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Ryo Moriya, Waseda University, Tokyo, Japan

Corresponding author: ryo.m6bell.a@gmail.com

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Longitudinal Trajectories of Emotions in Four Dimensions Through Language Advisory Sessions

Ryo Moriya, Waseda University, Tokyo, Japan

Abstract

Through advising in language learning, this study describes two Japanese secondary school students' (Ai and Yu: both pseudonyms) longitudinal trajectories of socioculturally mediated emotions in four dimensions. To investigate types of emotions, the research integrates multiple qualitative methods and Plutchik's wheel of emotions, thus acknowledging both contextually complex and longitudinally dynamic aspects of emotions. Throughout a year of 19 advisory sessions, the amount of time spent was 1,263 minutes (Ai's 12 sessions = 891 minutes; Yu's 7 sessions = 372 minutes), and the number of emotional incidences identified was 358 (201 for Ai; 157 for Yu). Among multiple findings, the most notable was that both participants experienced convergence of emotions: the one process from diversified to less diversified emotions was caused by longitudinal dynamics of emotions in Ai's case and by contextual complexity of emotions in Yu's case. The study concludes by suggesting a tentative four-dimensional model of emotions to capture trajectories of advisees' emotions from multiple perspectives. This model can help advisors to understand advisees' emotionality and, therefore, to implement emotional support appropriately and continuously.

Keywords: longitudinal study, advising in language learning, secondary school students, emotion, sociocultural aspects

After years of neglect, many researchers have turned to the importance of emotions in language learning because, as Swain (2013) states, there is an inseparable relationship between cognition and emotion. In Sociocultural theory (SCT), following Vygotsky (1978) and his colleagues, this interrelatedness is conceptualized as *perezhivanie* (e.g., Poehner & Swain, 2016; Swain, Kinnear, & Steinman, 2015; Van Compernelle, 2014), a Russian term that originally described the dialectical unity of cognition and emotion and that represents a central concept in SCT (Lantolf, Poehner, & Swain, 2018). However, since investigating emotion had been previously regarded as taboo even in psychology, doing so is not so simple that many researchers have explained emotions' difficult aspects (Barcelos, 2015). By the same token, advising in language learning (ALL) needs to include some emotional support for advisees because of overly strong emphasis on its cognitive and/or metacognitive aspects

(Tassinari, 2016). Therefore, this paper intends to advance implementation of emotional support in advisory sessions through multiple case studies, which are appropriate for describing how advisees' emotions were observed and how they interrelated longitudinally with external variables. First, this study describes some issues of emotions and, second, addresses the importance of emotional support—especially in advisory sessions—grounded in SCT as a theoretical framework. Next, the study provides detailed explanation of the methods for describing advisees' emotions, focusing specifically on sociocultural aspects. Finally, the study suggests that such information about advisees' emotions will be of value in supporting advisees (and other participants) from various perspectives.

Literature Review

Defining emotions and Plutchik's theory

People can probably imagine various emotions with ease, but defining emotion itself is challenging because of its multidimensionality. Whether intentionally or unintentionally, many researchers avoid explicitly defining emotion. By referring to Reeve (2009), however, Gregersen, MacIntyre, and Meza (2014) define emotion as “a coordinated reaction typically covering four domains: subjective feelings, biological/physical reactions, purposive (goal-directed) behavior, and a social component that guides emotional expression and interpretation in situ” (p. 575). As Barcelos (2015) and Reeve (2009) indicate, emotion is constructed variously and has multidimensional, complex, and dynamic characteristics, so this paper follows Averill's definition because, from a social constructivist view, emotion is socially mediated and includes how people interpret their ongoing situation (Oxford, 2015). In fact, some researchers argue and conceptualize emotions as socially constituted (e.g., Gross, 2015; Miller & Gkonou, 2018; Zembylas, 2005), which shares similar ontological and epistemological stances with SCT. According to Averill (1980), “an emotion is a transitory social role (a socially constituted syndrome) that includes an individual's appraisal of the situation and that is interpreted as a passion rather than as an action” (p. 312). That is, since situations or social contexts (i.e., social roles) evoke our sets of responses (i.e., syndromes), emotions are not inner feelings but what we respond to and how we symbolize it (for further discussion, see Aranguren, 2017). More specifically, this definition indicates that emotion is socioculturally constructed.

The term *affect* covers a broad range, not limited to emotions, but including emotions, feelings, moods, beliefs, attitudes, and motivations (Oxford, 2011, 2017; Yamashita, 2015). In other words, emotion is categorized within affective factors, and

emotion is also an important affective variable of language learning (e.g., Dörnyei & Ryan, 2015; Gkonou, Daubney, & Dewaele, 2017; Imai, 2010). However, some psychologists or neuroscientists distinguish between emotions and feelings (e.g., Damasio, 2006; Immordino-Yang & Damasio, 2007), but Plutchik (1980, 2001) uses these terms interchangeably. In addition, other researchers do not clearly state the difference between the two, so following their stances, this paper also regards emotions and feelings as equivalent because the researcher applies Plutchik's model to the analysis. However, according to Oxford (2011, 2017) and Yamashita (2015), who have applied findings in such areas as clinical psychology to psychology of language learning, the difference between emotions and moods is that emotions are transient but observable, while moods are durable but almost unobservable (Figure 1).

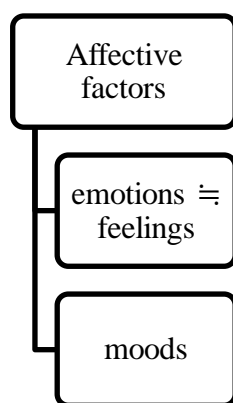


Figure 1. Researchers' Summary of Affect, Emotions, Feelings, and Moods (Oxford, 2011, 2017; Plutchik, 1980, 2001; Yamashita, 2015).

Plutchik (1980, 2001) suggests three dimensions of emotion: type, intensity, and proportion. Types of emotions fall into two categories, positive or negative. Positive emotions, for example, include happiness, excitement, and trust, while negative emotions include anxiety, anger, disgust, and so on. Even during language learning, people feel many varieties of emotions (Gkonou & Miller, in press), and intensity indicates how strongly people feel a certain emotion. In Plutchik's (2001) model, descriptive words are adjusted depending on how intense emotions become. For instance, if sadness is strengthened, it can become grief. By categorizing emotional descriptors according to level of intensity, Plutchik created the model called "the wheel of emotions" (see Appendix A). This model mentions how proportionate emotions are. However, for Plutchik, proportion differs slightly from what Dewaele and MacIntyre (2014) express as "two faces of Janus," implying both positive and negative valences in one emotion. In their study, anxiety, manifesting as anger or anguish,

can function as a hindrance to language learning, but positive anxiety causes excitement. Despite Dewaele and MacIntyre's (2014) insights, their study focuses on the outcome of a certain emotion, not on emotion itself. Thus, proportion, according to Plutchik (1980, 2001), is a mixture of more than one emotion, so this third dimension integrates emotions' type and intensity. To put it another way, the proportion of emotions can be understood only after their type and intensity are determined because mixed feelings result from two (or more) types of emotions and, to determine their proportion, their intensity should also be considered. Consequently, considering emotions' comprehensiveness, this study follows Plutchik's (1980, 2001) theory (Figure 2).

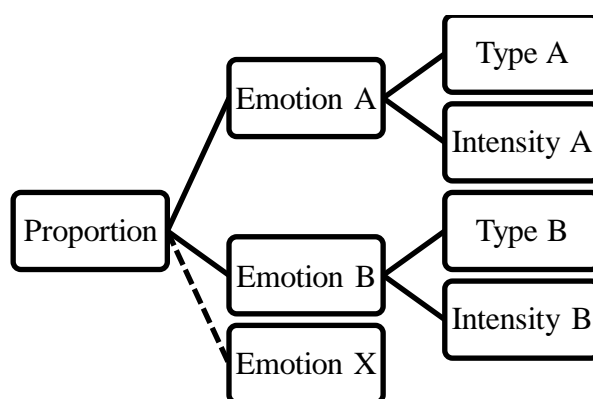


Figure 2. Three Dimensions of Emotions Based on Plutchik's Theory (1980, 2001).

Emotional support and perezhivanie for advisees

Advising in Language Learning (ALL) is defined as a dialogic, dialectic process of helping second language (L2) learners solve their language-related issues (Kato & Mynard, 2015; Mynard & Carson, 2012). Through ALL sessions, advisors encourage advisees to be autonomous (Benson, 2007, 2011) because ALL's primary purpose is to facilitate self-directed learning (Dörnyei & Ryan, 2015). Self-directed learners have knowledge and understanding of their learning and can also manage it, thus developing awareness of language learning. Generally, ALL is a comparatively new practice for L2 learners in Japan, and although it is growing in some higher education settings, some issues need consideration (Moriya, 2018a, 2018b).

