

A mixed analysis of college students' best and poorest college professors

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In this study, the authors examined the views of 171 college students concerning their best and poorest college professors. In a multi-stage conversion mixed analysis design, students' stories of their best and poorest college professors were thematically analysed, resulting in 15 dominant themes for their best college professors and 12 dominant themes for their poorest college professors. After conducting frequency analyses, inferential statistics were conducted to ascertain whether statistically significant differences were present in endorsed themes as a function of ethnicity and generation status. Though Hispanic and White participants did not differ in their endorsement of themes, first-generation college students endorsed fewer themes for their poorest college professor than did non-first-generation college students. Linkages of our findings with the extant literature are provided.

Introduction

It is probable that college students have discussed and compared professors since institutions of higher education were first established in the sixth century B.C (Saari, 2001). Today's tech-savvy students not only seek advice from friends when planning their class schedules, but consult social networking sites, such as RateMyProfessor.com, RateAProf.com, and PickAProf.com, where current and past students can post comments and rate professors on attributes such as easiness, helpfulness, and clarity (Franciosi, 2006). Although some students are admittedly dredging for an easy course, the majority are truly seeking a quality professor (Acker, 2003). For students to make educated decisions about professors and courses through social networking, it is essential to understand what college students typically perceive as characteristics and qualities of their best and worst college professors.

In the eyes of a college student, what constitutes an exceptional professor? Similarly, what causes a student to label a particular professor a poor teacher? Researchers who have examined effective instruction have isolated two main categories significant to students' perceptions of their professors: the cognitive aspects of instruction (teaching characteristics and instructional practices) and personal traits of effective teachers (Miron & Segal, 1978; Wang, Gibson, & Slate, 2007).

Cognitive aspects of instruction central to college students' perceptions of effective professors include critical thinking and analytical skills, active learning, life relevance, organisation, communication, and academic rigor (Acker, 2003; Aulls, 2004; Guskey &

Easton, 1983; Miron & Segal, 1978). By examining reflective statements solicited from 58 criminal justice scholars regarding their best undergraduate or graduate school teacher, Acker (2003) found extraordinary professors are inclined to employ critical thinking and analytical skills to engage their students actively in the learning process. This statement supports Guskey and Easton's (1983) comments that exemplary instructors encourage student participation through discovery learning—active problem solving, questioning, and analysis. Furthermore, they make instruction meaningful by building upon students' prior knowledge and life experiences, specifically connecting their aforementioned familiarity to course content (Acker, 2003; Aulls, 2004).

Learners at the post-secondary level also regard organisation and communication skills as essential qualities held by good instructors (Acker, 2003; Aulls, 2004; Brown & Tomlin, 1996; Fortson & Brown, 1998; Guskey & Easton, 1983; Miron & Segal, 1978; Young & Shaw, 1999). This impression is justified given that college faculty members deemed to be exemplary tend to spend significant time planning and organising their courses, detailing for their students the critical course objectives and providing clear expectations of subject content (Greimel-Fuhrmann & Geyer, 2003; Guskey & Easton, 1983; Onwuegbuzie et al., 2007b). Additionally, teachers perceived as the best by their students make extensive use of two-way communication, active listening, and regular and specific performance feedback; they are accepting of student input and respect student ideas (Acker, 2003; Aulls, 2004; Guskey & Easton, 1983; Onwuegbuzie et al., 2007b). Exceptional professors are also inclined to use a variety of instructional and assessment methods (Acker, 2003; Brown & Tomlin, 1996; Fortson & Brown, 1998) and facilitate group interaction by encouraging debate at a high level, monitoring class discussions, pacing interaction, paraphrasing student ideas, and connecting dialogue to course content (Aulls, 2004).

Contrary to popular belief, instructor evaluations are not directly linked to course ease. In fact, college students show contempt for undemanding courses and cite challenging professors as most effective (Carson, 1999; Franciosi, 2006). Rigorous professors are those college faculty who “set and enforce high standards and coax [themselves and their] students to perform to the full measure of their potential” (Acker, 2003, p. 225). They are demanding but fair.

Although Guskey and Easton (1983) found exemplary college teachers share more common teaching characteristics and instructional practices than personal traits, certain instructor personal characteristics do positively influence student ratings of instruction. The best professors possess a passionate commitment to their subject, to teaching, and to learning (Acker, 2003; Carson, 1996; Onwuegbuzie et al., 2007b; Waters, Kemp, & Pucci, 1988; Young & Shaw, 1999). As teachers and scholars, they maintain a thorough mastery of their subject matter and strive to connect this knowledge and their students (Acker, 2003; Carson, 1996; Onwuegbuzie et al., 2007b). They are enthusiastic and motivating in their instruction, inspiring students' confidence in their own understanding of the area under discussion (Acker, 2003; Brown & Tomlin, 1996; Fortson & Brown, 1998; Miron & Segal, 1978; Naftulin, Ware, & Donnelly, 1973; Williams & Ceci, 1997).

