Research Methodological Challenges and Recommendations for Conducting a Comparative Qualitative Longitudinal Study Across Two Countries on Different Continents

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Abstract
A qualitative longitudinal study has become the preferred methodology for many researchers who are interested in documenting changes as the focus of analysis. Debates on appropriate qualitative longitudinal designs and methodological models are actively ongoing. The choice of methodological models to fit into a qualitative longitudinal design will depend on the objectives of the study. Many researchers have also reported on the use of qualitative longitudinal study, in particular on the challenges in study design, data collection, and data analysis. In the researcher’s review of the relevant literature, however, the researcher was unable to locate the use of a qualitative longitudinal methodology to study the same phenomenon comparatively across two countries on different continents. This article, therefore, adds to the current understanding of qualitative longitudinal study through the discussion of methods and recommendations for conducting a comparative qualitative longitudinal study across two countries on different continents. This article discusses the research methodological challenges and recommendations, as well as lessons learned, upon completion of a doctoral study in 2016. As not many researchers have undertaken a comparative qualitative longitudinal approach in a doctoral study, it is worth sharing with researchers who are planning a similar methodology what they could expect and should be prepared for.

Keywords
qualitative longitudinal study, comparative study, methods, recommendation

Introduction
There is a growing body of literature addressing various transitions in medical education. Past studies have explored the transition of medical students from the preclinical to clinical phase (Shacklady et al., 2009), from clinical schools to foundation year or house officer training (Brennan et al., 2010; Wilkinson & Harris, 2002), from junior house officer to senior house officer or transitioning to different levels of responsibilities (Kilminster et al., 2010; Roberts, 2009), and from specialist registrars to hospital consultants (Westerman et al., 2013). Unfortunately, there is a lack of research on the transition of new medical educators (NMEs) into academia although they have a crucial role in training future doctors.

The transition into academia is a significant step for NMEs and involves learning many new skills during a critically intensive learning period (Kilminster et al., 2011). It is, therefore, essential to understand what their motivations for the transition are. In studying this transition, a particular focus was given to understanding the roles of prior learning and personal biography as well as to the supporting or hindering factors that affected the transition. Understanding further the “what,” “why,” and “how” of this transition would enable medical schools to put in place appropriate support mechanisms for NMEs.

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The initial aim was to study the NMEs’ transition in the Malaysian context. However, being in the United Kingdom (UK) for doctoral study, the researcher was able to expand the scope of the study to look into how culture might affect the transition process. This article discusses the methods and recommendations as well as lessons learned upon completion of a doctoral study in 2016.

As not many researchers have undertaken a comparative qualitative longitudinal approach as a doctoral study, it is worth sharing with researchers who are planning a similar methodology about what they could expect and should be prepared for. This article thus discusses the complexity of planning the study as a lone researcher. It also describes the challenges faced and how the sampling strategy was modified, the challenges of maintaining contact with the participants throughout the study, and the difficulty of conducting longitudinal data analysis and interpretation alone, as well as meeting the time limit for completing the doctoral study. The answers to the “what,” “why,” and “how” questions are elaborated upon in the Discussion section.

Literature Review

Doctors undergo many different stages of transition throughout their careers. The first stage of transition occurs upon entrance into a medical school. Subsequent transitions take place as students progress in their studies, typically from the preclinical phase to the clinical phase, from the clinical phase to practicing as junior doctors, from junior doctors to senior doctors, from senior doctors to qualified consultants, and from practicing as consultants to retirement.

As many medical schools employ an integrated or problem-based curriculum, the transition from the preclinical to the clinical phase can occur as early as in the first year of undergraduate study. There are also different types of transitions, for example, transitioning to a different clinical discipline (e.g., from the medical to surgical wards), to a different workplace (e.g., from tertiary hospitals to primary care centers), or to a different area of practice (e.g., from clinical practice to academia).