One issue is the need for advisees' affective support, which is this study's focus. Indeed, Tassinari (2016) has strongly criticized advising sessions that place an emphasis on cognitive and/or metacognitive aspects, for instance, learning strategies, styles, and preferences. Of course, she admits the importance of these aspects, but she also addresses the

importance of affective support, especially emotional support because cognition and emotion are interrelated (e.g., Douglas Fir Group, 2016; Immordino-Yang & Damasio, 2007; Swain, 2013). Considering the interconnectedness between cognition and emotion, similarly conceptualized as *perezhivanie* in SCT (Fleer, González Ray, & Veresov, 2017; Veresov & Mok, 2018), some studies focusing on emotions during advisory or counseling sessions have been conducted (e.g., Carette, Thiébaud, & Nassau, 2015; Tassinari, 2016; Tassinari & Ciekanski, 2013). However, since emotions could underlie L2 learners' identities (Miyahara, 2015; Moriya & Ishizuka, in press), advisors need more holistic understanding of advisees' emotionality to provide more appropriate support continuously.

The Study

The present study addresses the following four research questions:

RQ1: What kind of emotions do advisees have in their lives?

RQ2: How contextually complex are advisees' emotions in their lives?

RQ3: How longitudinally dynamic are advisees' emotions in their lives?

RQ4: What characteristics do advisees' trajectories of emotions have in their lives?

These overarching purpose of the research is to establish emotional support for advisees (Carette, Thiébaud, & Nassau, 2015; Tassinari, 2016; Tassinari & Ciekanski, 2013). The first research question focuses on types of emotions in response to Pavlenko (2005, 2013), who mentions that differences in emotions depend on learners' languages. If advisees' L2 emotions differ, language choice during advisory sessions must be seriously considered; if not, Pavlenko's finding insightfully contributes to L2 advising. As Averill's (1980) definition and the Douglas Fir Group's (2016) transdisciplinary framework (Appendix B) indicate, the second research question focuses on the contextual complexity of emotions because emotion is socioculturally mediated and myriads of cultural artifacts, such as language, trigger "colorful" emotions. The third research question focuses on the longitudinal dynamics of emotions or how kaleidoscopically changing emotions are—because, presumably due to feasibility, many studies are conducted with a one-shot design (e.g., Gallo & Tassinari, 2017; Dewaele & MacIntyre, 2014; Gregersen, MacIntyre, & Meza, 2014). The fourth research question integrates the other questions to create advisees' trajectories of emotions because multidimensional trajectories paint different empirical pictures compared to findings obtained from individual questions.

Methodology

The current study adopts multiple, longitudinal case studies (Creswell & Poth, 2017). Case study research is appropriate for conducting in-depth data collection on the complex nature of emotion because, despite its subjectivity, qualitative research allows participants' experiences to be understood in context (Creswell, 2015; Mackey & Gass, 2012), and longitudinal studies reveal the dynamic nature of emotion. The overall research design follows that of Moriya (2018a, 2018b).

In this one-year study, two 17-year-old female Japanese learners of English voluntarily participated (pseudonyms: Ai and Yu). Their selection reflects purposive sampling (Given, 2008) because in previous research, participants were mainly college students (e.g., Mynard & Carson, 2012; Tassinari, 2016; Thornton, 2016; Yamashita, 2015). Data from secondary school students can provide precious insights into unique issues caused by daily classes and anxiety about forthcoming entrance examinations, among others relevant to studying English. On the surface, Ai and Yu share commonalities: they are in the same year of school, interested in English, and, to some extent, influenced by their siblings (Ai's younger brother and Yu's elder sister). However, close investigation revealed completely different profiles, and these differences are introduced individually.

This study includes multiple data sources because ALL generally needs various tools to support advisees from several perspectives. However, the most important tool for this study was learning logs in which advisees tracked their English study (Kato & Mynard, 2015; Yamashita, 2015). As the example indicates (Figure 3), these learning logs consisted mainly of three parts. On the left, "Content of learning" asks what the advisees did that day. In the middle, "Self-reflection" encourages them to reflect on their study because reflection plays an important role in ALL (Kato & Mynard, 2015). On the right, "Today's feeling" checks how advisees felt throughout the day. Self-reflection and Today's feeling elicit advisees' emotions, while Content of learning contextualizes how they feel a certain emotion. Based on their descriptions, during each session, I confirmed content and context of their emotions as member checking by participants, which is a technique "to enhance trustworthiness and credibility of data analysis" (O'Brien, Harris, Beckman, Reed, & Cook, 2014, p. 1247). Every advisory session was audio-recorded and, in Ai's case, eight sessions were also video-recorded; she allowed this prior to beginning advisory sessions. Therefore, audio data accumulated to more than 21 hours (1,263 minutes) and video data to more than 9 hours (568 minutes). For this analysis, however, video data was only for triangulation. During sessions, I took field notes for two purposes, first, to triangulate data as a researcher and, second, to

improve subsequent ALL sessions as an advisor. After the sessions, memos were written, especially during analysis, to interpret data iteratively and deeply.

<i>Learning Log (Example)</i>				
Date	Time spent	Content of learning (action I have taken)	Self-reflection (how I feel about the action)	Today's feeling
7 / 18 Mon.	1 hour and 30 minutes	Listened to a TED talk on design. I made a note of expressions I liked.	It was interesting for me to learn vocabulary in this way. I can learn better by listening to something.	tired but interesting
7 / 19 Tue.	10 minutes	I read a novel "The Little Prince" for 3 pages.	I was so busy that I could read only 3 pages. And, I couldn't concentrate well. So, tomorrow, I will try harder than today.	sad
7 / 20 Wed.	3 hours	<ul style="list-style-type: none"> • read newspaper for 3 articles • listened to music "Yesterday" • talked with ALT for 30 minutes 	<ul style="list-style-type: none"> • Yesterday, It was terrible. • I tried to study as much as I could. • Trying many ways was good for me, I think. 	happy and delightful
7 / 21 Tur.				
7 / 22 Fri.				
7 / 23 Sat.				
7 / 24 Sun.				

Question for advisor / Comment

I am wondering whether it is good to read aloud or read silently. This week, I couldn't do well, so I would like to study more than 10 hours next week! (日本語でも構いませんが、積極的に英語を使ってみましょう！)

Total: 4h 40min. / a week

Figure 3. Example of Advisees' Learning Logs.

To create trajectories of advisees' emotions, multiple analytical methods and multiple data sources for triangulation were applied, including: (a) Plutchik's (2001) wheel of emotions, (b) activity theory (Engeström, 2001; Appendix C), (c) a transdisciplinary framework (Douglas Fir Group, 2016), and (d) the Trajectory Equifinality Model (Sato, Mori, & Valsiner, 2016; Appendix D). For the research question on types of emotions, Plutchik's wheel of emotions is theoretically comprehensive and understandable as a coding schema (referring to Tassinari, 2016). For the question focusing on emotions' contextual complexity, referring to Gkonou (2017), activity theory and a transdisciplinary framework serve as pre-determined frameworks (i.e., activity theory for artifacts; a transdisciplinary framework for levels). For the third question, the Trajectory Equifinality Model is effective when considering emotions' dynamics. Considering the amount of data and different data sources, even in an exploratory study, pre-determined frameworks are highly helpful because this study's purpose is to provide advisees' emotional guidance. In addition, the analytical lenses

from (b) to (d) were fundamentally developed from Vygotskian theory, thus sharing high commensurability or similar axiological viewpoints.

Findings and Discussion

The time spent on 19 ALL sessions was 1,263 minutes. On average, each session lasted about 66.47 minutes. The number of emotional incidences identified was 358. Using labels from Plutchik's (2001) wheel of emotions, the following types emerged: 178 joy, 7 trust, 9 fear, 10 surprise, 46 sadness, 72 disgust, 15 anger, and 21 anticipation. Referring to Gallo and Tassinari (2017), this information is summarized in Figure 4, and emotions are placed as on Plutchik's wheel of emotions. Notably both Ai and Yu felt joy the most (178/358), but disgust was second (72/358), trailed by many fewer incidents of sadness (46/358) among the eight basic emotions. The other five emotions seemed less frequently co-constructed. As adopted from activity theory analysis (Engeström, 2001), the following lists Ai and Yu's interactions: 78 class, 51 test, 53 homework and studying, 34 club activity, 39 daily life, 27 school, 15 cram school, 15 friends, 4 university, 10 music, 5 movie, 9 trip, 6 self, 7 value, 3 study, and 2 weather. In regard to emotions' contextual complexity, details of emotions' levels based on the Douglas Fir Group (2016) follow: 129 micro level, 211 meso level, and 18 macro level. However, these results show only overall characteristics from which we can derive little understanding. Better understanding of each advisee derives from comparison of individual results to total results. In the next sections, therefore, each case is carefully described according to the research questions.

