Using Narrative Analysis in Engineering Education Research to Investigate Students' Academic Transition

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CONTEXT

This paper presents narrative analysis as an approach for the study of lived transition experiences of students from a pathway program to a Bachelor of Engineering program.

While recent research sheds some light on the transition experiences of students, a narrative approach provides students with a voice in relation to telling their own academic transition story. This provides insight into transition that cannot be captured by more traditional quantitative or even qualitative approaches.

Narrative analysis, a method developed in the social sciences, explores the stories of participants as a unique data source, and privileges keeping the stories as wholes, rather than coding and categorising aspects to develop a generalised or transferable description. It prompts us to view students' stories as having a structure from which we can also learn – in other words, narrative analysis suggests that how students tell us their stories of their engineering education is as important to our research as what they say, and what 'category' they may fit in.

PURPOSE

This paper presents narrative analysis as a useful methodology within engineering education research, in particular to study students' academic transition experiences.

APPROACH

This paper describes the narrative analysis approach (Chronological Organisation) where a story is constructed from participant's transcripts with a clear beginning, middle and end.

A case study is used to illustrate the analysis approach from a current major research project on lived student transition experiences from a pathway program to an honours bachelor degree in engineering.

RESULTS

The case of Sofia's academic transition story is used to contextualise narrative analysis for engineering education research. The three results key stages are

Phase 1: Development of narrative interview protocol.
Phase 2: Narrative construction of the narrative transcript's data.
Phase 3: Narrative analysis of the constructed narrative stories.

CONCLUSIONS

Narrative analysis offers a different way of exploring and analysing the lived experiences of participants in engineering education research, particularly where there is power in the telling of individual stories and the lens they provide on particular phenomena.

KEYWORDS

Narrative Analysis, Qualitative Data Analysis, Pathway Transition Education.

Introduction

This paper presents narrative analysis as a useful qualitative methodology within engineering education research, in particular to study students' academic transition experiences. While most qualitative methodologies abstract from individual experiences to form transferable categories (for example grounded theory or phenomenography), narrative analysis keeps the focus on individual experiences and stories, and the power they have to provide different insights about phenomena.

"People shape their daily lives by stories of who they and others are and as they interpret their past in terms of these stories. Story, in the current idiom, is a portal through which a person enters the world and by which their experience of the world is interpreted and made personally meaningful. Narrative inquiry, the study of experience as a story, then, is first and foremost, a way of thinking about the experience. Narrative inquiry as a methodology entails a view of the phenomenon. To use narrative inquiry methodology is to adopt a particular view of experience as a phenomenon under study" (Connelly and Clandinin, 2006, p. 375).

Narrative analysis is a way of understanding and inquiring into participant's experience through a collaboration between the researcher and participants, over time, in a place or series of places, and in social interaction with the environment (Clandinin and Connelly, 2000). It has particular power and insight in highlighting the voices of marginalised and minority groups. In engineering education research, this would include women, LGTBIQ and indigenous people (Pawley and Phillips, 2014).

This method was used for a qualitative study of the academic transition experiences of engineering students articulating from a pathway education system to a Bachelor degree engineering program in Australia. This paper uses emplotment and narrative configuration as its primary analytic tool for Narrative analysis as compared to research using analysis of narrative. These two types of Narrative inquiry are described in this paper as explained by Polkinghorne (1995, p. 5-6).

Case Study Context – Academic Transition

In order to provide context and an explanation for how narrative analysis can be used in engineering education research, a case study from an existing study into the transition experiences of students is presented. The transition from the pathway or transition education for students, is a developmental education transition. OnHigbee, Arendale, and Lundell (2005, p9) claimed unlike remedial courses (e.g., language proficiency program), developmental courses focus on the students' strengths and build both the cognitive and affective development necessary for higher education and life.

OnHigbee, Arendale, and Lundell (2005) call for more qualitative research in their recommendations for future research on transition from development education to higher education, as an argument for this recommendation, they stated that it is possible to know quantitatively how a student is performing in a course based using quantitative measures such as assessment marks, grade point average, and other achievement markers. But Interviews, focus groups and classroom observations provide information about students' perceptions of their educational experiences that cannot be captured through the traditional quantitative measures (OnHigbee, Arendale, and Lundell, 2005, p.12).

