

## **An Inside Look at the Process of Qualitative Data Analysis**

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### **Abstract**

Although qualitative research has gained traction in the field of language education, there are very few detailed descriptions available regarding the key aspects of qualitative data analysis, the nature of analytic approaches, or the mechanism of data analysis procedures. With the purpose of looking closely into the process of qualitative data analysis, this article begins with an explanation about the ways in which to transcribe, translate, and manage the data. It then introduces constructing grounded theory methods, an interpretive, constructivist way of executing grounded theory. It continues with a discussion of a data-coding approach and a multi-dimensional analysis strategy (i.e., within-case and cross-case analyses). It also deals with issues surrounding data display and theorization. Throughout this article, a qualitative-oriented PhD study I carried out (Hiratsuka, 2014) serves as an illustrative example. The article concludes with recommendations for future qualitative data analysis.

**Keywords:** qualitative data analysis, data-coding, multi-dimensional analysis strategy

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### **1. Introduction**

A comparison between qualitative and quantitative research methods continues to be drawn, often within discussions of which methods is better. Although quantitative research dominated the research conducted in a broad range of fields in the past, including language education, qualitative research has recently received high acclaim and become a widely accepted research method (Flick, 2013, Graue, 2015; Grbich, 2013; Miles, Huberman & Saldaña, 2013). A number of positional papers associated with qualitative research have explicated the fundamental features of qualitative research, addressed questions and concerns surrounding the research, and clarified terms and conceptualizations relating to the research (Hiratsuka, 2015; Sumi, 2010, 2014). Furthermore, a myriad of publications to date have described in detail several

characteristics of qualitative data collection methods (e.g., interview, observation, group discussion, pair discussion, and field notes) when introducing the methodology of the studies (e.g., Hiratsuka, 2013, 2016). In contrast, however, there are very few detailed descriptions available hitherto that address the key aspects of qualitative data analysis, the nature of analytic approaches, or the mechanism of data analysis. This has meant that only a few expert readers of qualitative research, or sometimes nobody at all, have any inkling as to what another scholar's qualitative data or data analyses actually look like (Moravcsik, 2014). With the purpose of looking closely into the process of qualitative data analysis, I begin this article by explaining the ways in which to transcribe, translate, and manage the data – the initial step of qualitative data analysis. Afterward, I present an overview of one particular qualitative research method called constructing grounded theory, one of the grounded theory methods that emphasizes intricate socialization and flexible interpretations. I then continue this article with a discussion of a data-coding approach and a multi-dimensional analysis strategy (i.e., within-case and cross-case analyses). I also deal with issues surrounding data display and theorization. Throughout this article, I use a qualitative-oriented PhD study I conducted (Hiratsuka, 2014) as an illustrative example. By using several qualitative data collection methods, I investigated in the doctorate study the perceptions and practices of team teachers, local Japanese teachers of English (JTEs) and foreign assistant language teachers (ALTs), as well as their students from two different Japanese public high schools. The unique aspect of the study was that the participants took part in an Exploratory Practice (EP) project (Allwright & Hanks, 2009), one related branch of action research, over the course of four months. I conclude this article with recommendations for future qualitative data analysis.

## **2. Qualitative Data Analysis**

To this day, qualitative data analysis seems to remain a somewhat mysterious and elusive process for newcomers to the field. This is due in part to the wide variety of genres, methodologies, and methods available to researchers, making it sometimes difficult to choose the “best” ones for the particular study in hand. (Miles, Huberman & Saldaña, 2013, p. xvii)

At first glance, as Miles, Huberman, & Saldaña (2013) argue, qualitative data analysis might seem enigmatic, disorderly, and unmanageable. This is partly because there is no concrete, predetermined steps to follow; researchers need to independently make their own way to reach their particular goals, in accordance with their original

objectives, while taking advantage of their own unique backgrounds and dispositions as researchers. The difficulty of qualitative data analysis derives also from the fact that there is a limited number of published study examples so far that adequately explained how the qualitative analyses were exactly carried out; therefore, researchers are often kept in the dark and have to figure out the nitty-gritty elements of qualitative data analysis on their own. In my view, the reasons for the paucity of qualitative data analysis examples are mainly twofold. One is that qualitative data analysis oftentimes relies on the researchers' hunches, intuitions, and revelations so much so that it is not always easy to put the processes and practices into words for others. To put it differently, qualitative data analysis is bound to be organic and intangible; thus, it cannot be pinned down to some specific 'things', and even the researchers themselves experience difficulty in clearly articulating the research processes in an organized way. Another possible reason is that when it comes to publication, researchers need to abide by the numerous rules of academic journals and publishing companies. One such crucial rule is the word limitation. Although qualitative researchers feel the need to describe and explain the analyses and interpretations with the use of many words, they might reluctantly end up revising and cutting some of the most critical procedures of qualitative data analysis from their articles and books due to the word limitation. This is a problem particularly because words are subjective, contextualized, and reader-dependent and therefore warrant clarification, unlike numbers, graphs or charts that are more objective, straightforward and somewhat self-explanatory. Against this backdrop, what I intend to do in this article is to showcase the detailed data analysis process of a qualitative study, admitting the risk of making it appear too simple or too orderly. What follows is a discussion of data management, constructing grounded theory, data coding, and data display with regard to my PhD study (Hiratsuka, 2014).