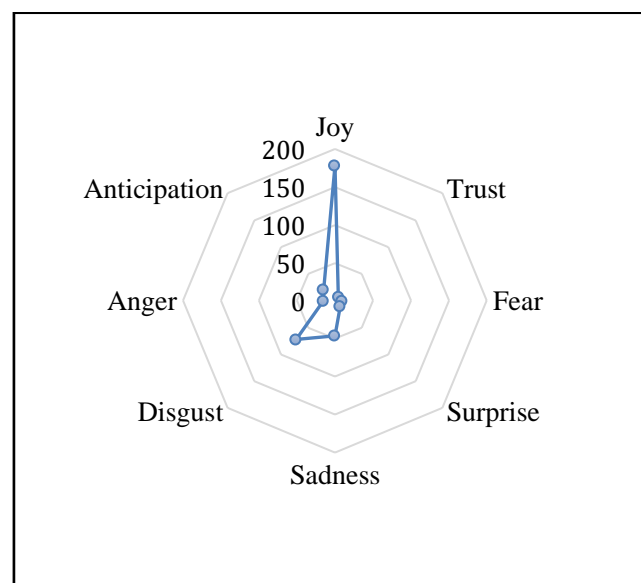


Figure 4. Total Frequency of Emotions According to Type for Both Advisees.

RQ1: What kinds of emotions did the advisees have in their lives?

In Ai's case, the time spent on 12 ALL sessions was 891 minutes, with each session lasting an average of 74.25 minutes. Incidences of identified emotions numbered 201. According to Plutchik's (2001) wheel of emotions, types included: 129 joy, 0 trust, 6 fear, 1 surprise, 29 sadness, 23 disgust, 4 anger, and 9 anticipation (Figure 5). As adopted from activity theory analysis (Engeström, 2001), Ai interacted in the following artifacts: 45 class, 31 test, 32 homework and studying, 26 club activity, 19 daily life, 13 school, 15 cram school, 2 friends, 4 university, 2 music, 1 movie, 6 self, 3 value, and 2 study. As for emotions' contextual complexity, details of emotional levels based on the Douglas Fir Group (2016) were: 76 micro level, 114 meso level, and 11 macro level. Figure 5 shows that Ai most experienced incidences of joy (129/201), but surprisingly, sadness was second (29/201), followed by disgust (23/201) even though these two emotions' incidences were many fewer than those of joy. The other five emotions less frequently emerged, and trust never emerged, or it received no attention during the year.

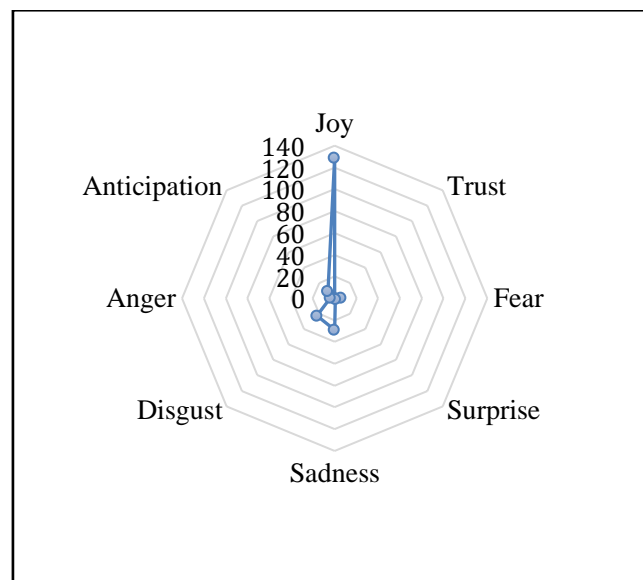


Figure 5. Frequency of Emotions According to Type in Ai's Case.

Yu's case shows quite different characteristics. The time spent on seven ALL sessions was about 372 minutes, each session lasting an average of 53.14 minutes. Emotional incidences numbered 157. According to Plutchik's (2001) wheel of emotions, these were: 49 joy, 7 trust, 3 fear, 9 surprise, 17 sadness, 49 disgust, 11 anger, and 12 anticipation (Figure 6). As adopted from activity theory analysis (Engeström, 2001), Yu interacted in the following artifacts: 33 class, 20 test, 21 homework and studying, 20 daily life, 14 school, 13 friends, 9

trip, 8 club activity, 8 music, 4 movie, 4 value, 2 weather, and 1 study. As for emotions' contextual complexity, details of emotional levels based on the Douglas Fir Group (2016) were: 53 micro level, 97 meso level, and 7 macro level. Clearly, the crescent-like shape in Figure 6 results from two emotions: joy and disgust. For Yu, surprisingly, joy and disgust were first (each 49/157), followed by sadness (17/157). Regardless of frequency, Yu felt each of the eight types of emotion.

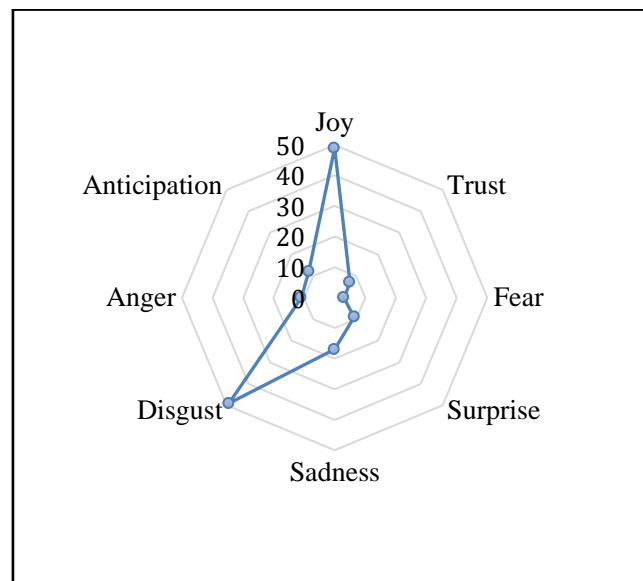


Figure 6. Frequency of Emotions According to Type in Yu's Case.

RQ2: How contextually complex are advisees' emotions in their lives?

Secondly, the research focuses on emotions' contextual complexity. In this section, I report each advisee's emotions according to codes of artifacts and three levels. Figures 7 to 9 display artifacts with which Ai socioculturally interacted and what types of emotions she felt toward each artifact according to each level. On the micro level (within classroom), artifacts were "class" and "test." "Class" indicates, of course, everyday classes at her secondary school, including general classroom activities. "Test" includes more specific moments: weekly quizzes, midterms, or end-term examinations, and mock university entrance examinations.

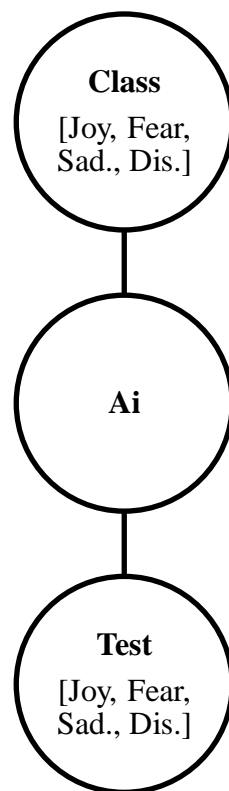


Figure 7. Ai's Contextual Complexity of Emotions on the Micro Level.
(Words in brackets 'Sad.' and 'Dis.' abbreviate sadness and disgust).

On the meso level (outside classroom; Figure 8), Ai interacted with various artifacts, summarized as nine codes: homework and studying, club activity, daily life, school, cram school, friends, university, music, and movie. "Homework and studying" include studying at home or other places (e.g., library, study room at her school or cram school, and coffee shop), not in the classroom. "Club activity" indicates her brass band club. "Daily life" supposes various situations, but ethical issues prevent provision of all the information. However, daily life includes playing with friends, moments with family, trips (but not abroad). "School" is a broader code not limited to club activity because every school regularly holds school festivals, excursions, and course information sessions. "Cram school" indicates weekly English classes held by the tutor (author/researcher). "Friends," "music," and "movie" may be taken literally. "University" includes open campus and school festivals held by the university. Because Ai was thinking seriously about her future, because of her bitter experience in junior high school, she eagerly tried to understand what the university is like and searched for information. Therefore, she felt excitement (coded as anticipation) toward the university and vividly imagined her future.

