Examining Structures and Practices of Affinity Group Development in Teacher Education: A Mixed Methods Sequential Explanatory Approach

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For many educators, transitioning from teacher to scholar is a journey wrought with identity-laden challenges, as students must merge an already developed professional identity with an academic researcher identity. Thus, we examined how the structures and practices of cohorts enabled or constrained affinity identity development in teacher education doctoral students from 2008-2012. Through our mixed method design, the four professional, collaborative, institutional and social themes emerged as the most important aspects for our participants (n=16). Our 2011 cohort participants most readily identified as an established cohort, and upon closer examination, they, unlike the others, had structures and practices put forth in the beginning of their doctoral program that emphasized the four emerging themes. Our findings have a meaningful impact on the support that is received and scholarly development that occurs for doctoral students.

Keywords: identity development, teacher education, doctoral students, mixed methods, learning communities

INTRODUCTION

Almost half of all doctoral students in the United States fail to complete their degree (Sowell et al., 2008; Wollast et al., 2018). The Council of Graduate School conducted a 7-year study of completion and attrition rates of doctoral students, and six key factors emerged that influenced student success: selection, mentoring, financial support, program environment, research experience, and institutional processes and products (Sowell et al., 2015). Four of these key factors (mentoring, program environment, research experience, and institutional processes and products) are cited as influencing the developing scholar identities of doctoral students, which in turn is hypothesized to increase completion rates (Garder, 2008; Hall & Burns, 2009).

An issue for beginning doctoral students is merging an already developed professional identity with an academic researcher identity (Gardner, 2010; Hall & Burns, 2009; Labree, 2003; Sweitzer, 2009). This problem is exemplified in teacher education doctoral programs where, prior to admittance, most students

must have taught for several years. As Labaree (2003) has argued, "To move from being a teacher to being a researcher through the medium of a doctoral program in education . . . constitutes a major change in occupational role and requires an accompanying change in professional priorities" (pp. 18–19).

RELEVANT RESEARCH

The research on identity formation as a socializing process in professional and graduate education is extensive. Since affinity identity is central to this project, research that examines other cultural, racial, ethnic, social, and political identities are, while instructive, outside this project's scope. The literature is wide-ranging and diverse, and for the immediate purpose of this investigation, can be roughly categorized into four broadly identified themes: (1) research on the process of socialization and social support (Austin, 2002; Choi et al., 2021; Mendoza, 2007; Rosen & Bates, 1967), (2) research that examines the role of supportive research communities and relationships in student development and persistence (Tenenbaum et al., 2001; White & Nonnamaker, 2008), (3) research drawing on theories of social networking and institutional support, including faculty mentoring (Andrade, 2008; Devos et al., 2016; Mantai, 2019; Molloy, 2005; Pennington, 2021; Sweitzer, 2009), and (4) research that focuses on specific professional programs and the process of professionalization/scholar identity development (Brown, 2021; Ching et al., 2021Gardner, 2007; Gardner, 2010; Hockey, 2003; Holley, 2006; McNair et al., 2011).

Sociological approaches provide the earliest framework for understanding student identity formation (Rosen & Bates, 1967). Focus on the structures and practices of graduate education would become the dominant themes in identity research and define academic socialization. Much attention was paid to faculty–student relationships, however such a focus failed to account for other factors like peers (Austin, 2002; Ching et al., 2021), external communities (Wiedman et al., 2001), or student self-perception and identification with fellow students (Golde, 1998). Each of these factors contributed to socialization, often overcoming student misperceptions of faculty roles and routine work practices (Bieber & Worley, 2006). Identity formation occurs as a network of processes that deconstruct and reconstruct student perception and experience (Ching et al., 2021; Zerbe et al., 2023).

Identity formation occurs most vividly in the context of specific disciplines, where the contours of professional practice are observable in the learning process and where differences between students in diverse fields are clearly known (Boncori & Smith, 2019; Girves & Wimmerus, 1988; Leshem, 2020). Tinto (1993), in his landmark study of student persistence, identifies the significant stages of social and academic integration that occur that result in professional socialization. The more effective the integration the more likely a student will persist to degree completion. Research based upon student development theory provides important insights into affinity identity. The experience of "belonging" as an emerging scholar or professional reinforces the relationship between the classroom and learning outcomes within a specific context (Hill & Conceição, 2020; Mantai, 2019; Pennington, 2021; Strayhorn, 2012; White & Nonnamaker 2008). The intensity of this relationship is stronger among doctoral students, where mastery of content and research practices are most central to achievement. Navigating identity development and belonging can be difficult; however, studies have identified that learning communities or cohorts benefit doctoral students as they traverse from student to scholar (Andrade, 2008; Karaza, 2008; Tinto, 1988).

THEORETICAL FRAMEWORK

Doctoral learning communities or cohorts are a type of affinity group, as they are established based on shared experiences. Through these shared experiences, doctoral students come to see themselves as part of the group (Gee, 2001). In light of this affinity group formation, identity research has the potential to further our understanding of how teacher education doctoral programs enable students to develop their beginning scholar identities (Mantai, 2017). Additionally, a sociocultural perspective enables us to explore these identity formations by examining the culture created in doctoral learning communities or cohorts and how the various cultures produce meanings of 'beginning scholar,' allowing certain students to be identified as

'beginning scholars' while limiting the ability of other students to take up this identity (Carlone et al., 2011; Sun & Trent, 2022). Thus, a question arose: What structures and practices enable or constrain identity development in teacher education doctoral students?

PURPOSE

This study intended to better understand the development of beginning scholar affinity identity by examining how the normative practices and social culture afforded or constrained cohort formation in a Teacher Education and Development (TED) doctoral program. In light of our theoretical framework, we defined identity as the "kind of person one is recognized as being, at a given time and place" (Gee, 2001, p. 99). Thus, the beginning TED scholar affinity identity was defined as the promoted ways of being an effective beginning scholar. We labelled normative practices as the structures and practices TED students were held accountable to perform by the institution, professors, and peers (Carlone et al., 2011; Cobb et al., 2009). By better understanding these normative practices, we can begin to understand how participants' transitions from students to scholars were sustained, encouraged, or thwarted.

