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L2 Teachers' Representations of Classroom Management Events: Variations across Experience Levels

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Abstract

Knowledge representation, defined as the way individuals structure their knowledge and cognitive processing of events and the associated sense-making processes, is believed to influence teachers' reasoning/thinking skills. While extensively researched in mainstream teacher education, this line of inquiry is essentially lacking in the L2 teacher education literature. To fill some of the void, the present study explored 36 – 18 novice and 18 experienced – EFL teachers' representations of classroom management events. The teachers were presented with 8 fragments involving management problems in a novice teacher's performance and were asked to provide their representations of the scenes. To explore likely differences between the two groups' representations, the Mann-Whitney U test was used. Data analyses indicated that experienced teachers provided a significantly higher number of representations across majority of the categories of the coding scheme, except for disciplinary issues which were of prime concern to novice teachers. The implications of the study for pre-service and in-service teacher education are discussed.

Keywords: knowledge representation; classroom management; novice teachers; experienced teachers; expertise

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1. Introduction

Teaching has undergone a considerable reconceptualization over the past decades. Prior to the 1970s, teaching was viewed as a process-product undertaking (Freeman & Johnson, 1998) essentially concerned with the cosmetic dimensions of practice, i.e., teacher behavior. The legitimacy of this agenda was questioned in the 1970s, paving the way for viewing teachers as subjects, rather than objects, whose cognitive processes could open doors to a better understanding of their pedagogical decisions (Borg, 2015). This new line of thinking led to a 'paradigm shift' in theory and practice of teacher education which regarded teaching as a thoughtful activity (Borg, 2015). The study of teachers' thought processes gained increasing momentum with various categorizations and conceptualizations of the concept following. Clark and Peterson (1986), for example, envisaged teacher thought processes as a three-pronged construct encompassing teacher planning formulated as introspective-retrospective cogitation over teaching, teachers' interactive thoughts/decisions viewed as the symbiotic connection between cognitions and practices, and teacher theories and beliefs or the repertoire of knowledge of different contributors to the teaching-learning process. Further investigations of teachers' thought processes provided a sound and informed basis for a movement away from the process-product perspective toward a cognitive-oriented perspective which was "the missing paradigm" (Shulman, 1986) before the 1970s.

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Within this line of research, teachers' thought processes are assumed to be influenced by various factors. In his seminal article on teacher cognition, Borg (2003) identified three major factors contributing to teachers' cognitions – schooling, professional coursework, and experience – accompanied by contextual exigencies operating as mediating factors in the relationship between cognition and practice. Given that teaching is a dynamic process, teacher cognition is also assumed to be dynamic and developing over time (Feryok, 2010; Freeman, 2016) as a function of teachers practicalizing their knowledge and abstracting knowledge from practice. Inherent in the dynamicity and development of teacher cognition, and of particular concern to the present study, is experience. Experience circulates in a dual process of conscious/unconscious influence on cognitions (Borg, 2003) and enables the teacher to integrate knowledge of various pedagogical considerations (Li & Zou, 2017). Research in mainstream teacher education (e.g., Hogan, Rabinowitz, & Craven, 2003; Wolff, van den Bogert, Jarodzka, & Boshuizen, 2014) provides evidence as to the role experience plays in teachers' knowledge representation which is assumed to "play an essential and sometimes surprising role in [teachers'] reasoning, problem solving, and thinking" (McNamara, 1994, p. 81). Essentially, this line of inquiry is lacking in the literature on second language teacher education, a point the present study aims to investigate.

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1.1. Knowledge representation

Knowledge representation is the way individuals utilize their declarative (knowledge that can be verbalized and visualized) and procedural (knowledge that is about knowing how to do something) knowledge to represent their cognitive processes (McNamara, 1994). Although knowledge representation has received extensive attention in the area of artificial intelligence (e.g., Gelfond & Kahl, 2014; Giaretta, 2019; Liu, You, Li, & Tian, 2017), it appears to be also closely connected to the act of teaching due to its immediate relevance to the interpretation of pedagogical events. Doyle (2006) categorizes the complexity of a classroom into three factors. First, a classroom is multi-dimensional as there are various actors who participate in the activities differently. Second, the simultaneity of many occurring events adds to the intricacy of classroom flow. Third, the immediacy of events, which is augmented by the unpredictability of the impending ones, increases the complexity further. Due to the constantly changing face of teaching and its complexities, teachers function in a persistent process of making sense of, interpreting, judging, and criticizing various events by drawing on their repertoire of assumptions (Golombek, 2015).

In a similar vein, in identifying the five distinct roles of knowledge representation, Davis, Shrobe and Szolovits (1993) posit that "it is a medium of human expression, that is, a language in which we say things

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about the world" (p. 17). Therefore, teachers' interpretations seem to rely heavily on the way knowledge of events is represented in their cognition. While research on knowledge representation attracted discipline-specific investigative attention in the 1980s and 1990s (for a review see Hogan et al., 2003) and in the new millennium (Wolff et al., 2014), the exploration of L2 teachers' knowledge representation has received inadequate attention in the literature and this study aims to fill some of the void.

