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An Ecological Approach to Teacher Agency in English Curriculum Design at Korean Secondary Schools

Drawing on an ecological approach to teacher agency, this empirical study investigated the dynamic interplay between teachers and the environment which emerges as teachers enact their professional agency in curriculum design. The dataset comprises semi-structured interviews with 15 Korean secondary English teachers. The findings from the thematic analysis indicate that teacher agency is achieved through the dynamic interplay between teachers and different ecosystems: micro-, meso-, exo-, macro- and chronosystem. This study concludes with practical and theoretical implications as well as suggestions for future research.

Keywords: teacher agency; ecological approach; ecosystems; English curriculum

Introduction

Reformulations of curricula are increasingly characterised by emphases on student-centred learning, teachers as facilitators and a focus on process as well as product in assessment, etc. (Priestley and Drew, 2019). This change reconstructs teachers' role as agents of professional developers of curricula (Priestley et al., 2012), an approach highlighted in the current English curriculum in South Korea (Korean Ministry of Education, 2015). However, this curricular change regarding teachers' role does not necessarily align with teacher perception of their professional agency (Lee, 2019; Lee & Chun, 2017; Priestley et al., 2015). To understand this misalignment, this study uses an ecological approach to explore the complex interplay between teachers and multidimensional environments within Korean educational context.

The modern Korean education system emerged in the late 19th century pressured by neighbouring imperialistic countries focusing on obedience (Kim, 2013). As public servants, Korean teachers must follow governmental policies and national curriculum. Within this nationally supervised environment, Korean teachers have

developed a strong sense of organisational professionalism obeying the national education policies rather than a sense of occupational professionalism that highlights professional knowledge and autonomous decision-making (Son, 2010; Synott, 2007).

Although Korean teachers were not granted a privilege to design classroom curricula (Lee, 2019), in the 1990s education started to follow the wider trend of decentralisation by expanding teacher participation in curriculum design. Intensifying this trend of teacher participation in curriculum design, 2015 Korean national curriculum encouraged teachers to construct curricula by selecting teaching materials, devising teaching methods and implementing innovative assessment (Korean Ministry of Education, 2015). As such, Korean teachers play dual roles as curriculum practitioners and curriculum developers (Lee, 2019) which entail different forms of professionalism and create dilemmas for teachers (Son, 2010). Although recent curricula emphasise the importance of teachers' agentic role in curriculum design (Priestley et al., 2015), this change neither guarantees the overall reformation of school structure nor completely reshapes teacher identity. This study investigates the dynamic interplay between teachers and the environment which emerges whilst teachers form their agentic roles as required by new national curriculum.

In the following section we outline the theoretical framework of this study in more detail before explaining the methodological considerations in this study.

Theoretical framework

This study uses an ecological approach to teacher agency. Traditional sociological accounts of agency debate whether individual efforts or social structures crucially inform agency (Ahearn, 2001; Biesta & Tedder, 2006; Giddens, 1984). Highlighting human reflexivity, Archer (2000) reframed this dichotomy by advocating a dualistic concept of agency recognising that humans form society through their activities and are

shaped by it. Human reflexivity that mediates the structure-agency dialectic actually gives more dignity to agency (Akram, 2012). The totality of relationships between individuals and the environment with attention given to context-specific as well as emergent and relational aspects of agency are central concerns of an ecological approach to agency (Larsen-Freeman, 2019; Priestley et al., 2015; van Lier, 2004).

Narrowing the general human agency to the professional agency of teachers, the ecological perspective underlines agency as exercised through the dynamic interplay of teachers and their environment. Priestley et al. (2015) emphasise that teacher agency is something one achieves by means of the environment. Teacher agency can be achieved at an individual level and even collective levels through collegiality (Hökkä et al., 2017; Lieberman, 2009; Vähäsantanen et al., 2020). An ecological approach also pays a significant attention to how to use the resources, or affordances, of the environment when teachers enact agency (Van Lier, 2004).