Along with being dedicated to their profession, excellent professors are especially committed to their students' academic and personal development (Brown & Tomlin, 1996; Young & Shaw, 1999). They invest a great deal of time in their students' success and are often willingly accessible in and beyond the university setting (Acker, 2003; Carson, 1996; Fortson & Brown, 1998; Onwuegbuzie et al., 2007b). Similarly, they are responsive to students' special needs and interests, showing value and respect for their students (Acker, 2003; Carson, 1996; Guskey & Easton, 1983; Onwuegbuzie et al., 2007b; Young & Shaw, 1999). Many college students feel the best teachers reinforce their reverence for students by getting to know them personally and displaying a sense of humor (Acker, 2003; Brown & Tomlin, 1996; Fortson & Brown, 1998; Guskey & Easton, 1983; Waters et al., 1988). These teachers typically know their students by name and often are aware of students' lives outside of school. Simply put, they care about their students as a person, not just a pupil.

Recognising that all good professors do not look exactly alike, Acker (2003) eloquently summarised what makes them great in their students' eyes in the following statement:

They share a passion for what they do. They actively engage students in the learning process, emphasizing critical thinking and problem-solving skills without discounting the importance of substantive knowledge. They are rigorous, demanding, and set high standards, yet they genuinely care about their students and are committed to helping those who display a fair effort to achieve their academic and other life goals. They have an impressive command of their subject matter and know how to communicate effectively in the classroom. Most of all...the best teachers inspire their students in ways that give an enduring quality to their most meaningful lessons. (p. 229)

Students not only remember good instructors, but their ineffective professors as well (Carson, 1999). Surprisingly, some students claim that their worst college instructors influenced them even more than their good teachers (Acker, 2003). According to Carson (1999), ineffective professors are not only very similar to one another, but are, in effect, polar opposites of their effective counterparts. College students sense poor instructors' lack of enthusiasm, energy, and inspiration, and that poor instructors do not enjoy what they teach (Acker, 2003; Carson, 1999). Of such teachers, students cite a lack of interaction between pupil and professor (Aulls, 2004; Carson, 1996, 1999; Waters et al., 1988), limited instructional variety (Aulls, 2004; Brown & Tomlin, 1996; Carson, 1996, 1999; Fortson & Brown, 1998; Waters et al., 1988), and low expectations as factors contributing to their dismay (Acker, 2003; Brown & Tomlin, 1996; Carson, 1996, 1999; Fortson & Brown, 1998).

Ineffective professors are often not able to connect their students and the subject matter (Carson, 1996, 1999). Students link this failure to connect on the part of the instructor with disorganisation (Acker, 2003; Brown & Tomlin, 1996; Carson, 1999; Fortson & Brown, 1998), inability to explain ideas clearly (Brown & Tomlin, 1996; Carson, 1999), and an absence of appropriate real-life examples in instruction (Carson, 1999; Fortson & Brown, 1998). Poor professors are also often cited as lacking the ability to connect personally with their students. They lack personal concern for their students and are

physically and emotionally unavailable (Carson, 1999). In some of the worst instances, this lack of caring escalates to unfairness. Unfair testing (Acker, 2003; Brown & Tomlin, 1996; Carson, 1999), blatant displays of favouritism, and unfounded accusations (Carson, 1999) are some of the actions college students associate with their absolute worst professors. According to Aulls (2004), the lack of more detailed descriptions of experiences with poor university teachers suggests that these experiences might be less meaningful to students, or that students prefer not to recall poor experiences in detail. Carson (1999), on the other hand, viewed the impact of bad teachers more severely, as indicated in the following statement:

Bad teachers, like good ones, can change lives. They can turn students away from subjects and lead them to change their majors – and, consequently, their life direction; they can dampen students' joy in learning; they can cause students to doubt their ability and their worth. They can be a source of pain that lingers for decades. (p. 104)

Acknowledging the power professors possess to shape students' lives and the tendency of students to make educated decisions about professors and courses through social networking, we maintain that further investigation of college students' best and worst professors is justified. In this study, our interest was also in determining whether cultural differences might be present in student views of their best and poorest college professors. Extensive documentation is present that Hispanic and African-American students have a high drop-out rate (Bill and Melinda Gates Foundation, 2008; Fry, 2003; Leggett, 2005) and that students differ in cultural ways that influence learning (Banks, Gay, Nieto, & Rogoff, 2007; Martin, 2007). Accordingly, students who are not of the mainstream ethnic group (in this case, White) who attend college might be more academically successful than are other students of their own cultural background. As such, these students might have unique perspectives concerning their best and poorest college professors.