In the clinical setting, for example, junior doctors rotate between clinical disciplines. Each rotation is a new transition and requires new types of learning (Kilminster et al., 2010) because the junior doctor has to work in a new ward with a new set of nurses and consultants. According to Kilminster et al. (2011), the period of transition is the period where critical intensive learning takes place. As there is a lack of formal learning sessions for these doctors, the learning is likely to be mainly informal and perhaps incidental.

The interlinked and inseparable relationship between learning, practice, and performance during the transition and its dependence on the specific setting (Kilminster et al., 2011) have led researchers to study the consequences of transition in different stages in more detail.

A comprehensive review of the consequences of different transition stages in medical education was provided by Teunissen and Westerman (2011). However, out of the 73 articles reviewed, there were none on the transition of practicing clinicians to academia. The articles reviewed mainly focused on those transitions that involved a marked change in terms of responsibility and authority with respect to patient care, that is, from nonclinical to clinical training, from a medical student to a junior doctor, or from specialist trainee and specialist registrar to consultant.

Although Teunissen and Westerman (2011) provided an extensive review of how the transition could be conceptualized as an opportunity or threat to learning, they failed to identify the transition into academia as a stage of transition in medical education. The most significant conclusion regarding the transition in medical education was drawn by Kilminster et al. (2010) who concluded that doctors could never adequately prepare for their transitions. This unpreparedness was supported by Kellett et al. (2014) who found that junior doctors were especially unprepared in the areas of making diagnoses, prescribing, and acting in emergencies.

Whereas the transition of medical students to junior doctors was found to be problematic because the doctors lacked practical experience (Kellett et al., 2014), the transition into academia may also be difficult when a doctor lacks teaching experience. However, it is also possible that past learning experience as a medical student and working experience as a doctor may guide the doctor during the transition into academia.

The researcher could not find any studies that reported on how NMEs use undergraduate or postgraduate learning experience in their transition into academia. The findings from such studies could have illustrated the useful aspects of the medical curriculum and the practical application by NMEs of the curriculum content when navigating their transition into academia.

Another critical point to note is that medical students lack work experience during their transition to become junior doctors. NMEs, on the other hand, tend to have work experience already and have previously undergone multiple transitions. An interesting question then arises as to whether NMEs’ transition into academia is smoother because they have prior experience of working and navigating multiple transitions including the significant transition from being medical students to becoming junior doctors.

As learning, practice, and performance are “mutually constitutive” (Kilminster et al., 2010), the performance levels of doctors vary during transitions because many factors influence their learning and practice while in transition. In order to ensure that doctors are able to see the transition as an opportunity for learning, they need to be equipped with coping skills that can help them deal with the various transitions in medical education (Westerman et al., 2013).

It is understandable that doctors can never adequately prepare for the transition in the clinical setting because clinical settings are chaotic, emergencies can occur at any time, and patient management is continually changing due to new treatment protocols. In contrast, the settings in academia are likely to be more stable. Despite curricular changes and changing educational directives, these changes take some time to be
implemented, and, arguably, NMEs would have adequate time to respond to and prepare for these changes. Therefore, it is essential to examine whether doctors are better able to prepare for their transition into academia.

The researcher’s review of the literature on the topic also highlighted the importance of individual factors and workplace affordances. The learning process of the NMEs in the workplace could be affected by multiple individual factors previously identified in the literature, such as learning experience (MacDougall & Drummond, 2005; Oleson & Hora, 2013), teaching experience (Erlich & Shaughnessy, 2014; Ten Cate, 2007; Tso et al., 2015), teaching perspectives (Courneya et al., 2008; Taylor et al., 2007), motivation (Duvivier et al., 2009; Williams & Klamen, 2006), maturity (Shacklady et al., 2009), lack of preparation (Luthy et al., 2004), race (Case & Jawitz, 2004), and gender (Lease, 1999).

These factors are likely to support or hinder NMEs’ learning, depending on the affordances available in the workplace (Billett, 2011; Fuller & Unwin, 2004; Roshetsky et al., 2013; Sutkin et al., 2008; Waters & Wall, 2007). Returning to one’s alma mater (Duvivier et al., 2009) is also perceived to ease NMEs’ transition into academia due to familiarity with the academic institution.