The three temporal dimensions of past influences, future orientations and present engagement are crucial considerations when regarding teacher agency from an ecological perspective (Emirbayer and Mische, 1998). These dimensions highlight agency as an emergent phenomenon and over time through the interplay of individual efforts, available resources and contextual and structural factors agency is achieved (Priestley & Drew, 2019; Priestley et al., 2015). This perspective, however, does not deny directive and transformative attributes of agency, rather it can embrace them. In other words, teacher agency can be developed through professional learning and collegial collaborative practices as teachers can bring about new educational environment through interacting with objective contexts (Molla & Nolan, 2020; Namgung et al., 2020; Stetsenko, 2019).

The developmental aspects of agency are also underlined in the interconnected ecosystems of Bronfenbrenner's (1979) ecological theory. For Bronfenbrenner, the *microsystem* is the immediate environments where humans participate and interact. The *mesosystem* forms through linkages between different microsystems. The *exosystem* is constituted through events that affect what happens in the person's immediate environment whereas the *macrosystem* through the social and cultural values that affect human development. The *chronosystem* entails the temporal changes over time. The overall environment is formed through the complex interplay between individuals and ecosystems.

In our study, we use Bronfenbrenner's theorisation to examine how different ecosystems affect the emergence and development of teacher agency in curriculum design. As illustrated in Figure 1, the dotted-line boundaries between ecosystems indicate different foci as well as the dynamic sensitivity between ecosystems. Our focal interest is on the dynamic interplay between teachers and different ecosystems as Korean secondary English teachers (KSETs) exercise their agency within the whole environment of Korean education.

Research questions

This empirical study explores the dynamic interplay between teachers and the ecosystems of Korean education. The particular research questions are:

- (1) In which ways do ecological environments affect teacher agency?
- (2) How do KSETs interact with ecological environments to enact their teacher agency?

Methodology

This qualitative study is based on interviews with 15 KSETs from lower and upper secondary schools in the Chungnam Province in South Korea. The first author has working experiences or personal acquaintance with participants and the participants were contacted through the first author's social networks (Tracy, 2013). More information on participants is provided in Table 1.

Research design and data collection

Exploring the interplay between teachers and their environment requires the experiential voices of the participating teachers. This study employed the semi-structured interviews to provide space for teachers to share their experiences without imposing a rigid structure on the narrative and allowing teachers to describe their experiences within a shared frame (Hollway & Jefferson, 2000). The questions were open-ended and focused on how KSETs design English curriculum for their class as well as the interplay between teachers and different types of ecosystems regarding English curriculum design such as school structure, collegial relationship, educational policies and socio-cultural environment.

The interviews were conducted over two months in the summer of 2018. Participants were provided with information on the purpose, methods, and ethical commitments prior to the interviews and before signing their consent. The first author conducted interviews in Korean which were then transcribed and translated into English by the first author and verified through triangulation. The pseudonymised dataset was securely stored on a computer and a password-protected external hard-drive.

Data analysis

The 60-100 minute interviews were transcribed verbatim. An iterative form of thematic

analysis (Tracy, 2013) elicited the critical points in the data with regard to the interplay between teachers and their environment. Thematic analysis is well known as a useful method in qualitative research for identifying, analysing and reporting experiences of participants within data (Braun & Clarke, 2006). By reading the transcripts several times, researchers coded the data with descriptive codes and identified patterns of the codes to generate potential themes. Then, the potential themes were reviewed whether they work with regard to the coded extracts and the whole data set. The authors of this study carried out the final stage of analysis to define key themes through the critical dialogue on the interplay between teachers and different levels of ecosystems: micro-, meso-, exo-, macro-, and chronosystem. An example of the steps of data analysis is illustrated in Table 2.

Findings

From an ecological perspective, teacher agency is an emergent phenomenon formed through the interplay of individual efforts, available resources and contextual and structural factors (Priestley et al., 2015), spatially and temporally situated in that it differs across time and place (Larsen-Freeman, 2019). The findings outline how ecosystems inform the professional agency of secondary English teachers in Korea and how teachers interact with the environment as they enact their agency.