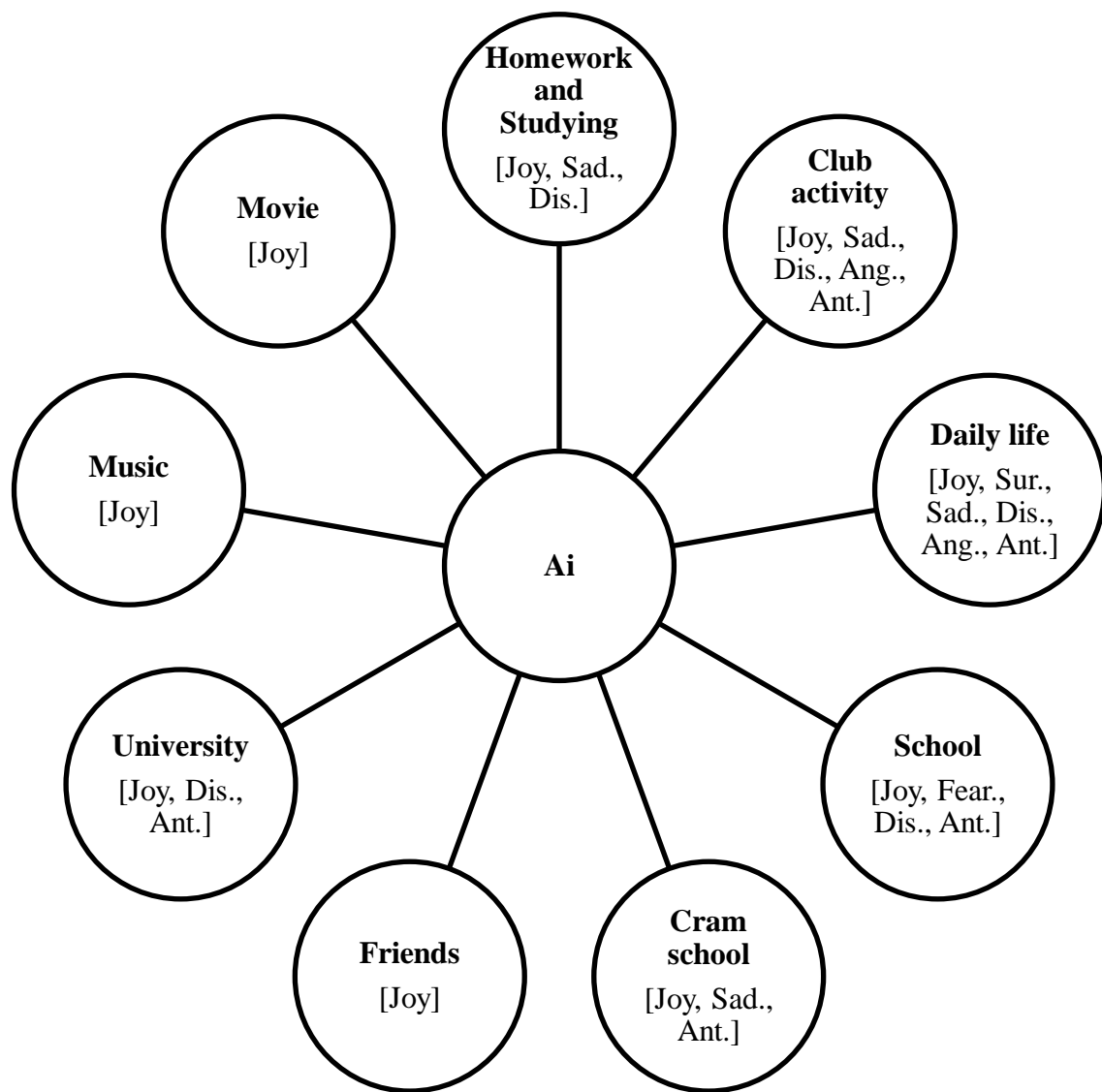


Figure 8. Ai's Contextual Complexity of Emotions on the Meso Level.
(Words in brackets 'Sur.', 'Sad.', 'Dis.', 'Ang.', and 'Ant.' abbreviate surprise, sadness, disgust, anger, and anticipation, respectively).

On the macro level (simply neither the micro level, nor the meso level), Ai interacted with artifacts of: “self,” “value,” and “study” (Figure 9). “Self” implies her image reflected by and confirmed through her actions. “Value” indicates her values or her philosophy of life through her experiences. “Study” differs from “homework and studying” on the meso level in that the former indicates “pressure” or her obligation as a student, so that she thought only about study; the latter covers acts of studying. Thus, the difference lies simply in whether she studied or not.

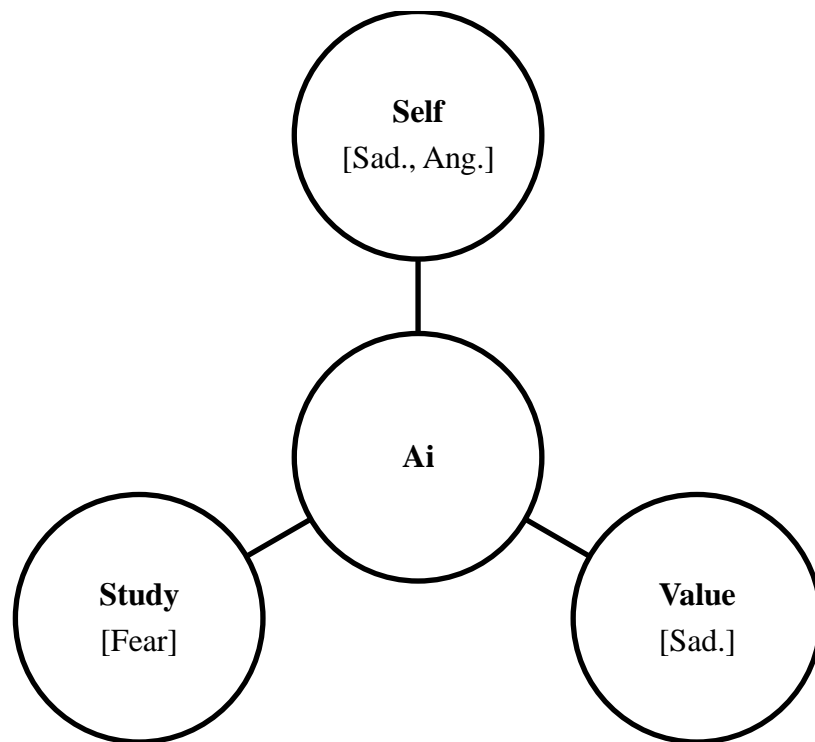


Figure 9. Ai's Contextual Complexity of Emotions on the Macro Level.
(Words in brackets 'Sad.' and 'Ang.' abbreviate sadness and anger).

The next focus is on emotions' contextual complexity in Yu's case. Figures 10 to 12 display artifacts with which Yu socioculturally interacted and types of emotions she felt toward each artifact according to each level. On the micro level (within classroom; Figure 10), as in Ai's case, artifacts were: "class" and "test." Within each code, Yu felt various types of emotions even though the number of basic emotions is only eight.

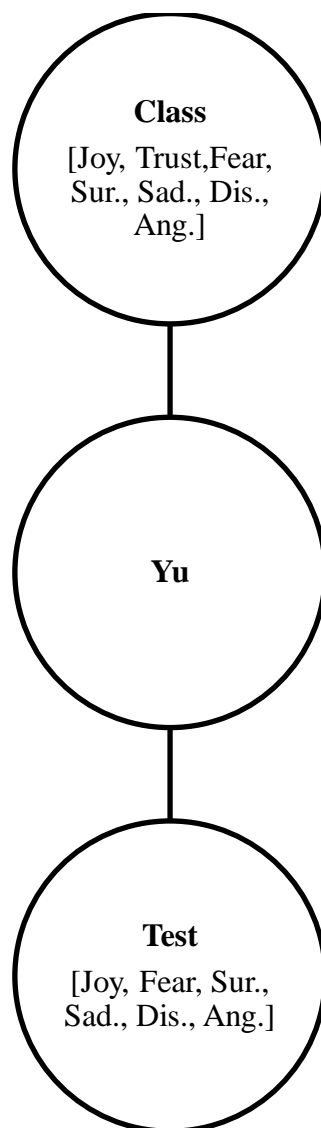


Figure 10. Yu's Contextual Complexity of Emotions on the Micro Level.
(Words in brackets 'Sur.', 'Sad.', 'Dis.', and 'Ang.' abbreviate surprise, sadness, disgust, and anger, respectively).