## **2.1. Transcribing, Translating, and Managing the Data**

After collecting qualitative data, researchers' next task is to transcribe and, if necessary, translate the data so that they can keep the data as formatted, written documents for notes and further analysis. Based on my experience, transcribing and translating work takes approximately six times more than the length of the original data. That is to say, it would take about 12 hours to transcribe and another 12 hours to translate (e.g., from Japanese to English) two-hour individual interview data. Researchers should therefore secure substantial time and resources after data collection for the data analysis and research as a whole to be successful. Transcribing and translating work is often

considered by some to be preliminary data analysis in which researchers can begin to make sense of the data through repeatedly engaging with the participants' words for the first time away from their immediate data collection activity; it is hence an important initial step of qualitative data analysis.

In the study (Hiratsuka, 2014), I carried out all the transcribing and translating work at the research sites. This was because I wished to carry out all the work relating to transcripts and translations while I had the opportunity to ask my participants to check and make suggestions or comments on them, a strategy called member checking (Hiratsuka, 2015). For transcribing and translating the data deriving from interviews and discussions in the study, I made every effort to maintain the meaning of the utterances of the participants. In writing the PhD thesis, for the most part I presented cleaned-up discourse from the original data (hesitations and false starts were deleted) (see Appendix A). I made this decision because my primal interest was in the overall content of the participants' perceptions and experiences. For five-minute video clips gleaned from class observations I conducted within the participants' contexts, however, I felt a need to employ a more detailed transcript convention. I therefore adopted the convention established by Barnard and Torres-Guzman (2009, p. xi) which allows acknowledgements of the complexity of classroom interaction (e.g., emphasis given by speakers, activity associated with the speech, and interpretive comments). Describing and checking carefully on details of interactions and practices made it possible for me as the researcher to recall the events in the classroom more effectively and to interpret the data more accurately than would have been the case with less detailed transcriptions (see Appendix B).

In terms of managing and sorting the data, in the study I transferred the files/clips from my tape-recorder/video camera to my laptop computer, and I also backed-up these files onto an external hard drive as well as a USB flash-drive. I then stored the video clips, audiotapes, pictures, and all the transcripts and translations in the qualitative analysis computed software, NVivo 9. In total, nine types of data needed to be analyzed in the study (Hiratsuka, 2014):

1. narrative interview transcripts
2. field notes
3. classroom observation transcripts
4. pair discussion transcripts
5. student feedback sheets
6. focus group discussion transcripts

7. teacher reflective stories
8. researcher logs
9. various types of relevant official and personal documents

I classified and saved the data according to the type and the date gathered. Digital and hard copies of the original data as well as copies of the different phases of analysis were kept in a locked cabinet in my house and in my office. With the large amount of data acquired, like other qualitative researchers, I had the challenging but illuminating task of watching (re-watching), listening (re-listening), and reading (re-reading) in order to reduce a huge volume of text data to manageable units and pieces for further analysis (Ellis & Barkhuizen, 2005). In following this lengthy trail through the analysis of the qualitative data in the study, I chose to implement constructing grounded theory (Charmaz, 2006). I next describe in detail the methods associated with this approach.

## **2.2. Constructing Grounded Theory**

It is believed that grounded theory has played a key role in a “qualitative revolution” (Denzin & Lincoln, 1994, p. ix) in the social sciences. It has now become the most widely used qualitative research method across a variety of disciplines and subject areas (Bryant & Charmaz, 2007). According to Charmaz (2006), grounded theory is a tool for learning about the worlds we study and a means for developing theories about them. The tenet of grounded theory is therefore to go beyond a mere description and formulate a theory – an abstract and analytical schema of a process or practice (Creswell, 2007). There is usually no hypothesis at the outset of grounded theory inquiry, and the collected data determine the course of the research and thus the data analysis is completely inductive. In other words, researchers advocating a grounded theory approach attempts to discover, at the end of the research, a theory which is wholly grounded in the data. However, unlike the original creators of grounded theory (Glaser & Strauss, 1967), Charmaz’s approach is built on the pragmatist underpinnings and promotes interpretive ways of analyses:

I assume that neither data nor theories are discovered. Rather, we are part of the world we study and the data we collect. We *construct* our grounded theories through our past and present involvements and interactions with people, perspectives, and research practices. (Charmaz, 2006, p. 10, emphasis in the original)

Based on her constructivist stance, Charmaz (2006) suggests that grounded theory methods should be interpreted broadly, flexibly, and openly so that the research analysis process is more fluid and interactive than the traditional grounded theory methods which

