Cooperative Thoughts Opening to Discovery

After learning Conversation Analysis and getting familiar with transcription, the group data session turned out to be a very valuable experience. As a doer who learns by doing, I was able to understand Conversation Analysis more in depth than before. The entire process of transcribing, analyzing, and leading a data session motivated me to observe classroom interaction in a different point of view, and helped me realize the value of cooperation.

The first step as preparing the data session was to transcribe data, which brought major confusions to me. Even though an original transcription was provided, inserting conventions was a constant encounter to decision-making. My partner and I worked together transcribing part of the data, which gave both of us a good idea of the classroom setting, the teacher's character, and the classroom's dynamics. The teacher in the data was very calm most of the time with a fairly low tone of voice. Each reaction or emphasis she made was not as clear as it would be with most people, which led us to decide on which convention to use depending on her relative patterns. For each word, each intonation, and each transition, my partner and I stopped, repeated, said the same word out loud to each other, and discussed what would be the best choice of convention to represent that particular part. At least while doing this pair work, we were able to reach an agreement after discussions and move on to the next part of the data. However, when the transcribing was done individually, the decision-making process was even harder.

My partner and I divided work to finish the rest of the data transcription individually, based on the ideas we had agreed upon during our meeting. Even though I had a clearer idea of what to do and how to transcribe, there were multiple moments when I had to stop, repeat, and think until I typed in one simple symbol of conventions. One of the most confusing parts I found while transcribing was trying to transcribe as closely as possible to what I had heard. This also drove me to ask a question of whether transcribing phonetically how I heard would

be better than simply spelling words or phrases as the way they are, such as "do you." Often in conversations, people would not normally say "Do you," instead, people would quickly say, "d'ya." As a transcriber, there are clear differences, but as a reader, I always struggle reading and understanding certain transcripts that are phonetically transcribed. Whether transcribing closer to "real-speech" or transcribing "understandable" is a question I still ask myself, and finding as the most difficult decision to make.

Transcribing a classroom interaction between a teacher and students was particularly more difficult to me, because it was not easy to put my instincts as a teacher on the side. As far as I understand, in conversation analysis, I am expected to analyze the roles of each element in the conversation, not to analyze the implicit meanings inside them. However, after being a teacher for a while, and doing many classroom observations – and sometimes evaluations – my first instinct was to question "why?" and think of suggestion to improve the teacher's teaching. Even though transcribing process itself is often described as a fairly subjective work, to me, it was pushing me to the extreme of objectiveness. Even so, looking closely to a classroom interaction – and a math class – was a valuable experience by opening many doors further observations. I began wondering how students' focus or behavior change when the teacher's location or action change. I found interesting to observe the teacher briefly commenting on a topic not related to the lesson and then quickly going back to the lesson again. I also noticed that even though it is a math class, a lot of student-talk is happening in the data. There were moments I might have missed if I was not transcribing, which encouraged me to pay more attention to details in classroom interactions.

The data session my partner and I led together was an interesting experience to get different perspectives and ideas. Through the data session, my partner and I were able to receive more suggestions and opinions regarding those issues we were finding problematic. For example, the teacher was using "okay" in various situations for different purposes. Even

though she was using a variety of tones and emphasis to say "okay," the transcription could not represent the differences explicitly. It was helpful to find other people's opinions about the differences recognized in the teacher's okays, and to get suggestion of how to transcribe these to show the differences. Also, the data session helped my group to search for more possible potentials to explore in the data from noticing interesting aspects, such as the teacher's change of location and the teacher not responding to a student's comment. However, the data session also added more confusion to the transcript and analysis because what each person thought varied. One part of the data my group had trouble transcribing had two different ideas – some people heard the part as "think as" and others "thinks of." After the data session, my partner and I had more confusion related to this part, not being able to decide how to transcribe it.

Even though the process was laborious and forced me to make difficult choices, the entire experience was interesting and educational. I learned how important it is to work together for transcribing and realized how much more details I can find by looking closely to the interaction. Also, it was interesting to receive various opinions from a group of people, which suggested more possibilities to explore. The cooperative work of analysis opened doors to diverse areas to discover in classroom interactions.