The case study used Schlossberg's transition theory (Anderson et al, 2012) as the theoretical lens to view and give an explanation of the data collected. As claimed by Anderson et al (2012, p. 3), "A central theme in our current social context is change", we will all experience change at certain points in our development. This period of change is the transition stage. Briefly described, in any transition, there is the first stage called moving in, then stage 2, moving through and the final stage 3, moving out. When an individual moves into a new situation, whether a new job or an educational environment, he/she needs to become familiar with new rules, regulations and expectations. This is considered moving in. Once

familiarisation is established, the transition is then considered to be in the moving through stage, where the person going through the transition needs to balance the new activities with the rest of their lives. This stage may be a long transition and the learner may need help to sustain this period. Then comes, the moving out time; this is the end series and the person going through the transition may ask, what comes next?

In using Schlossberg's transition theory to explain data collected, it is equally important to choose an appropriate data collection method for this study to provide the right type of data. Narrative Inquiry methodology was selected as the most appropriate methodology with empathy to study engineering education lived experience stories where the focus is to understand the transition experience of students articulating from pathway education to Bachelor degree in engineering after completing the Associate degree in engineering in a dual-sector university in Australia.

Narrative Analysis

Creswell (2007) stated that the following key characteristics of what is a story should be included in a narrative analysis:
- A story in narrative research is a first-person oral telling or retelling of an individual
- Stories have a beginning, middle, and end
- Involve a predicament, conflict, or struggle; a protagonist or character; and a sequence with implied causality (a plot) during which the predicament is resolved in some fashion
- Like a novel, stories have time, place, plot, and scene
- Varied sources of data comprise the data base

Although narrative analysis emerged as a method in the field of qualitative research in the early 20th century (Riesman, 1993), it has its root from Dewey's (1938) philosophical view where education is life, and life is experienced. Narrative inquiry is based on Dewey's two principles of experience, interaction and continuity.

Clandini and Connelly (1990) provided the first overview of a narrative analysis investigation in education. The three factors that influenced this development were (a) an increased emphasis on teacher reflection; (b) more emphasis placed on teachers' knowledge; and (c) educators seeking to bring teachers' voices to the forefront of empowering teachers to talk about their experiences (Cortazzi, 1993, Creswell, 2012, p. 503).

There are three commonplaces of narrative analysis, namely, *temporality, sociality, and place*. Attending to an experience through an inquiry using these commonplaces simultaneously is what makes narrative analysis different from other qualitative methodologies. This allows narrative researchers to be used to study the complexity of the relational composition of people's lived experiences both inside and outside of an inquiry and, as well, to imagine the future possibilities of these lives (Connelly and Clandinin, 2006, pp. 479-480).

A number of data collection methods can be used for narrative analysis research, as the researcher and the participant work together in collaborative dialogic relationship, data can be collected in the form of field notes, journal records, interview transcripts, observations notes, letter writing, autobiographical writing, documents such as school and class plans, newsletters, and other texts, such as rules and principles, pictures, metaphors, and personal philosophies (Connelly and Clandinin, 1990, p. 5). Audio and video recordings can be added to this list, as these are also useful data in narrative research. Narrative research endeavours to provide a sense of the 'whole', this can only be done from a rich data source with a focus on the particular concrete of life events to create a powerful narrative story retelling.

Connelly and Clandinin (1990, p.3) stated "...in a discussion of the history of the uses of autobiography/biography in education, claimed that autobiography was one of the first methodologies for the study of education". There are several types of Narrative design. The

type name is a derivative of the data collection methods. Most narrative inquirers would combine more than one type to collect a rich data. Example of the types of Narrative design include biographies, life writing, personal accounts, personal narratives, narrative interviews, and auto-ethnographies.

Steps in Conducting Narrative Research

- Identify a phenomenon that address an educational problem
- Purposefully select an individual (participants) who can provide their experiences and stories of the phenomenon
- Collect stories from the individuals (participants) through personal conversations
- Review the data of the story and construct a narrative, making sure to sequence and organise the story
- Collaborate with the storyteller in all steps of the process
- Write and present the story of the individual's experiences
- Determine the accuracy and credibility of the narrative report

Narrative Coding Analysis using Polkinghorne's Narrative analysis is an approach wa(Chronological Organisation) where a story is constructed from the narrative transcript's data with a clear beginning, middle and end. Polkinghorne (1995, p. 5-6) makes a distinction between the Narrative analysis and the Analysis of Narrative. The Narrative analysis uses "narrative reasoning" by shaping data in a narrative form and doing an in-depth analysis of each narrative on its own, whereas Analysis of Narratives uses Paradigmatic reasoning and analyses themes across data that take the form of narratives. Table 1 presents the differences between the two types of Narrative coding analysis.