Purpose of the study

The purpose of this study is threefold: (a) To examine the characteristics that students perceive in a college professor as having been their best college professor; (b) To examine the characteristics that students perceive in a college professor as having been their poorest college professor; and (c) To determine the extent to which these identified themes differ statistically as a function of participant demographic variables.

Research questions

The following research questions were asked:

1. What are the perceived characteristics of college professors deemed by students to be their best college professor?
2. What are the perceived characteristics of college professors deemed by students to be their poorest college professor?
3. What is the difference in endorsed themes of best college professors as a function of gender, ethnicity, student status, and generation status?

4. What is the difference in endorsed themes of poorest college professors as a function of gender, ethnicity, student status, and generation status?

Significance of the study

It was hoped that knowledge gained from this study would be helpful in better understanding the experiences college students have in the higher educational system with good and poor faculty members. This information can be used to add to the existing literature concerning the characteristics of effective college teachers, as perceived by students enrolled in colleges. In addition, these research findings will extend the existing literature by obtaining stellar examples of teaching, as well as by identifying less stellar examples.

Method

Participants

Participants for this study were 171 students enrolled in courses at a major Hispanic-Serving Institution in the Southwest. Most participants were female ($n = 145$, 84.8%), with 26 males in the study (15.2%). Most participants were Hispanic ($n = 96$; 56.1%), followed by White ($n = 61$; 35.7%) as the next largest ethnic group. Seven African-Americans (4.1%) were in the study, followed by 1 Asian-American (0.6%), and 6 persons who did not provide this information (3.5%). Of the 171 participants in this study, 149 (87.1%) were undergraduate students and 22 (12.9%) were graduate students. The average age of participants was 29.04 years ($SD = 8.34$), with the youngest student being 18 years old and the oldest person being 55 years old.

The average undergraduate grade point average (GPA) of respondents was 3.23 ($SD = 0.47$) on a 4-point scale, with the lowest GPA being 2.30 and the highest GPA being 4.00. For graduate students, the average GPA was 3.85 ($SD = 0.25$), with the lowest GPA being 3.40 and the highest GPA being 4.00 out of a 4.00 scale. Regarding hours completed, undergraduate students had completed an average of 80.18 semester hours ($SD = 29.51$) and graduate students had completed an average of 18.56 semester hours ($SD = 7.96$). When asked about whether they were the first person from their families to enrol in college, 68 (39.8%) students responded in the affirmative and 103 (60.2%) students indicated that they were not the first person from their families to attend college.

Instrumentation

The researchers employed the use of a survey comprising demographic questions and two open-ended questions. Participants were queried regarding their major, ethnicity, GPA, hours completed, first-generation status, and parental status. Next, two open-ended questions were presented in which students were asked the following: (a) Describe the BEST college teacher with whom you have taken a class. What made this teacher your BEST college professor? and (b) Describe the POOREST college teacher with whom you have taken a class. What made this teacher your POOREST college professor? Research

data then were generated in both qualitative and quantitative form. The quantitative portion of the study gathered data initially on participant demographic variables whereas the qualitative portion gathered data on participants' perceptions on what comprised effective teaching at the college level.

Procedures

Courses in teacher education were identified via conversations with department chairs. These courses included the initial teacher education courses that were enrolled by students beginning in teacher education, field-based courses containing students who were at the end of their degree programs, and graduate-level courses that included students who were practitioners. Further, master's-level courses in educational administration and in counselling and guidance provided student participants who were practitioners in primary and secondary schools. A list of these courses was obtained and each faculty member on this list was contacted to request permission for the researchers to administer the survey in the faculty member's course. The surveys then were administered in the classrooms of faculty members who agreed to have their students surveyed at a day and time specified by the faculty members.

Analysis

Using Onwuegbuzie, Slate, Leech, and Collins' (2007a) framework, the mixed analysis technique used represented what they termed as an equal-status sequential multitype mixed analysis (ES-SMMA). This analysis incorporates both deductive and inductive reasoning (Onwuegbuzie & Teddlie, 2003), and involves the sequential use of quantitative and qualitative data analytic techniques. Specifically, in the current investigation, qualitative analyses were followed by quantitative analyses that built upon the qualitative analyses. The purpose of the mixed analysis was development, wherein the findings from one data-analytic procedure informed the use of the other technique (Greene, Caracelli, & Graham, 1989). Further, the goal of the ES-SMMA was typology development (Caracelli & Greene, 1993).