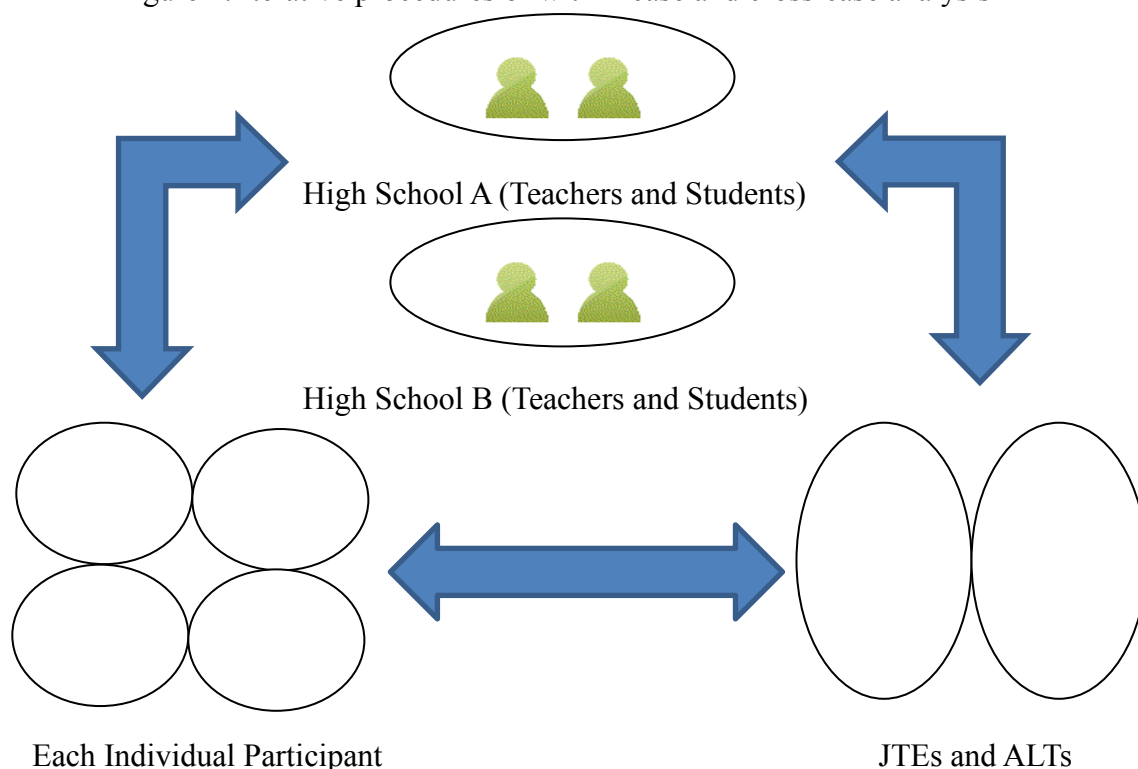
include positivistic assumptions. In other words, she has regarded “using grounded theory methods and theorizing as social actions that researchers construct in concert with others in particular places and times” (Charmaz, 2006, p. 129): hence the emphasis on constructing. This approach to grounded theory has enlightened my exploration within the study in a fruitful way fundamentally because it is in congruence with the constructivist-interpretive paradigm in which the study was situated (see Hiratsuka, 2015). Constructing grounded theory methods employ coding in order to shape an analytic frame, linking collecting data and emergent theory. In milieu of constructing grounded theory, coding consists of at least two stages: (a) an initial stage where each word, line, or segment of data is named and presented; and (b) a focused, selective stage where several salient and oft-repeated initial codes are sorted, synthesized, integrated, and organized to create fewer (focused) codes (Charmaz, 2006). In consequence, sets of focused codes form several categories and eventually a conceptual framework (theory). In many cases, the final stage of data analysis involves constructing data displays through figures and/or conceptual maps in order to represent how each category is interrelated. The following sections illustrate in more detail how I carried out data coding and data display in the study, following the features of the constructing grounded theory approach.

### **2.3. Data Coding: Within-Case and Cross-Case Analysis**

Data coding is the main part of data analysis. It aims to review a set of transcribed and translated data and break them down meaningfully. This part of analysis involves unearthing commonalities and differences within the data retrieved and construing events and relationships as the participants experienced in their situated environments (Miles & Huberman, 1994). In the illustrative study, every stage of data coding involved re-watching, re-listening, and re-reading the data, according to the cases *within* (e.g., JTE 1, an individual teacher over time) and the cases *across* (e.g., JTE 1 and ALT 1, two different teachers working at the same school). I thus chose to use an interactive three-dimensional strategy (see Figure 1), borrowing from and building on the concept of a two-step strategy described by Merriam (2009). One of the dimensions of the analysis was within-case analysis, in which I pursued the case of an individual teacher/student and learned as much as possible about his/her experience. In the second dimension, an analysis of cross-cases of teachers and students at each school was performed in order to learn about the tendencies and idiosyncrasies specific to each school (i.e., High School A or High School B). The third dimension was another analysis of cross-cases of JTEs and ALTs. This analysis was conducted to discern the

possible divergences and convergences between the cases of the JTEs (JTE 1 and JTE 2) and the cases of the ALTs (ALT 1 and ALT 2). Each dimension was not static, nor was each analytical activity carried out in a linear fashion. That is, each dimension was interconnected, and the analysis in each dimension continuously affected, and was affected by, the process and outcome of the other two dimensions. This holistic strategy allowed me to more meaningfully bring forth the dynamics of the participants' particularities and commonalities at the individual, school, and JTE/ALT level.

