

# Development of the use of discourse markers across different fluency levels of CEFR

## A learner corpus analysis

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Fluent L2 English speakers frequently use discourse markers (DMs) as a speech management strategy, but research has largely ignored how this develops across different proficiency levels and how it is related to immersive experiences. This study examines the developmental patterns of three DMs – *well*, *you know* and *like* – in the speech of learners at A2-C1 in CEFR with and without immersive experiences in target language environments. The fluency-rated LINDSEI corpus (173 learners) and a parallel native corpus (50 speakers) provided approximately 350,000 tokens and 3,395 instances of the analyzed DMs. Overall, DM frequency (especially with *well* and *you know*) among C1 speakers increases with rising fluency levels up to almost native-like levels. Immersive experience correlates positively with overall and individual DM frequency (except for *like*). As the skillful use of DMs results in more fluent speech production, the didactic implications for L2 instructors should be developed.

**Keywords:** discourse marker, speech fluency, immersive experience, learner corpus, CEFR, LINDSEI

## 1. Introduction

Fluency is generally recognized as a multidimensional construct (Housen et al. 2012) and the literature abounds in ways of defining and operationalizing it. One of the most common findings is that, in order to achieve fluent performance, speakers deploy various strategies to buy time for planning subsequent utterances.

One such strategy is the use of discourse markers (DMs)<sup>1</sup> as compensatory fillers (Hedge 1993), a non-intrusive strategy, since DMs naturally and frequently occur in native spoken English (Carter and McCarthy 2006) and contribute to pragmatically effective communication (Polat 2011). Although previous research has shown that fluent speakers tend to use more and more varied DMs (e.g., Hasselgren 2002; Götz 2013; Crible 2017), few empirical studies have investigated the developmental patterns of DMs in learner corpora across fluency levels in an internationally-recognized system, namely the Common European Framework of Reference for Languages (CEFR; Council of Europe 2001, 2018). The CEFR provides a comprehensive description of increasing language proficiency from A1 to C2 levels.<sup>2</sup>

The scarcity of multi-level learner speech data has resulted in a dearth of studies describing the process of acquiring DMs. The present study examines three typical DMs (*well*, *like* and *you know*) in the speech of learners, empirically testing the use of DMs at different perceived fluency levels of CEFR, and shows how the use of DMs develops as perceived fluency levels increase.

Studies of second language (L2) acquisition have also reported that learners' exposure to target language environments and regular contact with native speakers (NSs) facilitates L2 development, especially in the use of DMs (e.g., Müller 2005; Hellermann and Vergun 2007; Gilquin 2016; Götz and Mukherjee 2018). The concept of this type of acquisition derives in part from the socio-cultural perspective of Vygotsky (1978), which identifies the role of social interaction in creating an environment that provides L2 learners with abundant opportunities to engage in target-language use. It is therefore reasonable to argue that L2 learners with immersive experience are more exposed than other L2 learners to the natural production of DMs, resulting in an enhanced competence to comprehend and produce fluent L2 speech (Gilquin 2016). Hence, we aim to explore how far the acquisition of DMs relates to such immersive experiences.<sup>3</sup>

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1. The definition of DMs is still open to debate. Varying approaches have been adopted to develop criteria for determining DMs (e.g., Schiffrin 1987; Fraser 1990). Based on work by Schourup (1999) and Fung and Carter (2007), a DM is determined by the possession of five characteristics: (1) optionality, (2) flexibility of position, (3) prosodic independence, (4) connectivity and (5) multi-grammaticality.

2. The CEFR, released in 2001, was developed to accommodate all languages by describing competences of listening, reading, spoken interaction, spoken production and writing. See <https://www.coe.int/en/web/common-european-framework-reference-languages/home>.

3. One of the metadata of our learner corpus presents the duration of stay in countries where English is spoken, which includes any form of activity from attending formal instruction to sojourns of different kinds.

It has been argued that, since DMs can be used as strategies for enhancing fluency, learners should be encouraged to use them in order to reduce the incidence of more disfluent features, such as (un)filled pauses (Götz 2013), because this could lead to improvements in a speaker's perceived fluency. The present study thus provides evidence for the pedagogical implications of the use of DMs in learning English, raising awareness of the developmental pattern of DMs in learners' spoken English and in benchmarking learner fluency against CEFR levels which are applicable to English speaking tests.