Results

Best college professor

Between-case analysis

Participants' responses to the open-ended questions concerning their best college professor and their poorest college professor were analysed using the method of constant comparison (Glaser & Strauss, 1967). This method of constant comparison involved reading participants' written responses multiple times to become entirely familiar with them. Next, these responses were unitised (Glaser & Strauss, 1967) such that each meaningful word, phrase, or sentence was categorised into a unit. After this step, these units of information became the basis for constructing a set of unique, nonrepetitive significant statements (i.e., horizontalisation of data; Leech & Onwuegbuzie, 2008), with each statement being given equal weight. Units were discarded that contained the same or

similar statements in an attempt to ensure that each unit represented a unique characteristic of effective college professors. Meanings then were formulated by elucidating the meaning of each significant statement (i.e., unit). In the final step of the method of constant comparison, clusters of themes were organized as a function of the aggregate formulated meanings, with each cluster containing units that were considered to be similar in content such that each cluster represented a unique emergent theme.

These emergent themes then were coded into a SPSS database that already contained participants' demographic information. After determining that the maximum number of identified words and/or phrases for participants for their best college professor was 9 and for their poorest college professor was 8, 9 columns were created to record themes for the best college professor and 8 columns were created for the poorest college professor. Codes for themes then were typed directly into the SPSS database for this study.

Once the themes had been identified and typed into SPSS, a frequency distribution was conducted for all of the best college professor themes and for all of the poorest college professor themes. This procedure permitted the researchers to identify the frequencies with which themes occurred. Because more than 75 individual words and/or phrases had been identified, a decision was made that a theme was present when it occurred a minimum of 11 times. The cut-point of 11 was used because it represented an endorsement rate of 6%, which translated to an effect size index of .50 (using Cohen's [1988, pp. 180-183] non-linear arcsine transformation)—in turn, representing a medium effect size, using Cohen's (1988) criteria.

This procedure eliminated many words and/or phrases that occurred only a few times across the 171 participants. Through this process, a total of 15 dominant themes were identified for students' best college professors and a total of 12 dominant themes were identified for students' poorest college professors. These themes, exemplars, and the frequencies with which each occurred are shown in Tables 1 and 2.

Within-case analysis

The stories written by participants were read several times and the ones noted to contain numerous themes and to be more in-depth were coded. From these stories, 10 stories of the best college professors were selected to represent all 171 participants in this study.

She was a professor with limits but was also flexible. She was always willing to help us with assignments or give us ideas and used a variety of teaching strategies to keep us interested. She would lecture and then give us a group assignment, etc. She was friendly and also understanding. (Hispanic female, 21 years old, first person in her family to go to college, undergraduate, Education major, parent of one child)

She took the time to explain everything. Any assignment turned in was handed back promptly and with an explanation of what you got wrong. Had good advice for the classroom. (White female, 22 years old, first person in her family to go to college, undergraduate, Early Childhood major)

Table 1: Themes, descriptors, and number of endorsements for best college professors

Theme	Description	n
Communication	Good communication skills, communicative, communicates, clear, explained well, thorough, gives clear expectations, responsive, straight-forward	44
Helping	Helpful, helps others succeed, helps out, supportive, willing to work with you	40
Teaches well	Taught well, teaches student not just content, good teaching style, teaches and instills a love of learning, informative, good teaching skills, student learned, detailed in teaching lesson, assigns meaningful work, reviews material well, provided information useful to student in their field, provides good study skills	37
Uses different modalities	Able to teach in and/or with different modalities, uses different activities, uses active learning, uses different environments, hands on activities, created another world to help students learn, worked in groups, learning through discussions, used reenactments, used journaling, used experiments in class	31
Fun	Enjoyable, funny, humorous, exciting, tried to make jokes	25
Builds relationships	Like friends, establishes relationship with student, learns about the student, interest in student, knows about student, knows about student's family, still remembers student to this day, spends time with student, provides one on one time with student, involved with student, shares own experiences with students, approachable	24
Organised	Structure	21
Motivating	Gives praise, motivation, encouraging, inspiring, gives positive reinforcement, inspiring, gave student pride in self	21
Makes learning interesting	Makes school interesting, interesting, not boring	20
Teaches for understanding	Explains material in an understanding way, teaches so students can relate, teaches on student's level, made learning easy for student	20
Involving	Involves students, engaging, learning adventure, hands on, interactive, participated with students, interacted	19
Caring	Kind, caring, compassion, nurturing, good intentions	18
Challenges student	Made student work to fullest potential, encourages student to look deeper into meanings, high expectations for students, expects professionalism from students	16
Knowledgeable	Knowledgeable, has knowledge, knows subject	14
Respectful	Respect, respect students, admire student	11

College Algebra – The professor was great at relating Algebra to the real world and making it easier to understand why we need Algebra. (White female, 31 years old, parent of one child, undergraduate, Early Childhood major)