Microsystems at hand

KSETs were intimately surrounded by microsystems formed through relationships with students and resources within their immediate environment. Participants felt that students were crucial within the microsystem, particularly students' English proficiency or learning motivation.

The student composition of this girls' high school is the best within this municipality. I can teach the way I have in mind. ... The student composition is a significantly positive factor within the environmental dimension. Considering the student level or disposition, they just follow my way though it's nothing special. (Teacher 10)

If most students are too pathetic or their English level is too low in school, they don't have the learning motivation and basic English knowledge... they're just too many [low-achieving students] so there are no peer students as mentors and ... [the low-achieving students have] already shut down their minds to English. ... I sometimes feel the limit of my ability. (Teacher 12)

The contrast in the excerpts indicates that teachers exercise their agency in different ways depending on students. The English level or motivation of students energises teachers in different ways, informing them with a sense of potential or inadequacy. This microsystem was significant for teachers with high-level and low-level students although it informed teacher agency in different ways. Teachers with high-achieving students had little difficulty in enacting their teacher agency in curriculum implementation. However, teachers with low-achieving students entered a negotiative process with themselves to rediscover meaning in the English curriculum and appropriate ways to respond to their students.

The teachers' rapport with students also affected the exercise of teacher agency. Good relationships with students enhanced teacher agency as they enacted the curriculum. The significance of this positive rapport is highlighted in the way some teachers sought personal conversations with students during breaks.

... If the rapport has been established between a student and a teacher, and they trust each other, I think that it creates tremendous synergy in class. In character aspects, as well as pedagogical aspects, I can give the student trusting me a good comment, so the rapport seems to be the most crucial thing. (Teacher 3)

This excerpt indicates that a close relationship between teachers and students creates a supportive emotional arena for teacher agency in implementing the curriculum (Han, 2017; Vähäsantanen et al., 2020). Participants, particularly experienced teachers, seemed well aware of this affordance and strategically established positive microsystems for exercising teacher agency by making an active individual effort to strengthen the rapport with students.

Teaching resources in school also inform the microsystem and according to this study KSETs are supported with well-equipped resources. The socio-cultural privilege of English in Korean society means that English classrooms and a variety of learning materials, including books and multimedia, are readily available. Moreover, the teachers in this study were able to take advantage of these resources when exercising their agency.

When it comes to support, I think we're well supported with respect to resources. Even though it's not a super-abundant budget, we have an adequate budget and every school is equipped with a separate English classroom just like an Art classroom or Music classroom. There are no other classrooms with a designated special purpose other than for English. (Teacher 2)

Well-equipped resources cannot guarantee teacher agency as this requires teachers' active interplay with the affordances. The interviews, however, exemplified how agentic teachers bring resources into their classes from their daily lives, such as TV

programme and comic books. This readiness to utilise the resources available in daily life illustrates the interconnectedness of different ecosystems as a resource for teachers (Guerrettaz & Johnston, 2013; Priestley and Drew, 2019; Priestley et al., 2015).

Mesosystems with complexity

The mesosystem is formed through the complex relationships that interconnect with the microsystem. Mesosystems were found to critically impact teacher agency in curriculum design and, in this study, parents were particularly significant as any complaint from parents regarding the curriculum seemed to prompt school leaders to inhibit teacher agency. Complaints to schools, municipalities or directly to teachers all operated as structural pressure.

... If I could assess students as I want, I would like to have them practice expressing emotions in English using a ‘shadowing technique’ or something like this. But I can’t teach things like that at all. If I teach it like a maverick, it is directly followed by complaint calls. I have often received them... (Teacher 13)

Within the contemporary neo-liberal educational system of South Korea, KSETs must take into account the education is a commodity and educational customers such as students and parents are always right (Apple, 2004). As teachers are obliged to meet students’ and parents’ needs (Son, 2010), their direct and indirect complaints seem to wither the exercise of teacher agency.