1.2. Experience

Experience has long been regarded as a concept of interest and/or relevance in research on teacher cognition. The general consensus is that while years of being in the classroom per se are likely to contribute to and result in a repertoire of instructional practices, it can culminate in informed decision-making and awareness-promoting schemes of knowledge via profound theorization of and generalization from practice (Konig & Krammer, 2015; Tsui, 2009a; Widdowson, 2003; Wolff, Jarodzka, & Boshuizen, 2017). It is along this path that experience transforms into expertise, as articulated by Widdowson (2003, p. 2): "…experience itself teaches you nothing directly – you have to learn *from* it, indirectly – and this means discovering something beyond appearances, abstracting something general from particulars". A teacher may continuously cling to practicing the same non-changing pedagogical techniques without much careful appraisal of their effectiveness, yet another teacher may engage in constant scrutiny and

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examination of practice in order to improve it. While experience may lead to what Tsui (2005, p. 184) terms expert performance, defined as "a *state* that is reached after years of experience and thousands of hours of practice", expertise involves "the *processes* which mediate or support experts' superior performance". Moreover, what complicates the interplay between experience and expertise is that expertise does not lend itself to a unified characterization and there is inconsistency in the way it has been interpreted (Farrell, 2013).

Research on teacher experience has often taken the form of comparing novice and experienced teachers in various domains such as mathematics (Cortina, Miller, McKenzie, & Epstein, 2015), language teaching (Burkhauser & Lesaux, 2015; Fallah & Nazari, 2019; Karimi & Norouzi, 2019; Li & Zou, 2017) and mixed teacher-group studies (Hogan & Rabinowitz, 2009; Wolff et al., 2014). This line of research has usually yielded characteristic profiles for novice and experienced teachers, with commonly-conceived positive features often associated with experienced teachers. However, far less has been done on how novice and experienced teachers cognitively represent classroom occurrences, especially through video-viewing, and much less on their associated knowledge of classroom management.

One of the dimensions differentiating novice and experienced teachers is classroom management which has been documented to be

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problematic for novice teachers (e.g., Konig & Kramer, 2016; Wolff, Jarodzka, van den Bogert, & Boshuizen, 2016). Experienced teachers are believed to be more competent to move the classroom flow forward with a primary concern oriented toward the quality of learning, compared to novice teachers whose misgivings about disciplinary issues override attending to learning objectives (Tsui, 2009b, Wolff et al., 2014). For example, in a study exploring the differences between novice and experienced teachers' representations of classroom management events, Wolff et al. (2014) found that while the dominant element of novice teachers' representation of classroom management had been behavioral issues, their experienced counterparts tended to conceive of the quality of learning as more central to managing the class.

1.3. Classroom management representation in light of experience

The exploration of how language teachers represent their knowledge of classroom management provides an understanding of the complexity, dynamicity, and transformability of their cognitions. Given this paucity of research, the present study aims to investigate how L2 teachers cognitively process classroom management events in the light of their experience levels. The reason why classroom management has been investigated lies in the fact that this aspect of L2 teachers' performance has often been the Cinderella subject as it relates to teachers' cognitions. Additionally, there have always been ambiguities surrounding the concept leading to competing

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interpretations of it in the discourse of teacher education. While it has been, superficially speaking, thought of as a set of procedures for handling classroom groups and lessons (Kwok, 2017; Wright, 2005), beyond its common cosmetic dimension, classroom management does play a central role in how instruction proceeds and in the repercussions of practice on the quality of learning (Davis, 2018). Furthermore, as novice teachers are often assumed to be less able to integrate various classroom occurrences compared with experienced teachers (Tsui, 2009a), comparatively exploring their representations provides a clear picture of the way they differ in their cognitions.

Exploring L2 teachers' representations of classroom management is significant due to four reasons. First, although research in mainstream teacher education has established a number of differences between novice and experienced teachers in their representations of classroom management events, the results may not necessarily be transferrable to language teaching contexts. The reason may lie in a qualitatively different set of characteristics which distinguish the make-up of a language class. For example, a language class is characterized by a different student body and a commercialization purpose behind L2 teaching (Borg, 2006). These could have drastic consequences for the way a language class is managed (Macias, 2018) and probably the way knowledge of management is represented in teachers' minds. In a language class, particularly in foreign language contexts,

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learners may not be of the same age which could make managing a class much different from classes of other subjects where the learners are often of the same age. Additionally, the commercial purpose behind language education and the private institutes' policies of making more commercial benefits are often dictated on teachers which could also manifest themselves in the way a language teacher goes about managing his/her classes, e.g. ignoring disciplinary issues which would otherwise be strictly considered. Therefore, investigating how L2 teachers represent their knowledge of classroom management events can shed more light on how classroom management is conceptualized by these teachers and can begin to build a knowledge base independent of one guided by scholarship in other domains.