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 1    *T:     {>do you have any< QUEstions:?}
 2            {walks backward towards the whiteboard}
 3            {(6.1)}
 4    *T:     {continues walking backwards, scans students}
 5            you >had to< cross out (0.8) the box and what was left (.) was
 6            your answer.
 7            (4.2)
 8    *T:     any ↑questions (.)↓people.
 9            {(5.1)}
10    *T:     {scans students}
11    *T:     >how many HAD the< entire as↑{signment correct}.
12    *SS:                              {raise hands}
13            {(1.5)}
14    *SS:  {continue raising hands}
15    *T:     °that's good.=great.°
16            {(1.6)}
17    *SS:  {lower hands}
18    *T:     no ↑QUEstions:?
19            {(3.1)}
20    *SS:  {some flip pages}
21    *T:     {o↑ka:y take >out your< notes then (.) plea:se.}
22            {walks toward the center of the classroom}
23          {(13.4)}
24    *T:     {flips through and organizes pieces of paper, takes out paper}
25    *SS:  {take out notes}
26    *T:     o↑ka:y
27            {(8.0)}
28    *T:     {takes out a piece of paper, walks backward towards the whiteboard}
29    *T:     {what's today:'s DAte=}
30            {continues walking towards the whiteboard}
31          =raise your [hand]?
32    *S:                 [the twenty ehh]
33            (0.7)
34    *SN:  the twenty eighth.
35    *T:     RYAn?
36            (0.6)
37    *SN:  the twenty eighth,
38            (0.2)
39    *T:     twenty eighth. = {please date your notes::.november, twenty eighth.}
40                        {stares at the entire class}
41            {(2.6)}
42    *SS:  {write on notebook}
43    *T:     [yes?]
44    *S:     [((cough))]
45    *SN:  ARE WE Allowed to °take° notes in pen e e if we want to
46            (0.2)
47    *T:     THAt's fine. (0.2) that's the only thing you can do °in pen° in here,
48            {(1.4)}
49    *SS:  {open notebooks}
50    *T:     voLUNteer to read our quote of the ↑week?
51            {(2.1)}
52    *SS:  {put up hands}
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53   *T:     miCHElle?
54           (0.8)
55   *S:     what is the best, (0.7) what is best in mathematics deserves not
56           merely (.) to be learned as a task,
57           but to be assimilated as a PARt of daily thought, and brought >again
58           and again< before the- the MINd with ever renewed en(.)couragement.
59           (0.4)
60   *T:     very good.= >WHat does< THAt mean: (0.1) any↑body?
61           (0.8)
62   *T:     PAtrick?
63           (0.8)
64   *SN:    it mea:ns to NOT thinks of math as a like (0.6) as not something
65           (0.3) fun, to ↑do (0.2) and only use it in school=but to use it in
66           your (0.2) everyday life
67           (0.3)
68   *T:     very good.
69           (0.2)
70   *T:     >anybody< ELse? (.) BRANdon?
71           (0.3)
72   *SN:    that MA:th is: a↑round you >all the< time?
73           (0.3)
74   *T:     that's co↑RRECt.
75           (0.8)
76   *T:     AN:d it means: (0.6) do- DON't just ↑learn it as a (0.3) because you
77           HAVE to. =>learn it< because you WANt to =and >have it as a< PARt of your
78           daily life, because math IS,
79           (.)
80   *SS:    POW:↓er: s
81           (0.1)
82   *T:     all ↑RIGHTt. (0.1) GOOd. (0.6) okay. {(0.6)}
83                                               {walks towards table at center}
84   *T:     {today's lesson, (1.0) is Titled}
85           {continues walking towards the table}
86           {wri↑ting (0.2) variable (0.3)ex(.)↑PREssions:. }
87           {puts paper on projector}
88   *T:     =so (.) please title your ↑NOtes,
89   *N:     {(16.8)}
90   *SS:    {write on notes}
91   *T:     {walks backwards towards the whiteboard}
92   *T:     okay.= >I< want you to ↓think for a minute
93           (0.8)I know ((cough)) (0.6) I know you can ↓do this,
94           {(2.7)}
95   *T:     {walks towards students}
96   *T:     ((clears throat))(0.7) there are ↑ti:mes throughout the da:y, =
97           I'm sure, (0.4) where ↑you ↓hear ((swallow))(1.2) words,((swallow))(1.3)
98           >but in actuality< you're talking about nu:mbers=
99   *T:     {=for exa:mple (0.5) Su:zie is six inches shorter than Mary.}
100          {moves left to right, back and forth}
101          (2.2)
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102   *T:    {↑>anybody else< think of an example that you hear,}
103          {raises her hands up with half open arms}
104          {(1.6)}
105   *T:    {continues her arms up, directs her RH to a student}
106   *T:    >Ashley?<
107          (0.3)
108   *SN:   how ↓OL:D is she turning,
109          {(0.8)}
110   *SN:   {slightly moves her LH}
111   *T:    okay,
112          (0.2)
113   *T:    brandon?
114          (0.9)
115   *SN:   to:m is five inches taller than suzie.
116          (0.9)
117   *T:    o[(hh)°kay,°]
118   *SS:   [laugh]
119   *T:    >anybody< else?
120          {(2.3)}
121   *SS:   {laughs}
122   *T:    PAtrick?
123          (1.6)
124   *SN:   {uh >never mind<}
125          {lowers his LH from his chin}
126          (0.7)
127   *T:    >kendra?<
128          (0.3)
129   *SN:   (um) >like when< you'r:e >taking like a test or something< and
130          the teacher is a:ll >you got like< that twenty out of like fortish.
131          (0.1)
132   *T:    go↓o:d (0.3)>good,< ken↑dra,
133          (0.2)
134   *T:    alex?
135          (0.2)
136   *SN:   >your pizza's< two: fifty,
137   *T:    oka:y?
138          {(0.9)}
139   *S:    {raises his/her hand}
140   *T:    >is that< how much they co:st here?=
141   *SS:   =yeah.=
142   *S:    =yu[p]
143   *SN:   [↓y]e:ah
144          (0.2)
145   *SN:   >you know< they [rip you ] O:ff
146   *T:                    [tim,]
147          (0.5)
148   *SN:   like my shoe size >is like< twel:ve, and ( ) are ( )
149   *T:    compa:red to (.) maybe >somebody el<[se's?]
150   *S:                                        [yeah.]
151          (0.1)
152   *T:    oKAY GOOd. (1.0) NOW (1.2) >I want you< think of ano:ther exam:ple here.
153          (0.2) SAY you have an a:fter school JOb. (1.1) >you make< seven dollars
154          an hour (1.5)but ↑this week,(0.8) you're busy.=
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155              {=you can only work two hours.}
156    *T:       {raises her LH, gestures two}
157              {(1.5)}
158              {continues gesturing two}
159    *T:       but ↑next week you can work te:n.