## 2. Discourse markers in speech

DMs are ubiquitous in spoken discourse and have many roles in spontaneous speech, which is constructed in real time and involves, among other things, the immediate social and interpersonal situation. Primarily, DMs function to “signal transitions in the evolving process of the conversation, index the relation of an utterance to the preceding context and indicate an interactive relationship between speaker, hearer, and message” (Fung and Carter 2007, 401). In this regard, DMs act as “punctuation for speech”, signaling and signposting for the speaker (Carter 2008, 15). This coherence-based view is concordant with Schiffrin's (1987, 31) definition of DMs as “sequentially dependent elements which bracket units of talk”. DMs usually work at a discourse level to maintain coherence by providing contextual coordinates for ongoing discourse and acting as linking devices, which reflect choices in monitoring, organizing and managing discourse. DMs also help to organize utterances for the listener, which serve to make the structure and main points of the speech more readily apparent. In addition to maintaining discourse cohesiveness, DMs have important interpersonal functions in spoken discourse: they enable speakers to project interactive understanding in face-to-face communication, in token of, for example, politeness, shared knowledge, turn-taking, emotional engagement and responses; e.g., agreement, confirmation and acknowledgement (Carter and McCarthy 2017). This reflects the listener-sensitive function of DMs: to indicate the attitudes of the speaker and his/her stance vis-à-vis the information conveyed.

### 2.1 Discourse markers and speech fluency

DMs have sometimes been negatively characterized as “a sign of disfluency and carelessness” (Brinton 1996, 33). Nevertheless, Tottie (2011, 193) argues that the term *disfluency* is based on an idealized conception of fluent speech production and is “a rather negative and uninformative default term that says nothing about

the discourse functions”. She then proposes the more positive term “planners”. When employed as a speech planning and monitoring strategy, DMs in spoken discourse have been shown to be helpful in spontaneous speech production; they contribute to speech fluency and smoother communication (Götz 2013; Cribble et al. 2017; Rühlemann 2019; Wolk et al. 2021), especially when a lexical gap or speech difficulty emerges. In this regard, DMs may fulfill “potentially disfluent functions” by *monitoring* (checking for understanding, calling for help), *punctuation* (stalling, planning) and *reformulation* (paraphrase and actual corrective relations; Cribble 2017, 80).

As House (2009, 187) notes, DMs can be a “gap-filler”, in the form of “a stock phrase mainly used to help speakers process and plan their output, and link spans of discourse”, which may fill the pauses and replace the disfluency. Tsai and Chu (2017) examine the DMs used by Chinese-speaking teachers and learners and report that individual speakers who very often use DMs display their fluency in the target language and decreasing numbers of incomplete utterances (false starts) per turn. Like filled pauses in speaking, DMs serve as the “elegant fillers” or “fluencemes” that occur frequently and can easily be used to fill a silence during speech processing and planning in a natural-sounding way, increasing “the length of a speech run (and thus the overall productive fluency) as well as the degree of naturalness of the output (and thus perceptive fluency)” (Götz 2013, 40). Such fluency-enhancing functions of DMs can be equivalent strategies for speakers to choose for coping with planning phases in spontaneous speech (Wolk et al. 2021). Learning how to use DMs can facilitate listeners’ interpretation of English. If speakers are able to produce DMs appropriately, the English that they produce will be more natural and fluent (Hoey 2002).

## 2.2 Discourse markers in native and learner discourse

DMs have been investigated extensively and intensively in the speech of English NSs and learners across numerous L1s or cultural backgrounds, such as Chinese (Liao 2009), Dutch (Buysse 2012), German (Müller 2005; Götz 2013), Spanish (Romero-Trillo 2002), Swedish (Aijmer 2011), French and Polish (Gilquin and Granger 2015) and Taiwanese (Lin 2016; Huang 2019). Müller (2005), for example, investigates the use of DMs *so*, *like*, *well*, and *you know* by NSs and German-speaking learners. It has been reported that overall in learner discourse DMs are under-represented,<sup>4</sup> with the exception of *well*. Aijmer (2011), for example, reports