Another crucial interconnection informing the mesosystem is collegiality. As teachers shared their professional learning experiences, they obtained useful teaching skills and empathy from each other. These findings suggest that within this context

strong teamwork and mutual learning play a key role in improving teacher agency. Collegial cooperation enables the successful management of important annual events, such as English camps and can support novice teachers as they construct teacher agency through dialogic and collective feedback from colleagues (Rostami & Yousefi, 2020; Wei & Chen, 2019).

I have tremendous support [from my colleagues]. In terms of the English colleague, I receive so much help. When designing my class and undergoing trials and errors, I have abundant help from him. ... it is helpful to listen to other teachers' experiences and ideas ... I can see a different perspective that I couldn't have seen otherwise. (Teacher 15)

However, the collegial mesosystem can also play a negative role, for example, in relation to assessment. In Korea, English teachers teaching the same grade should reach collegial consensus on what is assessed. This structural constraint can significantly limit teacher agency when deciding the content and pedagogy of the English curriculum:

I can teach according to the teaching contents but because I need to follow norm-referenced assessment and must make my assessment criteria consistent with fellow teachers teaching other classes [in the same grade], it really limits my teaching. I wish I could assess my classes based on what I taught them... If the assessment is restricted, it consequently limits teaching. I can't teach what I want and bring richer materials into my English classes. (Teacher 5)

Additionally, this study indicates how school leaders crucially inform the mesosystem. Leaders should provide teachers with administrative support for pedagogical work, and although experienced Teachers 5 and 6 could utilise strategies to

maximise affordances, most participants struggled to obtain support from school leaders.

... [School leaders] neither support nor inhibit us. They tell us to do whatever we want. Who complains about it when we conduct process-oriented assessment to students? However, they [leaders] will inhibit us when trouble comes. So, teachers seem to be attentive to them. The school gets in trouble when a parent calls the school to complain... (Teacher 10)

As Teacher 10 put it, this study found that school leaders tend to take a reactive, rather than proactive, role in supporting teachers' pedagogical work. Leaders ostensibly allow teachers to innovate but if any complaint or critical response comes, leaders seem reluctant to protect teachers and recommend that teachers stay within the accountable norms of teaching and assessment. This lack of support is experienced as a constraint on teacher agency.

Teachers under siege by exosystems

Teachers are not active participants in exosystems, yet actions and events within the exosystem affect the design of the curriculum and teacher agency. One prominent exosystem for the participating teachers was the national standardised testing system, including the Korean Scholastic Aptitude Test (KSAT). Despite the decreasing influence of KSAT on university admission, it remains the most influential high-stakes test in South Korea and school tests often follow the KSAT. The current national curriculum, however, highlights process-oriented assessment and consistency between teaching and assessment, recommending teachers to exercise agency in reorganising their curricula according to school contexts. The participants working in upper

secondary schools experienced a dilemma between teaching to the high-stakes test and testing what they taught based on the curriculum and a huge gap exists between the demand of KSAT and English textbooks (Kim, 2015). The participants in this study felt required to teach to the high stakes test rather than enact their teacher agency:

I think if KSAT has not changed, it doesn't mean the curriculum has changed. KSAT focuses on limited domains and skills for answering questions but the national curriculum continues to require practical studies, which I suppose is inconsistent. ... it's a good English teacher who teaches them how to answer the questions such as filling gaps and it seems to be an incompetent English teacher who tells them that there is an authentic English expression like this, teaches an expression from an American drama and tells them that this kind of expression can be used in writing. (Teacher 11)

Excessive administrative works formed participants' exosystem. Administration is assigned to all teachers in Korean secondary schools with teachers spending an average six hours a week on administration (OECD, 2014). This workload negatively affects secondary English teachers' curriculum design as this reduces time for class preparation and assessment. Teacher 12 explained that teachers sometimes undertake administrative tasks, such as reports, for educational offices and National Assembly members. These tasks may only take a couple of hours, but they distract from pedagogical tasks. Some teachers complained that they occasionally take on administration that should be assigned to office workers.