The availability of social factors such as collegial interaction (Eisen, 2001) and support (Little et al., 2014; O’Keefe et al., 2009), and senior educators’ support (Cook, 2009; Duvivier et al., 2009; Heflin et al., 2009; McLeod & Steinert, 2009; O’Keefe et al., 2009) through apprenticeship, were also identified as supporting the learning of NMEs.

The conceptual framework of the study is illustrated in Figure 1.

**Method**

**Study Design, Sampling, and Recruitment**

In studying the transition of NMEs into academia, their unique lived experience, personal biography, and what they made of their workplace context (Billett, 2014) provided a rich data source for exploration. The finalizing of the study design considered several factors (Creswell, 2013) including the researcher’s own experience of being an NME.

A subjectivist epistemological stance (Lincoln et al., 2011) was chosen as it offered two advantages to the study. First, it augmented the researcher’s understanding of the language or technical terms that the participants used in their daily practice. Second, it enhanced the formulation of interview guides with regard to essential issues related to the participants.

As transition occurred over a period of time, and an in-depth understanding of the transition process was crucial, a qualitative longitudinal study was deemed the most appropriate methodology. The flexibility of a qualitative longitudinal study (Neale, 2018) made a comparative study across two continents feasible. The study was also prospective (Calman et al., 2013), and due to the geographical distance between the two countries, as well as the tempo (Neale, 2018) and time frame planned for the study, ethnography was considered impractical.

The qualitative longitudinal approach described by Saldana (2003) was adopted to document similarities and differences as well as changes in the transition experience of the participants over the study period. The qualitative longitudinal approach enabled the identification of themes that a researcher could miss if different approaches were selected. For example, the findings on participants’ learning progression and professional
identity development only emerged during the second and third interviews.

Although arguably, data on learning progression and professional identity development could have been collected retrospectively, it would have been limited to the participants’ perspectives. A prospective approach allowed the researcher to observe the learning progression and professional identity development from the researcher’s perspective too.

The present study involved interviews with the NMEs on three occasions, 6 months apart. The first and last interviews were face-to-face, while the second was a phone interview. The prolonged contact through longitudinal data collection enabled the development of good rapport and trust with the participants, which were essential elements of the study.

Cook’s (2009) study was influential in the initial recruitment strategy. The aim was to recruit and interview 18 participants from each country, with three females and three males representing the hospital, medical school, and general practice, respectively. Purposive sampling was chosen to fulfill the inclusion criteria. Only doctors who had started teaching for the past 1 year and were actively involved in teaching medical students were included in the study. The exclusion criteria were doctors who had started their teaching career more than 1 year before or were no longer actively involved in teaching medical students.

The primary recruitment strategy was through formal communication with the Deans of medical schools both in Malaysia and in the UK. The formal communication requested permission to conduct the study in their medical schools and included a list of participants who fulfilled the inclusion criteria.

The initial communication with the Deans of medical schools resulted in more than 30 participants who fulfilled the inclusion criteria in Malaysia and 9 in the UK. Potential participants were contacted via email and invited to participate in the study. The participant information statement and informed consent form were attached in each email to ensure that each participant received adequate information explaining the purpose of the study and how they could become involved. Participation in the study was voluntary, and the participants could opt to withdraw at any time.

As the study progressed, it was found that it was difficult to recruit participants in Malaysia and the UK to fit into the “discipline” grouping. A change in recruitment strategy was therefore mandatory in order to obtain more participants from each country, regardless of their medical disciplines. The new recruitment strategy was successful in Malaysia. However, it was still challenging to recruit participants in the UK due to the difference in academic roles as well as potential participants not responding to email invitations.

In Malaysia, eight participants agreed to participate via email invitation. Snowball or opportunistic (Neale, 2018) sampling during the first round of interviews resulted in the recruitment of four more participants. In the UK, three participants agreed to participate via email invitation. Snowball or opportunistic sampling during the first round of interviews resulted in the recruitment of three more participants. Another participant was recruited through a PhD colleague, while two more were recruited after attending a workshop for medical educators in the UK. The demographics of the participants recruited in Malaysia and the UK are presented in Tables 1 and 2.