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4. For language learning, it is reasonable to assume that the language produced by native speakers is taken as the target norm. The terms *underuse* and *overuse* are generally adopted by most learner corpus studies, implying that learners use a given target item too much or

an over-representation of *well* by Swedish learners in several different functional roles, with learners tending to use it as a fluency device mostly to cope with speech management problems and rarely to indicate attitude (e.g., by mitigating disagreement). Fung and Carter's (2007, 410) examination of learners in Hong Kong, based on a pedagogic sub-corpus from CANCODE, shows evidence that DMs serve as "useful interactional manoeuvres" to organize and structure speech on interpersonal, referential, structural and cognitive levels. Employing the same analytical scheme, Lin (2016) examines the speech of British NSs and Taiwanese learners of English, based on a specialized corpus derived from an adolescent intercultural exchange program. Both studies show that NSs used a wider range of DMs for discourse pragmatic functions, whereas L2 learners' use of DMs was more restricted. Although the above studies found significant differences between NSs and non-NSs, it remains unclear how the proficiency levels of learners influence the use of DMs. Learners' proficiency levels remain a "fuzzy variable" in learner corpus research (Carlsen 2012).

Several studies document the different uses of DMs across proficiency levels in L2 speech. Dumont (2018) finds that C1 learners use significantly more DMs than do B2 learners. Jones et al. (2018) show that more proficient learners (equivalent to C1 in CEFR in the UCLan Speaking Test Corpus) used *well* more frequently than lower-level learners, whereas B1 learners employed the DM *you know* significantly more than B2 and C1 learners. Neary-Sundquist (2014) reports that DM use is positively correlated with proficiency; but even highly proficient learners could not reach native-like patterns of variation, and certain DMs, such as *I think*, were over-represented. Although some studies do not clarify whether a wider variety or higher frequency of DMs was predictive of higher proficiency levels (Wei 2011), many studies have found that DMs are used more frequently by more advanced learners of a language (Müller 2005; Hellermann and Vergun 2007) and the rate of DM use by advanced learners is similar to that by NSs (Neary-Sundquist 2014). This implies that the use of DMs can be a mark of both NSs and successful users of English (Prodromou 2008). DMs indicate speakers' membership "within cultural communities and project a 'deep commonality' amongst interlocutors" (O'Keeffe et al. 2007, 76). It is further suggested that

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too little to sound like a native speaker. In studies of DMs, we would suggest as alternatives the neutral terms *under-* and *over-representation* for discussing differences in frequency across corpora. The underlying assumption of *under-* and *over-representation* is to keep frequency information as linguistic evidence in focus and avoid over-generalizing differences to learners' performance; in particular, the use of DMs is contextually dependent and syntactically and semantically optional.

learners who wish to advance closer to near-native fluency should be exposed to and practice these distinctive features of spoken grammar (*ibid.*).

However, neither the levels of learners' speaking proficiency nor the fluency levels of these studies are clearly or uniformly defined, making it difficult to compare them in understanding the development of DM use. Only Dumont (2018) and Jones et al. (2018) used the CEFR to quantify learner levels, while other studies used a graded language course (Hellermann and Vergun 2007), investigator assessment (Fung and Carter 2007), a pre-study speaking proficiency test (Neary-Sundquist 2014), or lacked a defined proficiency variable (Müller 2005). In light of these ongoing discrepancies in the literature, the present study uses a multi-level learner corpus, evaluated post hoc, deploying CEFR fluency descriptors. It allows the results of developing DM use to be easily adopted in such practical contexts as language classrooms and assessments.

### 2.3 Discourse markers and immersive experience

Socio-cultural integration and exposure to the target language environment have been shown to influence thinking, speaking and the acquisition of a new language. Previous L2 research has provided strong evidence that learners' immersive experience with rich L2 input and opportunities for interaction in natural communicative contexts have a positive impact on the development of oral fluency. Mora and Valls-Ferrer (2012), for example, investigated 30 learners at an upper-intermediate level (B2) who had failed to improve in fluency after six months of formal instruction in the participants' home country, but after a three-month study-abroad program increased all measures of fluency other than accuracy and complexity. These observed fluency gains may have been due to the frequent employment of various fluency devices in speech, such as DMs.

