non-traditional students ages 25 or older (Howard & Henney, 1998) were more open to admitting when they did not understand the material and were more willing to provide feedback on professor teaching practices. In comparison, it was found that a professor adopted an interactive teaching style to prevent non-traditional students from dominating the lectures.

Similar to Merrill (2001), Dunst, Trivette, and Hamby (2010) examined adult student learning outcomes in a meta-analysis of the effectiveness of four adult learning methods. The findings indicated that positive student outcomes resulted from student engagement in mastering new knowledge or practice, and the professor's effort to facilitate the learning process. The findings also showed that the professor's ability to engage students, guidance, and ability to encourage a student in deep understanding contributed to student effective learning. Students benefited from the adult learning characteristics integrated into the learning opportunities. The findings supported the significance of the professor's feedback, student reflection and critical thinking, real-world relevance, and immediate applicability (Dunst et al., 2010).

2. Method

2.1 Participants

As previously published by Economos (2014) a total of 3, 232 female and male graduate students currently enrolled in full-time and part-time business and education programs were invited to participate in the study. Of those students, 1,055 were graduate business students and 2,177 were graduate education students. The total response rate was 360 with 359 usable surveys (11 percent). Responses from graduate business students totaled 67 while responses from graduate education students totaled 292. Participants were obtained from four universities and two professional associations and in the United States and other countries. The response pool was randomized to minimize the chance for type one or two errors. A total of 137 surveys were used for data analysis in this study to balance the numbers in each group. Sixty-seven responses were from graduate business students, and 70 responses were from graduate education students.

2.1.1 Instrument

The instrument was adapted from the research literature (Kane et al., 2004; Bolkan & Goodboy, 2011) and two published questionnaires with permission from the authors (Shepherd, 2009; NSSE, 2001-13). Statements from the research literature were revised in order to become measurable survey items. Two jury reviews determined that 30 out of 41 items appropriately measured the variables according to their definitions. The remaining 11 items were reevaluated: charisma (two items), pedagogical content knowledge (two items), intellectual stimulation (five items), and individualized consideration (two items). The language of the items was modified and two items for intellectual stimulation were omitted.

After the second jury's results, the final instrument included 39 items that measured the variables: seven items measured charisma, nine items measured individualized consideration, seven items measured intellectual stimulation, nine items measured pedagogical content knowledge, and seven items measured deep learning (Economos, 2013).

A factor analysis of 359 participant responses was employed, and the items were analyzed using principal component analysis extraction method, and varimax with Kaiser Normalization rotation method. Cronbach's Alpha coefficient of internal consistency was computed to assess the reliability of each of the five variables in the survey instrument. The Cronbach's alpha coefficients for the factors ranged from .752-.88. Respondents were asked to rate their level of agreement of each statement regarding the variables. A five-point Likert scale with the possible responses accompanied the statements (Economos, 2013; Economos, 2014).

3. Result

3.1 Research Question

How do graduate students' perceptions of professor pedagogical content knowledge, individualized consideration, and Student-Professor Engagement in Learning, professor intellectual stimulation, and student deep learning differ based on age among all graduate students and within graduate-level business and education programs?

Question three was analyzed using independent samples *t* tests to contrast the groups.

Table 1. Independent Samples *t* Tests Comparing the Difference of All Graduate Students' Perceptions Based on Age

	Age	Range	Mean	SD	<i>t</i>	<i>p</i>
Pedagogical Content Knowledge	21-30 years old	9-45	33.75	6.06	.08	.934
	31 years old or older		33.67	5.39		
Individualized Consideration	21-30 years old	8-40	30.41	5.88	2.62	.010
	31 years old or older		27.87	4.94		
Student-Professor Engagement in Learning	21-30 years old	5-25	21.42	2.69	1.67	.096
	31 years old or older		20.51	3.50		
Intellectual Stimulation	21-30 years old	6-30	24.34	3.80	1.49	.138
	31 years old or older		23.33	3.97		
Deep Learning	21-30 years old	6-30	23.79	4.48	.82	.409
	31 years old or older		23.18	3.77		

The results of the independent *t* tests reported that graduate students ages 21-30 years old reported higher mean scores than graduate students ages 31 years old or older. Overall, all graduate students of

all ages agreed or strongly agreed that their current professors demonstrated pedagogical content knowledge (M=33.75, M=33.67), individualized consideration (M=30.41, M=27.87), and Student—Professor Engagement in Learning (M=21.42, M=20.51), however, there was a statistically significant difference in the way graduate students perceived individualized consideration in their current graduate program ($p=.010$). All graduate students also differed in that students ages 31 years old or older reported they somewhat agreed-agreed that their professors demonstrate intellectual stimulation, while students 21-30 years old agreed or strongly agreed. Both groups somewhat agreed or agreed that, they engaged in deep learning in their current graduate program. A frequency analysis was conducted in order to determine the difference among all graduate students on individualized consideration.