Figure 1: Iterative procedures of within-case and cross-case analysis



By comparing and contrasting within and cross cases in an iterative way, I started initial coding where I paid primary attention to what was said or written by the participants and tentatively labeled some words and segments. I tried to stay close to the data while I remained open to numerous interpretations. Concurrently, I referred to the pertinent literature in English language education and kept track of the salient and important aspects of the data in relation to the research aims and questions. As a result of this process, I came to realize that the original five research questions I constructed prior to data collection – which emphasized the difference of participants' perceptions and practices before and after an Exploratory Practice (EP) project – were too simplistic and linear. That is, during or after the project, the participants more often than not

expressed their perspectives of teaching and learning or conducted their practices which had not necessarily been influenced by the EP experience in the study per se. Soon after, I made changes to my research questions and settled with different five as follows:

1. What perceptions do participating JTEs, ALTs, and students have of JTEs and ALTs in team-teaching contexts?
2. What perceptions do participating JTEs, ALTs, and students have of teaching practices in team-teaching contexts?
3. What effects does an EP experience have on the teachers' and students' perceptions over time?
4. What effects does an EP experience have on the teachers and students' practices over time?
5. In what ways do the findings of my study make a contribution to our understanding of EP in the field of English language education?

Emanating from the revised questions and each case, several broad initial codes became apparent (see Appendix C), and I went back to the transcripts to do the coding accordingly. For instance, I coded the comment "speaking is the biggest asset that the ALT has" as "1 A-A" (concerning the first research question: ALTs' perceptions of ALTs) and the comment "so the effects are not the activities I gave to the students but the tendency or instruction" as "3 T (per)" (concerning the third research question: effects of EP on teachers' perceptions) (see Appendix D for a copy of one initial coded transcript page). After I sorted and stored the relevant coded segments into files on NVivo 9 according to the case, time, and the method used, I began the process of focused coding. Whilst doing focused coding, I came to consider two different, yet equally crucial, points. One point was that some similar topics were repeatedly discussed irrespective of the case or time. For example, throughout the project, the issue of 'native speaker' was mentioned by every participant multiple times. It was thus apparent that the issues frequently raised were important to the participants at the time of the study. Another point was that some less frequent perceptions and practices seemed as salient and critical as frequent ones in understanding participants' experiences and situations due to the particular nature of the topic concerned. For instance, although team-taught classes were described as 'break time' from serious teaching by only one participant on only one occasion (at the end of the first individual interview), this rarely appearing perception was potentially as significant as others, if not more so. As a consequence of this recursive process of creating and changing codes, I formed several categories (e.g., "ALTs as authorities and providers of target language";



“ALTs are excluded from core teaching: Are they assistant language ‘teachers’?) in order to answer each research questions (see Appendix E for a copy of one focused coded draft page). In total, I analyzed in the study: approximately 33 hours of detailed interviews and discussions constituting 316 pages (English only) as well as 343 pages (Japanese and translated English) of typed transcripts; and 320 pages of typed documents (i.e., student feedback sheets, field notes, researcher logs, classroom transcripts, and teacher reflective stories) and other relevant documents such as the curriculum of each school, the schedule of each school, the Course of Study, teacher lesson plans, textbooks, and term examinations. This large amount of data, which was overwhelming to me at first, started to become manageable and comprehensible as the two-stage data coding proceeded.

In the study, to answer the first two research questions, I examined categories including the participants’ perceptions of: (1) JTEs (e.g., JTEs as Language Models); (2) ALTs (e.g., ALTs as ‘Natives’: Enlightening or Frightening?); and (3) teaching practices (e.g., Unique Practices). To answer the question of what effects an EP experience has on the participants’ perceptions, I investigated categories related to the participants’ different cognitive development trajectories such as replacement, integration, and reconfirmation. To answer the question of what effects an EP experience has on the participants’ practices, I scrutinized categories such as agency and EP actualization. Considering the identified categories grounded in the data, I built a conceptual framework in the end to answer the fifth research question. The process of building the conceptual framework is the focus of next section.

## **2.4. Data Display**

Qualitative data displays come in a number of forms (e.g., figures, tables, and boxes). They can facilitate data description, order, and explanation, thereby engendering new discoveries as well as additional questions for researchers to consider during the process of data analysis. Miles and Huberman (1994) suggest that data display, when coherently arranged, can “permit careful comparisons, detection of differences, noting of patterns and categories, [and] seeing trends” (p. 92). I sometimes sketched out simple data displays on a blank piece of paper to understand the level and type of relationships among topics and categories. As well as in the process of data analysis, data display can function as a convenient and powerful way to conclude data analysis by systematically presenting a conceptual framework (theory). Some researchers create a chain of causality or make generalizations through a conceptual framework at the end of their

research (Miles & Huberman, 1994). Charmaz (2006, p. 169) asserts that the theoretical or conceptual framework can (a) explicate your conceptual logic and direction(s), (b) engage leading ideas, (c) acknowledge prior theoretical works, (d) position your new grounded theory in relation to these theories, (e) explain the significance of your original concepts, and (f) fit your immediate writing task and readers. What I was interested by means of a conceptual framework in the study was to describe, explain, and understand influential factors for the participants' experiences with local interpretations. To that end, I created two comprehensive frameworks to link bodies of knowledge and promote understanding about the participants' experiences and the phenomena in the research sites (Appendix F, G). I believe that the data displays that depicted theorization became an effective way to present and conclude my study, more so than just words could.