Immersive experience may also promote the acquisition of DMs. Hellermann and Vergun (2007) find that L2 learners who had more contact with NSs acquired three DMs (*you know, well* and *like*), whereas students with little or no use of DMs in their classroom talk all reported speaking their first language at least 50 per cent of the time spent outside the classroom. Liu (2016) notes that, for Chinese learners of English as a foreign language (EFL) who lived in the United States, both the increased exposure and increased socialization had significant positive effects on the frequency and variety of the DMs produced. Gilquin (2016) examines 554 EFL learners from the Louvain International Database of Spoken English Interlanguage (LINDSEI) and finds a general, significant increase in the use of DMs with the increased length of time spent studying abroad in an English-speaking country. Götz and Mukherjee (2018) report a positive significant effect on the use of DMs of immersive experiences lasting more than one year, showing

how the duration of English instruction and a period of stay abroad lead to an increased use of DMs and a reduced use of (un)filled pauses, resulting in speech that is more fluent. These studies demonstrate how increased exposure and socio-cultural integration through a study-abroad experience have measurable effects on the L2 development of DMs.

Although the above studies show a relationship between immersive experience, fluency and the use of DMs in learner groups of a particular level of L1, the present study proposes to further investigate the effect of immersive experience on learners across four CEFR fluency levels.

#### 2.4 Focal discourse markers

A wide variety of words or multiword units considered as DMs have been investigated, but some may be taken as uncontroversial and are classified as central DMs, such as *well*, *you know* and *like*. These three DMs are the most frequently used and have been extensively selected for analysis in both native and non-NS corpora (e.g., Müller 2005; Hellermann and Vergun 2007; Polat 2011; Götz 2013; Dumont 2018). Making the distinction between non-DM use and DM use of *well* and *like* is straightforward, by referring to the parts of speech that they represent. When analyzing *you know*, syntactical necessity was the criterion.

DM *well* serves multiple functions in spontaneous speech; one of its major functions is to indicate that the speaker is thinking about things (Carter and McCarthy 2006). Aijmer (2011, 235) describes it as “primarily a ‘mental state’ interjection”, which can be associated with the speaker’s deliberation. Biber et al. (1999, 1086) also state that *well* “appears to have the general function of a ‘deliberation signal’, indicating the speaker’s need to give (brief) thought or consideration to the point at issue”. In such cases, the use of *well* can provide cognitive benefits that allow speakers to buy time for planning, processing and searching for alternative expressions. As Fung and Carter (2007) note, DM *well* also serves the interpersonal function of indicating the speaker’s attitude and the structural function of indicating the shift to a new topic. It can be taken as a mitigator to soften disagreements, dispreferred points, unexpected answers, etc. Some studies have reported an over-representation of *well* by French-speaking (Gilquin 2008) and Swedish-speaking (Aijmer 2011) learners, compared to their native-speaking counterparts, while others report an under-representation of DM *well*, for instance by Chinese-speaking learners from Hong Kong (Fung and Carter 2007) and Taiwan (Lin 2016; Huang 2019).

*You know* is commonly considered an interpersonal DM, signaling that speakers are sensitive to the needs of their listeners and are monitoring the state of shared knowledge in the conversation (O’Keeffe et al. 2007). But, while *you know*

functions as an interpersonal DM, it may not always be the case that speakers and hearers have shared knowledge. Speakers occasionally use it for reformulating, repairing and exemplifying in a way that may replace pauses and disfluency and provide a coherence function in discourse (Polat 2011; Lin 2016). It can also be used to launch a new topic (O’Keeffe et al. 2007) and to highlight a particular point in an utterance (Fox Tree and Schrock, 2002). However, House (2009) argues that the functional use of *you know* by EFL learners and NSs is markedly different in that EFL speakers use *you know* predominantly as a self-serving strategy to improve coherence rather than inviting addressee inferences or cooperating with their interlocutors.

*Like* has been reported as the most prevalent DM in casual spoken interaction (Lin 2016). The DM *like* in spoken discourse is interpreted as serving several functions. One of the most frequent is to preface new information (Fuller 2003; Hellermann and Vergun 2007). Studies have identified significant differences in the use of *like* between native and non-NSs, and have identified *like* as having the greatest disparity in usage between these two groups (Müller 2005; Lin 2016). When *like* occurs with numeral expressions, it often serves as a vagueness marker, denoting the approximateness of the quantity and purposely suggesting uncertainty. O’Keeffe et al. (2007, 177) state that “speakers frequently introduce approximators to downtone what might otherwise sound overly precise”. *Like* can also function as a filler, hesitation marker or discourse linking device, indicating the need for speech planning without giving up the floor (Polat 2011). Speakers search for the content or appropriate lexical information while thinking and speaking. This use of *like* occurs commonly with false starts, pauses and self-repairs, especially in language learners’ discourse.