Tables 2-6 present the frequency analyses for graduate students on individualized consideration. Five of eight items were responsible for the significant difference between students ages 21-30 years old and 31 years old or older. The tables demonstrate a trend between students who somewhat agreed and strongly agreed.

Table 2. Frequency Analysis for Individualized Consideration Item 32

32 I experienced professors who show empathy for student learning struggles.

	N	Percent	Valid Percent	Cumulative Percent
1) strongly disagree	1	.7	.7	.7
2) disagree	14	10.2	10.4	11.2
3) somewhat agree	49	35.8	36.6	47.8
4) agree	46	33.6	34.3	82.1
5) strongly agree	24	17.5	17.9	100.0
Total	134	97.8	100.0	

Graduate students disagreed or strongly disagreed (17.2 percent) and agreed (33.6 percent) that their current professors show empathy for student learning struggles. More students somewhat agreed (35.8 percent) than strongly agreed (17.5 percent).

Table 3. Frequency Analysis for Individualized Consideration Item 17

17 I experienced professors who consider students' opinions in the development of the course syllabus.

	N	Percent	Valid Percent	Cumulative Percent
1) strongly disagree	12	8.8	8.9	8.9
2) disagree	28	20.4	20.7	29.6
3) somewhat agree	46	33.6	34.1	63.7
4) agree	29	21.2	21.5	85.2
5) strongly agree	20	14.6	14.8	100.0
Total	135	98.5	100.0	

More than 28 percent of graduate students felt that their current professors do not consider students' opinions in the development of the course syllabus, and at least 20 percent of students agreed. More students somewhat agreed (33.6 percent) than strongly agreed (14.6 percent).

Table 4. Frequency Analysis for Individualized Consideration Item 11

11 I experienced professors who use humor to make learning fun.

	N	Percent	Valid Percent	Cumulative Percent
2) disagree	7	5.1	5.2	5.2
3) somewhat agree	38	27.7	28.1	33.3
4) agree	59	43.1	43.7	77.0
5) strongly agree	31	22.6	23.0	100.0
Total	135	98.5	100.0	

Graduate students reported that they have not experienced professors who use humor to making learning fun (5.1 percent) and others reported that they have (43.1 percent). More students somewhat agreed (27.7 percent) than strongly agreed (22.6 percent).

Table 5. Frequency Analysis for Individualized Consideration Item 22

22 I experienced professors who accommodate different student learning needs.

	N	Percent	Valid Percent	Cumulative Percent
2) disagree	18	13.1	13.3	13.3
3) somewhat agree	40	29.2	29.6	43.0
4) agree	50	36.5	37.0	80.0
5) strongly agree	27	19.7	20.0	100.0
Total	135	98.5	100.0	

As many as 13.1 percent of graduate students disagreed and 36.5 percent agreed that their professors in their current program accommodate different student learning needs. There were more students who somewhat agreed (29.2 percent) than strongly agreed (19.7 percent).

Table 6. Frequency Analysis for Individualized Consideration Item 15

15 I experienced professors who are passionate about relating content to students' lives.

	N	Percent	Valid Percent	Cumulative Percent
1) strongly disagree	2	1.5	1.5	1.5
2) disagree	8	5.8	5.9	7.4
3) somewhat agree	42	30.7	31.1	38.5
4) agree	50	36.5	37	75.6
5) strongly agree	33	24.1	24.4	100.0
Total	135	98.5	100.0	

Most students agreed that they experienced professors who are passionate about relating content to students' lives (36.5 percent), while others disagreed or strongly disagreed (7.3 percent). More students somewhat agreed (30.7 percent) than students who strongly agreed (24.1 percent).

Table 7. Independent Samples t tests Comparing the Difference of Graduate Students' Perceptions Based on Primary Professional Area of Interest on Age (N=19-47)

Primary Professional Area of Interest		Age	Range	Mean	SD	<i>t</i>	<i>p</i>	
Business	Pedagogical Content Knowledge	21-30 years old	9 - 45	32.75	6.40	-.57	.566	
		31-40 years old or older		33.60	5.57			
	Individualized Consideration	21-30 years old	8 - 40	29.89	5.77	1.55	.125	
		31-40 years old or older		27.78	5.28			
	Student-Professor Engagement in Learning	21-30 years old	5 - 25	20.96	2.89	1.02	.311	
		31-40 years old or older		20.13	3.47			
	Intellectual Stimulation	21-30 years old	6 - 30	23.48	3.62	.19	.843	
		31 years old or older		23.28	4.16			
	Deep Learning	21-30 years old	6 - 30	22.25	4.76	-.58	.564	
		31 years old or older		22.86	3.88			
	Education	Pedagogical Content Knowledge	21-30 years old	9 - 45	34.40	5.82	.39	.693
			31 years old or older		33.80	5.15		
Individualized Consideration		21-30 years old	8 - 40	30.75	5.99	1.77	.081	
		31 years old or older		28.05	4.32			
Student – Professor Engagement in Learning		21-30 years old	5 - 25	21.71	2.54	.68	.498	
		31 years old or older		21.19	3.53			
Intellectual Stimulation		21-30 years old	6 - 30	24.87	3.84	1.44	.153	
		31 years old or older		23.42	3.70			
Deep Learning		21-30 years old	6 - 30	24.73	4.07	.89	.376	
		31 years old or older		23.80	3.56			