Second, research has indicated that L2 teachers differ from teachers of other subjects in a number of respects. For example, in a study exploring the differences between EFL and teachers of other subjects, Borg (2006) found that "language teachers are seen to be distinctive in terms of the nature of the subject, the content of teaching, the teaching methodology, teacher-learner relationships, and contrasts between native and non-native speakers" (p. 4). These language-specific peculiarities could in turn define the differences in the cognitive make-up of the teachers and influence the way they represent classroom management, particularly considering the current conceptualizations of classroom management explained above. This proposition is augmented by the current understandings of language teacher

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education that view teacher (mental) functioning as nested within the idiosyncrasies of the teaching context (Burns, Freeman, & Edwards, 2015).

Third, previous research has shown that classroom management in EFL contexts is highly dependent on the distinctive characteristics of the nature of language teaching. For instance, in a review, Macias (2018) found that the distinctive factors influencing classroom management in language teaching include "TL use, interaction patterns, teaching methods … and the lack of respect for the study of a foreign language" (p. 163). These sociocultural characteristics indicate that the nature of language teaching in L2 contexts is already tied to various issues which complicate the multiplicity of classroom management in these contexts, and by extension the way teachers may conceive of classroom management. These issues seem to be more determining in language teaching as the use of language per se (L1 or L2) in managing the class has been recognized as a mediating factor.

The fourth issue which calls for research on L2 teachers' classroom management independent of the line of research on the issue in mainstream education relates to the point that classroom management has also been documented to be a function of the language the teachers use in their classes (Auerbach, 1993). As posited by Borg (2006), "FL teaching is the only subject where effective instruction requires the teacher to use a medium the students do not yet understand" (p. 5). Establishing effective rapport and

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organizing interaction patterns which are often exclusive to foreign language classes, as dimensions of classroom management, receive a peculiar coloring when done in an unfamiliar language. Moreover, Akbari and Dadvand (2011) have argued that language management, a thought unit on top of the dominant list of EFL teachers' pedagogical thought units, was reported with a higher frequency than those in ESL contexts and, in their interpretation, it is considered a part of their teaching commitment at the service of quality learning compared to novice teachers. The above discussion thus highlights the importance of exploring classroom management in language teaching further on the one hand, and to explore how the experience of language teachers comes to mediate their representations of classroom management. Apart from little research attention to the issue in the literature of second language teacher education, examining the way novice and experienced teachers represent classroom management events illuminates how they differ in their representations as a reflection of their knowledge base of classroom management in the beginning and later stages of their professional career. Building on the above discussions, this study aims to investigate the possible differences in how novice/experienced language teachers represent classroom management events. The question addressed by the study was:

1. How do L2 teachers – with varying levels of experience – differ in their representations of classroom management events?

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2. Method

2.1. Participants

The participants of this study were 36 Iranian EFL teachers who were selected via a combination of convenience, purposive, and snowball sampling methods. In this regard, a number of novice and experienced teachers were consulted for participation and then they were asked to introduce possible candidates to take part in the study – as the teachers were teaching in different language schools. It should be noted that those up to three years of experience were considered as novice and those beyond five were labeled as experienced (Farrell, 2012). We did not include teachers having more than 10 years of experience in order to operate in a specific range as teacher experience beyond this level has been documented to result in diminished performance (Rice, 2010). Table 1 displays the profile of the teachers.

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Table 1

Participating Teachers' Demographic Information

	Novice	Experienced
Number	18	18
Mean of age	26	28
Experience	2.5	7
Gender	M (13), F (5)	M (10), F (8)
Degree	18 (BA)	18 (MA)

2.2. Data collection

2.2.1. Video fragments and interviews

The first step in the data collection phase of the study was videotaping a novice teacher's class. The reason for choosing a novice teacher's class for video-taping was the oft-reported occurrence of classroom management problems in their instruction (e.g., Kwok, 2017; Wolff et al., 2014). The next stage involved selecting the fragments – units of practice involving issues relevant to classroom management – to be viewed by the participants from the video-taped lesson. The fragments included scenes related to

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problems in the classroom management of the teacher. The criterion for the selection of the fragments was a turn in the classroom flow as a function of the teacher's or learners' disruption of the activities. Regarding the selection of the fragments, the researchers initially screened the video file and then an experienced teacher educator (PhD holder of TEFL) was consulted to identify management-related problems in the teacher's practice. The agreement between fragment selectors was calculated via Cohen's kappa formula and it turned out to be .96. Although there were eight fragments to be viewed by the teachers, the initial screening of the video by the teacher educator resulted in a few inconsistencies which were resolved through discussion and the eight fragments were finally selected.

Having selected a total of eight fragments, ranging from 56 seconds to 4 minutes 27 seconds in length, the researchers asked the participants to view the fragments and provide their responses to the question: What management problems did you notice in the teacher's practice? The fragments involved scenes related to disciplinary problems the teacher encountered in managing the class, how the activities were arranged and proceeded, and how the activities influenced the flow of the class. They were told that they would watch the selected scenes again in retrospective interviews for recollecting their thoughts in terms of how the scene was related to classroom management. In order to simulate a real-life management situation for the participants, they were shown the fragments

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only once. After viewing the fragments, the participants were shown the selected scenes and were required to provide their descriptions of the scene and how it had been related to classroom management. These retrospective interviews were run in Persian, the participants' L1, and audio-recorded for further analysis. The average time of the retrospective interviews for novice teachers was 10 minutes and for experienced teachers 14 minutes.

