Abstract
This paper illuminates how L2 learning styles as individual differences and collaborative learning of English influence each other. Learning style is one of essential variables in learning profiles that could support learner-centered language instruction. However, the significance of identifying learning styles has not been thoroughly analysed in collaborative learning contexts where peer interaction emerges. This case study addresses the role of pair work that could interweave different learning styles and respond to the individual needs of English language learners. I draw on triangulated data from observation, interviews and artefacts in a project where two undergraduate students with contrastive learning styles engaged in customised tasks based on Ehrman and Leaver style construct (2003). During a six-week period in Korea, I as a participant observer examined peer interaction during collaborative task participation through sociocultural lenses. Findings of thematic analysis demonstrate that the partners led tasks using style preferences and shifted to different learning styles. Also, the contrast between the learning styles facilitated scaffolding and negotiation during peer interaction. This paper serves as a stepping stone to creating learning environments that could value dynamic interplays among individual and social factors of English language learners. It also calls for future inquiries to enrich “style repertoires” of students and apply them to real-world tasks in diverse language teaching contexts.

Keywords: learning styles, collaborative L2 task, university students
Rationales

In this paper I focus on individual differences and collaborative learning of a second language (L2) and how they could influence each other. Scholars have underscored learning profiles as one of significant factors that could realize individualized language learning (Philp, Walter, & Basturkmen, 2010; Ellis, 2005). They maintain identification of learning styles, one of major components of profiles, can support learner-centered language instruction (Kinzler, Dupoux, & Spelke, 2007; Price & Dunn, 1997). Among a variety of methodologies that could address individual differences efficiently, I scrutinized collaborative real-world tasks (Kramsch, 2008; Kormos, 2012) and the interaction within through sociocultural perspectives, of which relationship with learning styles need more attention.

I narrowed down my focus to university students in Korea who learn English as a Foreign Language (EFL) because of the unique social and individual factors they experience. There is fanatical pursuit for English education in Korea, which elevates social status and market value of English (Jeon & Lee, 2006; Kang, 2012). Accordingly, most universities require students to take an English class and ask for high English test score for graduation (McKay, 2002; Park, 2010). However, undergraduate students report low confidence and lack of motivation in learning English. According to Life (2011), although students prefer group work, common instruction in university settings is done by lecture style centering grammar and memorizing skills. Therefore, it is essential to implement new forms of learner-centered teaching practice meeting individual differences to uplift motivation and confidence.

In the study, I implemented task-based L2 learning that attended to various learning styles and scrutinized interaction between a pair of university students. My research questions are: 1) How does a pair of undergraduate students apply their L2 learning styles to collaborative task participation? 2) How does the difference in L2 learning styles shape peer interaction during collaborative tasks?

Conceptualization

For this study I adopt, from the work of James and Gardner (1995) and Smith (1982), the construct of L2 learning styles, which is a complex way of perceiving, processing, feeling, and behaving in second language learning situations. Learning strategies indicate overt learning actions which reflect learning styles; in turn learning styles determine learners’ strategies. This study highlighted cognitive styles that Ehrman and Leaver (2003) delineate with a set of constructs. The researchers analyzed L2 learning styles into 10 contrasting pairs (see Appendix A). Learners who tend to reveal the left side of style sets are called synoptic, whereas those who present the right side are called ectenic. Synoptic learners like to assemble elements, see an entire context and big pictures, and learn by experience. On the other hand, ectenic learners prefer to dissect components, focus on details, and learn by theory.

Also, I use the definition of Lucas et al. (2008) for tasks, meaning activities that engage language learners in meaningful interaction for linguistic, conceptual, and communicative goals and output.
Data collection

I started data collection with 16 students to choose a pair who has most contrastive learning styles and least extraneous variables. The respondents answered the Ehrman & Leaver style questionnaire as well as a demographic and language history questionnaire. After selecting two focal participants, I conducted 12 sessions of collaborative tasks based on Task-Based Language Teaching (TBLT) syllabus design (Long, 2015) during a 6-week period. The tasks were customized to reflect their style contrasts. I designed the tasks for practicing all four skills (listening, reading, writing, speaking), but producing written outcomes which were open-ended and familiar to the learners. The participants also engaged in pre- and post-interviews that provided rich data of their language learning histories, relationships, expectations, and cognitive and affective reactions to the collaborative tasks attuned to learning styles.