METHODOLOGY

The study environment was a TED doctoral program housed within the College of Education, a public university in the southeastern United States. Specifically, TED cohorts from 2008 to 2012 were included in our study. Cohort year was based upon students' entrance year into the TED doctoral program as all entering doctoral students were required to take the same initial course as the first course in the TED doctoral program.

Participants

All doctoral students (N=43) in the TED program from years 2008 to 2012 were invited to participate in this study. An initial email was sent relating the purpose of the study with an invitation to complete the survey. Of the 43 doctoral students, 16 agreed to participate, and IRB consent forms were collected for each participant. All 16 participants completed the survey, and a purposeful sample (n=6) was selected to complete a follow-up interview. Of the 16 participants, six entered the TED program in 2011. The remaining ten participants represented the following program entry years: 2008 (2); 2009 (2); 2010 (4); and 2012 (2). Only three males completed the survey, which reflects the overall combination of the doctoral students with only 18.75% being male. All the participants in the study were equally supported with scholarships, assistantships, loans, and personal funds and representative ethnicities were either Caucasian or African American.

Research Design

In our efforts to understand beginning TED scholars' affinity identity formations, we employed a mixed methods design typology, as it was most conducive to answering the research questions at hand (Johnson & Onwuegbuzie, 2004). Our mixed methods sequential explanatory design consisted of a distinct quantitative phase followed by a qualitative phase (Creswell & Plano Clark, 2011; Figure 1).

FIGURE 1
MIXED METHODS STUDY DESIGN

Process	Procedures	Products
Phase I Data Collection	• *Qualtrics* survey (n =16) • Open-ended & closed-ended responses	• Numeric data • Pattern data (normative practices & demographic data)
Phase I Data Analysis	• SPSS: means; SD's; Chi Square; t-tests • Excel: coding and frequency counts of responses	• Descriptive statistics of demographic data • Affinity identity measures • Emergent themes • Frequency counts for emergent themes
Interview Protocol	• Developed specific interview questions based on survey responses • Developed card sort activity based on emergent themes from survey	• Interview protocol (Carlone, 2012) • Purposeful sample based on information from Phase I (n=6 students
Phase II Data Collection	• Individual semi-structured interviews (N=6) with card sort activity and follow-up questions	• Audio data • Text data and frequency counts • Card sort pattern data
Phase II Data Analysis	• Coding and thematic analysis in Excel • Frequency counts and analysis in Excel	• Codes and themes • Sorting of normative practices using graphs and frequency counts
Integration of Phase I & II	• Interpretation and explanation of the quantitative and qualitative results	• Discussion • Implications and Limitations • Future research

Due to the integrative nature of the mixed methods approach, we proposed a central research question:

> How can the understandings that emerge from the quantitative and qualitative data be used to produce a deeper understanding of the structures and practices that contribute to doctoral student affinity identity development?

In each phase of our sequential explanatory study, we posed additional research questions that aligned with the integrated quantitative and qualitative methods. For the Phase 1 phase, we asked:

> What are the normative practices, experiences, and perceptions of doctoral student affinity identity based on self-reported survey data?
>
> What is the relationship between doctoral student demographics and affinity identity scores on the survey?

For the Phase 2 phase, we asked:

> What structures and normative practices determine differences in students' perceptions of affinity group development?

The information from the two phases was integrated in the intermediate stage of the study. The rationale for this approach was that the initial quantitative and qualitative data would provide a general understanding of the research problem and that further qualitative data collection and analysis would elaborate on these findings by providing detailed perspectives of participants (Teddlie & Tashakkori, 2006).

Phase I Data Collection

The 16 participants completed a 20-item survey consisting of closed and open-ended questions that was administered electronically using *Qualtrics*. The first eight closed-ended items were designed to gather demographic information about the participants. The following twelve items were utilized to gather additional information about doctoral students' experiences in the TED program. Four of these were Likert-type questions and the remaining six open-ended items were established to allow elaboration of the qualities and characteristics of the Likert items. The Likert-type items ranged from 1 (not important; not connected; not great) to 5 (very important; really connected; great). Some of the questions presented in the open-ended items included doctoral students' descriptions of qualities, characteristics, activities and events that led to cohort development and their descriptions of their connectedness to a potential cohort.

Phase I Data Analysis

An initial overview of survey data indicated that the 2011 students (n=6) responded positively in regard to their affiliation with a cohort as opposed to students from years 2008, 2009, 2010, and 2012 (n=10). Given these initial results, we grouped the participants into Cohort 2011 or Cohort Other (students not in the 2011 cohort). A chi square analysis was run using SPSS software to determine if there was a significant difference between groups of a perceived existence of cohorts in TED. Additional chi square analyses were also run to determine if there was a significant difference between the 2011 cohort and other cohorts with regard to ethnicity, age, gender, years of teaching experience, monetary support, program of study, and compatibility with their advisor's worldview. Additionally, responses to the four Likert scale items were examined using independent t-tests to compare mean differences between the 2011 cohort and the other group. Statistical tests were conducted using SPSS.

The remaining open-ended survey questions were also analyzed for patterns in the responses, further supporting the distinction between the two groups. Members of the research team read through the open-ended portion of the survey and compiled an exhaustive list of the participants' responses. This list was further pared down to the final 31 items by collapsing similar terms to eliminate repetition in the list. Finally, this list was linked back to the findings from the literature to be sure that we had appropriately represented the necessary structures and practices that were consistent with the current literature. These 31 items

contributed to developing a card sort activity for the Phase 2 interview that examined the structures and practices of cohort development.