160              so: >↑I'm gonna< put up here,
161              (0.9)
162              {s:even dollars}
163              {writes on the board}
164    *T:       H((the letter)).
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Transcription Conventions
Adapted from ten Have (2007)

[	The point of overlapping talk onset
]	The point of overlapping talk terminate
{	The point of overlapping talk and gesture onset
}	The point of overlapping talk and gesture terminate
{ }	Overlapping talk and gesture, or overlapping gesture and gesture
=	Latching
(0.0)	Silence, represented in tenths of a second
(.)	Micro pause, less than 0.1 of a second
<u>word</u>	Stress via pitch and/or amplitude
:	Prolongation of the immediately prior sound
-	Cut-off
.	A stopping fall in tone
,	A continuing intonation
?	A rising intonation
↑↓	Shifts into higher or lower pitch in the utterance part immediately following the arrow
WORD	Especially loud sounds relative to the surrounding talk
°°	Relatively quieter sounds than the surrounding talk
< >	An utterance or utterance-part speeding up
w(h)ord	Breathiness, as in laughter, crying, etc.
( )	Transcriber's inability to hear what was said
(word)	Dubious hearings or speaker identifications
(( ))	Transcriber's descriptions rather than, or in addition to, transcriptions

@Begin

@Languages:	eng

@Participants:	T Teacher, SS Student, SN Student, S Student

@ID:	eng|TIMSS|T|||||Teacher|||

@ID:	eng|TIMSS|SS|||||Student|||

@ID:	eng|TIMSS|SN|||||Student|||

@ID:	eng|TIMSS|S|||||Student|||

@Media:	6019us203, video

@Comment:	This eighth grade mathematics lesson focuses on writing variable expressions. It is the introductory lesson to a unit of work on equations. The lesson is 53 minutes in duration. There are 31 students enrolled in the class. This is one of four lessons that were chosen to represent the United States data set. No individual lesson can capture all typical features of teaching in a country. However, the four public release lessons as a collection illustrate many typical features. The teachers filmed in this set of lessons volunteered to have their lessons included in the TIMSS 1999 Video Study Public Release collection. Their significant contribution to the field of education should be acknowledged with appropriate respect.This collection of lessons was videotaped for the specific purpose of education research. Therefore, the videotaping technique used was designed to minimize classroom disruption, and editing of the lessons was minimal.

*T:	see if you have any questions.

*T:	you had to cross out the box and what was left was your answer.

*T:	any questions, people?

*T:	how many had the entire assignment correct?