I think it's most important to have enough time for class preparation. The environment which allows teachers to focus on teaching. That kind of environment was formed last year but it's difficult this year. Last year I had a small amount of

administrative work but this year I have too much. So, it's a clear contrast in the quality and quantity of class preparation. (Teacher 4)

If English teachers are assigned as homeroom teachers, this significantly affects their teaching preparation due to administrative, relational and even emotional tasks. Teacher 14 described homeroom teaching as one of the most stressful tasks that inhibits teacher agency. Furthermore, as Teacher 10 pointed out, the demands of the exosystem negatively impact collegial collaboration and collective reflexivity, as well as the rapport with students. These examples highlight the complex interconnectedness of the wider ecology as different ecosystems inform each other and the capacity for teacher agency.

Macrosystems overarching Korean education system

Macrosystems surrounding secondary English teachers entail any belief systems, ideology or culture in the Korean education system. This study found that the competitive culture and emphasis on grades or assessment affected teacher agency. Although participants wanted to improve students' practical English skills, direct and indirect complaints undermined their good intentions. To avoid conflict or a negative social environment, the teachers produced curricula which compromised their pedagogical beliefs. Some teachers, however, also used the competitive and result-oriented educational culture to control students' behaviour or study habits, in effect reinforcing the existing system:

Anyway, as I assess by test records, namely, everything is evaluated by test records, parents and students value them. So, I guess I tend to control students by the test. Actually, that's not what I aspire to do, but when the entire atmosphere

flows in that way, I try to control kids in this way by saying, 'The records should be better' or 'You'd better get more scores'. It seems like that. In fact, that somehow goes against my belief. (Teacher 8)

Most participants similarly recognised that the competitive culture negatively impacts teacher agency in designing the curriculum, although they also recognised the realistic power of the test records and their own authority in assessing students through the practical-evaluative consideration. Utilising this power relation, the teachers tried to enact their professional agency through pedagogy. This finding suggests that teachers are not just victims of the competitive and result-oriented culture but can also utilise the macrosystem for exercising their teacher agency.

Another finding points to the way the culture of a teacher community also informed the macrosystem. KSETs rarely intervene in colleagues' pedagogical actions and have few opportunities for peer observation or pedagogical development discussions. This individualism creates the 'cellular structure' of schools (Lieberman, 2009) inhibiting teacher agency. Just as students without any learning motivation cannot achieve learning goals, teachers unwilling to learn or trial different pedagogies can hardly achieve teacher agency. As Teacher 9 observed:

One of my concerns nowadays is a problem with colleagues and students. Colleagues include principals or vice principals. A kind of atmosphere to disrupt learning? I usually use this expression to students. We normally name low-achieving students as slow learners but some students are not slow learners but unwilling learners. In that case, the problem stems from the students. For the colleagues, it is a similar problem with the atmosphere or climate unwilling to teach properly. (Teacher 9)

Teacher 9 worked at a vocational school where most students are characterised as low-academic attainment and low-learning motivation and liberal arts subjects, such as English, are marginalised. With the highly individualistic and conservative teacher culture, many teachers form prejudice towards unwilling learners and believe that no pedagogical strategies will improve students' learning.

Teacher stratification according to job stability is another formative feature of the macrosystem. Permanent teachers who passed the national teacher exam are qualified as public servants and their job stability is secure. However, contract teachers should regularly renew their contracts. The fragility of temporary positions disadvantages teacher agency. Teacher 2 disclosed the difficulties she had in making a long-term teaching plan due to her temporary working contract: some pedagogical ideas could not be practiced as she was unsure who would be teaching the students next year. The short-term contracts can significantly limit teacher agency:

Even though I want to express my educational viewpoints, [it's different compared] with a permanent teacher. As a matter of fact, whatever permanent teachers say, that's not a problem. They just get a social glare or the school leaders' stare. However, in my case, if I say it too strongly, they might think, 'Is that temporary one insane?' In some cases, if I don't fit in with the basic line of the school system, they won't hire me. It has a definite impact. (Teacher 7)

As permanent teachers are hired by the government, they cannot be fired by school leaders and can enact greater agency. Contract teachers, however, are generally hired by individual schools and their decisions are informed by the perspectives of school leaders or collegial authorities for contract renewal. The unequal working status

between permanent and contract teachers appears to be in line with that of other working areas in Korean society (Choi, 2003; Park, 2012).