My sign language teacher at SAC was the best teacher I've had. He was so explanatory and acted like he really wanted us to learn as much as possible. (White female, undergraduate major, Kinesiology)

Organised, able to relate to students. Knowledgeable of subject and able to express his thoughts and knowledge to students in a clear manner. He created a comfortable climate in class. (White female, 29 years old, first person in her family to attend college, parent of three children, undergraduate, English major)

The best teacher in college was a teacher who gave us plenty of work, but all readings were interesting and we discussed them all day – there were several activities that I enjoyed. She was strict, but loving and understanding. This was my third semester and now as I almost a graduate, she still checks on me. (Hispanic female, 23 years old, first person in her family to attend college, parent of one child, undergraduate, Early Childhood major)

Best teacher/professor was someone who constantly encouraged us and gave us his words of wisdom. My senior year (bachelor's) he would begin and end class with, 'Remember you may not find the job of your dreams when you graduate, but don't give up hope. With determination you'll eventually find what you're looking for'. (Hispanic female, 25 years old, parent of two children, graduate student, Counseling and Guidance major)

She was always happy and bouncy. She had different ways of teaching and getting her point across. She really worked with you to succeed. (White female, 23 years old, undergraduate, Early Childhood major)

She displayed creativity, professionalism, and genuinely cared about her students. I love the way she uses creative and collaborative lessons that I can use when I become a teacher. (White male, 36 years old, first person in his family to attend college, parent of three children, undergraduate student, Early Childhood major)

My college experience has been the best it could be because of the professors. One professor I believe was the best because they were always on time, very organised, assignments were meaningful, grades were returned promptly, didn't allow rude classmates to talk while they were talking, and just incredibly professional. (Hispanic female, 20 years old, first person in her family to attend college, undergraduate, Education major)

Poorest college professor

Between-case analysis

Depicted in Table 2 are the 12 dominant themes identified for students' poorest college professors. These themes, exemplars, and the frequencies with which each occurred are shown in Table 2. Uncommunicative, no learning, and poor teaching were the three themes endorsed the most by participants.

Table 2: Themes and descriptors for poorest college professors

Theme	Description	n
Uncommunicative	Does not explain, gives little explanation, could not understand directions, hard to understand expectations, not thorough enough, expected students to know what teacher wanted without teacher explaining, no expectations, does not respond to student attempts to contact teacher, vague, not open	34
No learning	Class was a joke, didn't do anything in class, students were on own, told to just read the book, material not meaningful, student had to relearn outside of classroom	29
Poor teaching	Notes on board in no order, no instruction, no help with learning, doesn't keep student attention to learning, student graded not teacher, discourages learning, teacher reads word for word from book, did not follow textbook, assigns work students don't know how to do, not linear, poor curriculum, did not teach required text, tests on material other than what was taught, only assigned questions from book, could not work out the problems for students, had silly stories instead of teaching, sits at desk the whole class, does not require work from students, cannot lecture well	28
Off-task	Doing or talking about things unrelated to learning or subject, off topic, scatterbrained, loose track of where was, never gets to point, rambles, long winded	24
Unprepared	Not prepared, unorganised, needs to be more productive, no plan, no lesson plan, no structure, inconsistent	23
Poor time management	No schedule, late to class, made students late to next class, kept students 30 minutes over, kept students to last minute	20
Disrespectful	Rude, talked down to students, demeaning, made student feel dumb, made student feel stupid, embarrasses student, did not value student opinion, put down students, made bad comments about students	20
Boring	No energy, class went at slow pace, dull, hard for student to stay awake, uncaptivating	19
Uncaring	Didn't care about student, didn't care about student success, unwilling to help, uninterested in students, did not provide positive reinforcement, no compassion, insensitive	18
Unprofessional behavior	Unprofessional, barked like dog to get student attention, slept at desk, drunk in class, sat at desk and stared, gave answers to poorly prepared students during final, made student cry, forgot about teaching class, majority of class was about bars hookers and strippers, sent daughter to pass out worksheets, talked about love life, vocal on how to screw the university system, always sat at desk	16
Did not use multiple modalities	Did not use different modalities, used worksheets everyday, only used one modality when teaching	15
Talks, not teaches	Talks not teaches, lectures not teaches, only does direct teach	12

Within-case analysis

The stories written by participants were read and reread and the ones noted to contain numerous themes and to be more in-depth were coded. From these stories, 10 stories of the poorest college professors were selected to represent all 171 participants in this study.