Table 1: Points of Difference between the two types of Narrative Coding Analysis

Analysis of Narrative	Narrative Analysis
Paradigmatic Cognition: Definition: classify an instance as belonging to a category or concept	*Narrative Cognition*: Definition: configures the different elements of a particular action into a unified whole in which each element is connected to the central purpose.
Paradigmatic Analysis: locate common themes or concepts from the stories collected as data.	*Narrative Analysis*: configure events into an explanation. It is a procedure through which the researcher organizes the data elements into a coherent development account.
PARADIGMATIC approach (Riessman,1993, p.18) cited (Labov's-1972, 1982; Labov and Waletzky, 1967; Langellier, 1989) – argument that the Paradigmatic structures approach includes 6 common elements: 1. An abstract (summary of the substance of the narrative) 2. Orientation (time, place, situation, participants); 3. Complicating action (sequence of events); 4. Evaluation (significance and meaning of the action, altitude of the narrator); 5. Resolution (what finally happened); 6. Coda (returns the perspective to the present)	Narrative configuration or POLKINGHORNE approach *-Adapted from Dollard's criteria for life histories"* (Dollard, 1935) 1. What is the Cultural context? 2. Who is the participant? Protagonist – the main character or actor? 3. Who are the significant others in the story? 4. What is story outcome (Arc, high and lows)? What is the PLOT? 5. What is the Historical continuity of characters? 6. Does the Story bounded by temporality? Chronology 7. Does the Story makes sense? Plausible and order

Narrative Analysis used in (Mauthner and Doucet, 1998):

1. Plot & story – who are the characters? Identification of critical developments and side stories.

2. Way the speaker feels about themselves. Examples: active/passive voice, where is the participant located?

3. Interpersonal relationships for the participants. How they talk about others and the organisation context

4. Macro-structures: What's happening OUTSIDE the story that impacts on the person? Broader environment and institutional context

This approach was used in the stage 1 analysis of the transcripted data for this research. In-depth discussion is given in PHASE 2 below.

Phase 1: Development of narrative interview protocol.

Participant & Data collection

Narrative analysis is mainly used to investigate a small number of participants experiences It is not useful for studies of large numbers of nameless, faceless subjects. Not suitable for investigators who seek an easy and unobstructed view of subjects' lives, the analytic detail may seem excessive to those who view language as a transparent medium (Riessman, 1993, p.69). This is the major reason why the sample size is usually small. The sample size for the major study, this paper is based upon, is twelve.

We recruited current undergraduate engineering students that graduated from the Associate Degree pathway education system and gained admission into a Bachelor degree in engineering (honours) after their first three months or more in the degree program. The participant's names were pseudonymised, as we did not have their permission to use their real names in our research. A professional transcriptionist transcribed the recoded interviews and we checked the transcripts against the recordings for accuracy. Participants were invited to review the transcripts, and for those who sent us corrections or concerns we made all the changes requested. Twelve participants were interviewed for the 12 cases in the major study. In the twelve cases, each interaction with the participant is considered a major case for the Narrative inquiry research. The next major process is design and development of data collection instrument. This is the development of the Narrative Interview Protocol or script used to collect data for the research.

Development of Narrative Interview Protocol

Interview protocol is not only a set of questions but also a procedural guide for directing a qualitative researcher through the interview process. As mentioned in *The Art of Storytelling*, Nancy Mellon (1998) states, "Because there are a natural storytelling urge and ability in all human beings, even just a little nurturing of this impulse can bring about astonishing and delightful results" (p. 174). The protocol needs to allow free storytelling. A story has a beginning, middle, and an end. It also has a time, place, plot, and scene.

Phase 2: Narrative construction of the transcript's data.