**Lessons learned in study design, sampling, and recruitment.** Due to its qualitative longitudinal design, the study faced a similar challenge of participant attrition as reported by Ledger and Baker (2005). The short teaching contracts of some of the participants in the UK and a loss of interest to be further involved in the study were possible contributing factors to participant attrition. In addition, the scheduling of some interviews was changed many times by the participants due to conflicting clinical schedules. Although the planned longitudinal contact was every 6 months (0, 6, and 12 months) in a year, it took 1.5 years to complete the study.

Other longitudinal research methods such as observation of practice and learning diaries could have been employed to complement data collection. However, the pressure of timely completion and the requirement for regulatory bodies’ ethical approval from both countries contributed to the exclusion of practice observation in the study. Future research should include practice observation to enrich data collection and to validate the interview findings.

Recruiting participants for the study was the most significant challenge. The differences in job roles of doctors as they entered academia between the two countries made it difficult to compare their transition experiences. The snowballing technique or opportunistic recruitment was crucial in this kind of study to locate more participants who fulfilled the inclusion criteria. Attendance at seminars, workshops, or conferences with potential participants increased the chances of successful recruitment. Additionally, the researcher could post recruitment advertisements in mass and social media upon receiving ethical clearance from the relevant authorities.

The composition of the participants in the study may have influenced the emerging themes found. To some extent, the snowballing technique skewed the gender composition of the participants toward there being more females than males. Therefore, female-related issues dominated the emerging themes in terms of factors supporting or hindering a successful transition.

The study also found that male and female participants had different priorities. In Malaysia, not much difference was noted in the emerging themes between male and female participants. In the UK, on the other hand, the female participants were concerned about career–family balance, while the male participants were concerned about career progression. The availability of immediate family support to Malaysian female participants to care for their young families may have allowed them to achieve career–family balance. Nonetheless, a different set of emerging themes may have been revealed if the participants had been of different gender composition. Therefore, researchers interested in this type of study should be meticulous in the selection of participants.
All the participants were interviewed longitudinally (Hermanowicz, 2013) 3 times throughout the study. The first and final semi-structured interviews were conducted face-to-face, while the second semi-structured interviews were conducted via telephone where possible.

**Face-to-face interviews.** The participants were interviewed face-to-face at their workplaces. An introductory chat usually preceded the interview to establish rapport. As the interview progressed, the researcher needed to be attentive to the body language of the participants. In the face-to-face interviews, the participants did not take a long time to think of appropriate

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**Table 1. Demography of Malaysian Participants.**

| Participant | Gender | Job Title                  | Clinical Specialty | Undergraduate Training | Postgraduate Training | Teaching Experience | Teacher Training Course | English Native Speaker |
|-------------|--------|----------------------------|--------------------|------------------------|-----------------------|---------------------|-------------------------|------------------------|
| Fatimah     | Female | Clinical lecturer          | Medical based      | United Kingdom         | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Hafizah     | Female | Clinical lecturer          | Medical based      | Australia              | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Rita        | Female | Clinical lecturer          | Medical based      | Malaysia               | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Dina        | Female | Clinical lecturer          | Medical based      | Malaysia               | Malaysia              | Yes                 | Yes (before the first interview) | No                     |
| Marlene     | Female | Clinical lecturer          | Medical based      | United Kingdom         | Malaysia              | Yes                 | Yes (during postgraduate training in the United Kingdom) | No                     |
| Kamal       | Male   | Clinical lecturer          | Surgical based     | Malaysia               | Malaysia              | Yes                 | No (he was excluded after the first interview) | No                     |
| Sabrina     | Female | Clinical lecturer          | Medical based      | New Zealand            | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Hilmi       | Male   | Clinical lecturer          | Medical based      | Malaysia               | Malaysia              | Yes                 | Yes (before the first interview) | No                     |
| Farah       | Female | Clinical lecturer          | Medical based      | Malaysia               | Malaysia              | Yes                 | No                     | No                     |
| Atiqah      | Female | Clinical lecturer          | Medical based      | United Kingdom         | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Rashid      | Male   | Clinical lecturer          | Surgical based     | United Kingdom         | Malaysia              | Yes                 | Yes (after the first interview) | No                     |
| Maisarah    | Female | Clinical lecturer          | Medical based      | Malaysia               | Malaysia              | Yes                 | Yes (after the first interview) | No                     |