My role as a researcher was a) a participant observer who gave autonomy and time for active discussion to the pair with a minimal intervention; b) a facilitator making necessary suggestions to work through major problems; and c) a provider of appropriate resources, both material and conceptual.

Participants

The two participants I selected were Yeun, male, and Hai, female, both of who were 19 years old. They well acquainted with each other, whose mother tongue is Korean and L2 is English which they started learning at 8. Both of the participants reported external motivations for English Language learning (e.g. school curriculum, parental expectations, assessment). Regarding proficiency, the pair responded as “conversational” in written language, but regarding aural skills they reported differ: Yeun indicated “intermediate” level in speaking “basic” level in listening while Hai both levels as “conversational.”

Based on the responses of the L2 learning style questionnaire, I visualized how the participants’ styles are contrastive from each other (see Appendix B). The pair showed six different style sets (e.g. field sensitivity, leveling/sharpening, global/particular, concrete/abstract, random/sequential, inductive/deductive) where their blocks mark opposite sides of the construct. Yeun reported himself as closer to a synoptic learner, whereas Hai as an eclectic learner. Accordingly, I designed 12 sessions to accommodate these 12 different style preferences so that I could closely observe how the students apply the during collaborative tasks.

Data analysis

I implemented Thematic Analysis (TA) by Braun and Clarke (2006) to create salient and connective threads between participants’ thoughts and actions as well as highlight similarities and differences across the data set. First, I generated initial codes based on transcribed interaction buttressed by field notes and vignettes. The unit of analysis was “clumps of language units,” adopting Gee’s (2005) definition, which indicate meaningful episodes that signify demonstration and interplay of styles during pair talk. The initial codes included “helping partner’s processing,” “using learning strategies outside their style zones,” and “experiencing recess due to style conflict.” I collated the codes to construct potential themes and reviewed coded excerpts triangulated with
artifacts and interviews. Lastly, I established the final thematic map (see Figure 1).

The two overarching themes I found were “style convergence” and “style divergence.” Style convergence signifies how different learning styles become closer during tasks, by leaning (e.g. The one follows or is dominated by the other.) and by switching (e.g. The one changes to the opposite.). On the other hand, style divergence represents how learning styles display their differences by coinciding (e.g. Both co-exist in synchrony.) and clashing (e.g. Discord occurs between opposite styles) Due to the lack of space this paper only focuses on style divergence and explains evidence representing its two sub-themes.

![Figure 1: Final thematic map](image)

**Findings**

One of my research questions asked how the difference in L2 learning styles shapes peer interaction during collaborative tasks. As one way of mediation, the learners first coordinated their learning styles for a shared goal. On Day 11, the pair was provided online version of two world maps filled with visual and textual features. Because they needed to clarify the similarities and differences between them, multiple style constructs needed to be engaged including Leveling/Sharpening and Global/Particular. Learners with leveling and global styles tend to focus on similarities and big pictures, while the ones with sharpening and particular learners like to search for differences and details.

The findings reveal that the partners collaborated efficiently by utilizing the style preference (see Excerpt 1; H stands for Hai and Y for Yeun). Hai with sharpening style mainly focused on disparities between the two books, discussing gap in content of the two books. Conversely, Yeun with leveling style looked for similarities regarding themes and visual elements.

Excerpt 1: Pair talk of using learning styles in synchrony (Day 11)

H:  *Yaenŭn tosihyŏllo mwŏn'ga haetchanha chungganenŭn. Kûnde yaenŭn kŭrŏn ke ďŏpchi. mwŏn'ga*↓

This (book) did something by city in the middle. But that (book) does not have
that, like

Kong'tongjŏm tto mwoissûlka. Chogŭmanhan chibûro chigŭm chŏwakhi Òdie innŭni p'yoshaetchi.