Sofia' Engineering Adventure Story

We could have selected any of the other twelve stories for this paper, the reason why Sofia's story was used, is due to the epic nature of her heroic journey. Sofia's story encompassed two continents, different cultures, different languages and different education pedagogies. Each of these differences is a transition event and epic challenges for her to overcome before she can earn the reward, the elixir, the reward of becoming a professional engineer. Here are some keys extracts from the transcript data for the interview with Sofia:

Extract 1. *"Well I will start from the beginning where I'm originally from Cyprus but my mum was born here so I've got an Australian passport, so I'm an Australian citizen and so I always wanted to come to Australia and study and once I finished high school I went to study civil engineering but the program means I didn't complete my IL program which is for English and in order to get into the bachelor I had to complete that for one year and so I applied the associate degree which gave me the opportunity to come here and start from that and then go into the bachelor degree. So I really happy that I did that"* (Sofia Engineering Adventure)

Extract 2. *"I applied from Cyprus through the University website. And yes I got a letter in Cyprus so when I got the offer and then I enrolled and I came straight away just because I got accepted for the associated degree otherwise I wouldn't be here now and yeah kept me here and I will stand by my experience associate degree. So what I realise now is that I literally learnt the same thing as I would learn in the bachelor degree but in an easier way. And so I didn't miss out on anything so I don't feel I have something that would keep me back from understand better the bachelor degree – not at all it's exactly the same things and the other thing is-"*(Sofia Engineering Adventure)

The two extracted cited above shows the uniqueness of narrative interviewing, it allows the participants to tell their story in full. It is impossible to get this kind of rich data from survey or structured interview. Sofia was very happy to follow her dream of becoming professional engineer to Australia.

Polkinghorne criteria, as described in the introduction, was used to create a setting with depth, temporal continuity, and order that easily connect the reader to the story. We then used Mauthner and Doucet's "voice-centered" method (as analytic approach for the interpretation of the transcript data. Pawley and Phillips (2014) used the following four specific reading of transcripts as proposed by Mauthner N and Doucet, A (1998):

- *Reading 1*: The researcher reads the data for the overall plot and story with attention paid to respondent's identification of critical developments, important characters, and side stories. (p. 126) –Reading for the overall plot and story for derivative of who are the characters, development of critical events and side stories.
- *Reading 2*: The researcher focuses their attention on the way the speaker feels and speaks about herself. The researcher studies how and when the speaker used the active voice, in what situations, with whom, and furthermore, when the active voice shifted to a passive one. The goal is to see "how she speaks of herself before we speak of her." (p. 128) –Reading to establish the speaker feeling through their voice usage (active/passive), to know how the speaker feel about themselves during different stage of their story.
- *Reading 3*: The investigator studies the "interpersonal relationships" in the speaker's life by identifying how the respondent spoke about the relationships within their homes and workplaces to both people and institutions. (p. 131). Reading to establish how the speaker talk about their relationships to their environment like colleague, friends, workplaces and organisation. This is about the speaker interpersonal relationship.
- *Reading 4*: The researcher codes for the macro-structures in the life of the respondent,

i.e. the disembodied social, political, and cultural forces that reify themselves in the life of the speaker through the critical developments and nature of relationships in the speaker's story. Reading to collect micro-structures information. Collection of information on what is happening outside the story that impacts on the speaker's relationships and developments.

In order to collate the required information for each reading cycle, we developed a template shown in Table 2-Stage One Voice-Centered Narrative Analysis

Table 2: Stage One Voice-Centered Narrative Analysis

CASE NAME	Column 1	Column 2	Column 3	Column 4	Column 5
Interview (Draft Format): CASE NAME-DATE Participants: **Q: Interviewer** **A: Participant**	Raw Data: Interview transcripts from recording	Plot & Story. Who are the characters?	Way the participant feels about themselves. (e.g., active/passive voice); where is the participant located?	Interpersonal relationships (participant). How the participant talk about others and workplace	Macro structures: What is happening "outside the story" that impacts on the person? - Broader environment and institutional context
C: HEADING	Column 1	Column 2	Column 3	Column 4	Column 5
Q: Interviewer Questions	(Q) Can you please give each chapter a title for me?	Plot & Story. Who are the characters?	Way the participant feels about themselves. (e.g., active/passive voice); where is the participant located?	Interpersonal relationships (participant). How the participant talk about others and workplace	Macro structures: What is happening "outside the story" that impacts on the person? - Broader environment and institutional context
A: Participant Answer	(A): A title. I would say the first one is my decision of coming here.	. Participant links the title with the Beginning of her Story. A decision to come Australia to study	She was so keen to tell the interviewer about how she make the biggest decision of her life to leave Cyprus and come to Australia to study		
R: Review - Assessment					