Phase II Data Collection

For the phase II strand, individual interviews provided thick, rich descriptions and data triangulation for the quantitative results. A purposeful sample of six participants was selected for the interview phase of the study. Three interviewees were selected from the 2011 cohort, and three were chosen from the remaining other cohort group. The second criterion for selection was years of teaching experience. The ranges for years of teaching experience were designated as 0-5 years, 6-10 years or 11-plus years. One participant was chosen from each cohort grouping and each experience range (Table 1).

TABLE 1
INTERVIEW PARTICIPANT SELECTION CRITERIA

Cohort Year	**Years of Experience**		
	0-5 years	6-10 years	11-plus years
2011	Ann	Barbara	Cindy
Other years	Debbie	Emma	Frances

Note: Names are pseudonyms

The individual interviews took on average 30-45 minutes to complete. Interviews were audio-recorded, and notes and tally sheets were also utilized to record data. In the first phase of the interview, participants were asked to provide their definition of a cohort. Participants were asked if they believed that cohorts existed in TED and if they personally belonged to one. If participants were unable to provide their own definition of a cohort, the following statement was read: *For the purposes of this interview, we are defining a cohort as a group of students that you affiliate or identify with in TED. You could also consider these peer groups or learning communities*.

Following these initial questions, a card sort activity was initiated consisting of three separate tasks (Carlone, 2012). Cards were created for each item using in vivo coding to ensure the participants' perspectives were maintained, and *yes*, *no*, and *maybe* cards were created for sorting purposes. The first task consisted of students reading the statement on the card and deciding whether or not this was a practice they were expected to do regularly to help the development of their cohort. Participants were directed to place the card in the *yes*, *no*, or *maybe* pile and then explain their decision. This was done for all thirty-one cards. Responses were tallied for each card. In the second task, participants were asked to choose three cards from the *yes* pile that represented the most important activities that led to the formation of their cohort. Participants were asked to elaborate on their choices. In the third task, participants were asked to imagine they were trying to build a cohort. Out of the entire pile of cards, they were directed to choose three cards that would be the most important activities for them in building a potential cohort and to explain each choice. Following the card sort activity, participants were asked eight additional probing questions to elaborate on specific details about their experiences in their program.

Phase II Data Analysis

The first round of data analysis involved transforming the six participants' responses to the card sort questions into frequency counts and analyzing these for possible patterns. Then as a collective group, we coded the 31 card sort items for possible themes, and four major themes emerged (institutional, collaborative, social, and professional) as we considered what influenced or led to the cohort development. Having agreed upon the four major themes, we began to sort the 31 items into the four major themes. Once we had individually coded the items, we discussed our codings, and when a disagreement arose in regard

to item placement, we revisited our definitions for each major theme. Each opposing viewpoint was heard and perspectives voiced until we agreed on the category. "Emails" was the only item we concluded could be placed in all four categories, so we did not force it into one of the categories. Once we had the remaining 30 items sorted into the themes, we presented them to the six people we interviewed to verify that they agreed with the groupings for member checking. Next, we created graphs based on the frequency counts and the themes.

Though the initial analysis indicated trends between the 2011 participant responses, which supports their self-reported cohort status, there were still differences among the three 2011 participants. Similarly, there were also differences between the three participants from the other group. Therefore, in order to capture these differences between and amongst these groups, the second round of analysis involved creating six profiles from the six participants we interviewed. These profiles were based on an analysis of the responses and articulations of each of our participants to better understand the contexts from which these divergences occur.

In particular, contextual background information about race, gender, program entry year, program concentration and source of monetary funding were included. Subsequent tools to further present an enhanced and lucid characterization of our participants included an analysis of their statements on three essential attributes of a successful educational scholar; opinions on their stage of the transition process in their programs and three words to self-describe this phase.

Also included and analyzed were our participants' notions of cohort existence and participation in TED, followed by their personal definitions of a cohort. These were then used to interpret our participants' three responses on practices and structures that were essential to the development of their cohort and also to the development of a hypothetical one. Finally, each participant was classified according to our predetermined themes of social, collaborative, institutional or professional.

Verification Procedures and Validity

In the qualitative components, verification procedures included triangulation, member checking, and peer debriefing. Triangulation of the data collection was achieved through individual interviews and through the use of different groupings in the survey that allowed data to be compared. Emerging themes from the surveys were agreed upon by all researchers and served as the basis for organizing interview responses. These themes were connected to the literature reviewed for alignment with best practices and confirmation of our findings. Member checking occurred when survey participants were asked to review the qualitative results to verify accurate wording and interpretation. Peer debriefing was used as a means for final review of the research project, and drew upon professional researchers in the School of Education for insight and review.

In the quantitative components of the study, peer review was employed for the purpose of improving the content validity of a survey instrument. The team constructed the survey and reviewed by outside experts to increase validity, namely that a survey would measure each participant's views and experiences of affinity identity. An outside expert also reviewed statistical interpretations as an additional form of validation.

With the combining of inferences from the qualitative and quantitative parts of the study, it was also important to employ several legitimation procedures to integrate our mixed methods interpretation of the data. This study utilized several legitimation types based on Onwuegbuzie and Johnson's (2006) typologies. Sample integration occurred because the qualitative data was collected from participants in the interviews drawn from those who participated in phase I of the study (survey). Inside-outside legitimation took place in the construction of the survey and in its data interpretation. Two of the four members of the research team were members of the 2011 cohort, while the two were outside the teacher education field. This balance provided both outside views and inside views to be used in constructing more accurate interpretation of the data. Weakness minimization grew out of the use of both qualitative and quantitative data, where the strengths of the other approach compensated for the weakness of one approach. By transforming the qualitative data and constructing emergent themes, conversion legitimation was presented in graphs that visually presented the actual counts of responses that supported the emerging themes. Finally, careful

attention to validity concerns in the qualitative and quantitative components and the legitimation issues in a mixed method study contributes to multiple validities legitimation.