Graduate students of all ages in both groups reported they somewhat agreed or agreed that their professors demonstrate pedagogical content knowledge, individualized consideration, student-professor engagement in learning. Business students and education students 21-30 years old reported higher mean scores than those students that reported ages of 31 years old or older, with the exception of deep learning ($M=22.25$, $M=22.86$). In contrast, business students of all ages somewhat agreed or agreed that they engage in deep learning while education students agreed or strongly agreed that they engage in deep learning. Education students also differed in that students ages 21-30 agreed or strongly agreed while students ages 31 years old or older somewhat agreed or agreed. There were no statistical

significant differences in the way graduate students in business and education programs perceived the independent and dependent variables.

Table 8. Independent Samples t Tests Comparing the Difference of Graduate Students' Perceptions Based on Primary Professional Area of Interest on Age (N=19-47)

Primary Professional Area of Interest	Age	Range	Mean	SD	<i>t</i>	<i>P</i>		
Business	Pedagogical Content Knowledge	21-30 years old	9-45	32.75	6.40	-.57	.566	
		31-40 years old or older		33.60	5.57			
	Individualized Consideration	21-30 years old	8-40	29.89	5.77	1.55	.125	
		31-40 years old or older		27.78	5.28			
	Student-Professor Engagement in Learning	21-30 years old	5-25	20.96	2.89	1.02	.311	
		31-40 years old or older		20.13	3.47			
	Intellectual Stimulation	21-30 years old	6-30	23.48	3.62	.19	.843	
		31 years old or older		23.28	4.16			
	Deep Learning	21-30 years old	6-30	22.25	4.76	-.58	.564	
		31 years old or older		22.86	3.88			
	Education	Pedagogical Content Knowledge	21-30 years old	9-45	34.40	5.82	.39	.693
			31 years old or older		33.80	5.15		
Individualized Consideration		21-30 years old	8-40	30.75	5.99	1.77	.081	
		31 years old or older		28.05	4.32			
Student – Professor Engagement in Learning		21-30 years old	5-25	21.71	2.54	.68	.498	
		31 years old or older		21.19	3.53			
Intellectual Stimulation		21-30 years old	6-30	24.87	3.84	1.44	.153	
		31 years old or older		23.42	3.70			
Deep Learning	21-30 years old	6-30	24.73	4.07	.89	.376		
	31 years old or older		23.80	3.56				

Graduate students of all ages in both groups reported they somewhat agreed or agreed that their professors demonstrate pedagogical content knowledge, individualized consideration, student-professor engagement in learning. Business students and education students 21-30 years old reported higher mean scores than those students that reported ages of 31 years old or older, with the exception of deep learning ($M=22.25$, $M=22.86$). In contrast, business students of all ages somewhat agreed or agreed

they engage in deep learning while education students agreed or strongly agreed that they engage in deep learning. Education students also differed in that students ages 21-30 agreed or strongly agreed while students ages 31 years old or older somewhat agreed or agreed. There were no statistical significant differences in the way graduate students in business and education programs perceived the independent and dependent variables.

4. Discussion

4.1 Course Syllabus and Graduate Students of All Ages

There was a significant difference between all graduate students on individualized consideration according to age, even though students' ages 21-30 years old and 31 years old or older both reported similar levels of agreement. Both of the groups somewhat agreed and agreed that they experienced professors who demonstrate individualized consideration in their current graduate program. Frequency analysis revealed that Item 17: *I experienced professors who consider students' opinions in the development in the course syllabus*, contributed to the significant difference between the groups. In conclusion, if graduate professors include students in the development of the course syllabus, they may foster a higher level of individualized consideration. In the same way, Bolkan and Goodboy (2011) found that students felt that they participated in the class.

4.2 Learning Struggles and Graduate Students of All Ages

There was a significant difference between students' ages 21-30 and 31 or older on individualized consideration. Students who are 31 years old or older, non-traditional learners ages 25 or older (Howard & Henney, 1998), reported lower mean scores than students who are 21-30 years old. A frequency analysis suggested that Item 32: *I experienced professors who show empathy for student learning struggles*, contributed to the significant difference between students ages 21-30 and 31 or older. In conclusion, if professors show empathy for student learning struggles, they can foster individualized consideration and positive learning outcomes among students of all ages. Previous research by Coffman (1981) found that empathy is an important factor in student-learning outcomes, and it facilitates meaningful learning experiences. Further, students can benefit if professors demonstrate more empathy for *non-traditional learners*, as they enter the classroom for different reasons at different points in their lives.