### 3. Research questions

This study addresses two research questions:

First, what are the developmental patterns of the three DMs *well*, *you know* and *like* in learner speech across fluency levels in CEFR? The developmental patterns are shown with the relative frequencies of DMs and the proportion of non-users of DMs in each speaker group, using native norms as a benchmark.

Second, what is the effect of immersive experience on the learners’ acquisition of DMs? The participants were divided into three groups, learners without immersive experience, those with such experience and their native-speaker counterparts (“native counterparts”, below), to examine whether the speaker groups were statistically significantly related.



## 4. Methodology

The corpus data are introduced in the first subsection below. In addition to describing the unified structure of the corpora, this subsection briefly reports how learners' speaking fluency levels were assigned. The second subsection reports the research methods adopted.

### 4.1 Corpus data under investigation

The learner corpus data were derived from 183 interviews, collected by two of the three authors. One hundred interviews were held with university English majors from the Czech (Gráf 2017) and Taiwanese (Huang 2014) sub-corpora of LINDSEI<sup>5</sup> (Gilquin et al. 2010). To expand our learner corpus data to lower proficiency levels, 83 interviews came from the supplemented version of LINDSEI (see Huang and Gráf 2021 for more detail), which were collected in various university departments (English, Chinese, Business Management, Financial Management, International Trade, Tourism Management and Information Technology) in Taiwan and Finland. The interviewees' ages ranged between 19 and 26 years, with an average age of 22.5 years in the Czech sub-corpus, 21.7 in the Taiwanese one and 20.7 in the supplementary data.

The LINDSEI interviews called for three major tasks. The first was a monologue on a set topic. There were three set topics in LINDSEI: (a) *An experience you have had which has taught you an important lesson*; (b) *A country you have visited which has impressed you*; (c) *A film/play you've seen which you thought was particularly good/bad* (Gilquin et al. 2010, 8). The participants chose one of the set topics. The lower-level students in the supplemented corpus were given ten simple topics (hobbies, school/major, daily routine, plans, family, a person you admire, good friends, favorite food, leisure activities and travel experience) and were asked to talk about three of them. The second task was a dialogue about topics of general interest. The third task was to reconstruct a narrative on the basis of four sequential pictures. Teachers of English conducted the interviews and the learners participated voluntarily. Each interview lasted approximately 15 minutes.

The 183 learners were grouped into six fluency levels according to the aural evaluations of their sample performances by trained examiners. Learners' performances under the headings of range, fluency, accuracy, phonological control and

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5. The first 11 sub-corpora were published in LINDSEI version 1 (Gilquin et al. 2010). At the time of writing, there are 24 sub-corpora; see LINDSEI Partners on <https://uclouvain.be/en/research-institutes/ilc/cecl/lindsei-partners.html>. One of the criteria for selecting eligible participants was majoring in English.

coherence were rated according to the descriptors of CEFR (Council of Europe 2018, 171–172). The 100 learners in LINDSEI-Czech and LINDSEI-Taiwanese were assessed independently by two qualified Cambridge IELTS examiners, who had previously been trained in CEFR rater standardization. The rating results from the two raters correlated closely with each other ( $\rho = .893$ ), as did the rating of the 83 supplementary corpus items ( $\rho = .84$ ).<sup>6</sup> Cases showing a discrepancy were sent to a third rater for adjudication. In the present study, the learners' levels of fluency in CEFR were used for grouping because we were investigating the relationship between fluency and the use of DMs. The qualitative features of fluency operationalized in CEFR are presented in the Appendix.

As shown in Table 1, the post hoc assessment resulted in a division into six groups: A1 ( $n = 5$ ), A2 ( $n = 23$ ), B1 ( $n = 33$ ), B2 ( $n = 69$ ), C1 ( $n = 48$ ) and C2 ( $n = 5$ ). This study focused on the development of DMs from A2 to C1; the sample sizes of A1 and C2 were too small to represent these two levels and therefore they were not included in this study. To compare the use of DMs by speakers at the four different fluency levels ( $n = 173$ ) with that of their native counterparts, 50 interviews with British university students from the Louvain Corpus of Native English Conversation (LOCNEC; De Cock 2004) were also examined. The construction of the LOCNEC corpus followed the same structure as LINDSEI, making them directly comparable.