*T:	that's good.

*T:	great.

*T:	no questions?

*T:	okay, take out your notes then please.

*T:	okay.

*T:	what's today's date?

*T:	raise your hand?

*SN:	the twenty eighth.

*T:	Ryan?

*SN:	the twenty eighth.

*T:	the twenty eighth.

*T:	please date your notes.

*T:	november twenty eighth.

*T:	yes?

*SN:	are we allowed to take notes in pen if [/] if we want to?

*T: that's fine.

*T: that's the only thing you can do in pen in here.

*T: volunteer to read our quote of the week?

*T: Michelle?

*SN: +" what is the best [/] what is best in mathematics deserves not merely to be learned as a task.

*S: +" but to be assimilated as a part of daily thought, and brought again and again before the mind with ever renewed encouragement.

*T: very good.

*T: what does that mean, anybody?

%xTEA: Each week I put a different Math Quote on my board. They always relate to math and life in general. On Fridays when they have a quiz or test, the last question asks them to write what the quote means to them. I've received quite a few comical answers and some excellent and insightful ones, too.

*T: Patrick?

*SN: it means to not think of math as a like [//] as not something fun to do and only use it in school but to use it in your everyday life.

*T: very good.

*T: anybody else?

*T: Brandon?

*SN: that math is around you all the time.

*T: that's correct.

*T: and it means don't just learn it as a [//] because you have to.

*T: learn it because you want to and have it as a part of your daily life because math is?

*SS: power.

*T: all right.

*T: good.

*T: okay.

*T: today's lesson is titled +"/.

*T: +" writing variable expressions.

%xRES: Here the teacher begins to introduce new material, and she tells the students that the goal (or title) of the lesson is "writing variable expressions". Goal statements such as this one were found in 59% of the lessons in the U.S. data set (Video Report, figure 3.12).   The introductory portion of the lesson lasts approximately four minutes, after which the class practices working with the material they just learned. The amount of time spent introducing new material, here about eight percent of the lesson time, is a bit shorter than average (23% of the lesson time, Video Report, figure 3.8). Practicing takes up 53% of the lesson time, as compared to the U.S. average of 25% (Video Report, figure 3.8).

%xTEA: I have a poster in my room that is my pride and joy and I tell the kids this. It's a picture of a large fist with the word MATH written across the knuckles and in bold black letters at the bottom it says, MATH is POWER. Each day I prompt the kids by saying, "Math is......." and they say, "Power." As I walk through the halls they lift their fists and shout "Math is Power." I love it!!!

*T: so please title your notes.

*T: okay, I want you to think for a minute.

*T: I know [/] I know you can do this.

*T: there are times throughout the day, I'm sure, where you hear words but in actuality you're talking about numbers.

*T: for example, Suzie is six inches shorter than Mary.

*T: anybody else think of an example that you hear?

*T: Ashley?

*SN: how old is she turning?

*T: okay.

*T: Brandon?

*SN: Tom is five inches taller than Suzie.

*T: okay.

*T: anybody else?

*T: Patrick?

%xTEA: I always like to start each lesson relating it to real life and something with which they can identify.

*SN: uh, never mind.

*T: Kendra?

*SN: like, when you're taking a test or something and the teacher is like, you got a twenty out of like, forty.

*T: good.

*T: good Kendra.

*T: Alex?

*SN: your pizza is two fifty.

*T: okay.

*T: is that how much they cost here?

*SS: yeah.

*SN: yep.

*SN: they rip you off.

*T: Tim?

*SN: like my shoe size is like twelve and xxx are xxx.

*T: compared to maybe somebody else's?

*S: yeah.

*T: okay, good.

*T: now, I want you to think of here.

*T: say you have an after school job.

*T: you make seven dollars an hour.

*T: but this week, you're busy, you can only work two hours.

*T: but, next week you can work ten.

*T: so I'm going to put up here, seven dollars h@l.

*T: what is h@l?

*T: does anyone know?

*T: Alex?

*SN: hour.

*T: it's the hours.

*T: good.

*T: what is h@l called?

*T: does anyone know that?

*T: Patrick?

*T: Patrick?

*SN: me?

*T: yes.

*S: okay.

*T: Patrick.

*S: a variable?

*T: good.

*T: a variable.

*T: so writing expressions today, variable is number one.

*T: it's a letter that represents a value that can change.

*T: the example I gave you, that h@l can change.

*T: two hours this week.

*T: ten hours next week.

*T: variable.

*T: yes Brandon?