The Stage 1 mapping allows us to map the development of each conversation between the participant and the interviewer, this stage is not a chronology order, and it merely allows us to do a mind mapping of the reading stages. The next stage, Stage 2 Narrative analysis-Story Retelling uses the mapping from Stage 1 to perform the reconstruction

task of "Restorying and Retelling". This stage involves re-telling the participant story in a chronological order where there is a start, middle and end, the story has a time, place, plot, and scene. The result of Stage 2 for Sofia's story is presented in Phase 3 section of this paper.

Phase 3: Narrative analysis of the constructed narrative stories.

The stage 2 involves looking at each mapping row in stage 1 and categorising it as The Beginning, The Middle 1, The Middle 2, The Middle 3 and The End. Once this step is completed, the story is then reconstructed chronological sequence. This restorying provides a causal link among the events and reflect time sequence and places. Figure 1 shows Sofia's academic transition story using the described method.

Figure 1: Narrative Analysis of Sofia Academic Transition Experience

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My Engineering Adventure by Sofia

Sofia started her hero's journey in Cyprus in 2013. She has an Australian-born mother and a Greek-born father, both parents, now permanently, lived in Cyprus. Sofia's mother spoke highly about Australian education standard and encourage her to study in Australia after her secondary schooling in Cyprus. Sofia really wanted to do a Bachelor degree in Engineering but the entrance requirement said she will not be able to gain direct admission into the Bachelor degree program in Australia so she seeks a different call for her adventure. She described her adventure call as follows: "Well I will start from the beginning where I'm originally from Cyprus but my mum was born here so I've got an Australian passport, so I'm an Australian citizen and so I always wanted to come to Australia and study and once I finished high school I want to study civil engineering but the program means I didn't complete my IL program which is in English and in order to get into the bachelor I had to complete that for one year and so I applied for the associate degree which gave me the opportunity to come here and start from that and then go into the bachelor degree after. So I am really happy that I did that".

Sofia described her acceptance of her call for adventure and departure for the journey as follows: "I applied from Cyprus through the University website. And yes, I got a letter in Cyprus so when I got the offer and then I enrolled and I came straight away just because I got accepted for the associated degree otherwise I wouldn't be here now." She immediately answers the call for a hero journey, she called this My Engineering Adventure. Campbell, J (1997), said: "The Cave you fear to enter holds the treasure you seek". Sofia has chosen to follow her passion for an engineering career in Australia without knowing what challenges are ahead. She has now crossed the Threshold by leaving her ordinary world (Cyprus) and arrived at a new special world (Australia).

Sofia arrived in Australia alone. She said, "Yeah, I would say for me the biggest event was the change that I had to – I came here by myself". She was very happy to arrive in Australia, but there are challenges, trials that must be overcome. As she mentioned a change of country, culture, people and education system were all big shocks, then English as a language was one of her biggest challenges and to then find out that, she has enrolled in a course where she was one of the only two females doing the first year in 2003.

Sofia developed a coping mechanism and solution strategy for dealing with the new language-English through friendship with Australians to learn the English language quickly. As Sofia said "So I wasn't good at all in English. I couldn't understand anything – like the first day I was in class." So, "That's the thing – I started being friends with Australians mostly and I was trying and then studying and studying and then it just came natural. So I would say that's the biggest event." She has found a working solution to her first major crisis. In fact, it took her 12 months to master the language after stepping foot on Australian. The Sofia second major crisis is dealing with a new education system, she dealt with this with total dedication to her study as she said, "I wasn't doing anything at all – I was just studying so it just helped, I think, and studying in groups, maybe that helped, ". She has no social life, simply going to school and study for the first six months. Sofia was relieved that she did not go straight into the Bachelor degree when she first came to Australia. She loved the concept of doing Fluid Mechanics as a transition unit where the Associate degree and Bachelor degree students are combined to give the Associate degree students a transition experience and she was happy that all the Associate degree teachers practice student-centred teaching methodology.