FINDINGS

Due to the mixed method integration occurring in the data collection and analysis, our findings are also integrated. Thus, our findings are presented by the study phase and the research question addressed. After answering our three initial research questions, we return to our central question and discuss how our findings from phase I and phase II informed our findings for the central research question.

Phase I - Research Question 1: What Are the Practices, Experiences, and Perceptions of Doctoral Student Affinity Identity Based on Self-Reported Survey Data?

A comprehensive list of 31 items was developed from the responses obtained from participants in the open-ended portion of the Phase I survey. This list comprised the practices, experiences, and perceptions that TED doctoral students believed necessary or important for the development of a cohort. All were incorporated into the card sort activity to get a holistic view of cohort development and potential camaraderie. The obtained list reveals a broad conception of the practices, experiences, and perceptions of doctoral student affinity identity development among the participants. To further understand how these intersected with the existing literature on identity development, cohorts, and belonging, we sorted the individual responses into the four broad themes that emerged in the literature (Table 2): Institutional, Collaboration, Social, and Professional.

TABLE 2
CARD SORT ITEMS GROUPED BY 4 MAJOR THEMES

Major Theme	Card Sort Item
Institutional	TED 749 – Introduction to Doctoral Studies
	Taking same classes
	Entering program in same year
	Content concentration area
	Full-time status
	Buddy system for incoming students
Collaboration	Reviewing each other's work/Feedback
	Collaboration
	Encouragement
	Study groups
	Common assignments
	Group work
	Writing groups
	Developing research projects together
Social	Social activities on campus
	Chatting before and/or after class
	Getting together for meals
	Social activities off campus
	Private Blog Page
	Orientation for incoming students prior to 749

Major Theme	Card Sort Item
Professional	Learning opportunities
	Summer research
	Conferences
	Discussion groups
	Workshops
	Lectures
	Brown bag sessions with visiting lecturers
	Acculturation by professors
	Mentoring
	Job talks

The subsequent card sort activity conducted in Phase II allowed for a deeper understanding of practices that participants most valued in cohort development. These individual profiles are reviewed in more detail with regard to individual participants responses in the Phase II findings.

Phase I – Research Question 2: What Is the Relationship Between Doctoral Student Demographics and Affinity Identity Scores on the Survey?

As alluded to in the Phase I analysis section, the Chi Square results for "Do you think there are cohorts in TED?" revealed that the 2011 participants were significantly different ($p < 0.05$) in their response to this question than the other participants (Table 3). Hence, the 2011 group more readily identified with the idea of cohorts being part of the TED doctoral experience.

TABLE 3
CROSSTABULATION OF PROGRAM YEAR AND PRESENCE OF COHORTS IN TED

Program Year	Presence of Cohorts in TED				
	Yes	No	Maybe	$\chi 2$	p
2011	6	0	0	7.467	0.024*
Other	3	2	5		

Note. *=Significant at 0.05 level

The 2011 group all responded with definite requirements for a TED cohort, and they stated that entering the program in the same year was a requirement. The other participants were less clear in their explanation of what constituted a TED cohort (Table 1).

TABLE 4
OPEN-ENDED RESPONSES TO "DO YOU THINK THERE ARE COHORTS IN TED?"

Group	Responses
2011	Year and content areas. The first class you take together. Informally; first by start date, then by shared classes, then shared academic interests. Yes, the people who enter the program during the same year. A connected group of students (who entered at the same time) and are progressing through the program simultaneously. 2011 TED 749 group.
Other	It seems like the students that come in during the same semester and are full-time are part of a cohort. I have never heard this word applied to doctoral students in TED until the past summer. I was never told that I was in a cohort. Since this survey is being conducted, I would have to assume that cohorts exist in TED. I don't think we are technically defined as a cohort, but there is a group of us that came in together. I've heard the group that started in Fall 2011 is a cohort. Informal & dynamic -- core seems to be full time students, who start at the same time, but with a loose conglomeration of others who often are part of the same classes. Not necessarily defined as cohorts, but groups of students who start together tend to form groups for support, socialization, learning opportunities, etc. There are no cohorts "technically" because everyone moves through an individualized program at his/her own pace. However, there are students in the same year of the program who advance through the majority of the program Together. Depends on what you mean by "cohorts".I assume they are defined as a group of students admitted to a program for the same term/year, take classes together, take the same number of classes together (or close), and graduate together (or at least with a limit range of experiences outside of the full cohort). Not really sure how they are formed.

Five out of ten participants indicated that they did not believe there were official cohorts in TED, as opposed to only one out of six of the 2011 group stating the cohorts were unofficial. One of the other participants stated that they had "heard the 2011 group was a cohort." The 2011 group was also extremely consistent in their response to qualities and characteristics that are important for a cohort, with all six

participants indicating support from each other and three out of six stating encouragement. The other participants were more varied in their responses (Table 5).

TABLE 5
OPEN-ENDED RESPONSES TO "WHAT GROUP QUALITIES OR CHARACTERISTICS DO YOU FEEL ARE IMPORTANT IN A COHORT?"

Group	Responses
2011	Supportive and encouraging people.
	Support, trust, encouragement.
	Affirmation, encouragement, familiarity, helping each other with studies. Supportive.
	Collegiality, support, friendship, a shared professionalism and purpose for academia.
	Support of each others' endeavors.
Other	As I have never been informed that I was part of a particular cohort, I do not know the TED definition of cohort. Therefore, I do not know what qualities or characteristics are important in such a cohort.
	Being supportive; providing friendly critical feedback on writing; help with navigating the program.
	Collaboration, trust, engaging learning experiences.
	Noncompetitive, helpful, knowledgeable, organized events, regular communication.
	Support, sharing resources, "critical friends" to review work.
	Supportive, inclusive, collaborative.
	Encouragement, Support, Intelligence, Motivation, Cleverness.
	Trust, consistency, feedback, reliability.