It was a Government class, the majority of conversations were about bars, hookers, and strippers. It was a class full of guys and myself and another female student and a man professor. (White female, 21 years of age, parent of one child, undergraduate, Early Childhood major)

My math teacher. He never helped me understand the problems, he would tell you to go and get a tutor for better understanding. (Hispanic female, 46 years old, first person in her family to go to college, undergraduate, Early Childhood major, parent of four children)

She was the worst because she never smiled. She came into the classroom with a grumpy face and was always making rude remarks about our class to the other class. She never made you feel welcomed and made me feel embarrassed to even ask questions. (Hispanic female, 21 years old, first person in her family to go to college, undergraduate, Education major, parent of one child)

They were very disorganised. We didn't get a syllabus until well into the semester. They were late to class. They didn't teach the material that was pertinent to the class. (White female, 33 years old, a parent of two children, undergraduate major, Early Childhood major)

She gave us 4-5 pages of notes – written in paragraph form and read them to us every class time. I felt that I was wasting my time and money! (Hispanic female, 28 years of age, first person in her family to go to college, parent of two children, undergraduate, Early Childhood major)

They never returned any work or test back to the students. I never knew what topic we were learning about because she never followed the textbook. (White female, 22 years old, first person in her family to go to college, undergraduate, Early Childhood major)

Unorganised, late to class, no show for class. Creates hostile environment in class. Students relying on past students who had the same professor to try and figure out what is expected in class. No one will ask questions for fear of being embarrassed. (White female, 29 years old, first person in her family to attend college, parent of three children, undergraduate, English major)

The worst instructor I had never showed up on time, didn't have a game plan and always looked confused. I learned more about her family than anything with the class. I was always lost in the class and didn't feel I learned anything. She lost papers and asked us to do assignments and then forgot what she assigned. (Hispanic female, 23 years old, first person in her family to attend college, parent of one child, undergraduate, Early Childhood major)

Made students, including myself, feel that single Hispanic mothers could not succeed in college. Said racial remarks, never available during office hours. (Hispanic female, 34 years old, a parent of one child, graduate student, Guidance and Counseling major)

This teacher had favorites. His favorites could miss everyday of class, not turn in any assignments, and get the same grade as everyone who showed up in class everyday and worked hard. When he was approached by students, his only excuse was, 'Life is not fair, so get over it.' (Hispanic female, first person in her family to attend college, undergraduate student, Early Childhood major)

Mixed analysis

In the present mixed methods research study, Onwuegbuzie and Teddlie's (2003) mixed analysis framework was utilised. According to these authors, the mixed analysis process involves the use of some or most of the following seven steps: (a) data reduction (i.e., reducing the dimensionality of the qualitative data via analytical techniques such as exploratory thematic analysis and memoing and/or reducing quantitative data via analytical techniques such as descriptive statistics, exploratory factor analysis, and cluster analysis); (b) data display (i.e., describing visually the qualitative data via such tools as graphs, charts, matrices, rubrics, checklists, networks, and Venn diagrams; and/or describing visually quantitative data via visual displays such as tables, graphs, and plots); (c) data transformation (i.e., qualitising by converting quantitative data into narrative codes that can be analysed qualitatively and/or quantitising by converting qualitative data into numerical codes that can be analysed statistically; cf. Tashakkori & Teddlie, 1998); (d) data correlation (i.e., correlating qualitative data with quantitised data and/or correlating quantitative data with qualitised data); (e) data consolidation (i.e., combining qualitative and quantitative data to create new or consolidated variables, codes, or data sets); (f) data comparison (i.e., comparing data from the qualitative and quantitative data sources); and (g) data integration (i.e., integrating both qualitative and quantitative data into either a coherent whole or two separate sets of coherent wholes). The present mixed analysis involved the incorporation of six of the seven stages of Onwuegbuzie and Teddlie's (2003) steps, namely, data reduction, data display, data transformation, data correlation, data consolidation, and data integration.

Onwuegbuzie and Teddlie's (2003) conceptualisation of the data analysis process has been utilised thus far in this mixed analysis. We have reduced participants' qualitative data to 15 dominant themes for their best college professors and to 12 dominant themes for their poorest college professors. Also represented thus far have been 10 student voices regarding their best college professors and 10 student voices regarding their poorest college professors. This information represents the first two stages of mixed analysis process, namely, data reduction and data display, respectively. Using Onwuegbuzie and Teddlie's (2003) phrase, we will now engage in the data transformation stage "wherein qualitative data are converted into numerical codes that can be represented statistically" (i.e., quantitised; Tashakkori & Teddlie, 1998, p.22). This process, which is called a conversion mixed design (Teddlie & Tashakkori, 2006), involves transforming or

converting data from one type into the other type of data and then analysing these transformed/converted data.