**Table 2. Demography of the UK Participants.**

| Participant | Gender | Job Title                  | Clinical Specialty | Undergraduate Training | Postgraduate Training | Teaching Experience | Teacher Training Course | English Native Speaker |
|-------------|--------|----------------------------|--------------------|------------------------|-----------------------|---------------------|-------------------------|------------------------|
| Najwa       | Female | Academic clinical tutor    | Medical based      | United Kingdom         | United Kingdom        | No                  | Yes                     | No                     |
| Aisha       | Female | Academic clinical lecturer | Surgical based     | South Asia             | United Kingdom        | Yes                 | Yes (during PhD training) | No                     |
| Ruby        | Female | Academic clinical lecturer | Medical based      | United Kingdom         | United Kingdom        | Yes                 | Yes                     | No                     |
| Zainab      | Female | Academic clinical tutor    | Medical based      | South Asia             | United Kingdom        | No                  | Yes                     | No                     |
| Richard     | Male   | Academic clinical fellow   | Surgical based     | United Kingdom         | United Kingdom        | Yes                 | Yes (PG qualification in med education) | Yes                    |
| Aaron       | Male   | Academic clinical fellow   | Surgical based     | United Kingdom         | United Kingdom        | Yes                 | Yes (PG qualification in med education) | Yes                    |
| Lucy        | Female | Academic clinical fellow   | Medical based      | United Kingdom         | United Kingdom        | Yes                 | None                    | Yes                    |
| Michael     | Male   | Clinical teaching fellow   | Medical based      | United Kingdom         | United Kingdom        | No                  | Yes (PG qualification in med education) | Yes                    |
| Jeremy      | Male   | Clinical teaching fellow   | Medical based      | United Kingdom         | United Kingdom        | Yes                 | Yes (PG qualification in med education) | Yes                    |
answers, unlike the answers they would have given in self-administered questionnaires (Opdenakker, 2006).

Having a good command of English is very important in face-to-face qualitative research. Some words spoken by the participants in the UK were difficult to understand because they used colloquial language. The following transcript is an example of the colloquial words used by the native English speaker:

When our medical students come here, they just “pitch up” in the clinic. They have not had any sessions beforehand. Some of them do not know which clinic they have come to, so they have not done the appropriate reading beforehand. And then, some of them “leg it” as soon as the clinic finishes or even before, because they need to be gone for lunch. So, you do not get to have many conversations at the end to...kind of put it all together.

The word “pitch up” and “leg it” are colloquial words that are not commonly encountered by the researcher who learn English formally as a second language at school. Therefore, some clarification is needed before continuing with the interview. This problem did not occur in Malaysia because the researcher could use Bahasa Melayu to verify understanding. In some ways, it would have been easier to proceed via email interviews, but the researcher would have lost the experience of a natural encounter and response to the questions. In the face-to-face interviews, last-minute cancellations of appointments also meant a waste of travel time and travel costs. These were unfortunately unavoidable because the participants were all busy clinicians.

**Telephone interviews.** The advantages of using telephone interviews in the study included savings in research costs, travel costs, and traveling time. The costs incurred for phone calls were less compared to the costs accrued for traveling to Malaysia and around the UK to conduct all the interviews.

It was also cheaper and more convenient to use a mobile phone than a fixed-line telephone in the office to conduct interviews. The portability of a mobile phone made it possible to use it in a private room where the recording mode could be used, and the speaker could be turned on without disturbing other people. For the face-to-face interviews, the researcher spent 1 day for each participant if they worked far away. It was difficult to conduct face-to-face interviews with two participants who worked far away on the same day; however, it was possible to conduct two telephone interviews on the same day.