**Table 1.** Distribution of speakers across fluency levels in CEFR

Speaker groups	Numbers of speakers	Tokens
A1	5	1,551
A2	23	16,146
B1	33	31,027
B2	69	98,314
C1	48	84,649
C2	5	12,661
British native speakers of English	50	122,049
<b>Total</b>	<b>233</b>	<b>366,397</b>

To investigate the relationship between the learners' immersive experiences (whatever their form) and their use of DMs, the 173 learners were further grouped on the basis of experience: learners with no immersive experience in an English-

6. Huang et al. (2018) documented the details of rating LINDSEI-Czech and LINDSEI-Taiwanese. The rating of the supplementary data is reported in Huang and Gráf (2021).

speaking country ( $n = 101$ ), and those with immersive experience ( $n = 72$ ), ranging from 0.2 months to 167.8 months ( $SD = 22$ ). Table 2 below presents the distribution of learners based on their stay-abroad experiences and fluency levels. The effect of this experience is analyzed and discussed in Section 5.3 below.

**Table 2.** Distribution of learner speakers with or without immersive experiences

Speaker groups	Numbers of speakers	Distribution of fluency levels
Learners <i>with</i> immersive experiences	72	A2 = 5 (7%) B1 = 6 (8%) B2 = 25 (35%) C1 = 36 (50%)
Learners <i>without</i> immersive experiences	101	A2 = 18 (18%) B1 = 27 (27%) B2 = 44 (44%) C1 = 12 (12%)
<b>Total</b>	<b>173</b>	<b>173</b>

## 4.2 Data analysis

The first part of the analysis examined the corpus data quantitatively to measure the overall frequencies of the three DMs (*well*, *like* and *you know*) across each fluency level of CEFR. The three DMs were retrieved with the Concord tool in WordSmith 7 (Scott 2016) and one of the present authors manually disambiguated the instances between their discourse and non-discourse use, as defined in the Cambridge Grammar of English (Carter and McCarthy 2006). The classification was then double-checked by a research assistant with a master's degree in English language.

The frequencies of DMs were normalized as the number of instances per hundred words (phw). The resulting relative frequencies in the learner data were compared to those produced by their native counterparts. The relationships between the relative frequencies of DMs and learner fluency levels and between the speakers with/without immersive experiences and the duration of learners' immersive experiences were then evaluated<sup>7</sup> using Spearman rank order correlation. A

7. Spearman rank order correlation is used when one of the variables consists of non-parametric ranked data (e.g., CEFR fluency levels and speaker groups; Pallant 2011).

Kruskal-Wallis test<sup>8</sup> and Dunn's pair comparisons were then used to determine whether the differences were statistically significant.

The corpus methods allowed us to quantitatively analyze the distribution and developmental patterns of DMs across CEFR levels, but we were unable to explain adequately the observed use of the DMs in a particular speaker group unless we explored the co-texts. For this reason, we then conducted a largely qualitative immediate context analysis to exemplify and explain how DMs were produced by a speaker at a certain fluency level. All the instances of the three DMs were re-arranged to identify typical instances and their broader co-texts according to the immediate co-occurring items to the left and right of each DM.

## 5. Corpus analysis results

### 5.1 Overall frequencies of the three discourse markers

A total of 3,395 instances of three DMs was identified, comprising 1,280 instances of *well*, 853 of *you know* and 1,262 of *like*. The descriptive statistical information is presented in Table 3. On average, the learners from A2 to C1 levels produced 0.19, 0.27, 0.63 and 1.28 DMs phw. The 48 C1-level learners used them almost as often as their native counterparts did (1.3 DMs phw).