### **3. Concluding Remarks**

With the purpose to provide detailed descriptions of the process of qualitative research analysis, in this article I first elucidated the ways in which to transcribe, translate, and manage the data. This was followed by an explanation about constructing grounded theory methods, an analytic approach embedded within the constructivist paradigm. I continued with a discussion of data-coding approach, multi-dimensional analysis strategy, and conceptual framework. Throughout this process, I used a qualitative-oriented study that I carried out in a doctoral program (Hiratsuka, 2014) as an illustrative example in order to put in context the specific characteristics of qualitative analysis procedures and organization. It is my hope that the discussion and examples in this article have allowed the readers to more easily imagine and more clearly envision the paths of qualitative data analysis, rather than considering it to be puzzling, and made them want to try out qualitative research and its analysis, rather than putting them off. It is no doubt, however, that we need a significant more number of discussion and examples surrounding qualitative research and its analysis if the research were to gain more legitimacy and approval in the field. To conclude, I would like to put forth three recommendations for future qualitative data analysis by following Sumi's (2010, 2014) contentions.

First, qualitative researchers need to equip themselves with an ability to properly explicate, through words, the complicated phenomena and world in the hope to promote transparency of their research (Sumi, 2014). Again, unlike numbers, words are primarily subjective, contextualized, and reader-dependent and thus researchers should

carefully portray the research procedures step-by-step through effective and appropriate expressions for making their studies transparent for the readers. In other words, researchers need to explain in a coherent and intersubjective manner to the readers how each choice, method, and theory was made during the research so that the readers could gain a better awareness of precisely what the research is about, why the research was conducted in the way it did, and what potential biases the particular piece of research may contain due to the researcher's choices (Moravcsik, 2014).

Second, qualitative researchers should tackle the analysis more structurally and systematically, thereby allowing more exemplified models to exist (Sumi, 2010). Although each qualitative research is oftentimes bounded by a certain period of time and place within a certain context and therefore does not seek generalization, it is still possible and perhaps desirable for qualitative researchers to present detailed systematic structures in terms of data analysis to which other researchers could refer and, if deemed appropriate, follow in order to increase the adoptability and transferability of their research (Hiratsuka, 2015; Sumi, 2010). If necessary, specific structural and organizational features of qualitative data analysis and its secondary sources and primary materials (e.g., transcripts, codes, and conceptual framework) should be included as appendixes, as I have done so in this article, so as to deal with the word limitation ubiquitous in academic journals and books. Last, the outcome of qualitative research should not be mere descriptions of the reported events or experiences but rather bring forth meaning making and theorization in the form of conceptual framework (Sumi, 2014). Conceptual framework has the potential to bring together the theory and practice in local contexts with local interpretations as well as move the field forward by placing the study at hand in relation to the previous studies in the pertinent areas.

With these recommendations, I now urge readers to embark upon an exciting journey of qualitative data analysis. The multiple iterations among the data, relevant literature, and research questions as well as careful consideration to the chronological order and types of data collection methods would help us to navigate the journey. Sometimes each stage of data analysis might be unexpectedly straightforward; at other times, they might be considerably complex – but the revelations at the end will make all the experience worthwhile.

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## **Appendix A: Transcript Convention and Sample Transcript**

### *Transcript Convention*

Hiratsuka = the researcher

(laugh) = laughter

*Italics* = original speech in Japanese

(*Italics*) = translation of original speech in Japanese

### *Sample Transcript* (Transcripts from the second pair discussion 1 at High School A)

Hiratsuka: Yeah, so this was five minutes. So we can probably say that this was

the introduction to the task or activity that the students will construct their own sentences using the expressions?

JTE 1: Yeah, the expressions were: “It is ~ that” and “It is ~ to”.

ALT 1: Even though we didn’t really give the instruction in the five minute clip, is that OK? Like the instructions came after that for them to write their own sentences? Or should it be needed?

JTE 1: But you did instruct and explain the things that we were going to do. So that should be included as an instruction.

Hiratsuka: I don’t know how and to what extent we will restrict and limit the definition of instructions, but this is, to me, a good instruction by using the models. In the end, at the end of the class, the students will do this kind of activity, so this can work as an instruction?

ALT 1: Sure, it’s something, a guideline instruction, as you say, the model to use particular vocabulary.

Hiratsuka: What are the differences and similarities? What’s the rationale behind it?

ALT 1: So the differences between this and the previous, the first cycle was a complex activity, as [JTE 1] was saying, introducing the theme and grammar to the students, so there were a lot to explain and a lot to instruct different students and different groups. And there was very complicated language, and complicated instruction was given. Whereas in this case, it was very simple, really as you said, giving plain models and asking the students to insert the original ideas into the same format. That’s the main comparison from me.