On the meso level (outside classroom; Figure 11), Yu interacted with various artifacts, summarized as eight codes: homework and studying, daily life, school, friends, club activity, music, movie, and trip. Almost all are equivalent to Ai's codes, but one new code is "trip," which includes planning and the stay. Because Yu and her mother love any length of trip, she repeatedly expressed her emotions through overseas trips as an artifact on the meso level.

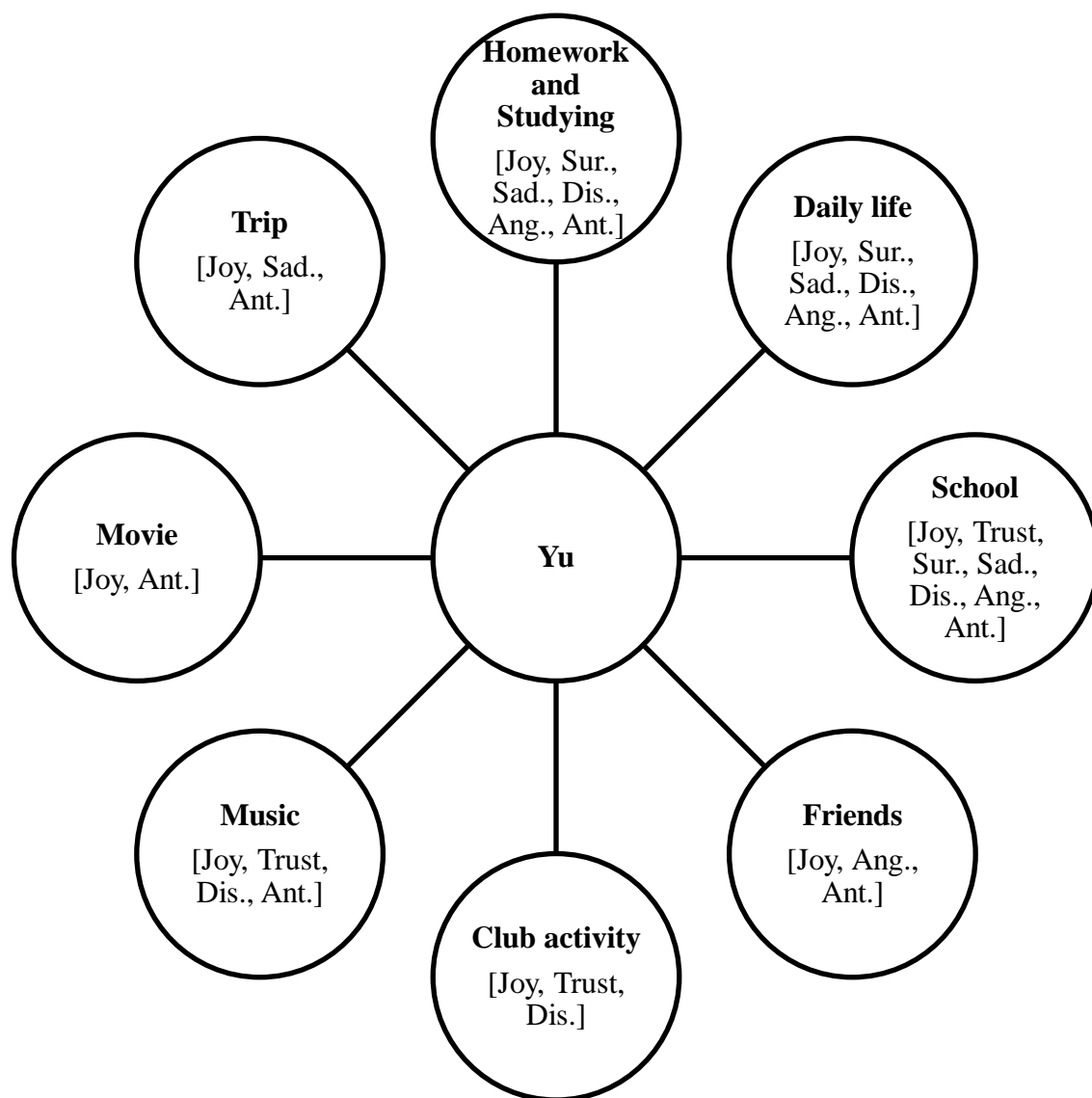


Figure 11. Yu's Contextual Complexity of Emotions on the Meso level.
(Words in brackets 'Sur.', 'Sad.', 'Dis.', and 'Ang.', and 'Ant.' stand for surprise, sadness, disgust, anger, and anticipation, respectively).

On the macro level (neither the micro level, nor the meso level; Figure 12), Yu interacted with artifacts summarized as three codes: “weather,” “study,” and “value.” Whether “weather” is an appropriate code is difficult to decide; however, “weather” is also an external factor that likely influences learners' emotions. For example, some may feel depressed when it rains, but others may feel joy at the music of raindrops. Thus, imagining situations that may co-construct different emotions, “weather” is reasonably regarded as a macro code. “Value” partly relates to too-private information, so for ethical reasons, it is impossible to introduce every detail.

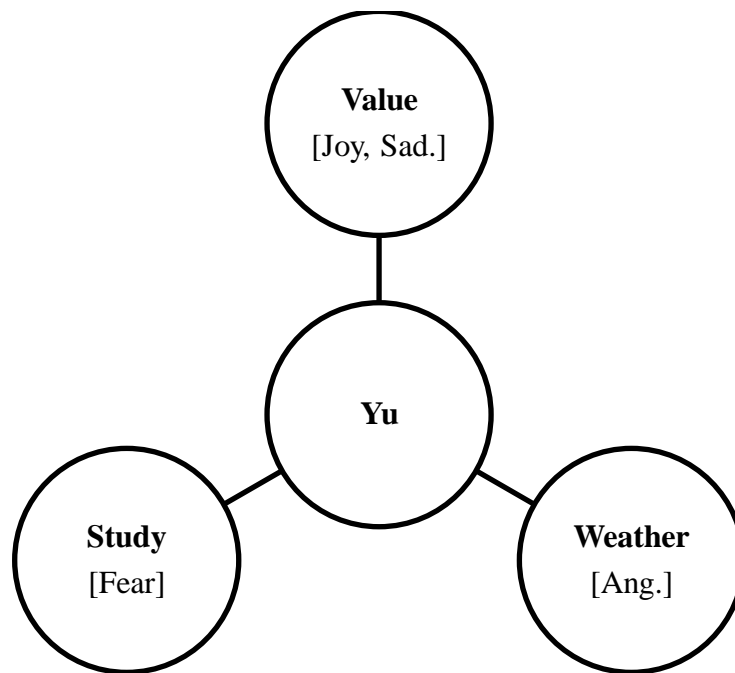


Figure 12. Yu's Contextual Complexity of Emotions on the Macro Level.
(Words in brackets 'Sad.' and 'Ang.' abbreviate sadness and anger).

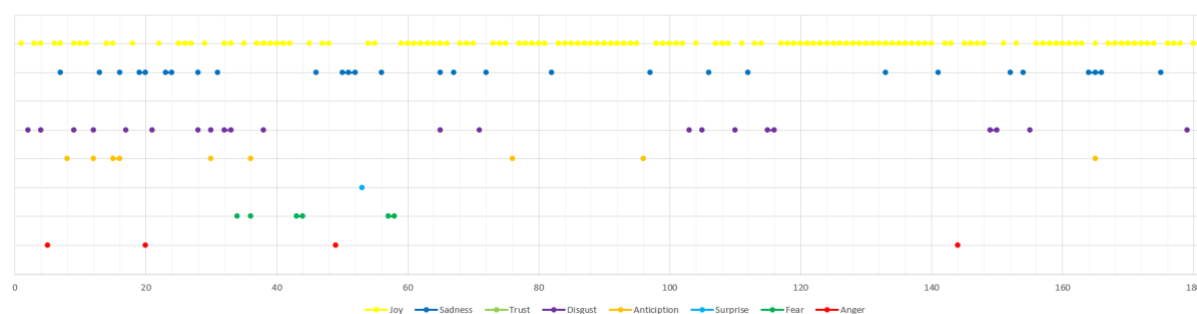
RQ3: How longitudinally dynamic are advisees' emotions in their lives?