**Table 3.** Descriptive statistical information on discourse markers across learner and native groups

CEFR fluency levels	Number of speakers	<i>Well</i>		<i>You know</i>		<i>Like</i>		Three discourse markers			
		Raw freq.	Mean (phw)	Raw freq.	Mean (phw)	Raw freq.	Mean (phw)	Mean (phw)	Min (phw)	Max (phw)	SD
A2	23	2	0.01	5	0.03	22	0.14	0.19	0	0.53	0.18
B1	33	41	0.1	21	0.04	43	0.13	0.27	0	2.87	0.52
B2	69	202	0.18	116	0.11	334	0.34	0.63	0	3	0.77
C1	48	450	0.56	128	0.14	460	0.58	1.28	0.11	3.25	0.76
Native speakers	50	585	0.5	583	0.47	403	0.33	1.3	0.06	4.01	0.68

8. A Shapiro-Wilk normality test ( $p < 0.05$ , except for *well* in the native-speaker group) showed that the frequencies were not normally distributed; therefore, a Kruskal-Wallis test, an alternative to ANOVA for non-parametric data, was conducted (Leech et al. 2005).

To yield a better visual display, the relative frequencies of the three DMs are presented in boxplots. Figure 1 shows that the use of DMs develops linearly with fluency levels. A Spearman's correlation was run to determine the relationship between the relative frequencies of DMs and the fluency levels. Overall, there was a strong, positive correlation ( $r_s(223) = 0.65, p < 0.0001$ ). The relationship between the relative frequencies of individual DM and fluency levels was also strongly positive for *well* ( $r_s(223) = 0.674, p < 0.0001$ ) and *you know* ( $r_s(223) = 0.576, p < 0.0001$ ), but weakly positive<sup>9</sup> for *like* ( $r_s(223) = 0.243, p < 0.0001$ ).

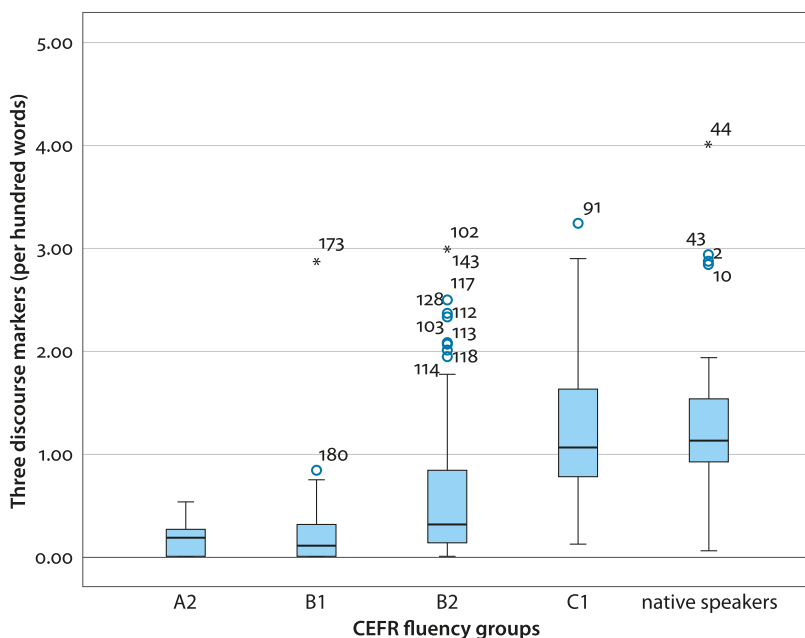
In Figure 1, the boxplots of the advanced C1 level are broadly similar to that of the native counterparts. The medians for C1 and native counterparts are 1.04 and 1.13 instances of DMs phw, respectively. In the native data, four outliers are shown. Since the native counterparts were taken as a benchmark and the frequencies of the DMs used by the high users show the phenomena of natural speech, we decided not to reject the outliers. In the learner groups, one outlier in C1, nine in B2 and two in B1 were identified. A closer look at these outliers revealed their preference for a particular DM. The only outlier at C1 (FI112) produced 2.55, 0 and 0.7 instances phw of *well*, *you know* and *like* respectively. Six of the nine outliers in the B2 group were frequent users of *like*, of whom one (TW003) employed *like* only. In the B1 group, one outlier (TW040) was a high user of *well* and the other (TW106) was a high user of *you know*. It is not easy from the current data to explain why a speaker uses a given DM more frequently than other DMs. Possible interpretations could be the speakers' idiosyncrasies, or perhaps that the immediate contexts where the DMs occurred required their use.