Merrill's (2001) study reported that he or she intentionally integrated group work and seminar discussions part of the class to make the course more accessible to adults who may have been out of an educational environment for years. Some professors recognize that showing empathy positively affects student learning. In conclusion, professors can improve their performance if they demonstrate empathy for all students' learning struggles to foster individualized consideration in the pursuit of deep learning outcomes. Additionally, if professors develop awareness regarding non-traditional learners' struggles, students will likely benefit.

4.3 Learning Needs and Graduate Students of All Ages

There was a significant difference between students' ages 21-30 and 31 or older on individualized consideration. Students who are 31 years old or older, non-traditional learners, reported lower mean scores than students who are 21-30 years old. A frequency analysis suggested that Item 22: *I experienced professors who accommodate different student learning needs*, contributed to the significant difference between the two age groups. Non-traditional learners may feel that their current professors are not meeting their learning needs. If professors make more of an effort to accommodate their learning needs, students' perception of intellectual stimulation may improve.

Consistent with this study, Merrill's (2001) study reported professors did not modify their teaching styles to accommodate non-traditional learners' needs. They failed to provide opportunities for them to relate their own life experiences to facilitate their learning. Merrill (2002) also found that even though the discussion was part of the learning process, some professors intentionally adapted their teaching styles to prevent non-traditional learners from dominating classroom lectures. The higher mean scores for students ages 21-30 also suggest that the group consisted of more traditional students under age 25 (Howard & Henney, 1998) than non-traditional students age 25 and over. It can be inferred that professors are making more of an effort to meet their needs, consistent with Merrill's (2002) study. A professor reported that he or she adopted an interactive teaching style to include students of all ages so that the non-traditional learners do not take over the seminar.

Howard and Henney (1998) also found that non-traditional students often dominated the classroom by contributing twice as many comments and questions as non-traditional students. They also felt more comfortable interrupting a professor to make a comment or ask a question. This suggests that the non-traditional students who reported lower mean scores did not get the opportunities to participate in the way that they learn best, and their professors did not meet their learning needs. Students of all ages will likely benefit from a professor's initiative to meet their individual learning needs, regardless of their age, as Dunst et al. (2010) found that positive student outcomes resulted from a professor's effort to facilitate the learning process. In conclusion, non-traditional students will likely benefit from addressing their concerns about their learning needs with their professors. Merrill (2002) found that professors described adult learners as verbal, mature, open to admitting when they did not understand the material, and more willing to provide feedback to professors.

4.4 Content and Graduate Students of All Ages

There was a significant difference between students' ages 21-30 and 31 or older on individualized consideration, as previously stated. Students who are 31 years old or older, non-traditional learners, reported lower levels of agreement than students who are 21-30 years old. A frequency analysis suggested that Item 15: *I experienced professors who are passionate about relating content to students' lives*, contributed to the significant difference between the groups. Similarly, Bolkan and Goodboy (2011) also found that students benefited from professors who chose relevant content that related to

students' lives and connected with realistic situations. In conclusion, if professors select the content that relates to students' lives, students will have a greater opportunity to learn deeply.

4.5 Humor and Graduate Students of All Ages

There was a significant difference between students' ages 21-30 and 31 or older on individualized consideration. Students who are 31 years old or older, non-traditional learners, reported lower levels of agreement than students who are 21-30 years old. A frequency analysis suggested that *Item 11: I experienced professors who use humor to making learning fun*, contributed to the significant difference between the groups. If professors use humor in the classroom, students will be more likely to learn. Previous research (Kaplan & Pascoe, 1977, Berk, 1996, 1998; Burkhart, 1998) indicated that humor can decrease students' anxiety, improve students' learning abilities, and self-esteem. It also yields a receptive, warm learning environment that reduces stress, and enhances communication and recall skills. Overall, humor facilitates the student-professor relationship and can make a class more interesting (Kaplan & Pascoe, 1977, Berk, 1996, 1998; Burkhart, 1998).

Besides, the significant difference between the two age groups suggests that students 21-30 years old perceive and accept humor differently than students who are 31 years old or older. Similarly, Gorham and Christophel (1992) found that the type of humor and frequency of humor affected student-learning outcomes. Students were aware of *tendentious humor*, written or spoken with personal bias. An overdependence of this type of humor weakened any kind of positive influence on student learning outcomes, as evidenced in previous literature (Kaplan & Pascoe, 1977; Berk, 1996, 1998; Burkhart, 1998). In conclusion, graduate students will likely benefit from professors who appropriately use humor in ways that will facilitate individualized consideration and the learning process.