Telephone interviews could also be conducted outside office hours as long as this was at the request of the participant. A further advantage of conducting telephone interviews was the ability to obtain a natural response from the participants. They did not take much time to think before they answered the questions.

**Lessons learned in data collection.** A nonnative English speaker might have missed some of the soft cues given by the native English speakers during the interviews. In this study, English is the researcher’s and some of the participants’ second language. Six of the nine participants in the UK were native speakers of English, while in Malaysia, none of the participants were native speakers of English. However, the nonnative speakers all had an excellent command of English, as medicine is taught using English in both countries.

Future researchers should consider interviewing the participants in their mother tongues, so that they are more comfortable in expressing their thoughts. The use of English during interviews may have restricted participants who were not native speakers in expressing themselves fully due to a lack of vocabulary. However, due to insufficient funds to hire a professional translator, the interviews were conducted in English to save time and money on translation.

Many factors affected the quality of the data gathered during the telephone interviews. Both the interviewer and participants needed to speak clearly and sometimes more slowly to ensure clarity of the questions and the answers. There was no opportunity to lip-read what the participant was saying if the words were inaudible. It was also impossible to predict when the participant was going to start or stop speaking.

Additionally, the participants could not see the researcher’s body language to enable them to feel listened to or to encourage them to speak further. Moreover, the lack of facial expressions in telephone interviews made it impossible to tell whether the participants were unhappy or uncomfortable with the topics discussed.

Some words spoken by the participants were also inaudible during playback, possibly due to a weak mobile signal during bad weather, traveling, or network congestion. Other factors that affected telephone interviews were the clarity of the participant’s voice, the pace of the participant’s speech, the quality of the audio recording, and the surroundings of the participant and the interviewer. Both the interviewer and the participant had to be in a quiet place to minimize noise interruptions during the interview.

**Data Analysis**

Thematic analysis is appropriate for a qualitative longitudinal study because of its flexibility and compatibility with the research paradigm (Braun & Clarke, 2006). Data analysis began after the transcription of each participant’s interview was completed. In conducting qualitative longitudinal interviews, it was necessary to continuously look for emerging themes for further exploration in comparison to other research participants within and across the countries selected.

**Coding.** A coding frame was developed to code the transcribed conversations systematically. The initial coding frame consisted of a list of deductive codes extracted from the literature review. The development of a coding frame is vital because it enables consistency in the usage of the codes throughout the coding process across participants and countries (Joffe & Yardley, 2004; Saldana, 2013). The coding frame also enables identification of the need to develop new codes when necessary.
The use of deductive codes in a coding process enhances comparison of study findings with the literature either by replicating, extending, or refuting it (Joffe & Yardley, 2004). In the present study, the development of more inductive codes was inevitable as the transcripts underwent review repeatedly. The coding process was repeated several times until the completion of the first round of interviews. The coding frame began to expand after the addition of new inductive codes.

The transcripts were reviewed again before the initiation of the next round of interviews. It was essential to follow up on issues discussed previously with the participants in the forth coming interviews. It was also crucial to explore the participants’ learning progression and to ensure that issues that arose during previous interviews were discussed, with participants within the same country as well as with those in the other country. Therefore, throughout the data collection phase, the interview transcripts were reviewed time and again.

There were 47 interview transcripts at the end of the data collection. Coding 47 transcripts throughout the study was not an easy task. Repeated reference to the coding frame was vital to avoid code duplication and to remain consistent throughout the coding process.

Generating themes. The researcher needs to perform an analysis of the emerging themes upon completion of transcript coding. It is necessary to map the themes and the codes that support each theme to ensure that the emerging themes are credible. In a qualitative longitudinal study, this process needs to be repeated several times after each round of interviews. Hence, the list of themes in the present study underwent several rounds of refinement to ensure that it would answer the research questions at the end of the study.

Data Interpretation
At the end of the study, there were 12 complete sets of longitudinal interview transcripts out of 47 transcripts altogether. Data analysis and interpretation were conducted on all the transcripts throughout the study. The first-round interview transcripts were used to look at the initial learning processes of the participants. Then, the second-round interview transcripts were employed to explore the participants’ learning progression. Finally, the third-round interview transcripts were utilized to evaluate the personal and professional development of the participants over the study period.