The convulsion of the chronosystem

Chronosystems pertain to how ecosystems develop over time. This study found that changing the national curriculum demarcated a critical moment in the chronosystem affecting teacher agency and the design of the English curriculum. Most participants welcomed the process-oriented assessment guidelines and encouragement to innovate assessments and teaching methods viewing this as facilitating teacher agency:

The assessment guideline is changing at the moment. It was not the case before but I think the system is gradually changing. Because our education is turning in another direction, I think the very fact that the performance assessment can take up 60% has helped me a lot. In the aspect of English education policy, not only English, but also general education policy is steering in the direction where I'd like to go. I believe that the most helpful thing for what I'm doing is the change in the guidelines. (Teacher 8)

This change appears to align with global trends of framing teachers as active agents developing curriculum and assessment (Drew, Priestley & Michael, 2016). Although teachers may need time to adjust to this new role, this change marks a shift in the chronosystem and the conditions for teacher agency. As Teacher 6 put it, the change in the chronosystem promoted collegial collaboration or collective professional learning in curriculum design in the mesosystem.

However, curricular change can also inhibit teachers with feelings of debilitation. The Korean national curriculum frequently changes in an incoherent manner as political power transitions. Teachers' voices are often excluded in the process

of national curricular change and in this study, the lack of teacher involvement eroded the participants' sense of professionalism:

[The current] English curriculum has only about 30 achievement standards but it used to be about 60. Meanwhile, the codes totally changed. The professionals' codes never change. The reason why doctors are professionals is that once the appendix is encoded, it can be intensified but never disappears... That codes change like this means that we are not considered as professionals and the codes are just tools to identify curriculum. I don't think so. Teachers are professionals. (Teacher 5)

Teacher 5 pointed out that teachers are marginalised during curricular change, which undermines teacher professionalism. Change in the Korean national curriculum repeatedly requires teachers to understand and prepare for the implementation of new curricula without the accumulation and extension of professional knowledge in turn undermining teacher agency.

Discussion

This study explored how ecosystems affect KSETs' professional agency in curriculum design and how these teachers interact with the ecosystems to enact their teacher agency. The findings illustrate teacher agency is achieved through the dynamic interplay between teachers and different ecosystems (Priestley & Drew, 2019; Priestley et al., 2015). Each ecosystem affects teacher agency directly and has an indirect impact on teacher agency through inter-ecosystem transformations. This complex interplay between the ecosystems and teachers is depicted in Figure 2. The darker arrows emphasise the significant influence and affordances of the ecosystems whereas the lighter arrows indicate the varying influence of teachers within the overall ecology.

Whilst teachers can significantly inform micro- and mesosystems in the classroom and between colleagues, achieving agency within the exo-, macro- or chronosystems is more challenging.

Teacher agency is regarded as an emergent phenomenon and something to achieve in the ecological perspective (Larsen-Freeman, 2019; Priestley & Drew, 2019; Priestley et al., 2015). This study indicates that experienced teachers tend to exercise a higher degree of agency by utilising their ample iterational experiences and broad collegial relationships, suggesting that over time they have built up resources and ways to manage the emergent and temporary attributes of teacher agency not just through the prolonged career but partly as the result of learning and practice (Biesta & Tedder, 2007; Emirbayer & Mische, 1998). Teachers' reflexive practice (Namgung et al., 2020) mediates individual's iterational and projective dimensions in relation to teachers' own capacity and environmental conditions, through which teacher agency can emerge and be achieved (Molla & Nolan, 2020). Moreover, this study suggests that teachers can create a new educational ecology through individual and collective agency by utilising affordances and resisting constraints. In this sense, the ecological perspective presents a more comprehensive explication on teacher agency.