2.3. Data analysis

In order to analyze the teachers' representations, Wolff et al.'s (2014) coding scheme was used which includes categories pertaining to 1) perceptions and interpretation of events, 2) the main theme expressed, 3) expressions of temporality, and 4) the cumulative cognitive processing expressed. The interviews were first transcribed and similar representations were coded to constitute the related categories. For example, when the participant(s) described the mental state of the teacher while viewing the scene, their description was considered to be related to *inferences about the teacher*. Or, when the participant described the scene as involving both teacher's and learners' viewpoints, the description was coded as *multiple* (for a complete explanation of the codes and categories see the Appendix). For example, in referring to the inferences about the students and/or the teacher, the participating teachers explained how individual cognitive/affective states in that particular moment had influenced the management of the teacher. Moreover, in predicting the occurrences, the

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teachers represented the way the teacher's and learners' current functioning influenced the impending events of the class. Or, in terms of explanation or reasoning, the participating teachers coupled their representations with an evaluative/justifiable proposition in regard to the way the event could influence the management of the teacher.

Due to the multi-facetedness of the coding scheme, this phase required careful, in-depth analysis of the representations. Thus, the participating teachers' interviews were analyzed several times. Then, the frequency of the teachers' representations in each category and sub-category was counted and tallied across the groups. In this regard, the number of the teachers' representations was counted and added up to come up with a certain value of each represented (sub)category; and then the mean and standard deviation of the frequencies were calculated to obtain an understanding of the teachers' comparative representations. To statistically compare group representations, the normality of the data was first checked and as the data were not normally distributed, the Mann-Whitney U test was used across all the categories.

3. Results

Before presenting the results, it needs to be pointed out that not all the codes in Wolff et al.'s (2014) coding scheme were found in the participating teachers' representations in the present study. Regarding the category of *perceptions*, as all of the teachers described the viewed scenes,

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representations concerning the descriptions were thus excluded from the analyses. In the same vein, *missing information* and *incomprehensible statements* did not occur in the representations. Other codes receiving very few or no attention by the teachers included *student attention (on/off task), norms and types*, and *certitude*. Accordingly, these codes were also not included in the data analyses. For each code, descriptive statistics were calculated and the Mann-Whitney U test was run. Table 2 presents the results of descriptive statistics for the teachers' *interpretations*.

Table 2

Descriptive statistics for teachers' interpretations across experience levels

	N	E	Total
Inference about students	M = 2.22	M = 7.22	M = 5.06
	SD = .44	SD = .44	SD = 2.26
Inference about teacher	M = 3.00	M = 8.33	M = 5.78
	SD = .86	SD = .70	SD = 2.69
Prediction for student learning	M = 1.11	M = 5.11	M = 3.67
	SD = .33	SD = .78	SD = 1.60
Prediction for classroom management	M = 2.00	M = 6.22	M = 4.61
	SD = .50	SD = 1.20	SD = 1.85
Prediction for anticipated behavior	M = .89	M = 2.11	M = 1.50
	SD = .33	SD = .78	SD = .85
Explanation or reasoning	M = 1.22	M = 8.00	M = 4.94
	SD = .44	SD = 1.00	SD = 3.22

Note. N = Novice, E = Experienced

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Table 2 indicates that the experienced teachers produced a higher number of representations across all the codes compared to the novice teachers. Table 3 presents the descriptive statistics for the teachers' representations of the category *themes and focus.*

Table 3
Descriptive statistics for themes and focus across experience levels

	N	E	Total
Student learning	M = 1.67	M = 8.33	M = 5.39
	SD = .50	SD = .70	SD = 3.09
Student discipline	M = 8.22	M = 2.00	M = 3.50
	SD = .83	SD = .50	SD = 1.61
Contextualized suggestion	M = 4.22	M = 7.67	M = 5.94
	SD = .44	SD = .50	SD = 1.83
Generalized suggestion	M = 3.33	M = 9.56	M = 7.00
	SD = .50	SD = .52	SD = 2.67
Self-as-teacher	M = 3.89	M = 4.00	M = 4.00
	SD = .33	SD = .00	SD = .00
Teacher influence	M = 4.44	M = 8.89	M = 6.44
	SD = .52	SD = .33	SD = 2.52
Teacher does nothing	M = .33	M = 2.33	M = 1.39
	SD = .50	SD = .50	SD = 1.09

Note. N = Novice, E = Experienced

Table 3 indicates that the experienced teachers reported a higher mean for their representations across all the codes except for *student*

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discipline and *self-as-teacher* in which the novice ones displayed more representations. The highest mean among the codes of this category was for *generalized suggestions* provided by the experienced teachers.

Regarding *temporality*, mean and standard deviation for the two groups' representations were calculated the results of which are presented in Table 4.