These initial observations led us to question if the demographics of the 2011 group were somehow different from the other years. Still, the additional Chi Square analysis did not find any significant differences in ethnicity, age, gender, years of teaching experience, monetary support, or program of study. There was a significance difference between their and their advisor's worldviews (Table 6); however, the differences in responses to this question reflect typical doctoral student responses found in previous literature (Hall & Burns, 2009; Labaree, 2003), so this difference was not treated as a substantial cause of the 2011 participants' stronger response to there being cohorts in the TED doctoral program.

TABLE 6
CROSSTABULATION OF PROGRAM YEAR AND WORLDVIEW OF ADVISOR

Program Year	Worldview of Advisor				
	Yes	No	Maybe	$\chi 2$	p
2011	0	2	4	9.363	0.009*
Other	3	7	0		

Note. *=Significant at 0.05 level

The differences between the groups' view of cohorts were greater exemplified by their scores on the Likert scale question concerning the importance of cohorts. The 2011 group was significantly different ($p < 0.05$) in their affirmative response to this question, which further indicated that their perceptions of cohorts were somehow different than that of their peers from other years (Table 7).

TABLE 7
IMPORTANCE OF COHORT MEANS FOR 2011 GROUP AND OTHER GROUP

	Group			
	2011	Other	*t*	df
Importance of Cohort	4.6667 (0.81650)	2.6000 (1.17379)	3.775*	14

Note. *=p<0.05. Standard Deviations appear in parentheses below means

The 2011 group was also significantly different ($p < 0.05$) from the other years in how connected they felt to their cohort (Table 8).

TABLE 8
CONNECTEDNESS IN 2011 AND OTHER GROUPS

	Group			
	2011	Other	*t*	df
Connectedness to Cohort	4.1667 (0.75277)	2.5000 (1.58114)	2.399*	14
Connectedness to Other TED Doctoral Students	3.3333 (1.03280)	2.5000 (0.84984)	1.755	14

Note. *=p<0.05. Standard Deviations appear in parentheses below means.

This again confirmed the 2011 cohort distinction because it would follow that the 2011 group felt more connected to their cohort since they more strongly indicated that there were cohorts in TED. The 2011 group was also more aligned in their open-ended responses concerning what created the connectedness among their cohort (Table 9), which consisted of professional activities, social gatherings, and common classes that offered collaboration opportunities.

TABLE 9
OPEN-ENDED RESPONSES TO "PLEASE LIST ACTIVITIES, CLASSES, EVENTS, AND/OR OTHER THINGS THAT HAVE LED TO YOUR CONNECTEDNESS TO YOUR COHORT"

Group	Responses
2011	Events outside of class, TED 749 when we all had the same class.
	Classes, meals, study groups, common assignments and experiences.
	Classes (esp those required in first year), group projects, dinners, socials.
	Social functions
	Social events (on/off campus), workshops, lectures, brown bag sessions with visiting lecturers, TED 749, acculturation by professors, collaboration on projects (outside my specific field), study groups
	TED 749, social gatherings, conventions/presentations.
Other	Classes in general; summer research project.
	Activities that bring full and part-time students together.
	I can't answer this question if I don't feel like I am a member of a cohort.
	Common classes, Collaborative projects/papers, writing groups.
	4-5 informal social gatherings, chatting before and after classes.
	Emails, after class happy hours, group projects (especially when we get to work with people on multiple projects in different classes), group emails around common topics like registration.
	Classes, social get togethers, projects/research with other cohort members, attending conferences.
	Sharing the experience of being doctoral students together, discussing difficult and controversial topics.
	Taking classes together.

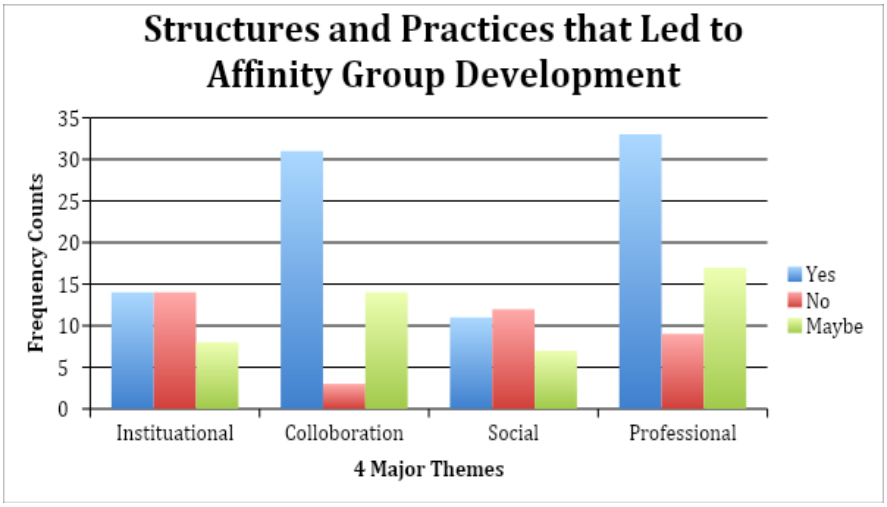
These significant results coupled with the open-ended responses suggested to us that the 2011 group classified themselves as a cohort; thus, these emerging observations led to the participant selection in Phase II of our project and informed the development of the interview questions.

Phase II Research Question: What Structures and Practices Determine Differences and Similarities Between Students' Perceptions of Cohort Development?

The four major themes (institutional, collaborative, social, and professional) that emerged during the Phase II data analysis were determined based upon our review of previous literature as well as what aspects

seemed to constitute the participants' responses. As shown in Figure 2, collaborative and professional themes had the greatest number of *yes* responses, indicating that these structures and practices were more likely to lead to cohort development. Our participants further corroborated these two themes in their sharing of definitional attributes they consider integral to cohort formation. These definitions are further expanded upon below in our discussion of the profiles of our participants.