Data Saturation
Qualitative studies have to be robust and thorough to ensure that the interpretation of data is credible in explaining the phenomenon that the study is trying to explain. Data saturation is achieved when no new themes emerge from a new research participant. Data saturation was difficult to achieve in a qualitative longitudinal study due to the complexity of the research design. Francis et al. (2010) propose four principles in achieving data saturation; specifying initial sample size; deciding how many to add to the initial sample, involving two or more coders, and reporting the data saturation of the study for readers evaluation. In the present study, despite employing the strategies proposed by Francis et al. (2010), data saturation was still challenging to achieve due to the limitations in the number of researchers and the time to complete the study. The data collected, however, were more than enough to have a deep understanding of the transition experience of the NMEs in this study.

Reflexivity
Many strategies can be used to maintain reflexivity throughout a qualitative study (Berger, 2015), such as repeated interviews with the same participants, prolonged engagement, member checking, triangulation, peer review, forming peer support networks and backtalk groups, keeping a diary or research journal for “self-supervision,” and creating an “audit trail” of the researcher’s reasoning, judgment, and emotional reactions (p. 222).

In the present study, the three scheduled interviews were planned to ensure that the prolonged engagement would provide many opportunities to validate the research assumptions and findings with the participants. The dual role of the researcher in the study, as an insider in the Malaysian context and partly an outsider in the UK context, provided the opportunity to view the phenomenon from different perspectives, thus challenging and validating the research assumptions of how participants learned.

The use of deductive and inductive coding frames during data analysis provided the opportunity to compare the research findings with the literature. The deductive coding frame served as a reference to validate the themes emerging from the interview transcripts, thus minimizing the influence of the researcher’s assumptions on what was important. A written weekly journal also served as the audit trail of the reasoning and judgments of the researcher, especially during data collection and analysis.

Lessons Learned From Data Analysis, Interpretation, Saturation, and Reflexivity
The present qualitative longitudinal study was conducted in two countries, selected for being the most convenient for the researcher. Therefore, the research findings reported what participants went through in the early stages of their careers in Malaysia and the UK. With more members and collaborators in a bigger research group, this research could be extended to other countries, so that the findings would paint a larger and more extensive picture of what happens to NMEs during their transition into academia. With a more prominent research group, more exhaustive and uniform coding could also be developed to overcome coding bias from a single researcher (Ibarra, 1999). Table 3 summarizes the challenges faced by the researcher, how or why the challenges emerge, ways to manage the challenges, and recommendations for other researchers.
Data analysis

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Follow-up

Participants’ dropout rate. Although snowballing or opportunistic recruitment could increase the number of participants, the researcher had to be meticulous in gender disproportion to avoid gender bias in the research findings.

For non-native speakers, several pilot interviews are recommended prior to conducting the real interviews as the researcher could get more exposure to colloquial terms used in the field of study. Pilot interviews could also increase researcher confidence and familiarity with the research topic. Rather than conducting a telephone interview, the researcher could also use other communication technology applications such as Skype and Zoom for an online face-to-face interview. These applications allow the researcher to have face-to-face contact with the participants where the researcher could observe the facial expression and body language. These applications could be used free of charge or with minimal subscription rates. Therefore, it could save the researcher’s time and travel costs.

Data analysis is the most complicated aspect of a comparative qualitative longitudinal study. Investing in a right and appropriate software for data transcription and analysis, such as Nvivo Transcription and Atlas.ti, could save a lot of the researcher’s time during data analysis and writing the research findings. As references and guidance for conducting a

Table 3. A Summary of Research Methodological Challenges and Recommendations for Conducting a Comparative Qualitative Longitudinal Study.