Sofia biggest crisis is dealing with the gender issue. She was one of the two females starting the course in 2013. "I don't know how to explain it – it's difficult because only two girls – like everyone just focussing on those two girls and you are just trying to show that there is a line – don't cross that line-Sofia joined the attacking nature of males to fend off unwanted attention in order to focus on the main mission of her Engineering adventure. This strategy worked, she said "Everyone was willing to help as well and I was really grateful about that and I met really nice people in the associate degree and we are still friends now. We still meet up and that's all I will say".

Sofia declared at the end that the standard in Associate degree and Bachelor degree is the same, the only difference is BE has more numbers or students. She was proud that she did better that some BE students in the transition unit. This reaffirmed to her that she has studied the same foundation content as her counterpart doing Bachelor degree. This was her first reward and next reward was graduation and collecting her certificate for the Associate degree qualification. She considered this as a second reward of her Engineering Adventure to take on the return journey. The final reward is gaining an automatic admission into the Bachelor degree (honours) – Civil Engineering. Sofia enjoyed all her rewards and gained a lot of courage from overcoming all her fears and challenges. She has returned with Elixir and ready for the next hero's journey. Upon returning to the ordinary world, she got a new adventure call to do a Bachelor degree in engineering and she starts a new transition experience story. "At the moment I'm actually trying to apply for IBL so I have the criteria. I'm eligible yeah – they looked up the marks and they said okay, you're eligible for applying for the IBL". (IBL: Industry-Based Learning)

Discussion

The story presented in this paper, is one account, one reality of Sofia Engineering Adventure. This is a reconstruction of Sofia's academic transition story between the researcher and the participant. Other perspectives may exist if other forms of data are introduced or if different coding method is used. The ontological, epistemological, and methodological bases of this study are based on the philosophical assumptions of those associated with Constructivism. This perspective gives an understanding that instead of one ultimate reality existing, multiple realities are constructed by each individual based on his or her own life experiences and understandings. Due to the constructed nature of knowledge, the truth and knowledge lay in the experiences and understandings of the participants. In order to gain this knowledge, it is needed to get close to the participants and truly comprehend their own understandings. Narrative paradigm shares underlying assumptions with the constructivist paradigm, claiming that we understand ourselves and our world by way of interpretative processes that are subjective and culturally rooted. The narrative paradigm suggests that we shape our reality and interpretation of it through telling stories (Fisher, 1984).

Ethical & Quality Issues and surrounding Narrative Research

Narrative and life go together and so the principal attraction of narrative as a method is its capacity to render life experiences, both personal and social, in relevant and meaningful ways. However, potential narrative inquirers need to listen closely to their critics. Every criticism is valid to some degree and contains the seed of an important point (Creswell, 2007, p.10). The following are the ethical issues surrounding Narrative inquiry research:-
(a) Authenticity of the story; (b) Distortion of data; (c) Inability to tell the real story; (d) Unable to recall the story; (e) Fear of reprisal; (f) Potential problem of ownership; and (g) Telling the story in the participants' own voice.

Pawley and Phillips (2014) reported "Walther and colleagues have developed a typology to help improve the quality of interpretive research in engineering education. They break the analytical tasks into two primary categories of analysis inspired by a metaphor of Total Quality Management: "making the data" and "handling the data. For each of these categories of tasks, there are a variety of types of validity to consider "The quality assurance method is called Qualifying Qualitative Research Quality (Q3) typology. This research uses the Q3 typology for the quality improvement. The detail and the application of this techniques will be presented in the follow-up publication.

Conclusions

Narrative interviewing and analysis give detailed accounts of human experience as lived phenomenon. It is an effective methodology for studying lived experience. The data analysis in Narrative Analysis is a reconstruction of narratives data between the researcher and the participants as Mauthner said *"Data analysis is a critical stage in the research process for it carries the potential to decrease or amplify the volume of our respondents' voices."* *(Mauthner, N. and Doucet , 1998, p. 144)*

"The main claim for the use of narrative in educational research is that humans are storytelling organisms who, individually and socially, lead storied lives. The study of narrative, therefore, is the study of the ways humans experience the world." (Connelly and Clandinin, 1990, p. 2).

The result of narrative analysis in this study of academic transition is to inform the education policy makers and educators. The concept of research-based practice is important in the design and delivery of pathway or transition education systems. Giving a voice to the transition education graduates through engineering education research will provide a useful information to the policy makers and the educators.

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