Table 3: Theme endorsement for best college professor separated by ethnic membership

Theme	Hispanic%	White%
Communication	24.0	27.9
Helping	22.9	26.2
Teaches well	20.8	21.3
Uses different modalities	18.8	16.4
Fun	15.6	9.8
Builds relationships	15.6	13.1
Organised	8.3	18.0
Motivating	16.7	6.6
Makes learning interesting	14.6	8.2
Teaches for understanding	13.5	9.8
Involving	12.5	8.2
Caring	11.5	11.5
Challenges student	11.5	8.2
Knowledgeable	8.3	8.2
Respectful	5.2	9.8

n = 96 for Hispanic participants and *n* = 61 for White participants

The codes for the presence and absence of themes, as stated previously, consisted of 1s when the theme was present in participants' stories, and of 0s when the theme was absent in participants' stories. By summing the rows of the inter-respondent matrix, two ratio-level variables were generated for each participant: one for participants' number of themes for their best college professor and a second variable for participants' number of themes for their poorest college professor. The average number of endorsed themes for participants' best college professors was 4.54 (SD = 1.62), whereas the average number of endorsed themes for participants' poorest college professors was 3.25 (SD = 1.74). To ascertain whether a difference was present between the number of themes endorsed for their best and for their poorest college professors, a paired samples t-test was conducted. The result was statistically significant, $t(170) = 9.09$, $p < .001$. Specifically, participants endorsed more themes for their best college professor than for their poorest college professor. The effect size for this difference was .78, or large (Cohen, 1988).

Because of the disparity in the numbers of female ($n = 145$) and male ($n = 26$) participants in this study, the extent to which differences might be present in their endorsements of themes for their best and poorest college professors was not examined. Similarly, the disparity in the number of undergraduate students ($n = 149$) and graduate students ($n = 22$) prohibited an analysis of this question as well. Differences were only addressed for the demographic variables of ethnicity and of generational status.

After examining the dependent variables of number of best themes and number of poorest themes to ensure that their standardised skewness and kurtosis coefficients were within normal limits, parametric inferential measures were performed to determine the extent to which ethnicity and generational status were related with student endorsement of themes. An independent samples t-test was conducted to determine whether a difference was present in the number of themes participants endorsed for their best college professor as a function of ethnic membership. This analysis failed to yield a statistically significant finding, $t(115.36) = 0.53$, $p = .59$. Hispanic participants endorsed an average of 4.53 themes ($SD = 1.48$) whereas White participants endorsed an average of 4.67 themes ($SD = 1.69$) for their best college professors. A second independent samples t-test was conducted to determine whether a difference was present in the number of themes participants endorsed for their poorest college professor. This analysis failed to yield a statistically significant finding, $t(142.95) = 1.40$, $p = .16$. Hispanic participants endorsed an average of 3.16 themes ($SD = 1.84$) whereas White participants endorsed an average of 3.54 themes ($SD = 1.56$) for their poorest college professors.

An independent samples t-test was conducted to determine whether a difference was present in the number of themes participants endorsed for their best college professor as a function of generational status. This analysis failed to yield a statistically significant finding, $t(144.89) = 0.58$, $p = .56$. First-generation college students endorsed an average of 4.63 themes ($SD = 1.61$) whereas non-first-generation participants endorsed an average of 4.49 themes ($SD = 1.63$) for their best college professors. Another independent samples t-test was conducted to determine whether a difference was present in the number of themes participants endorsed for their poorest college professor. This analysis yielded a statistically significant finding, $t(120.82) = 2.18$, $p = .033$. First-generation college students endorsed fewer themes ($M = 2.88$, $SD = 1.94$) than did non-first-generation college students ($M = 3.50$, $SD = 1.55$). The effect size for this finding was .41, or moderate (Cohen, 1988).

All Possible Subsets (APS) discriminant analyses were performed to ascertain which themes might differentiate ethnic membership for participants' best college professors and for their poorest college professors. Neither analysis resulted in a statistically significant discriminant function by ethnic membership for either the best college professor themes or for the poorest college professor themes. The two APS discriminant analyses failed to yield a statistically significant discriminant function for best college professor themes and for poorest college professor themes for first-generation versus non-first-generation college students.

Discussion

When college students convey perceptions of their best and poorest professors, they tend to focus on similar noteworthy characteristics and qualities. For that reason, it was the intent of this study to examine these traits and to determine the extent to which they differ as a function of participant demographic variables. Through ES-SMMA, the following 15 dominant themes for best college professors were identified: Communication, Helping, Teaches Well, Uses Different Modalities, Fun, Builds

Relationships, Organised, Motivating, Makes Learning Interesting, Teaches for Understanding, Involving, Caring, Challenges Student, Knowledgeable, and Respectful.