The commonality in this “theme” I believe is the maps point out what is remarkable in each place. (By) picture. I mean attractions? Famous ones? What is another commonality. They drew small houses to mark places precisely.

Likewise, their different styles helped learners excel in different questions but they also integrated their styles to solve the same question (see Excerpt 2). While engaging in the same task, the learners sought to find answers about what the difference between the two books was in terms of a purpose. Hai in the beginning (5:30”) found out one book left most of the continent uncolored. This comment shows Hai’s acute observation to the details as a particular learner. Then later (23:26”), when discussing the purpose of the books, Yeun successfully inferred the main intent of one book, for coloring. This suggestion reveals Yeun’s strategy to see a big picture as a global learner. This pair talk indicates how Hai’s strategy for particular style facilitated Yeun’s strategy for global style for solving a shared problem. To sum up, the collaborative partners were capable of complementing and mediating each other’s learning styles through interaction.

Excerpt 2: Pair talk of coordinating learning styles for a common question (Day 11)

05:30
H:  Yaenŭn saekkari ŏmch'ŏng manhunde (.) yaenŭn hŭinsaegi manha.
This (book) has lots of colors but that one has lots of white.

23:26
Y:  Aenŭn kŭnyang chidorŭl naegabol ttae saekch'irhal su itke han kŏ kat'ae.
Hayansaegiŭro tun ke. kŭraesŏ naega pol ttae saekch'ilgongbuyongigo
This (book) I believe was for coloring the map. (That’s why it) left (the map) white.
So I believe it is for coloring

Next, different learning styles did not always generate harmony, but the learners negotiated between conflicting styles to bring out task output. On Day 9, the pair was asked to analyze a hypothesis first (“To become successful, one needs to stick to principles.”) and name specific cases related to it, which required “Deductive” style. The task divided this hypothesis into two parts and asked the learners to interpret each part with their ways of definition. For the question B to decode the meaning of “stick to principles,” they encountered discord and delay (see Excerpt 3). Hai, “Inductive” learner, approached the task not by decoding the rule first but by thinking of examples right away. Therefore, it took time for her to perceive the direction of the task. To help her understand, Yeun, “Deductive” learner, rephrased the hypothesis by adding his interpretation (“one can proceed without tumbling”). When Hai was caught up with finding examples of principles, Yeun explained how people could decide their
principles, implying a way to consider principles in more general way, not needing to specify them for the task. Here Yeun did not directly explain how to approach the task but he used his style strength to assist Hai’s comprehension.

Excerpt 3: Implicit negotiation between different styles (Day 9)

Y:  
Kŭnnikka naega polittaen kach’igwani hwangnipwaeya ŏttŏnmunjee taehaesŏ īrok’e ĕündiŭliji ank’o tchuk kal su itchanha.  
So in my point of view, one can proceed without tumbling by sticking to principles.

H:  Ŭng kūnde kŭgŏn manmińde, kach’igwanŭn yŏrŏ kaega itchanha. Yerūl ch’atkiŏga aemaehajanha=  
Yes that is true, but there are various types of principles. It is hard to find examples.

Y: =ŭng. kŭrŏnikka chasini haengdonghal ttae wŏllirŭl īrok’e hanarŭl chŏnghaesŏ kŭgŏe taehaesŏ tchuk milgonaganŭn’gŏ aniyă? Chasini hago sip’ŭn kŏllo
  Yes. So isn’t it like, when one behaves, s/he decides one principle and persist on it, right?  
The one s/he wants (to pursue)

However, Excerpt 4 shows even though Yeun stressed the importance of decoding each phrase in their words, Hai still kept thinking of how to associate the hypothesis with real applications. Therefore, Yeun clarified the direction of the task, emphasizing how they needed to “reformulate and suppose the word, the phrase, and the sentence.” His efforts to pull Hai back on track helped the pair reach a consent after 17 minutes from the start of the discussion. In the post-interview, Hai reported she understood why it was important to re-define the preposition first thanks to the exchange with her partner. She also recognized that her learning strategy to seek examples was different from Yeun’s. It is notable that Hai’s different learning strategy as an inductive learner led Yeun to operating deductive learning strategy fully, which helped carry out the collaborative task.