4.6 Limitations and Recommendations

The findings of this study cannot be generalized. The study was also limited to hybrid, and face-to-face environments. It was unknown if the respondents were attending a research-intensive or teaching university. The class size in which the graduate students were enrolled was unknown. Lastly, the character or temperament of each participant was unknown and therefore could have impacted the findings in this study.

Professors are encouraged to create a learning experience in which students can apply their external experiences in the classroom, as well as apply theory' to practice in the external environment (real world). Professors should consider maintaining an open dialogue with students about their perceptions, and goals. Finally, students benefit when a professor takes an interest in students' personal lives and leads discussions with content free as well as content-based discussions.

It is recommended that this study be replicated in online learning programs to determine if graduate students enrolled in distance learning perceive the variables differently, and the impact of distance learning on graduate students on the variables. Further, subsequent research should be conducted in an undergraduate setting to determine if students perceive the variables differently.

References

- Armstrong, M., & Boud, D. (1983). Assessing participation in discussion: An exploration of the issues. *Studies in Higher Education*, 8, 33-44. <https://doi.org/10.1080/03075078312331379101>
- Aslanian, C. B., & Brickell, H. M. (1980). *Americans in transition: Life changes as reasons for adult learning*. New York: College Board.
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25, 297-308.
- Bain, K. (2004). *What the best college teachers do*. Boston, MA: Harvard University Press.
- Barber, J. P. (2012). Integration of learning: A grounded theory analysis of college students' learning. *American Educational Research Journal*, 49(3). <https://doi.org/10.3102/0002831212437854>
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates. <https://doi.org/10.4324/9781410617095>
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.
- Berdine, R. (1986). Why some students fail to participate in class. *Marketing News*, 20, 23-24.
- Berk, R. A. (1998). *Professors are from mars and students are from snickers*. Madison, WI: Mendota Press.
- Berk, R. A. (1996). Student ratings of 10 strategies for using humor in college teaching. *Journal of Excellence in College Teaching*, 7, 71-92.
- Bisman, J. (2011). Engaged pedagogy: A study of the use of reflective journals in accounting education. *Assessment and Evaluation in Higher Education*, 36(3), 315-330. <https://doi.org/10.1080/02602930903428676>
- Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university* (3rd ed.). Berkshire, UK: Oxford University Press.
- Bolkan, S., & Goodboy, A. K. (2011). Behavioral indicators of transformational leadership in the college classroom. *Qualitative Research Reports in Communication*, 12(1), 10-18. <https://doi.org/10.1080/17459435.2011.601520>
- Bolkan, S., & Goodboy, A. K. (2010). Transformational leadership in the classroom: The development and validation of the student intellectual stimulation scale. *Communication Reports*, 23, 91-105. <https://doi.org/10.1080/08934215.2010.511399>
- Bolkan, S., & Goodboy, A. (2009). Transformational leadership in the classroom: Fostering student learning, student participation, and teacher credibility. *Journal of Instructional Psychology*, 36(4), 296-306.
- Boyer, E. (1990) *Scholarship Reconsidered: Priorities of the professoriate*. New Jersey: The Carnegie Foundation for the Advancement of Teaching.
- Braxton, J., & Hargens, L. (1996). Variation among academic disciplines: Analytical frameworks and research. In J. Smart (Ed.), *Higher education: Handbook of Research and Theory* (Vol. 11, pp. 1-46). New York, NY: Agathon Press.

