

*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

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**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.

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