Excerpt 4: Explicit negotiation of the discord between styles (Day 9)

Y:  Igŏrŭl uriga p’urŏ ssŭnŭn ke cheil chungyohan kŏ kat’ae, kojisige taehae.  
Uriga chigung “hypothesis” rŭl kajigo p’urŏssŭnŭn’gŏjanha.  
I think it is important for us to decode this (phrase).  
We are now delineating (it) with “hypothesis.”

H:  Animyŏn īrok’e ha (.) uriga wŏnch’ikt’aero haessŭl ttaenŭn manhi (.) wŏnhanŭn’gŏl irul hwangnyuri nop’chanha, kŭrŏn’gŏ ye túlmyŏn andwae?  
Or like this, ha, only when we stick to principles it is more likely to achieve what we want, can’t we write (cases) about that?

Y:  Ildan kajŏngŭl haeya twae igŏrŭl. Nŏn ŏttŏk’e kajŏnghago simni, i myŏngjee taehaesŏ  
i tanŏrŭl, i munjangŭl, i kurŭl ŏttŏk’e “suppose” hanŭn’gŏjanha uriga.
First (we) need to hypothesize this (phrase). How do you want to hypothesize it, about this proposition, this word, this sentence, (it’s about) how we “suppose” this.

Discussion

The findings give evidence that exercising different styles helps learners mediate and negotiate with each other for collaborative tasks attuned to individual style construct. The learners engaged in scaffolding by giving support to each other in collaborative task participation (Swain & Lapkin, 2001; Pica, 2008). Through negotiation, the students used expertise in their own learning styles, which ameliorated the partners’ comprehension and engagement. Using their style strength to assist the partners also gave the learners opportunities to practice learning strategies. Furthermore, collaborating for tasks that enabled the learners to use style differences led them to building upon each other’s style strength. Vigorous interaction between the peers helped them gain respect to each other’s expertise and recognition of their own. This collaborative experience laid the groundwork to building an interdependent relationship as a socially cohesive unit (Donato, 1988).

Implications

For the future research, this paper could work as a stepping stone toward a multiple-case analysis. I conducted a single-case analysis to illuminate specific and individualized situation. However, prospective studies could gain valuable insights from investigating various pairs with different styles, proficiency, & settings. Next, I used a self-report to measure participants’ language proficiency. Because subjective scoring of the proficiency might be imprecise, it would be fruitful to use an objective measure of proficiency in the future.

This study has pedagogical implications for building EFL course curricula in higher education that values individual differences. It is essential to create new learning environment that attune to L2 learning by focusing on learner profiles. Encouraging peer collaboration could help accommodate various learning styles of 10 to 20 students in a class. Lastly, a long-term follow-up is needed on how learning styles change for a long period of time. Because the style construct could change with various social factors and contexts, educators should closely observe students’ style representation, share with other colleagues, and keep communicating with students.
References


## Appendices

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<thead>
<tr>
<th>Synoptic</th>
<th>Ectenic</th>
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<tbody>
<tr>
<td>rely on unconscious or preconscious perception</td>
<td>seek conscious control of processing</td>
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| Separate foreground and background or treat them as the same | Field independence | Field dependence |
| recognize the entire forest and changes or make little use of the context | Field sensitive | Field insensitive |
| Look for similarities or explore disparities | Leveling | Sharpening |
| Attend to big picture or details | Global | Particular |
| React quickly or think it through | Impulsive | Reflective |
| Assemble or disassemble components | Synthetic | Analytic |
| Use qualitative, metaphoric or quantitative, literal approach | Analogue | Digital |
| Learn by experience or theory | Concrete | Abstract |
| Follow internal or external order of processing | Random | Sequential |
| Start with examples or rules | Inductive | Deductive |

### Appendix A: L2 learning style construct (Ehrman & Leaver, 2003)

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<thead>
<tr>
<th>Synoptic</th>
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<tbody>
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<td>Field independent</td>
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<td>Inductive</td>
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### Appendix B: Style grid of the pair (Yeun in Green and Hai in Red)