The third emphasis is emotional dynamics. Table 1 is color-coded to show how longitudinally dynamic Ai's emotions were (for further details, see Appendix E). Again, color is represented as on Plutchik's (2001) wheel of emotions (yellow for joy, blue for sadness). Instead of an arrow from left to right, numbers ranging from 1 to 182 indicate observed points of emotion, representing the flow of time and referring to the Trajectory Equifinality Model (Sato, Mori, & Valsiner, 2016; Sato, Yasuda, Kanzaki, & Valsiner, 2014). Thus, these numbers do not represent intervals or ranks; they are regarded only as a nominal scale. As Table 1 shows, Ai's emotionality was stable for joy throughout the year, and despite less frequency, the same is true for sadness and disgust. Interestingly, Table 1 also shows emotions' distribution on the time axis. Apparently, types of emotion gradually decreased. In other words, by about point 60, Ai felt another four emotions (anticipation, surprise, fear, and anger) in addition to joy, sadness, and disgust, but especially after that point, these emotions become less frequent. One reason could be relevant to her dreams for the future. That is, before senior high school, her aim was simply to enter a "prestigious" university; she had no clear vision of her future career, especially at the beginning of the advisory sessions (for further details, see Moriya, 2018a). However, through dialogue with the advisor and use of advising tools, around that point, she began to manifest interest in editing because she found it interesting to work with words and arrange messages effectively. Still, the advisor's clear

remembrance of that day is triangulated through various data sources (field notes, memos, and audio recordings) because she shared her splendid dream during the tenth session. After this memorable moment for Ai and the advisor, she decided on her future, so emotions became concentrated on certain types, thus changing their trajectory into positively less diversified emotions.

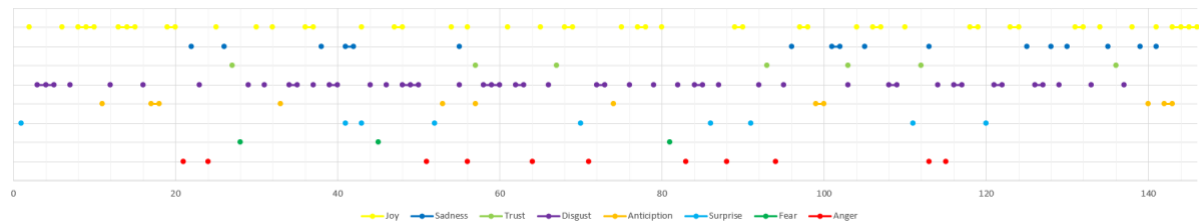
Table 1

Summary of Types and Dynamics of Emotions in Ai's Case (Overall)



The third emphasis on emotional dynamics (Table 2) shows how longitudinally dynamic Yu's emotions were by color-coding each basic emotion. Table 2 shows how Yu expressed "colorful" emotions throughout the advisory sessions (for further details, see Appendix F). One of the most noticeable findings from the following table is discontinuity of specific emotion. That is, no emotion continually "lights" more than three points (only joy, from point 143 to point 146, continually covers four points), so, within one to three points, Yu's emotion changed vividly, just as light flickers. Even with this furiously transient nature of emotions, another interesting finding is that, to some extent, joy and disgust appear alternatively. By considering the axis of time, we can better understand Yu's emotional state because, without considering the dynamic aspect, we can hardly understand this relatively balanced occurrence of joy and disgust. Therefore, this information parallels her narrative of emotions, explained by rewards (Moriya, 2018a). The balancing could also be explained by emotional management (Gkonou & Oxford, 2016) or emotion regulation (Gross, 2015) because Yu well managed or bore her negative emotions, anticipating their "cure" by forthcoming joyful events.

Table 2

Summary of Types and Dynamics of Emotions in Yu's Case (Overall)**RQ4: What characteristics do advisees' trajectories of emotions have in their lives?**

After investigating each case's emotional types, contextual complexity (artifacts and levels), and dynamics of emotions, lastly, each trajectory of emotions is compared to detect similarities and differences. Of course, fundamentally, every person is different, but finding some similarities between Ai and Yu would provide some deeper insights for the fields of emotion, ALL, and SCT. Therefore, Table 3 summarizes all the data on emotions according to type, artifacts, and levels.

Table 3

Summary of Types and Frequencies of Contextually Complex Emotions in Both Cases

	Micro			Meso							Macro						
	class	test	homework	club	daily	school	cram	friends	university	music	movie	trip	self	weather	value	study	Total
Joy	33/7	17/4	27/3	14/1	12/6	8/3	11/0	2/11	2/0	2/5	1/2	0/5			0/2		178
Trust	0/3			0/1		0/2				0/1							7
Fear	2/1	2/1				1/0										1/1	9
Surprise	0/3	0/2	0/1		1/2	0/1											10
Sadness	5/2	10/6	2/1	2/0	1/1	0/3	2/0					0/2	4/0		3/2		46
Disgust	5/14	2/5	3/13	6/6	3/8	3/2			1/0	0/1							72
Anger	0/3	0/2	0/1	1/0	1/1	0/1		0/1					2/0	0/2			15
Anticipation			0/2	3/0	1/2	1/2	2/0	0/1	1/0	0/1	0/2	0/2				1/0	21
Total	78	51	53	34	39	27	15	15	4	10	5	9	6	2	7	3	358

Note. Homework = homework and studying; club = club activity; daily = daily life; cram = cram school. The left number in each cell represents Ai's frequency, while the right number represents Yu's frequency. The blank cell indicates no frequency in either case.

Most notably, in emotional dynamics (Table 1 for Ai; Table 2 for Yu), one similarity is that joy, sadness, and disgust appeared consistently throughout the year. Of course, since Yu's emotionality was expressed discontinuously, the length of points for certain emotions differed somewhat, but whether transient or stable, these emotions were repeatedly and alternatively mentioned. In contrast, the difference between Ai and Yu is the convergence of types of emotions. That is, as mentioned, the number of types of emotions that Ai expressed decreased, especially after point 60, but Yu's emotions were completely dispersed, even the

less frequent ones. Similarly, both Ai and Yu's emotions gradually converged, but their convergences occurred differently. For Ai, types of emotions became less diversified as time passed (especially after point 60). For Yu, types of emotions became less diversified according to their levels (from the micro and meso levels to the macro level, or whether relevant to "school"). Therefore, emotional dynamics made Ai feel less diversified emotions, while emotions' contextual complexity (especially their levels, but partly artifacts) made Yu feel less diversified emotions. However, reduced emotional diversity is not a negative phenomenon. Rather, Ai and Yu seemed to do well, thanks to their individual characteristics because, as their narratives showed, Ai came to enjoy studying more, and Yu tried to balance her emotionality through her interest in art.

Conclusion

In summary, this study's overarching purpose was to establish emotional support for advisees (Carette, Thiébaud, & Nassau, 2015; Tassinari, 2016; Tassinari & Ciekanski, 2013) by describing longitudinal trajectories of socioculturally mediated emotions through advisory sessions. This is because ALL has over-emphasized cognitive and/or metacognitive aspects of language learning despite "the inseparability of cognition and emotion" (Swain, 2013). Four research questions were addressed to investigate emotions from multiple perspectives. Participants (or advisees) were two female, secondary school Japanese learners of English, Ai and Yu (pseudonyms). Throughout a year of advisory sessions, I qualitatively examined what emotions they felt and with what artifacts they socioculturally interacted. Perspectives applied in the study included type, contextual complexity (artifacts and levels), and dynamics of emotions. After integrating all data through multiple qualitative analyses with pre-determined frameworks (Plutchik's wheel of emotions for type, activity theory for contextual complexity of artifacts, a transdisciplinary framework for contextual complexity of levels, and the Trajectory Equifinality Model for dynamics), trajectories of advisees' emotions were created and compared.

Study findings have some significance, but limitations as well. Many similarities and differences in type, contextual complexity, and dynamics were found through comparison. However, for brevity, I focus briefly on a few findings. Overall similarities can be summarized as the following: joy accounted for more than or nearly 50% of emotional incidences identified; specific artifacts caused specific emotions for advisees; these caused interactions among levels, which seemed to balance positive and negative emotions; three emotions (joy, sadness, and disgust) emerged continually throughout the year, not clustered

within a certain period. In contrast, overall differences can be summarized as imbalances among emotional types for each advisee, whether emotions were diversified across levels, and whether emotions converged as time passed.

As to significance, longitudinally triangulated findings obtained from multiple data sources provided much empirical evidence and contributed not only to the field of emotions, but also to ALL and SCT. Even among qualitative studies, only one-third have a longitudinal design (Tojo & Takagi, 2017), so many studies are not longitudinal despite that method's value. Indeed, the greatest numbers of studies on emotion have a one-shot design (e.g., Gallo & Tassinari, 2017; Dewaele & MacIntyre, 2014; Gregersen, MacIntyre, & Meza, 2014), so this longitudinal study's findings shed more light on the dynamics of emotions.