We recognise that relationships between ecosystems can vary to form contrasting educational ecologies. For participants working within weak collegial interactions or relatively undemocratic school cultures, for example, the school-level assessment criteria for English subject belong to the exosystem. For those working within strong collegial interaction or highly democratic schools in which their opinions contribute to the design of school-level assessment criteria, these criteria belong to the microsystem. Therefore, the extent of democracy within a school or a department can

affect the overall ecology of the environment in turn influencing how teachers enact their agency.

Conclusion

This study highlights the centrality of teacher agency in teachers' professional development and suggests that enacting teacher agency can be accelerated by promoting the affordances of different ecosystems and encouraging teachers to overcome the constraints in professional practice. Ultimately the roles formed by teachers determine their career trajectories; how they see their jobs affects their current vocational behaviours and projective orientation (Brew et al., 2018). This study may help school leaders and teacher educators, as well as teachers, promote reflexivity as part of teacher agency by focusing on the interplay between different ecosystems and teachers. This research, therefore, has practical implications regarding the administrative support of affordances for teacher agency and teachers' epistemological emancipation from constraints.

Moreover, this study indicates that different ecosystems within the same environment can change at different speeds. Hasty or unexpected change within one or more of the ecosystems can cause teachers to feel helpless. Teachers need opportunities to voice and participate in change processes as educational agents to avoid being marginalised or pacified. Furthermore, the ecological perspective should expand to embrace teachers' capacity to interact with ecosystems beyond the immediate emergent phenomena and professional learning should continue to develop teachers' capacity to interact with or even reform ecosystems to enact their professional agency within the context of practice (Biesta & Tedder, 2007; Molla & Nolan, 2020).

Teacher agency is exercised in teachers' lived experiences and it emerges through the dynamic and constant interplay between teachers and their environment. To

grasp the wider picture of an ecological approach to teacher agency, future research could include other methods such as observations, focus group interviews and case studies or explore different contexts. An ecological perspective offers a wide array of affordances for further investigating teacher agency.