- Burkhart, F. (1998). Healthful humor. In *New York Times* (April 14, 1998: F7).
- Burnett, E., Phillips, G., & Ker, J. S. (2008). From theory to practice in learning about healthcare associated infections: Reliable assessment of final year medical students' ability to reflect. *Med Teach*, 30, e157-e160. <https://doi.org/10.1080/01421590802047299>
- Cochran, K. F., DeRuiter, J. A., & King, R. A. (1993). Pedagogical content knowing: An integrative model for teacher preparation. *Journal of Teacher Education*, 44 (September-October), 263-272. <https://doi.org/10.1177/00224871930444004004>
- Coffman, S. (1981). Empathy as a relevant instructor variable in the experiential classroom. *Group and Organizational Studies*, 114-120. <https://doi.org/10.1177/105960118100600111>
- Crone, J. A. (1997). Using panel debates to increase student involvement in the introductory sociology class. *Teaching Sociology*, 25, 214-218. (IT) <https://doi.org/10.2307/1319397>
- Dennen, V. P., & Wieland, K. (2007). From interaction to intersubjectivity: Facilitating online group discourse processes. *Distance Education*, 28(3), 281-297. <https://doi.org/10.1080/01587910701611328>
- Devlin, M. (2007). *An examination of a solution-focused approach to university teaching development* (Unpublished doctoral dissertation). The University of Melbourne, Australia.
- Devlin, M., & Samarawickrema, G. (2010). The criteria of effective teaching in a changing higher education context. *Higher Education Research & Development*, 29(2), 111-124. <https://doi.org/10.1080/07294360903244398>
- Dionne, S., Yammarino, F., Atwater, L., & Spangler, W. (2004). Transformational leadership and team performance. *Journal of Organizational Change Management*, 17(2), 177-193. <https://doi.org/10.1108/09534810410530601>
- Dunst, C. J., Trivette, C. M., & Hamby, D. W. (2010). Meta-analysis of the effectiveness of four adult learning methods and strategies. *International Journal of Continuing Education and Lifelong Learning*, 3(1), 91-112.
- Economos, J. (2014). The squeaky wheel needs the grease: Perceptions of teaching and learning in graduate education. *Journal of Effective Teaching*, 14(1), 5-19.
- Economos, J. (2013). *Graduate student attitudes toward professor pedagogical content knowledge, transformational teaching practices, student- professor engagement in learning, and student deep learning in worldwide business and education programs*. Retrieved from ProQuest LLC.
- Elton, L. (1998). Dimensions of excellence in university teaching. *International Journal of Academic Development*, 3(1), 3-11. <https://doi.org/10.1080/1360144980030102>
- Evans, N. J., Forney, D. S., & Guido-DiBrito, F. (1998). *Student development in college: Theory, research, and practice*. San Francisco: Jossey-Bass Publishers.
- Figlio, D. N., & Shapiro, M. (2017). *Evidence Speaks* (Vol 2, No. 6). Washington, DC: The Brookings Institution.
- Fink, L. D. (2003). *Creating Significant Learning Experiences*. San Francisco, CA: Jossey Bass.

- Floyd, K. S., Harrington, S. J., & Santiago, J. (2009). *The effect of engagement and perceived course value on deep and surface learning strategies*. Paper presented and published in the Proceedings of the Informing Science and Information Technology Education Joint Conference, Macon, GA, June 12-15. <https://doi.org/10.28945/3354>
- Friedman, T. L., & Mandelbaum, M. (2011). *That used to be us: How America fell behind in the world it invented and how we can come back*. Farrar, Straus and Giroux.
- Garside, C. (1996). Look who's talking: A comparison of lecture and group discussion teaching strategies in developing critical thinking skills. *Communication Education*, 45, 212-227. <https://doi.org/10.1080/03634529609379050>
- Gorham, J., & Christophel, D. M. (1992). Students' perceptions of teacher behaviors as motivating and demotivating factors in college classes. *Communication Quarterly*, 40, 239-252. <https://doi.org/10.1080/01463379209369839>
- Grossman, P. L. (1990). *The Making of a Teacher. Teacher Knowledge and Teacher Education*. New York: Columbia University, Teachers College Press.
- Hacker, A., & Dreifus, C. (2010). *Higher Education? How Colleges Are Wasting Our Money and Failing Our Kids and What We Can Do About It*. New York: St. Martin's.
- Hacker, D. J., & Niederhauser, D. S. (2000). Promoting deep and durable learning in the online classroom. In R. E. Weiss, D. S. Knowlton, & B. W. T. Speck (Eds.), *New Directions for Teaching and Learning*. 84 (pp. 53-63). San Francisco: Jossey-Bass. <https://doi.org/10.1002/tl.848>
- Harrison, J. L. (2011). Instructor Transformational Leadership and Student Outcomes. *Emerging Leadership Journeys*, 4(1), 82-136.
- Harvey, S., Royal, M., & Stout, D. (2003). Instructor's transformational leadership: University student attitudes and ratings. *Psychological Reports*, 92, 395-402. <https://doi.org/10.2466/pr0.2003.92.2.395>
- Hativa, N., Barak, R., & Simhi, E. (2001). Exemplary' university teachers: Knowledge and beliefs regarding effective teaching dimensions and strategies. *Journal of Higher Education*, 72, 699-729. <https://doi.org/10.1080/00221546.2001.11777122>
- Hildebrand, M. (1973). The character and skills of the effective professor. *Journal of Higher Education*, 44(4), 41-50. <https://doi.org/10.2307/1980624>
- Howard, J. R., & Henney, A. L. (1998). Student participation and instructor gender in the mixed-age college classroom. *Journal of Higher Education*, 69, 384-405. <https://doi.org/10.2307/2649271>
- Jang, S. J. (2011). Assessing college students' perceptions of a case teacher's pedagogical content knowledge using a newly developed instrument. *Higher Education*, 61, 663-678. <https://doi.org/10.1007/s10734-010-9355-1>
- Junn, E. (1994). Pearls of wisdom: Enhancing student class participation with an innovative exercise. *Journal of Instructional Psychology*, 21, 385-387.