## **Appendix B: Transcript Convention and Transcripts for Class Observation**

### *Transcript Convention*

1, 2, 3                      = speaker turn (when the speaker changes after more than

one second pause)

T (JTE 2), S (ALT 2) = initial letters of teacher's name

St = unknown student

Ss = more than one student speaking

(A: ) (Ss: ) = over lapping speech (initial letters of the speaker)

(laugh) = laughter

/, //, ///, (4), (5) = pause (length of seconds)

**Bold** = emphasis given by speaker

(xxx) = unintelligible speech

{ } = activity associated with the speech

*Italics* = original speech in Japanese

i>

(*Italics*) = translation of original speech in Japanese

(Based on Barnard & Torres-Guzman, 2009)

*Sample Transcript* (Transcripts from the second observation at High School B

Speaker Turn	Time Span	Content	Speaker
1	0:00:0 - 0:10.6	So your group chooses <i>Momotaro</i> , do you want to pick second (xxx), this right here?	ALT 2
2	0:10.6 - 0:32.3	Yes, do you agree or disagree with group <i>nan</i> ( <i>what</i> ) one, two, three, four, group four? (12) Group four, OK. Everyone, listen!	JTE 2

<b>3</b>	0:32.3 - 0:42.0	We disagree with group four. (T: You disagree with group four, what is it?) I, <i>Kuro</i> . (St: <i>Hora Kurojan (See, it was Kuro)</i> )	<b>St</b>
<b>4</b>	0:42.0 - 0:55.0	OK. <i>Momotaro, Kuro</i> . {pointing at each group} So, this group, what do you think?	<b>ALT 2</b>
<b>5</b>	0:55.0 - 1:35.9	(6) Do you agree with group four or do you agree with group five? <i>Momotaro, Kuro</i> . (6) {a student stands up} Talk to the class. (20) Still thinking?	<b>JTE 2</b>
<b>6</b>	1:35.9 - 1:46.9	OK. Different group, {pointing at a group} group two? {asking JTE 2} (T: Group two) OK. Tell us what you think.	<b>ALT 2</b>
<b>7</b>	1:46.9 - 2:11.2	<i>Ore? (Me?) Eetto (Let ' s see)</i> , I agree <i>Kazuki tte ittayone, ittayone?</i> ( <i>You said it, you said it, right?</i> ) {a member in the other group shook her head} I agree group one. (S: What does group one think?) <i>E? (What?) Ittenai? (You haven ' t said anything?)</i> (St: <i>Mada itte nai (No, I haven ' t)</i> ) <i>Aaaaa, eeeee</i> .	<b>St</b>
<b>8</b>	2:11.2 - 2:13.0	So you disagree with four and five? (St: Yes) OK. Try. (4) I?	<b>JTE 2</b>
<b>9</b>	2:13.0 - 2:27.9	I disagree group three and group four. <i>E? (What?)</i> (S: Four and five) (T: Four and five) Ahh, five, aaaaa, four and five. (T: And what is?) I (4) choose <i>Kazuki</i> .	<b>St</b>
<b>10</b>	2:27.9 - 2:29.4	<i>Kazuki</i> (laugh), OK. Alright, so /// let' s see here how about this group?	<b>ALT 2</b>
<b>11</b>	2:29.4 - 2:41.7	(4) I disagree four and	<b>St</b>
<b>12</b>	2:41.7 - 2:45.0	I disagree /// <b>with!</b> with	<b>JTE 2</b>
<b>13</b>	2:45.0 - 2:55.1	<b>With!</b> // four and five, I choose <i>Kazuki</i> .	<b>St</b>
<b>14</b>	2:55.1 -	OK. Looks like a lot of people want <i>Kazuki</i> .	<b>ALT 2</b>



	2:59.8		
<b>15</b>	2:59.8 - 3:02.7	Eeeee, I disagree (laugh).	<b>JTE 2</b>
<b>16</b>	3:02.7 - 3:13.0	OK, /// {looking at each group} that group, group six	<b>ALT 2</b>
<b>17</b>	3:13.0 - 3:53.4	<i>Ore? (Me?)</i> (St: Disagree <i>desho? (Right?)</i> ) (19) Our group disagree (22)	<b>St</b>
<b>18</b>	3:53.4 - 4:00.9	So, so what does your group think? Tell us what your group thinks. (4) <b>What / does / your / group // think?</b>	<b>ALT 2</b>
<b>19</b>	4:00.9 - 4:11.7	<i>Eee</i> our group think /// <i>Kazuki? Kazuki is /</i>	<b>St</b>
<b>20</b>	4:11.7 - 4:37.8	So you agree with group (T: two and) two and seven. So your group agrees with group two and seven. OK. Maybe one more group? {asking Takahashi} So /// group one, tell us what you think. {looking at group three}	<b>ALT 2</b>
<b>21</b>	4:37.8 - 4:39.3	(5) Group one is here.	<b>JTE 2</b>
<b>22</b>	4:39.3 - 4:43.1	Oh yes, group three, I'm staring at group three.	<b>ALT 2</b>
<b>23</b>	4:43.1 - 5:00.3	(5) <i>Dokodakke? (Where is it?) Kazuki</i> (laugh) Kazu, eeee. <i>Watashi iuno? (Do I have to say it?) Nante iebaii? (What should I say?)</i> I, I //	<b>Ss</b>