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Figures and Tables

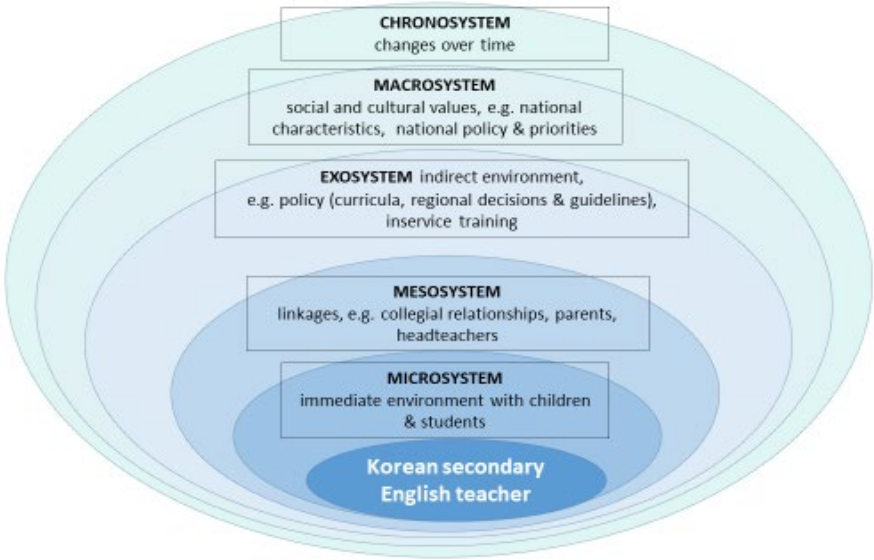


Figure 1. The five ecosystems of an educational ecology

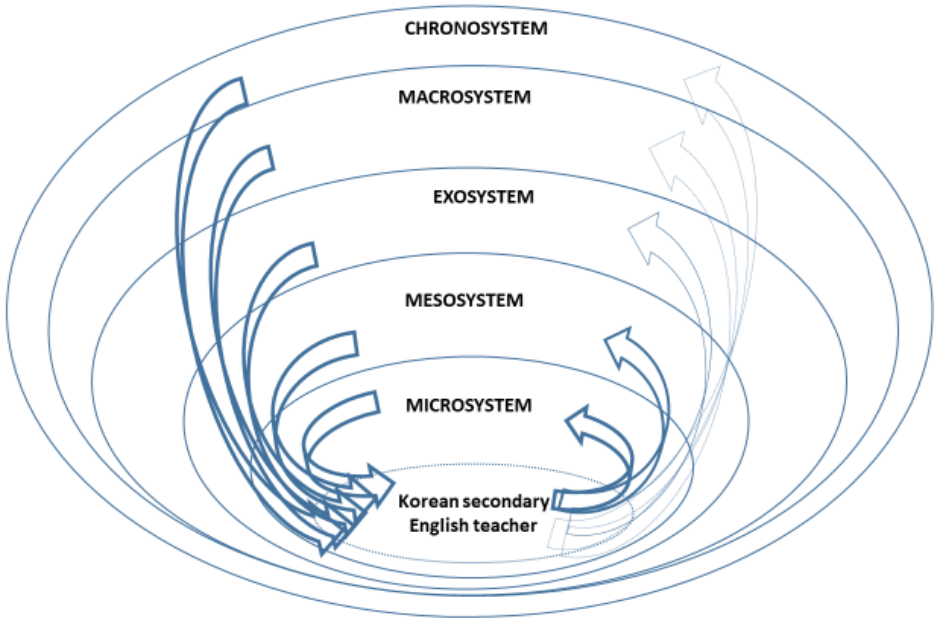


Figure 2. Korean secondary English teachers encompassed by interconnected ecosystems: Mutually constituting without power-sharing

Table 1 Information on participants

Teacher	Sex	Present Secondary School Level	Career trajectory	Teaching experience (yrs)	Job Stability
1	F	Lower	Lower, Upper	13	Permanent
2	F	Lower	Lower, Upper	3	Contract
3	M	Lower	Lower	5	Permanent
4	M	Lower	Lower, Upper	11	Permanent
5	F	Lower	Lower	30	Permanent
6	F	Lower	Lower	30	Permanent
7	M	Lower	Lower, Upper	9.5	Contract
8	F	Lower	Lower	6	Permanent
9	M	Upper	Upper	13	Permanent
10	M	Upper	Upper	10	Permanent
11	M	Upper	Upper	1	Permanent
12	F	Upper	Upper	22.5	Permanent
13	M	Upper	Lower, Upper	7	Permanent
14	M	Upper	Upper	30	Permanent
15	F	Upper	Upper	3	Permanent

Table 2 Steps of data analysis

Steps	Actions taken	Examples
1 st	Coding the raw data with descriptive codes	Principal's indifference to teachers' curriculum design at class School leaders attentive to students' and teachers' complaints
2 nd	Grouping codes and generating potential themes by identifying patterns	School leaders' reactive role in supporting teachers
3 rd	Identifying illustrative excerpts	... [School leaders] neither support nor inhibit us. They tell us to do whatever we want. Who complains about it when we conduct process-oriented assessment to students? However, they [leaders] will inhibit us when trouble comes. So, teachers seem to be

		attentive to them. The school gets in trouble when a parent calls the school to complain... (Teacher 10)
4 th	Defining key themes	'School leaders' reactive role in supporting teachers' under 'Mesosystems with complexity'

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Declaration of interest statement

The authors have no conflicts of interest to disclose.

Data availability statement

Some of the data have been already shared in the interview excerpts of this article. However, the whole data will not be shared because they encompass quite a large amount of data and are saved in a Korean word-processing programme.

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