| Type of Challenges | How/Why the Challenges Emerge | Ways to Manage | Recommendations for Other Researchers |
|--------------------|-------------------------------|----------------|---------------------------------------|
| Recruitment        | • Different scope of teaching between the two countries • Lack of interest | • Change recruitment strategy • Snowball sampling • Attendance at seminar involving potential participants | • Allow ample time for recruitment • Be prepared to change recruitment strategy • Be aware of events where potential participants may attend • Think of a longitudinal approach for data collection to establish and maintain good rapport and many opportunities to refer back to the participants what they meant by certain terms |
| Face-to-face interview challenges | • Colloquial term • Last-minute cancellation • Establishing rapport for the first time | • Asking for the meaning • Allow ample duration for data collection • Read on tips on how to develop good rapport • Double-checking with supervisors or native speaker colleagues for verification | |
| Follow-up interview challenges | • Attrition due to short teaching contracts or lack of interest • Long distance travel between researcher and participants | • Allowing ample time for follow-up appointment • Proceed with completed data | • Make appointment early for follow-up interview appointments • Be willing to interview out of office hours • Conduct qualitative longitudinal research in a team • Use qualitative data management software from the very beginning of the research |
| Data analysis | • Too many data to analyze • Coding bias by a single researcher • Continuous data analysis to ensure interesting issues can be followed up with participants in the two countries | • Systematic data analysis • Counter coding by the supervisor or colleague • Double-check with the participants what they said in the previous interview to follow up on interesting issues | • Researchers of qualitative longitudinal study can improve the robustness of their study design by including several data collection methods and several strategies in maintaining reflexivity |
| Data saturation | • It is difficult to achieve data saturation in qualitative longitudinal design | • Trying to achieve data saturation on the issues deemed important that is applicable to all participants | |

Discussion

In the present study, the use of comparative qualitative longitudinal methodology enabled the researcher to identify the similarities and differences in NMEs’ transition experience across two countries on different continents. The strengths and limitations of the study were related to the methods that were chosen.

The comparative approach highlighted the role of culture in the differences in the transition experience, workplace environments, and in the supporting and hindering factors reported by the NMEs. The biggest challenge, however, was to find participants with similar job roles to compare within both countries. The selection of countries, therefore, should be carefully thought of when designing a comparative study, primarily when a qualitative longitudinal approach is employed.

The advantage of being an insider in this study is the access to potential research participants. A good peer networking is vital in identifying more potential research participants outside the researcher’s knowledge. A good rapport with the participants, established during and after the interviews, could further increase the success of snowballing or opportunistic recruitment. A good rapport with the participants, too, could reduce participants’ dropout rate. Although snowballing or
comparative qualitative longitudinal study were lacking, regular discussions with supervisors (PhD study) or research team members could help researchers to stay focused during data analysis.

The qualitative longitudinal approach in this study provided the researcher with opportunities to maintain reflexivity. The prolonged engagement with participants over serial interviews allowed the researcher to verify their understanding of the topic of study, especially with participants from the other country where the researcher was a partial outsider.

Conclusion

Conducting a comparative qualitative longitudinal study is very challenging, especially when the two countries are thousands of miles apart. Researchers who are interested in conducting a comparative qualitative longitudinal study should take the lessons learned in this study into considerations. The main aspects to consider are the number and composition of researchers in the team, the countries selected, the research designs, access to potential participants, and the funding available for the research. A comparative qualitative longitudinal study should be conducted by a team of researchers, preferably one team for each country or institution selected. A comparative qualitative longitudinal methodology could also be used to make comparisons between several institutions within the same country. The researchers should be aware of the advantages and disadvantages of the research design selected and have adequate access to potential participants.

Some funds should be allocated to qualitative data analysis software. The data analysis for comparative qualitative longitudinal study is challenging because the data collected need to be analyzed within-participants continuously, across participants, and across the countries during every round of data collection. The use of qualitative software, such as Nvivo Transcription and Atlas.ti, could contribute tremendously in expediting data analysis.

Similar to other longitudinal approaches, time was a critical factor in conducting the qualitative longitudinal study. Future research employing a comparative qualitative longitudinal approach should allocate ample time to complete the study, taking into consideration the amount of time needed for recruitment, data collection, and data analysis.

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