### Appendix C: Initial Codes

Related to research question 1

1 J – J (JTEs' perceptions of JTEs)

1 J – A (JTEs' perceptions of ALTs)

1 A – J (ALTs' perceptions of JTEs)

1 A – A (ALTs' perceptions of ALTs)

1 S – J (students' perceptions of JTEs)

1 S – A (students' perceptions of ALTs)

Related to research question 2

2 J – P – T (JTEs' perceptions of teaching practices)

2 A – P – T (ALTs' perceptions of teaching practices)

2 S – P – T (students' perceptions of teaching practices)

Related to research questions 3

3 T (per) (effects of EP on teachers' perceptions)

3 S (per) (effects of EP on students' perceptions)

Related to research questions 4

4 T (pra) (effects of EP on teachers' practices)

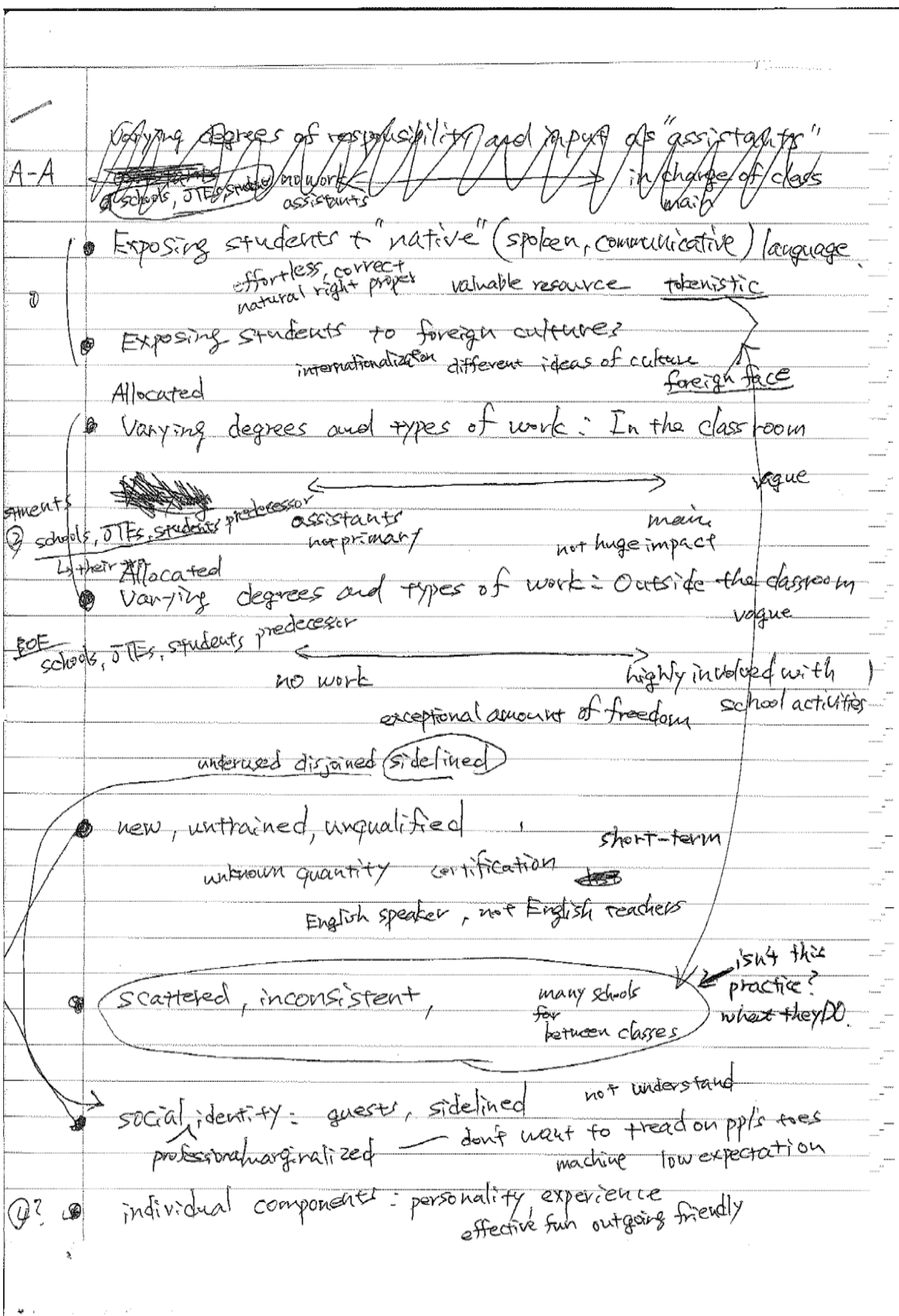
4 S (pra) (effects of EP on students' practices)

Each topic was ordered chronologically and methodologically, and compared and contrasted within cases and across cases.