Table 4

Descriptive statistics for temporality across experience levels

	N	E	Total
Retrospection	M = .67	M = 5.00	M = 3.06
	SD = .50	SD = .00	SD = 2.01
Contemporaneous	M = 4.56	M = 4.44	M = 4.39
	SD = .52	SD = .52	SD = .50
Prospection	M = .22	M = 1.89	M = 1.06
	SD = .44	SD = .33	SD = .93

Note. N = Novice, E = Experienced

As shown in Table 4, while the teachers produced relatively similar contemporaneous representations (*M* = 4.56, *SD* = .52; *M* = 4.44, *SD* = .52), they differed in their retrospective (*M* = 5.00, *SD* = .00; *M* = .67, *SD* = .50)

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and prospective (*M* = 1.89, *SD* = .33; *M* = .22, *SD* = .44) representations, with the experienced participants displaying a higher number of representations than the novice ones. Finally, as to the *cumulative cognitive processing* of the teachers, the following results were obtained (Table 5).

Table 5

Descriptive statistics for cumulative cognitive processing across experience levels

	N	E	Total
Single	M = 4.44	M = .22	M = 1.28
	SD = .52	SD = .44	SD = 1.17
Multiple	M = 2.00	M = 10.11	M = 7.50
	SD = .00	SD = .33	SD = 2.70
Integrated	M = 1.11	M = 5.56	M = 3.78
	SD = .33	SD = .52	SD = 1.86
Isolated	M = 5.00	M = .56	M = 3.06
	SD = .00	SD = .52	SD = 2.62
Continuity	M = .89	M = 4.89	M = 2.89
	SD = .33	SD = .33	SD = 2.11
Discontinuity	M = 6.11	M = 1.78	M = 4.28
	SD = .33	SD = .44	SD = 2.60

Note. N = Novice, E = Experienced

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Table 5 demonstrates that with regard to *viewpoint* (single or multiple), the novice teachers provided more single representations, while the experienced teachers produced more multiple representations. This was replicated for *perspective* (integrated or isolated) in which novice teachers produced more isolated representations and the experienced teachers were more integrated in their representations. In terms of *continuity*, while the novice teachers' representations were more discontinuous, those of the experienced teachers were more continuous.

In order to check group differences, a number of Mann-Whitney U tests were run the results of which are presented in Table 6. All of the codes of the first category showed significant differences for the experienced teachers in *inferences about students*, *inferences about teacher*, *predictions for student learning*, *predictions for classroom management*, *predictions for anticipated behavior*, and *explanation or reasoning*. Regarding *themes and focus* – the second category, the experienced teachers provided more representations for *student learning*, *contextualized suggestions*, *generalized suggestions*, *teacher influence*, and *teacher does nothing* codes. However, the novice participants provided a higher number of representations for student discipline, and for *self-as-teacher* no significant difference was observed.

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In terms of *temporality*, a significant difference was observed for *retrospective* and *prospective* representations of the experienced teachers, and there was no significant difference in *contemporaneous* representations. Finally, while the novice teachers produced a significantly higher number of *single* viewpoints, the experienced participants provided greater *multiple* viewpoints. Additionally, a significant difference was observed for experienced teachers in the *integrated* code, whereas the novice teachers' representations were significantly more *isolated* in terms of perspective. As for *continuity*, the experienced teachers produced a significantly higher number of *continuous* representations, compared to the novice teachers who displayed significantly higher discontinuous representations.

Table 6

Mann-Whitney U Test for Differences in Group Representations

	Experience
Interpretations	
Inference about students	$Z(34) = 5.25$, $p = .000$, $\eta^2 = .92$
Inference about teacher	$Z(34) = 4.85$, $p = .000$, $\eta^2 = .87$
Prediction for student learning	$Z(34) = 4.80$, $p = .000$, $\eta^2 = .85$
Prediction for classroom management	$Z(34) = 4.14$, $p = .000$, $\eta^2 = .74$

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Prediction for anticipated behavior	$Z(34) = 3.50$, $p = .000$, $\eta^2 = .39$
Explanation or reasoning	$Z(34) = 5.24$, $p = .000$, $\eta^2 = .92$
Themes and focus	
Student learning	$Z(34) = 5.24$, $p = .000$, $\eta^2 = .94$
Student discipline	$Z(23) = 4.95$, $p = .000$, $\eta^2 = .91$
Contextualized suggestion	$Z(34) = 5.07$, $p = .000$, $\eta^2 = .87$
Generalized suggestion	$Z(34) = 5.20$, $p = .000$, $\eta^2 = .95$
Self-as-teacher	$Z(34) = 1.00$, $p = .32$, $\eta^2 = .03$
Teacher influence	$Z(34) = 5.34$, $p = .000$, $\eta^2 = .96$
Teacher does nothing	$Z(34) = 4.40$, $p = .000$, $\eta^2 = .70$
Temporality	
Retrospection	$Z(34) = 5.01$, $p = .000$, $\eta^2 = .88$
Contemporaneous	$Z(34) = .00$, $p = .52$, $\eta^2 = .01$
Prospection	$Z(34) = 3.71$ $p = .000$, $\eta^2 = .29$