FIGURE 2
GRAPH DEPICTING PARTICIPANTS' RESPONSES SORTED BY THE FOUR THEMES



In further analyzing the data, the 2011 group again, more consistently had the same types of responses to the card sort questions. In addition, the 2011 participants (Ann, Barbara, and Cindy) answered the first and second card sort tasks similarly, while the other three (Debbie, Emma, and Frances) varied. By declaring they were involved in the official 2011 cohort, *Young Education Scholars* (YES), the three 2011 participants referenced the same group of students when answering the questions regarding what practices led to the development of their cohort. In contrast, only one participant (Debbie) in the other group identified herself as being part of an unofficial cohort (science education). Yet, there were times when Debbie switched between her unofficial cohort and a possible cohort when answering the questions. The other two participants (Emma and Frances) responded that they were not part of a cohort, so they answered the questions by indicating what they believed could lead to the development of a cohort. However, each of the six participants also had distinct experiences in the TED program, which provided nuanced views of cohorts. Due to this, we developed six profiles for our participants to allow their perspectives to shed light on these similarities and differences.

2011 Cohort Participant Profiles

Ann - Professional

Ann was a Caucasian female and a member of the 2011 cohort. She claimed 11-plus years of teaching experience in elementary education and her program of study in the doctoral program was ESL (English as a Second Language). Ann, a full-time student, obtained a teaching and research assistantship through the University as monetary support for her doctoral studies.

In responding to what she believed were the three most important attributes of a successful educational scholar, Ann stated, "*tenacity - to continue to work in a situation where there is constant change, constant reform; passion - caring deeply about what you are doing; and collaboration - being able to work with others*." As a transitioning scholar, Ann still had to contend with the challenges and successes inherent in the experiences of doctoral students (Labaree, 2003) and consequently self-described as "*exhausted, tenacious, and excited*."

In articulating on cohort experiences in the TED program, Ann acknowledged the "*few and far between*" presence of cohorts and of belonging to "*a great group of doc students that entered last fall*." Although they had varied interests, Ann described her cohort as "*bonded, and we make a point to keep up with each other, even if it is once a month or once every couple of months. We are interested in publications or activities that one another does, even if it is not in our particular field*."

As such, Ann defined a cohort as "*a related group of people, in this case, students who have a common academic interest, have a relationship of collegiality or a common relationship that lends support to their academic activities or pursuit*." This definition formed the basis of the choices she made on the card sort activity. In total, fourteen cards were selected as 'yes' with the rationale that these were "*practices that were expected to be engaged in regularly that helped in the development of a cohort*." The remaining cards of eleven 'maybe's' and five 'no's' were justified as "*helps - but not necessarily required*" in the development of her cohort.

Ann identified the most important activities that led to the formation of her cohort as acculturation by professors, taking TED 749 and encouragement. Acculturation by professors was selected because "*certain professors in the journey so far have treated myself as well as my cohort mate as colleagues rather than students. Bringing us into the fold at this level, made us feel like a unique group of students – that treatment of our group collectively with one another made us feel part of something that helped create an identity as a cohort*." Ann described the camaraderie in the TED 749 class as *"your first group of colleagues in academia to rely on and be there for another*." Finally, Ann explained that encouragement "*is huge - encapsulates the mentoring, collaboration, getting together- an umbrella for other factors."* Her most ideal cohort activities included: entering the program the same year; encouragement, and mentoring *(*"f*rom professors as well as classmates")*.

As one of our three 2011 cohort designees, Ann strongly identified with her 2011 cohort. Ann's seven 'yes' responses to the professional theme items in the card sort and resulting responses in the interview indicated that she personally aligned with the items designated in the professional theme.

Barbara - Professional, Collaborative

Barbara was a Caucasian female with 11-plus years of teaching experience in elementary education. A member of the 2011 cohort, she was a full-time student with her doctoral program of study in Science Education, and she is funded through her position as an elementary professional development for schools (PDS) team leader.

In response to the interview question, Barbara described perseverance, social skills, and support as the most significant attributes of an educational scholar. Her transition from an educator to an educational scholar *"was very difficult at first*." Thus, it is not surprising then that Barbara felt "*burdened with my workload, incapable of top quality work for publishing, I am not there yet - a lot of work to do;"* yet at the same time, Barbara indicated that she was *"happy - and this is like my dream job. I'm doing everything I believe in, and I can talk about it and love it.*"

Regarding the subject matter of cohort development and identity, Barbara acknowledged her belonging to a cohort, "*we call ourselves YES (Young Education Scholars) – we all took 749 together."* Although Barbara did not give a concrete definition of a cohort, she stated though that her first encounter with a cohort was in her Masters' program "*I saw these lateral transfer students, they had the same group of students that went from class to class and they called themselves a cohort."*

Barbara's responses on the card sort activity have background in the above descriptions and statements regarding cohort identity formation. In the first activity, twenty 'yes's' six no's and five 'maybe's' were tallied as final responses. As such, she selected the following as the most important activities that led to the formation of her cohort: taking TED 749, entering the program in the same year, and encouragement. The bonding that ensued allowed for opening *"ourselves up to that, we wanted to look at each other's papers. We were willing to encourage each other. We did not have that competitive spirit."*

For structures and practices to form an ideal cohort, even though *"everything is so important,"* Barbara selected acculturation by professor given her current experiences of working with a PD team of *"undergraduate teachers that is been built into a tried, positive and supportive group that has a lot to do*

with the professor that is with them most of the time." Also, encouragement *"is super important, not only that the professor encourage the students but also that the students are taught to encourage each other."* Her final choice, Orientation for incoming students prior to 749, was, "*a real strong orientation with that intent in mind. If you really wanted to have a cohort, you have to establish it from the very beginning."*

It can then be surmised that Barbara, as one of our three designated cohort members, felt a strong affinity with her cohort group. An analysis of her interview together with the twenty 'yes' responses in the card sort activity indicated a personal inclination of straddling the items as defined in our professional and collaborative themes.