Consistent with Miron and Segal's (1978) and Guskey and Easton's (1983) research, most of the shared characteristics of effective teachers in this study were cognitive aspects of instruction rather than personal traits of the teacher. Specifically, the identified themes related to the cognitive aspects of instruction were Communication (25.7% endorsement rate), Teaches Well (23.4% endorsement rate), Uses Different Modalities (18.1% endorsement rate), Organised (12.3% endorsement rate), Motivating (12.13% endorsement rate), Teaches for Understanding (11.7% endorsement rate), Involving (11.1% endorsement rate), Challenges Student (9.4% endorsement rate), and Knowledgeable (8.2% endorsement rate). These findings lend support to Young and Shaw's (1999) claim that, as a group, effective communication, a comfortable learning atmosphere, concern for student learning, student motivation, and course organisation are strong predictors of teacher effectiveness. Similarly, the present study corroborates Brown and Tomlin's (1996) and Fortson and Brown's (1998) assertion that college students connect teaching excellence to course organisation and presentation — instructional variety, enthusiasm, motivational, and concern for student success.

Exceptional teachers are often praised for personal characteristics as well (Waters et al., 1988). Professors labeled the best by students in this study were commended for personal qualities themed helping (23.4% endorsement rate), fun (14.6% endorsement rate), builds relationships (14.0% endorsement rate), caring (10.5% endorsement rate), and respectful (6.4% endorsement rate). These findings support Acker's (2003) contention that good teachers "are rigorous, demanding, and set high standards, yet they genuinely care about their students and are committed to helping those who display a fair effort to achieve their academic and other life goals" (p. 229). Similarly, Guskey and Easton (1983) and Young and Shaw (1999) found that teachers who were rated as being effective, displayed a genuine respect for students and built personal relationships with students.

As mentioned previously, Carson (1999) described ineffective teachers as the polar opposites of their effective counterparts. The following 12 dominant themes for poorest college professors identified in this study are somewhat consistent with this statement: Uncommunicative (19.9% endorsement rate), No Learning (17.0% endorsement rate), Poor Teaching (16.4% endorsement rate), Off-Task (14.0% endorsement rate), Unprepared (13.5% endorsement rate), Poor Time Management (12.0% endorsement rate), Disrespectful (12.0% endorsement rate), Boring (11.1% endorsement rate), Uncaring (10.5% endorsement rate), Unprofessional Behavior (9.4% endorsement rate), Did Not Use Multiple Modalities (8.8% endorsement rate), and Talks Not Teaches (7.0% endorsement rate). However, characteristics leading to poor teacher ratings did not necessarily have bipolar opposites leading to good teacher ratings. For example, students in this study did not tend to label poor instructors unhelpful or abolish them for not building relationships. These findings are consistent with previous research where students were not inclined to discuss personal qualities of poor instructors (Waters et al., 1988). Waters et al. (1988) explained that students want to like their instructors and value them as persons. Therefore, when students illustrate poor professors they describe the

instructor classroom behaviors, such as used only one modality when teaching, made students late to next class, and never gets to the point.

Correspondingly, Aulls (2004) found that students used nearly twice as many clauses to describe good course experiences in comparison to poor course experiences. A comparison of the number of themes associated with best and worst college professors described in this study and their endorsement rates strengthens Aull's (2004) findings. This result is meaningful, we believe, because it might indicate that poor course experiences may be less meaningful (Aulls, 2004). Similarly, first-generation college students endorsed significantly fewer themes for poorest professor than did non-first generation college students. These findings have implications for further studies on the effects of ineffective instruction on first-generation college students.

In this study, we analysed whether differences were present in student views as a function of their culture. We believe that such comparisons of differences are appropriate as long as findings are responsibly and ethically interpreted. That is, studies of *between-group* differences can yield useful information, particularly when college graduation and college retention rates differ by ethnic membership. Even so, studies are also warranted in which *within-group* differences are addressed. We believe that analysing the learning experiences of minority students can provide valuable information, when within-ethnic differences are addressed (see for example, Casteel, 1995; Onwuegbuzie, 1997a).

Carson (1999) was insightful and inspiring when she noted:

[Students] want us to share with them our love of our fields, they are hungry for intellectual passion, and they are most likely to become engaged in that passion under the guidance of people whom they care about and who, they believe, care about them. (p. 104)

If the yearnings of students are not enough to encourage professors to strive to be better, maybe their egos will be. Williams and Ceci (1997) point out that simple changes, such as teaching in a more enthusiastic style, can make the difference between being awarded tenure or not, or in receiving teaching awards, merit pay increments, and so on. Consequently, the findings of the present study have significant implications for teacher professional development because instructional practices are typically less difficult to change than are personal traits (Guskey & Easton, 1983).

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