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Cumulative	
Single	$Z(34) = 5.23$, $p = .000$, $\eta^2 = .68$
Multiple	$Z(34) = 5.23$, $p = .000$, $\eta^2 = .94$
Integrated	$Z(34) = 5.25$, $p = .000$, $\eta^2 = .86$
Isolated	$Z(34) = 5.33$, $p = .000$, $\eta^2 = .73$
Continuous	$Z(34) = 5.23$, $p = .000$, $\eta^2 = .62$
Discontinuous	$Z(34) = 5.25$, $p = .000$, $\eta^2 = .49$

We also examined the qualitative differences in the teachers' representations. Below we present two extracts of the same category from two novice and experienced teachers. In the first extract, a novice teacher explains the perspective of the participants in the viewed scene. In her description, she considers classroom agitation only from the perspective of the student and does not mention how she could function in keeping the student from disturbing the class. She clings to describing the students' disturbing behaviors and holds a single-sided perspective of the undesirable student:

> *Look at Reza. He always disturbs the class by talking to his peers [Reza had been the teacher's student before]. He*

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> *is so cheeky and agitates the whole class by talking, going out too frequently, and interfering in his classmates' performance.*

The below extract is from an experienced teacher who describes a similar situation. Here, she describes her strategic behavior in dealing with disturbing students. She argues that simply disregarding such students exacerbates the situation and they need to be dealt with. In comparison to the above excerpt, the experienced teachers' representation is more integrated in terms of features characterizing teachers' treatment of problematic situations. In addition, the teacher considers the event both from her own and the students' perspective, which shows that she regards the role of both participants as important in managing undesirable behaviors:

> *When I see that a student is trying to disturb the class like this, I first give them a nasty look. They would not stop disturbing if you continue disregarding them. Then, I try to talk to them to stop their behavior or I engage them in an activity to stop the happening of unpleasant occurrences.*

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4. Discussion

The present study aimed to explore EFL teachers' representations of classroom management events across teacher experience levels. The results of the data analyses indicated a significantly better performance on the part of the experienced teachers compared to their novice counterparts across majority of the aspects of representation, except for disciplinary issues which were of prime concern to the novice participants. It was revealed that the experienced teachers provided a higher number of *interpretations* for teacher- and learner-related issues – being in line with the findings reported in Wolff et al. (2014) and Fallah and Nazari (2019). Wolff (2015) believes that teachers' interpretation "depends profoundly on one's [accumulated] knowledge of classrooms and the innumerable events that happen within them" (p. 8). Scrutinizing the contribution of variables influencing teachers' knowledge base is important as it assists us with understanding their current cognitions and how these cognitions come to guide their representation of classroom events. This proposition mirrors Burns et al.'s (2015) idea regarding the substantial effect of experience on teachers' interpretations.

Experienced teachers' higher number of interpretations emanate from their advanced schemata as "their more fully developed schemata have elaborate interconnections, while teacher candidates and novice teachers have less developed teaching and learning schemata, gained mainly from their personal experiences as students" (Hougan, Johnson, Novak, Foote, &

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Palmeri, 2018, p. 223). In this study, the experienced teachers' interpretations about the students and the teacher were backed with more solid reasoning, compared to the novice teachers. Put it differently, the experienced teachers provided more theoretically-informed justifications for their reasoning. Shulman (1987) contends that "sound reasoning requires … an adequate base of facts, principles, and experience from which to reason" (p. 13). Greater experience seems to have enabled the experienced teachers to anchor their representations in their gleaned propositional knowledge of pedagogical considerations, a point which is in the process of development in novice teachers' cognitive structure.

The analysis of the data regarding *themes and focus* indicated that student learning figured prominently in the experienced teachers' representations, whereas the novice teachers were primarily concerned with student discipline (e.g., Burkhauser & Lesaux, 2015). This finding corroborates a number of earlier claims as to experienced teachers' fundamental concern with learning outcomes and novice teachers' inclination toward disciplinary issues (e.g., Farrell, 2013; Karimi & Norouzi, 2019). This finding may indicate that experienced teachers, by virtue of their higher levels of experience, know "to what extent student misbehavior can be tolerated or needs reprimand to avoid loss of academic focus" (Cortina et al., 2015, p. 3). Novice teachers' concern with discipline may have two primary reasons. First, as novice teachers have just embarked

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on the practice of teaching and are in the initial stages of the process of learning to teach, they have not yet developed a structured mindset and a clear understanding of the complexities of teaching. Indeed, their mental representations may be greatly affected by the visual mediators within the classroom milieu more than the underlying, learning-related factors.

Second, the incongruency between content of the teacher education programs which are, at times, drastically different from the hard realities of the classroom may also influence the way novices conceive of teaching (Farrell, 2012). Classroom management is a multi-dimensional undertaking and if it is not taught in teacher education programs, it may take teachers time to develop an in-depth understanding of it. The corollary to the under-representation of classroom management in these programs may be developing a myopic view of the concept restricted solely to disciplinary issues. It thus appears that increased experience enables teachers to move beyond the routines of learner behavior, aiding them with a principal focus on learning outcomes as a function of their improvisational skills to handle the arising difficulties (Tsui, 2009a).