In terms of limitations, as Oxford (2017) mentions, there is no need to generalize findings when the focus is on situational emotions. However, one limitation would be discrepancies between the two cases in time spent on ALL sessions and identified emotions. That is, for ethical reasons or inconvenience, holding ALL sessions (first intended as biweekly) on a regular basis inevitably became difficult, leading to differing numbers of sessions and emotions observed through learning logs. However, advising's purpose is not regular sessions. Too, qualitative researchers (especially in longitudinal studies) must inevitably face the gap between research's feasibility or practicality and actual situations. Therefore, such irregularity is regarded as a limitation, but practically, we can also describe real-world situations by considering ethical issues, flexibility, and balance between practicality and reality.

After integrating all applied analyses, the researcher captured advisees' emotions in four dimensions of a tentative model (Figure 13; Moriya, 2018a). As Figure 13 confirms, all foci of each framework differ, so within the cube, the trajectory of learners' or advisees' emotions can be described. Of course, this tentative model is not mathematically, but logically four-dimensional. That is, when first describing something complex, we inevitably use a two-way model (activity theory analysis is a typical example), so the starting point of discussion is two-dimensional. Secondly, when we are attempting to differentiate each level according to artifacts, another dimension is added (a transdisciplinary framework by Douglas Fir Group, in this case). Therefore, a three-dimensional model is created to describe emotions' contextual complexity. Using only this model cannot capture emotional dynamics because it shows just the structure of socioculturally mediated emotions, not their changes. Hence, we must add the fourth dimension as the time axis (Trajectory Equifinality Model, in this case), so this model finally has four dimensions, enabling us to describe both contextual

complexity and dynamics of emotions based on Plutchik's wheel of emotions. This four-dimensional model enables advisors to understand advisees' emotionality in a visible way. Furthermore, through the model, advisees themselves can confirm their emotionality's character. And this implies further research—on how advisees manage their emotions (Gkonou & Oxford, 2016) and their emotional discourse (Gkonou & Miller, in press)—through the model used by advisors. Of course, this model is still tentative, so further research should refine it since this study focused only on types of emotions based on Plutchik's three-dimensional theory of type, intensity, and proportion. Hence, model refinement should include the idiodynamic method (Gregersen, MacIntyre, & Meza, 2014) or questionnaires (Dewaele, 2013; Gkonou & Oxford, 2016) focusing on intensity of emotions in multiple points, neither one-shot nor one task.

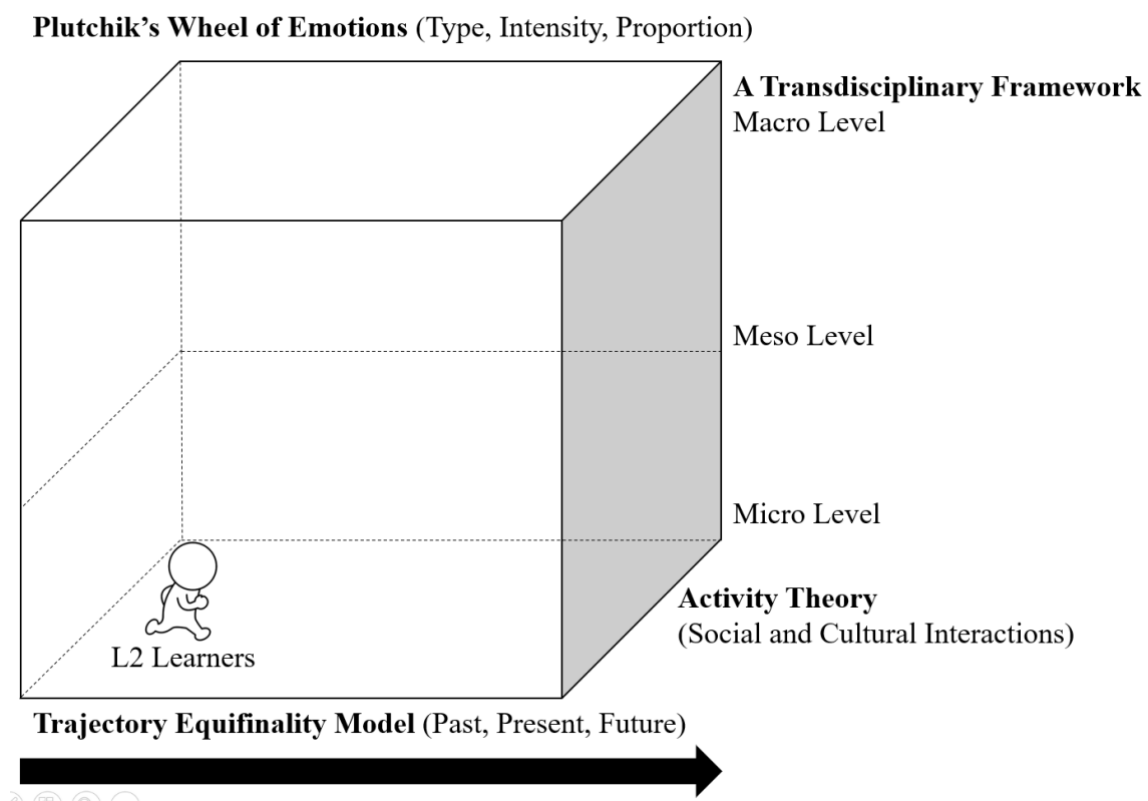


Figure 13. A Tentative Four-Dimensional Model of Emotions (Moriya, 2018a).

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Notes on the Contributor

Ryo Moriya is a Ph.D. student at Waseda University and a Research Fellow of Japan Society for the Promotion of Science. He holds an MA in Education from Waseda University, where he also serves as Japanese and English advisor. His research interests include Sociocultural theory, advising in language learning, and emotions.

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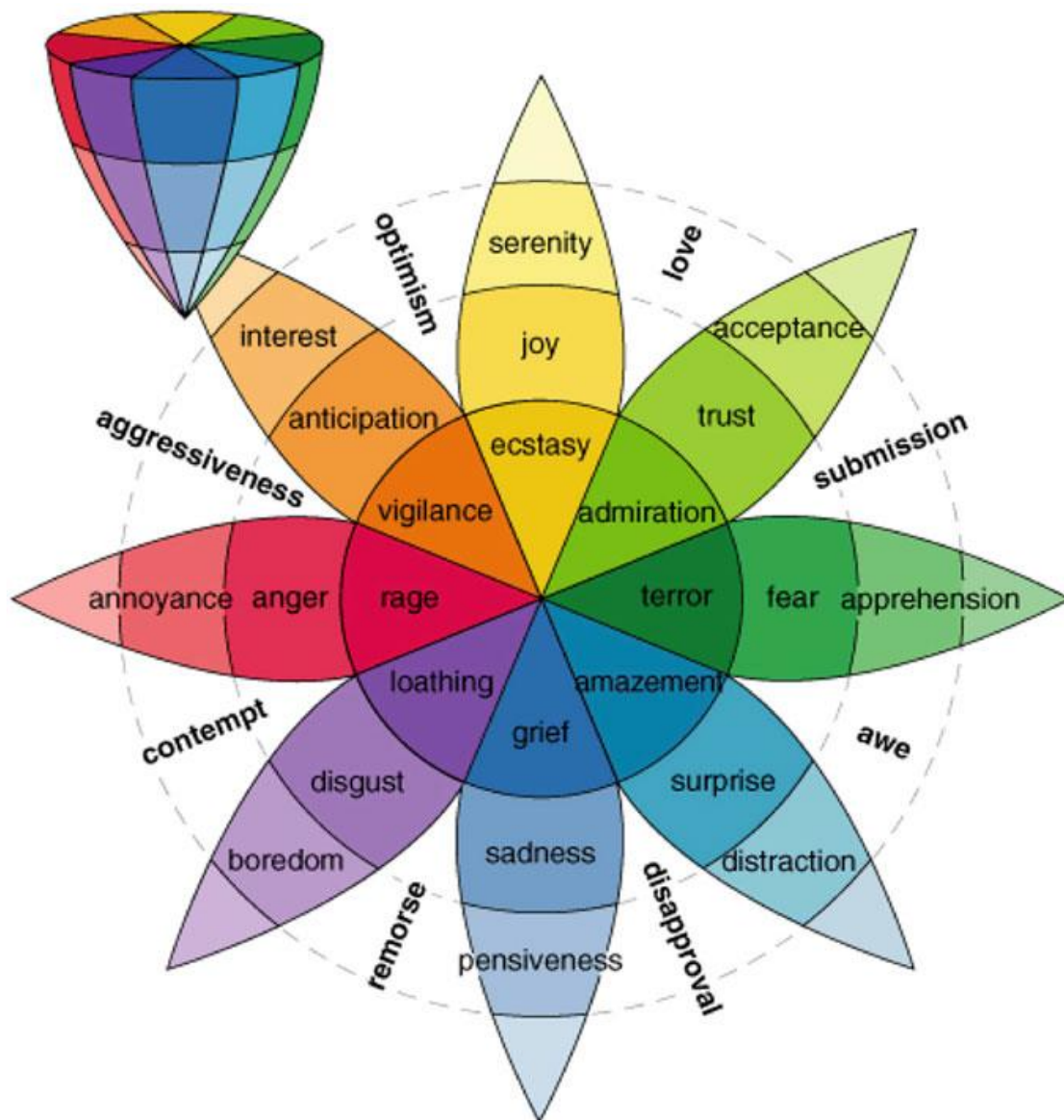
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Appendices