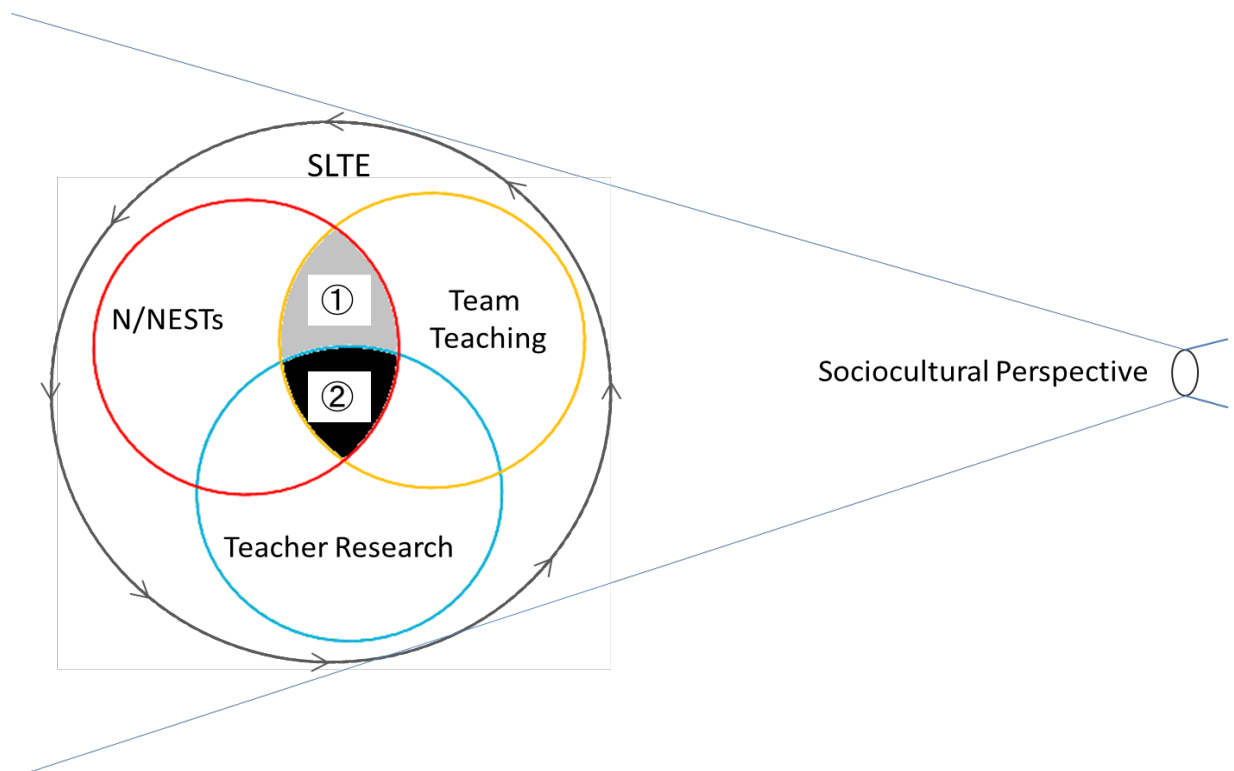
#### **Appendix D: Example of an Initial Coded Transcript Page**

		1A-A
	listening activities and conversing with the students, and that would be the focus, <u>because you can learn the grammar out of the textbook, but speaking is the biggest asset that the ALT has.</u> (M: mmm) ///	ALTs' biggest asset
	66 M: And it's bit of a / it's bit of a conundrum. Hahaha if you like the word, <u>it's complicated because students aren't tested in speaking skills</u> (S: un) We have to find the balance between you know cultivating the ability to use the language and actually you know using the time and energy wisely towards the end goal of achieving the goal well (A: un) mmm but inevitably you know oral communication skills is going to help their listening skills // probably help their writing skills too, you know it's all, it's all ahh // <u>accumulative</u> that will help in the end. (13)	testing ↓ using language 1A-P-L
	67 A: Hopefully, ahh if we can <u>integrate four skills</u> , reading, writing speaking and listening, ahh they can they can learn vast skills in English? So /// in that sense, learning English in oral communication classes makes sense but ahh still we can do ahh same thing in other classes, so <u>that's the reasons</u> we decided to start team teaching in English 2. So / even if the activity, we are to provide ahhh are restricted to one or two skills, not including communicative activities, but still they can benefit from them (M: yeah) and board of education asked us to promote English lessons while we can teach communication but /// <u>communication is not the /// divided thing?</u> Ahh there are /// well, in / those four English skills, so even if students are to learn one skill, they they can learn they can learn to communicate but hopefully if <u>they can learn in a balanced way.</u> Un. They will benefit better. (M: un) Un (9)	1J-P-L
Asking the connection b/w individual and T-T classes (through the project)	68 I: Just wanted to ask one question. As I was listening I got curious about one point but were you JTEs affected in any way by team-teaching classes for your individual classes? Do you have any other approaches when you are teaching alone because of the fact that you had a team-teaching project like this? (A: mmm) Is there any like // transferred knowledge or approach from the team-teaching classes to your individual classes now or it's kind of a different world you are talking about?	
	69 A: Mmm well, even <u>before starting this project</u> , I had hoped that /// <u>team-teaching experiences would affect my other classes</u> (I: un). So I think I could become, tending to use more English and give more English instructions than before, ahh not, so the effects are not that <u>the activities</u> I gave my students, but <u>the tendency or instruction</u> I give during the classes. /// <sup>itself</sup> but	1J-P-T 3T (pha)

## Appendix E: Example of a Focused Coded Draft Page



Appendix F: Conceptual Framework 1



## Appendix G: Conceptual Framework 2