- Kane, R., Sandretto, S., & Heath, C. (2004). An investigation into excellent tertiary teaching: Emphasizing reflective practice. *Higher Education*, 47, 283-310. <https://doi.org/10.1023/B:HIGH.0000016442.55338.24>
- Kaplan, R. M., & Pascoe, G. C. (1977). Humorous lectures and humorous examples: Some effects upon comprehension and retention. *Journal of Educational Psychology*, 69, 61-65. <https://doi.org/10.1037/0022-0663.69.1.61>
- Knowles, M. S., Holton, E. G., & Swanson, R. A. (1998). *The adult learner: The definitive classic in adult education and human resources development*. Houston, TX: Gulf Publishing Company.
- Knowles, M. S. (1990). *The adult learner: A neglected species* (4th ed.). Houston: Gulf Pub. Co., Book Division.
- Kreber, C., & Cranton, P. A. (2000). Exploring the scholarship of teaching. *The Journal of Higher Education*, 7(4), 476-495. <https://doi.org/10.2307/2649149>
- Kuh, G. D., & Umbach, P. D. (2005). Experiencing diversity: What can we learn from liberal arts colleges? *Liberal Education*, 91(1), 14-21.
- Majeski, R., & Stover, M. (2007). Theoretically Based Pedagogical Strategies Leading to Deep Learning in Asynchronous Online Gerontology Courses. *Educational Gerontology*, 33(3), 171-185. <https://doi.org/10.1080/03601270600850826>
- Major, C., & Palmer, B. (2006). Faculty knowledge of influences on student learning. *Peabody Journal of Education*, 77(3), 138-162. https://doi.org/10.1207/S15327930PJE7703_8
- Martin, E., & Ramsden, P. (2000). Introduction. *Higher Education Research and Development*, 19, 133-135. <https://doi.org/10.1080/072943600445600>
- Marton, F., & Säljö, R. (1976a). On qualitative differences in learning: I. outcome and process. *British Journal of Educational Psychology*, 46, 4-11. <https://doi.org/10.1111/j.2044-8279.1976.tb02980.x>
- Marton, F., & Säljö, R. (1976b). On qualitative differences in learning: II. outcome as a function of the learner's completion of the task. *British Journal of Educational Psychology*, 46, 115-127. <https://doi.org/10.1111/j.2044-8279.1976.tb02304.x>
- Marton, F., & Saljo, R. (1997). Approaches to learning. In F. Marton, D. Hounsell, & N. Entwistle (Eds.), *The experience of learning. Implications for teaching and studying in higher education*. Edinburgh: Scottish Academic Press.
- McArthur, A. W., Hudson, R., Cook, G. L., Spotts, H., & Goldsmith, A. (2001). Creating and selling postcards: An integrative project class. *Journal of Management Education*, 25(June), 308-324. <https://doi.org/10.1177/105256290102500304>
- McGuire, L., Lay, K., & Peters, J. (2009). Pedagogy of reflective writing in professional education. *Journal of the Scholarship of Teaching and Learning*, 9(1), 93-107.
- Merrill, M. D. (2002). First principles of instruction. *Educational Technology Research and Development*, 50(3), 43-59. <https://doi.org/10.1007/BF02505024>
- Merriam, S. B. (Ed.). (2001). *The new update on adult learning theory*. San Francisco: Jossey-Bass.

- Modassir, A., & Singh, T. (2008). Relationship of emotional intelligence with transformational leadership and organizational behavior. *International Journal of Leadership Studies*, 4(1), 3-21.
- Moon, J. (1999). *Reflection in Learning and Professional Development*. London: Kogan Page.
- National Survey of Student Engagement (2001-13). *The College Student Report*. The Trustees of Indiana University.
- Nelson-Laird, T. F., Shoup, R., & Kuh, G. D. (2005). *Deep learning and college outcomes: Do fields of study differ?* Paper presented at the Annual Meeting of the Association for Institutional Research, May/June, 2005, San Diego, CA.
- Nelson-Laird, T. F., Shoup, R., Kuh, G. D., & Schwarz, M. J. (2008). The effects of discipline on deep approaches to student learning and college outcomes. *Research in Higher Education*, 49, 469-494. <https://doi.org/10.1007/s11162-008-9088-5>
- Paulsen, M. B. (2002). Evaluating teaching performance. *New Directions for Institutional Research*, 114(Summer 2002), 5-18. <https://doi.org/10.1002/ir.42>
- Petress, K. (2006). An operational definition of class participation. *College Student Journal*, 40(4), 821-823.
- Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, 49, 327-340. <https://doi.org/10.5465/amj.2006.20786079>
- Platow, M. J., Mavor, K., & Grace, D. (2010). On the role of discipline-related self-concept in deep and surface approaches to learning among university students. *Instructional Science*, 41(2), 271-285. <https://doi.org/10.1007/s11251-012-9227-4>
- Pounder, J. S. (2008). Transformational classroom leadership: A novel approach to evaluating classroom performance. *Assessment and Evaluation in Higher Education*, 33, 233-243. <https://doi.org/10.1080/02602930701292621>
- Prosser, M., & Trigwell, K. (1998). *Understanding learning and teaching: The experience in higher education*. Milton Keynes: Open University Press.
- Rahilly, T. H., & Saroyan, A. (1997). *Memorable events in the classroom: Types of knowledge influencing professors' classroom teaching*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- Ramasamy, K. (2002). *Promoting reflective practice in higher education: A Dilemma*. Teaching and Learning Forum 2002, Curtin University.
- Shepherd, K. M. (2009). *Effective teaching in higher education: The community college connection*. Oakland University.
- Sherman, T., Armistead, L., Fowler, F., Barksdale, M., & Reif, G. (1987). The quest for excellence in university teaching. *The Journal of Higher Education*, 58(1), 66-84. <https://doi.org/10.2307/1981391>

- Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14. <https://doi.org/10.3102/0013189X015002004>
- Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57, 1-22. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>
- Shulman, L. (1991). Ways of seeing, ways of knowing: Ways of teaching, ways of learning about teaching. *Journal of Curriculum Studies*, 23, 393-395. <https://doi.org/10.1080/0022027910230501>
- Sidelinger, R. J., & Booth-Butterfield, M. (2010). Co-constructing student involvement: An examination of teacher confirmation and student-to-student connectedness in the college classroom. *Communication Education*, 59(2), 165-184. <https://doi.org/10.1080/03634520903390867>
- Sidelinger, R. J. (2010). College student involvement: An examination of student characteristics and perceived instructor communication behaviors in the classroom. *Communication Studies*, 61, 87-103. <https://doi.org/10.1080/10510970903400311>
- Smith, D. G. (1977). College classroom interactions and critical thinking. *Journal of Educational Psychology*, 69, 180-190. <https://doi.org/10.1037/0022-0663.69.2.180>
- Tagg, J. (2003). *The learning paradigm college*. Boston, MA: Anker.
- Trigwell, K., & Prosser, M. (1991). Relating Learning Approaches, Perceptions of Context and Learning Outcomes, *Higher Education* (Special Edition on Student Learning), 22, 251-266. <https://doi.org/10.1007/BF00132290>
- Trees, A. R., Kerssen-Griep, J., & Hess, J. A. (2009). Earning influence by communicating respect: Facework's contributions to effective instructional feedback. *Communication Education*, 58, 397-416. <https://doi.org/10.1080/03634520802613419>
- Trotter, Y. D. (2006). Adult Learning Theories: Impacting Professional Development Programs. *The Delta Kappa Gamma Bulletin*, Winter, 8-13.
- Tuan, H. L., & Chin, C. C. (2000). *Promoting junior high school students' motivation toward physical science learning (III)*. Report for National Research Council (NSC 89-2511-SO 18-030).
- Van, W. (2001). *Deep Learning for a Digital Age: Technology's Untapped Potential to Enrich Higher Education*. Jossey-Bass Publishing: San Francisco, CA.
- Vulcano, B. A. (2007). Extending the generality of the qualities and behaviors constituting effective teaching. *Teaching of Psychology*, 34(2), 114-117. <https://doi.org/10.1177/009862830703400210>
- Warburton, K. (2003). Deep learning and education for sustainability. *International Journal of Sustainability in Higher Education*, 4(1), 44-56. <https://doi.org/10.1108/14676370310455332>
- Waddock, S. A., (1999). Letter to a friend: a personal reflection exercise. *Journal of Management Education*, 23(2), 190-200. <https://doi.org/10.1177/105256299902300208>
- Weaver, R., & Qi, J. (2005). Classroom Organization and Participation: College Students' Perceptions. *Journal of Higher Education*, 76(5), 570-601. <https://doi.org/10.1353/jhe.2005.0038>
- Weimer, M. G. (1990). *Improving college teaching*. San Francisco: Jossey-Bass.

- Wendler, C., Bridgeman, B., Cline, F., Millett, C., Rock, J., Bell, N., & McAllister, P. (2010). *The Path Forward: The Future of Graduate Education in the United States*. Princeton, NJ: Educational Testing Service.
- Yamnill, S., & McLean, G. N. (2001) Theories supporting transfer of training. *Human Resource Development Quarterly*, 12(2), 195-208. <https://doi.org/10.1002/hrdq.7>
- Young, S., & Shaw, D. G. (1999). Profile of effective college and university teachers. *Journal of Higher Education*, 70(6), 670-686. <https://doi.org/10.2307/2649170>
- Zlatkin-Troitschanskaia, O., Shavelson, R. J., & Kuhn, C. (2015). The international state of research on measurement of competency in higher education. *Studies in Higher Education*, 40(3), 393-411. <https://doi.org/10.1080/03075079.2015.1004241>