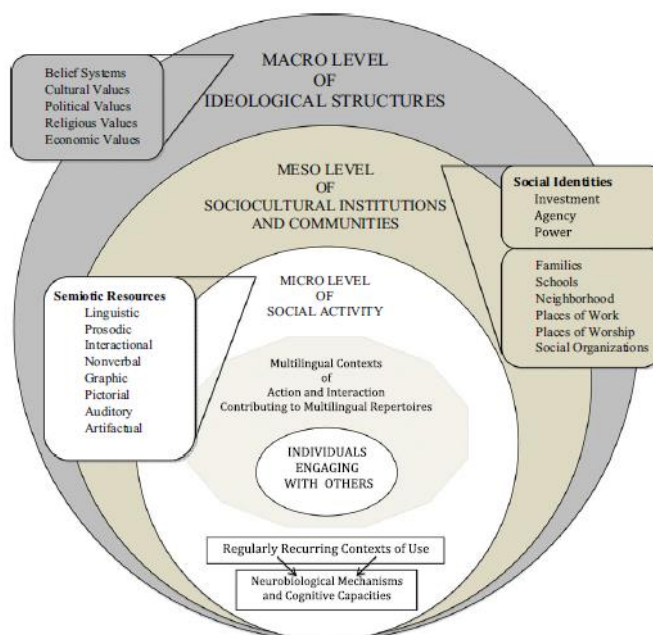
Appendix A

The Wheel of Emotions (Plutchik, 2001, p. 349)



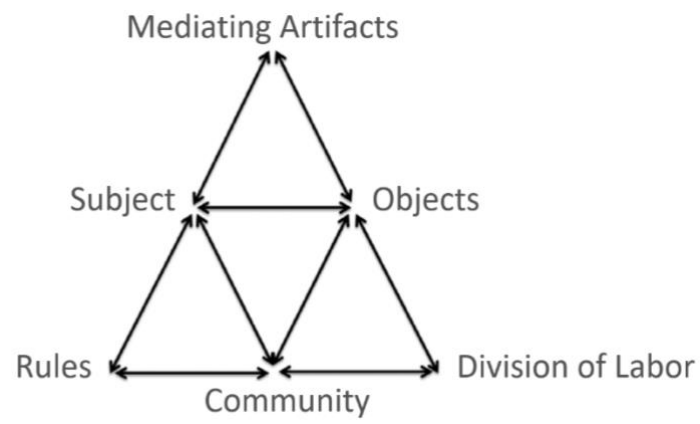
Appendix B

A Transdisciplinary Framework by Douglas Fir Group (2016, p. 25)



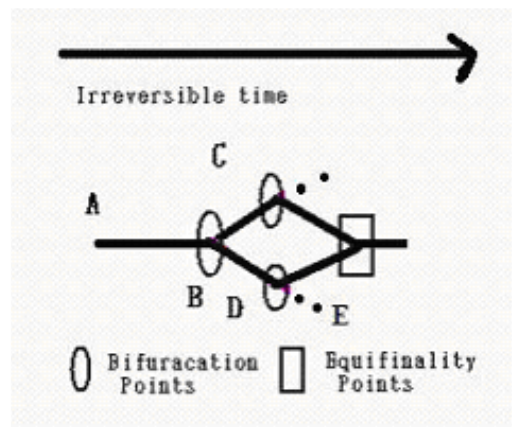
Appendix C

Activity Theory and its Components (Engeström, 2001)



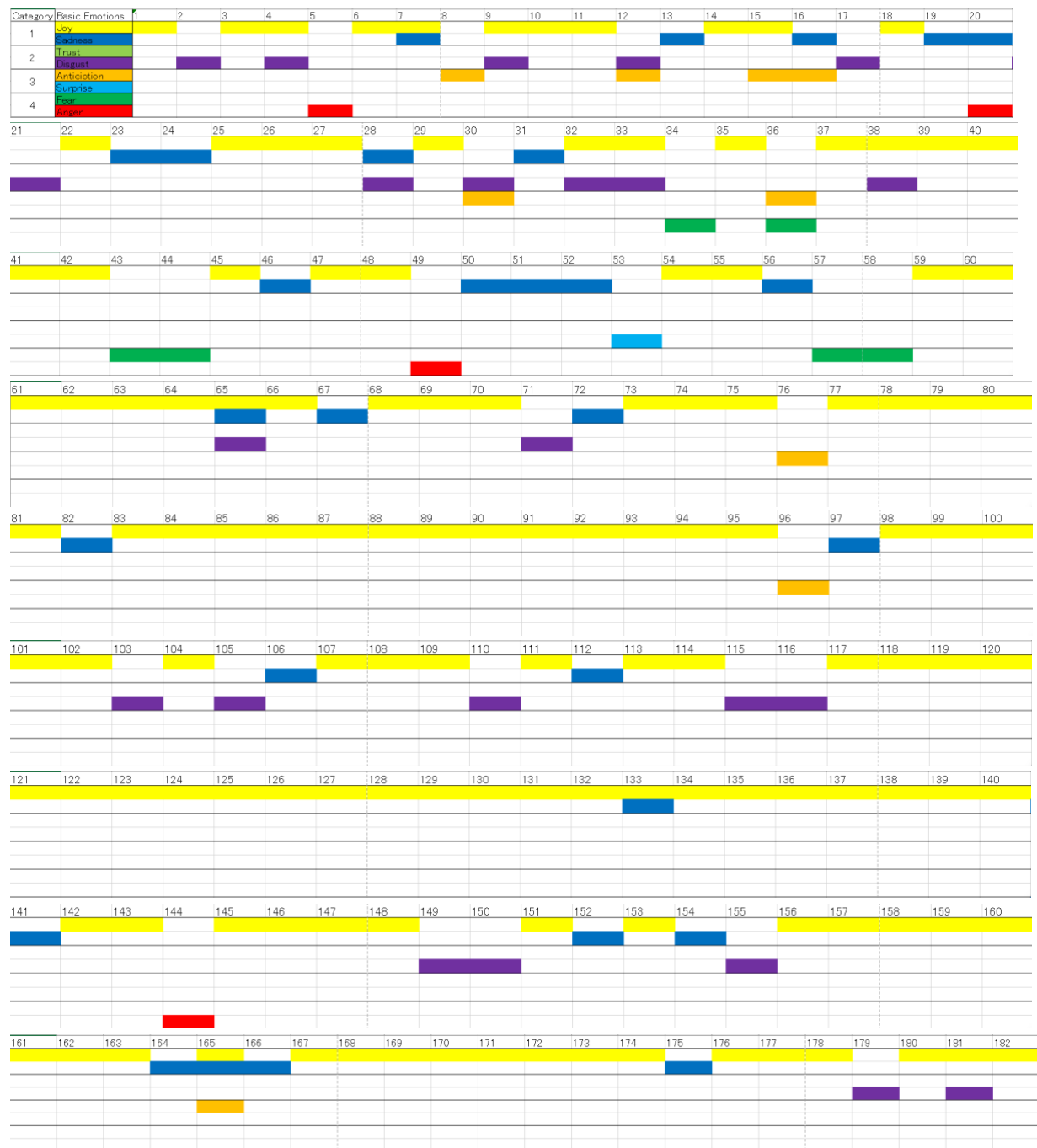
Appendix D

Trajectory Equifinality Model (Sato, Yasuda, Kanzaki & Valsiner, 2014, p. 97)



Appendix E

Detailed Summary of Types and Dynamics of Emotions in Ai's Case



Appendix F

Detailed Summary of Types and Dynamics of Emotions in Yu's Case