Cindy - Collaborative

Cindy identified herself as a Caucasian female with 6-10 years of teaching experience in the elementary education setting. A member of the 2011 cohort, she was a part-time student and her doctoral program of study was in math education, which Cindy reported to be monetarily self-funded.

Cindy articulated that perseverance, hard work and reflection were the most important attributes in her journey as an educational scholar. She was transitioning *"to see things from a researcher's point of view rather than a teacher in the classroom or a leader in the district."* With all the challenges and limitations therein, Cindy currently self-described as "*stressed, ready to see the end, ready to be done; feeling smarter."*

In her discussions on cohort identity formation, Cindy's "*yes. I think ours is one -TED 2011. We started that original class together and we had similar goals of working with teachers in education, and we have had similar tracks"* confirmed her participation in and the nature of her cohort group.

A cohort then, according to Cindy *"is a group of people that support one another, go through the program with one another, and help one another; collaboration, and that you have similar goals."* In the first phase of the card sort activity, the twenty-nine 'yes' cards were selected based on the reflection of the definition of a cohort above and the realities of "*how these contributed to the development of the cohort"* that she claimed adherence to.

Cindy identified common assignments, taking TED 749, and encouragement as the most important activities that led to the enduring 2011 TED cohort. These were significant activities given the level of cooperation and a sense of security they induced. Common assignments *"bind you together through the stress."* Taking TED 749 "*gave us a commonality. We would not have known each other if we have been taking lots of different classes. Even the contents of the course were so foreign and new for everyone. To me you are all starting off at the same place."* Finally, encouragement "*is one of the biggest things of all - having somebody's support, from each other and including from the professors. I think many of us would have dropped out early if we had not had that encouragement."*

Given her positive experiences, Cindy identified integral practices for establishing a cohort as entering the program in the same year*;* this was because *"you have to have something in common."* Also critical was collaboration and encouragement, "*which keeps you going in the program so you don't give up."*

Cindy was amongst our three 2011 cohort designees. Her articulations on this group's structures and practices indicated a strong supportive network that she strongly identified with. Furthermore, the twenty nine 'yes' response in the card sort activity and an analysis of her interview signified a personal aligning with the items designated in the collaborative theme.

Other Participant Profiles

Debbie – Collaborative

Debbie was a white Caucasian female with 6-10 years of teaching experience in both middle and high schools. She entered the science education doctoral program of study in 2008 as a part-time student and was funded through an employment tuition waiver.

Debbie's *"frustration dealing with being a part time student" was core to understanding* her experiences in the TED program. Debbie described fundamental aspects of an education scholar to include: *"a strong foundation in philosophy*." Also it was important to have "*time to just to sit down and clear your*

mind so you can engage in scholarly thinking, if I were to do it all over again I'd win the lottery and try not to work and go to graduate school at the same time to give me adequate time to read in depth."

She remained unsure when transitioning to an educational scholar from an educator and "*wonders if it has happened. I have not had time to gain an in depth study of philosophy, clear my mind to think about things deeply instead of superficially"* Hence, she described her current academic frame of mind as *"struggling: tired - cause I am trying to juggle"* but at the same time *"hopeful that I will be able to get a balance and get it done."*

Debbie contended that cohorts were *"unofficial"* in TED and that *"officially no,"* she was not part of a cohort, but *"unofficially - yes with people that share my research interest; the science education doctoral student cohort. I have never especially identified with the group of graduate students who started 749 with me."* Her definition of "*a cohort is a group of people who come together to work for a common cause"* helped her unpack the practices that have led to the development of her unofficial science cohort, which included eleven practices as 'yes's' in the card sort.

As evidenced previously, Debbie's subsequent responses and rationale were situated within the context of her part-time student status. Thus, selections included "*collaboration - I am a part time student that travels from a rather far distance, so the collaboration makes me feel a part of UNCG and TED."* Also *"content area concentration - I have to identify more with science education because we have more commonality of knowledge."* Finally, *"summer research - this is when I have the most interaction with my peers."* Likewise for her ideal cohort activities, she identified *"mentoring- I would ask for advice or help without feeling like you are impinging upon their* [professor] *heavy schedule; summer research; encouragement – there is a lot of work, people need to be scaffolded and provided pep talks."*

Even as a part time student, Debbie still had strong connections with her unofficial cohort. However, her perceptions on its structures and practices were not as definite as those expressed by our cohort designees. Debbie also personally identified with our professional themes given her 'yes' responses in the card sort and corresponding interview analysis.

Emma - Professional, Collaborative

Emma, a Caucasian female with 6-10 years of teaching experience in elementary education, entered the literacy education doctoral program of study in 2012 as a full-time student and was funded through a scholarship. For Emma, persistence, self-reflection, patience and flexibility were essential attributes in progression towards being an education scholar. She furthered that *"I am just developing this identity. Even once I hopefully become a professor there is no endpoint – no stagnant thing. You are always going to be changing and developing - that is why self-reflection is important."* In this current state of transition, Emma self-described as *"contradictory; apprehensive, nervous about what the future holds, also excited what the future could hold - hopeful*."

On reflecting on the subject of cohorts in TED, Emma was of the opinion that *"there probably are, but I just don't really know much about them."* She assumed that she was *"probably not"* part of a cohort; because "*in my mind a cohort is much more organized than just simply being accepted and being in class with the same people, but I don't necessarily feel that we are a cohort unless there is some group goal or guidance."*

Accordingly, Emma defined a cohort as a "*group of students that enter a program at the same time; have similar interests; will probably all graduate at the same time. They are led by an advisor of sorts, may have meetings and projects that they work on together, and are a kind of support group for each other."* This definition forms the background to the responses in the card sort activity. Thirteen of the activities were deemed integral activities for cohort formation.