*SN: so the numbers change, not the, uh, letter?

*T: well what goes in for the letter changes?

*S: numbers?

*T: correct.

*T: yes?

*SN: then like [//] so you have like eight dollars could you go like eight and like b@l?

*T: sure.

*T: yes.

*T: you can use any letter.

*S: so, you can +...

*T: any letter in the alphabet will work.

*T: okay, that's a variable.

*T: what I wrote on the board, seven h@l, is called a variable expression because it contains a variable.

*T: you'll see it up there as one of the examples and the other two are also examples of variable expressions.

*T: can you see?

*T: so we have variable and variable expression.

*T: say that job that I have represented up here.

%xTEA: I have the students take notes from my own notes that I put on the overhead. I encourage them not to copy them word for word but to listen and then put their own thoughts and ideas down. I want them to use mine as a guide. They use these notes when doing their homework and on occasion I let them use these notes during the chapter test.

*T: you get a raise.

*T: you now make seven fifty an hour.

*T: how will that change?

*T: Jen?

*SN: there'll be point fifty after seven?

*T: okay, so seven point five h@l, right?

*S: yeah.

*T: okay.

*T: Brandon?

*SN: I don't [/] I didn't get it.

*T: which part?

*S: the uh, the H, seven H and then the four (.) where do you get the four w@l to +...

*T: that's just an example.

*T: that's just another example of a variable expression.

*T: okay?

*T: okay.

%xRES: As she introduces the topic of variable expressions, the teacher frequently brings in real-life examples. That is, she frames the problems around situations that students might encounter in their every day life. In the U.S. data set, 22% of problems per lesson, on average, were presented in a real-

life context (Video Report, figure 5.1). The remainder were presented using mathematical language and symbols only.

*T: another example.

*T: you're going to an Eagles game.

*SS: oh.

*T: Tim?

*T: I used Phillies in my other classes but for you Tim, I used Eagles.

%xTEA: I am a huge Philadelphia sports fan and my students are not. I am constantly using examples with my teams as opposed to theirs and they just groan. I find things like this keep them in tune with the lesson.

*SN: first the Raiders.

*T: okay?

*T: you're going to an Eagles game.

*T: they're selling hot dogs.

*T: they're very good by the way in Philadelphia.

*SN: so are the cheese steaks.

*T: so are the cheese steaks, you're right.

*T: okay.

*T: but, the hot dogs at Vet stadium where the Eagles play sell for three dollars.

*T: I want you to give me a variable expression for n@l hotdogs.

*T: Marcus?

*SN: n@l, hot, over three dollars.

*SN: or +…

*T: not over because that means divided.

*S: three n@l.

*T: three n@l.

*T: three n@l means however many I buy I have to pay three dollars for, right?

*SN: where do you get the n@l from?

*T: that's [//] I just said, that's the n@l number of hotdogs.

*T: that's what I'm using as my variable.

*T: Jen?

*SN: wouldn't that mean you have to multiply them?

*T: yes.

*T: that's right.

*T: so if I got two hotdogs how much money am I spending?

*SS: six dollars.

*T: three times two.

*T: good, Jen.

*T: yes?

*SN: can it be like any letter?

*T: it can be any letter.

*T: yes, Michelle it can be.

*T: good question.

*SN: but isn't it confusing?

*T: it can be any letter, Brandon.

*T: whatever you choose.

*T: okay, part b@l today.

*T: evaluating expressions.

*T: what I just did with the two dollars for a hotdog was evaluating an expression.

*T: so if I come back to my original example on the board here, seven h@l, and I said you worked two hours this week.

*T: how much money are you going to make this week, Ryan?

*SN: fourteen.

*T: fourteen.

*T: how much would you make if you worked ten hours next week?

*T: Josh?

*SN: seventy.

*T: good.

*T: what we just did was we took the number of hours and did what?

*T: Michelle?

*SN: multiplied it by a seven.

*T: good.

*T: but what [//] we actually put it in for there?

*T: didn't we?

*T: put it in for the h@l?

*T: well, that's what evaluating means.

*T: substituting a number for a variable.

*T: yes?

*SN: so for the hotdog thing, would the n@l be two?

*T: yes.

*T: we substituted two for the n@l.

*SN: oh.

*T: we evaluated that example.

*SN: do you have to write that then?

*SN: or, can you just write like how [//] like however many dollars it was times two?

*T: yeah.

*T: do you have to write what [/] what?

*T: this?

*S: do you have to write the n@l or +…

*T: well normally you'll be given that, yes.

*S: okay.

@End