Experienced teachers provided more *generalized suggestions* which indicates that they are in control of a better representation of their knowledge (Cortina et al., 2015) and transcend specific occurrences toward an overarching view of classroom events. Experienced teachers seem to generalize from the idiosyncrasies of practice and abstract them into a more

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sophisticated and entrenched system of occurrence-independent cognitions through a process of introspection-retrospection (Li & Zou, 2017; Tsui, 2009b; Widdowson, 2003). This finding may resonate with Tsui's (2009b) claim in that "experts are able to interpret classroom events, provide a deeper analysis of problems, and justify their practices in a *principled manner*" (p. 193). Additionally, this difference may be interpreted in the light of Korthagen's (2001) proposed stages of teachers' developing cognitions. According to Korthagen (2001), teachers start with a primary *Gestalt* (conception). Experience assists teachers with strengthening and marshaling their ideas whereby advanced schemata are formed. Consequently, teachers can develop an elaborate *Gestalt* which informs their interpretations as well as practices.

Experienced teachers established more connections among preceding and impending scenes in terms of *temporality*. This finding may be interpretable in the light of the properties of declarative and procedural knowledge enumerated by Anderson (2014), two of which are relevant to the present discussion. One property is *associative priming* in which a feature is primed forasmuch as its associative feature is presented. Experienced teachers seem to have developed the capacity to connect various actors and better represent their knowledge thereof as a function of their aggregated experience over the years. Another property is *acquisition*: "Declarative knowledge comes from direct encoding of the environment,

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whereas procedural knowledge must be compiled from declarative knowledge through practice" (p. 22). The interaction between declarative and procedural knowledge with the mediation of practice reflects the influential impact of extensive classroom practice on developing a systematic connection of actors, augmented by the spreading activation mechanism which seems to establish a neural network of association among experienced teachers' representations of occurrences across the scenes and culminate in reciprocity and interconnectedness of different actors in their cognition. Additionally, Tsui (2009b, p. 192) states that "like master chess players and expert radiologists, expert teachers are able to *recognize patterns in classroom events* very quickly, and they are able to interpret these patterns in *meaningful ways*". Therefore, experienced teachers seem to be in further control of directing their cognitions toward seeking instructional patterns and activity connectivity and navigating through those patterns in meaningful routes.

While the novice teachers provided more single, isolated, and discontinuous representations, the experienced teachers produced more multiple, integrated, and continuous representations. The ability of the experienced teachers to maintain the simultaneity of different occurrences, deliberate over the interrelation of occurrences, and concatenate the scenes seems to be interpretable in the light of their highly-developed visual-cognitive abilities. That is to say, experienced teachers seem to enjoy a more

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elaborate perspective of classroom occurrences, stemming from their greater experience of dealing with multiple activities simultaneously. It could thus be stated that while novices fall short of processing different classroom events at the same time, experienced teachers hold a more holistic, eagle-eye outlook, enabling them to process multiple activities coherently. An effective method of analyzing teachers' visual expertise has been adopted by Wolff et al. (2016) which uses eye-tracking to delineate the trajectory of teachers' perspectives. Their findings highlight the fact that "novices' viewing was more dispersed whereas experts' was more focused. Irrespective of the video type, expert teachers focused their attention on areas where relevant information was available, while novice teachers' attention was more scattered across the classroom" (p. 1).

Some subsidiary themes also emerged from the teachers' representations which are worth mentioning. Novice teachers reported some concerns for teacher authority, especially when the scene was related to student discipline. In contrast, the experienced teachers regarded disciplinary problems emanating from the teachers' educational mismanagement. In other words, the latter considered the role of the teacher to be more central in moving the class forward than the other group. While some of the experienced teachers pointed to time mismanagement across the fragments, only two of the novice teachers raised this point. Finally, some novice teachers did not refer to any classroom management problems in

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some of the fragments, which may indicate that developing a deep conceptualization of classroom management may have been demanding for them.

5. Conclusion

The present study explored variations in L2 teachers' representations of classroom management events across experience levels. Collectively, our findings highlighted the isomorphic symbiosis between experience and knowledge representation whereby increase in experience brings about higher cognitive maturity in representing classroom management events except for disciplinary issues which functioned reversely. Practically speaking, given the less developed representations of classroom management events by novice teachers, as revealed by the results of the study, in-service teacher education programs should aim to develop the knowledge base of novice teachers regarding classroom management. Given the significant role of experience in better representations of classroom management events, novice teachers should be provided with more "deliberate practices" (Ericsson, Krampe, and Tesch-Römer, 1993) to enhance representations of their classroom-level management decisions. Within this process, experienced teachers could function as mentors cognitively modelling their classroom management representations for the novice teachers. This is in line with Gatbonton's (2008) warning against teachers' expectations to wait for accumulation of their knowledge and

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cognitions over time through experience. Instead, teacher education programs should speed up the acquisition of the required knowledge and cognitions underlying novice teachers' classroom performance.