The three most important primary activities for cohort development according to Emma included: acculturation by professor, *"having somebody actually tell you that you are in a cohort;"* reviewing each other's work/feedback as "*my idea of what a cohort is you are working together to achieve certain goals and using the expertise of everybody in your group, bouncing ideas off each other, helping each other grow and learn typically in an academic setting or in an academic group,"* and collaboration "*working on projects and assignments together, possibly to get publication, or on projects designated by professor."* In

selecting the most ideal activities conducive to form a cohort, she identified acculturation, taking the same classes and collaboration.

Emma was not part of an official cohort. Thus, given the absence of such prior experience, her positing on the essential practices and structures for a cohort group can be categorized as possibilities rather than the specifics as offered by our cohort designees. Also, an analysis of the interview conducted with Emma and her selections and statements from the card sort activity indicated above, classified Emma from the vantage point of our four major themes, as straddling that of professional and collaborative.

Frances – Professional

Frances was a Caucasian female who claims 11-plus years of teaching experience at the high school level. She entered the social studies education doctoral program of study in 2010 as a full-time student. She was financially supported through savings, gifts and various graduate assistantships.

From Frances' perspective, "*deep content knowledge; writing ability- produce things that are publishable, and an innate desire to improve the world"* are attributes of a successful educational scholar. However, in spite of the challenges encountered during the process, Frances self characterized as being "*over the hump now …..any transition I would have to had made, have already happened,"* in that the *"infrastructure has been built and now begins the phase of fine-tuning and polishing which can also be a strenuous, lengthy process."* This transition stage into a scholarly identity has further induced an academic mind frame of *"promising, motivated and thrilled."*

In discussing cohort identity, Frances defined this as "*a group of people who are likeminded or have similar purposes that serve different roles like encouragement, academic support, whether it is critiquing a paper or giving advice. So I think it is a personal and professional support systems in the context of academic learning."* Frances responses to the cards sort activity were based on her definition of a cohort as well as the expectations and manifestations of cohort practices in academia. As such a majority of the cards was determined as 'yes' or what Frances "*believe should be part of a cohort."* The two cards each designated as 'maybe' or 'no' "*are ideal but not necessary requirements for a cohort formation*."

Mutual feedback, encouragement, and acculturation by professors were identified and subsequently rationalized by Frances as the most important aspects in the process of cohort formation.

Frances acknowledged the existence of cohorts in TED and whilst "*I personally think I would have benefited from belonging to an official cohort,"* she did not feel as though she officially belonged to one. Furthermore, Frances also stated the implicit assumption that the educational attributes indicated above are shared ones with other students even within the confines of not belonging to a cohort. Therefore, the journey to an educational scholar "*is not necessarily the primary function of a cohort, I have done all of this basically without the support of other classmates - well, with my family of course*."

Frances's perceptions of the activities can be stated as conjectures of necessary practices and structures for a cohort group, because she did not consider herself a member of an official cohort. Also, her majority 'yes' responses in the card sort activity and the resulting analysis of her responses in the interview indicated her particular leanings towards the categories designated in the professional theme.

DISCUSSION AND IMPLICATIONS

In reviewing the central research question that framed this investigation, it becomes clear that the mixed methods approach provides important insights unavailable in a mono-methodical study. The qualitative and quantitative data in this research project yielded data consistent with the extant literature on the topic of the identity development among graduate students (Choi et al., 2021). Of particular interest was the similarity between participant identification of important factors in cohort construction (as exhibited in the card sort activity) and that proscribed by the literature (Myers et al., 2020; Roberts et al., 2019). Participants in the study, both in the survey and in the interviews, provided an array of structures and practices that educators could employ in facilitating cohorts and a student's affinity identity. As the responses showed, most

practices emerged from two overarching themes of collaboration and professional development, both central to doctoral student identity development (Smith, 2022; Van der Linden et al., 2018).

Given the specific population of this research, namely doctoral students in teacher education at one university, limitations exist as to how generalizable the findings are to similar doctoral students in other universities. Even more of a challenge is the applicability to other doctoral students in other academic fields and disciplines. Yet much of what was learned from participants concerning cohort development was also cited in the research literature that informed this study. Most importantly, this study was grounded in student perception and experience as it revealed those structures and practices, an approach some scholars found lacking in the literature on socialization in graduate education (Golde, 1998).

The study is also limited in its ability to tie the structures and practices that contribute to doctoral student identity development to actual persistence to degree and success in a program, though all participants in this particular study did complete their degree. More research that is longitudinal in design is needed to track the effects of affinity identity on those student participants. A broader examination that compares how affinity identity functions in different professional programs might also add to the field of knowledge.

CONCLUSION

Utilizing a mixed methods approach to investigate doctoral student affinity identity has allowed our research team to thoroughly examine the structures and practices that supported the transition from educational practitioner to educational scholar, as described by Labaree (2003). We believe that such detailed findings would not have been as easily obtained through alternative approaches; thus, our sequential explanatory mixed methods design, coupled with our highly integrated phases provided powerful information for understanding how the normative practices and social culture of affinity identity could be afforded or constrained for students in teacher education doctoral programs.

The four themes that emerged from our investigation, *professional*, *collaborative*, *institutional* and *social*, aligned significantly with themes from previous research (Curtin et al., 2016; Litalien & Guay, 2015). Our work with the TED doctoral students revealed additional emphasis on group affinity identity's professional and collaborative aspects. We strongly believe that these findings will have a meaningful impact on the support that is received and scholarly development that occurs for doctoral students as they make their successful, often challenging transition from educational practitioner to educational scholar.

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