It is often argued that classroom management is under-represented in teacher education programs (Davis, 2018). Considering the now-established definition of classroom management in constraining classroom occurrences and activities, it is incumbent on policy-makers and teacher educators to develop pre-service teachers' awareness of the significant role of classroom management in instruction. As we observed, such an under-developed understanding of classroom management was canonical in the novices' representations across most of the categories. Thus, classroom management should be approached differently by teacher educators to move beyond dominant concerns with disciplinary issues toward developing the teachers' awareness of management across all the aspects of activity management, classroom progression, and instructional organization. Considering classroom management from these perspectives enables the teachers to (re)define their approach toward their instruction and accordingly contribute to student learning outcomes more effectively.

This study is, as a look at the well-accredited language teaching-related journals reveals, the first study exploring L2 teachers' representations of classroom management events. Thus, as with any embryonic empirical endeavor, further research is needed to investigate how the concept is

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conceived and characterized across both various pedagogical contexts and teacher-related variables. A limitation in the design of this study and, by extension, other studies (e.g., Wolff et al., 2014) was that the participating teachers were presented with fragments which necessarily included classroom management problems. It would merit further investigation to present teachers with a mixture of fragments including management problems and those without management problems. Such an undertaking would provide us with a transparent picture of teachers' conscious/unconscious management-driven noticing and subsequent representation(s). It should also be acknowledged that the education of the teachers could have functioned as an intervening variable in influencing the differences in their representations. As the experienced teachers were MA holders, their theoretical knowledge as gleaned during their greater education could have influenced their associated representations. Further research with possible BA-experienced and MA-novice teachers could provide illuminating findings about the role of educational level in representing classroom management events. Another limitation of the present study is that the participating teachers were presented with management-related problems in a novice teacher's class as the literature has indicated the existence of problems in their classroom management. Yet, research should delve into experienced teachers' management problems in order to delineate how novice and experienced teachers represent their counterparts' management problems.

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Appendix: Categories of the coding scheme

Perceptions and interpretations
Visual description: describing what is seen in the video
Audio description: describing what is heard in the video
Missing information: mentioning something that cannot be seen or heard
Incomprehensible statement: statements that are incomplete, do not convey a clear meaning, or that cannot be matched with a code
Inferences about the students: suppositions about the students' cognitive and/or affective states
Inferences about the teacher: suppositions about the teacher's cognitive and/or affective states
Prediction for student learning: speculation about the level of learning or uptake in the lesson
Prediction for classroom management: speculation about potential outcomes in the lesson with a particular focus on consequences framed in terms of managing the classroom
Prediction of anticipated behavior: speculation about an action that a student or the teacher will soon take
Explanation or reasoning: Statements extending participants' thoughts or thought processing, justifying their inferences and/or predictions, or providing a premise for the actions or intentions being described. Sometimes these statements come across as evaluative.

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Themes and focus
Student attention: Off-task: attention of students is/are not engaged in teacher instruction or lesson activity
Student attention: On-task: students are engaged in lesson activity and listening or interacting with the teacher
Student learning: thoughts focused on outcomes that place the emphasis on individual or collective student learning
Student discipline: thoughts focused on outcomes that place the emphasis on disciplinary concerns
Student behavior: abnormal: student behavior (including posture) explicitly or implicitly described as strange, unusual, or as defying expectations
Type of student: reference to a familiar type or kind of student
Type of situation: reference to a familiar type or kind of classroom event or situation
Contextualized suggestion/comment: thoughts on or about how to improve a specific situation occurring in the video
Generalized suggestion/comment: thoughts on or about how to improve teaching practices that apply in a general manner, not to the particular event referenced in the video
Self-as-teacher: commentary or suggestions specifying what the participant would do as a teacher
Teacher influence: statements describing the role and influence the teacher has on classroom events and situations
Teacher does nothing: statements noting that the teacher is not aware of nor does s/he address a problematic classroom event

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Temporality
Retrospection: referencing actors who appeared previously in the video or a preceding event from the lesson video that reoccurs in the scene being described
Contemporaneous: referencing actors who appear currently in the scene being described or a current event from the scene being described
Prospection: referencing actors who will reappear in the lesson video or an event that takes place at a later point in the lesson video
Cumulative cognitive processing
Single: only one point of view is represented, for example, only that of the teacher or students
Multiple: more than one point of view is expressed, for example, that of the teacher and students
Integrated: reports on what is heard, seen, or understood to be happening that express an integrated perception of events
Isolated: reports on what is heard, seen, or understood to be happening that focus on a single aspect relevant to classroom management
Continuity: referencing a preceding event in the video and describing its relevance to the current situation
Discontinuity: no reference to preceding or subsequent events in the video
Open-ended: the interpretive processing expressed in the description of the event suggests that further interpretation may be possible
Dead-ended: the interpretive processing expressed in the description of the event is inconclusive, conveys uncertainty, and lacks wording suggesting that the interpretation could be extended

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