To test if there was a statistically significant difference between speaker groups, the data from learners at four levels (A2, B1, B2 and C1) and those of their native counterparts were used to run a Kruskal-Wallis test. It showed that the frequencies of DMs had a significant, strong<sup>10</sup> effect on the levels of perceived fluency,  $\chi^2(4, n = 223) = 99.065, p < 0.0001, \epsilon^2 = 0.446$ . Dunn's post hoc tests were then conducted on each pair of groups.<sup>11</sup> It was found that the A2 group was significantly different from the C1 ( $p < 0.0001$ ) and native counterpart groups

9. The strength of the correlation adopts the guide that Cohen (1988, 79–81) suggests for the absolute value of correlation coefficients: 0.10 to 0.29 'small'; 0.30 to 0.49 'medium'; 0.50 to 1.0 'large'.

10. Lomax and Hahs-Vaughn (2012) suggest that effect size values measured with epsilon squared can be interpreted similarly to those of eta squared; therefore, a value of 0.01 is considered a small effect, 0.06 a medium effect and 0.14 a large effect (Cohen 1988, 284–287).

11. In order to preserve a family-wise 0.05 significance level, we applied the Bonferroni adjustment by dividing the alpha equally across the ten tests (Pallant 2011; Tabachnick and Fidell 2012).



**Figure 1.** Boxplots of relative frequencies of the three focal discourse markers for learner and native groups

( $p < 0.0001$ ), but not from the B1 ( $p = 1$ ) and B2 ( $p = 0.064$ ) groups. A statistically significant relationship was found between the B1 and B2 groups ( $p < 0.043$ ), between the B1 and C1 ( $p < 0.0001$ ), between the B2 and C1 ( $p < 0.0001$ ) and between the B2 and the native counterpart groups ( $p < 0.0001$ ). As suggested earlier, the C1 learners performed similarly to their native counterparts. The statistically significant difference did not lie in the difference between these two groups ( $p = 1$ ).

## 5.2 Three focal discourse markers in learner and native groups

Almost all the 50 British native university students under investigation used DMs *well* and *you know* and only 9 (18%) of them did not use DM *like* (see Table 4). All of the C1 speakers were users of DMs, which means that their speech was closer to native norms. The percentages of non-users of the three DMs at A2 and B1 were higher (39% and 42% respectively) than those in the B2, C1 and native data (13%, 0% and 0% respectively), suggesting that these three common DMs may develop in line with speakers' fluency levels. This trend was particularly marked in the use of DMs *well* and *you know* (see Figure 2). Their frequencies started to increase from B1 to B2. The use of DM *like* appeared distinct from the use made of the

other two DMs. Nearly half of the speakers at A2 and B1 and four-fifths at B2 and C1 used *like* as a DM.

**Table 4.** Proportions of non-users of discourse markers in learner and native groups

CEFR fluency levels	Number of speakers	Non-users of <i>well</i>		Non-users of <i>of you know</i>		Non-users of <i>like</i>		Non-users of three discourse markers	
			%		%		%		%
A2	23	21	91	20	87	12	52	9	39
B1	33	28	85	27	82	17	52	14	42
B2	69	42	61	38	55	15	22	9	13
C1	48	5	10	20	42	10	21	0	0
Native speakers	50	0	0	2	4	9	18	0	0

### 5.2.1 Discourse marker *well*

Among the three DMs for analysis, *well* is the only one used by over 90% of the advanced C1 learners and native counterparts, while only approximately one third of the B2 learners (38%) use it. The high frequency of the use of *well* is thus a characteristic feature of the more fluent C1 speakers, who may have adopted it as one of their strategies for maintaining fluency.

In the extract, the mark-up <A> refers to the turn produced by the interviewer and <B> to that of the learner. In order to discuss possible reasons why *well* is used and demonstrate how the use of *well* relates to fluency, we selected a learner at C1. In Example (1) below, the first instance produced by Speaker A follows a disagreement with the other speaker. Speaker B, a C1 speaker, is one of the outliers (i.e., a user who used DMs relatively frequently) cited in Figure 1 above. The second example may act as a “frame” for introducing clarifications or for self-repairs (Svartvik 1980, 175). The third instance, which follows a short silence, might indicate Speaker B’s attempt to compensate for disfluency.

- (1) Example of DM *well* at fluency level C1 (File: FI112, LINDSEI-supplemented)

<A> *I really want to learn that's my goal in spring is it difficult* </A>

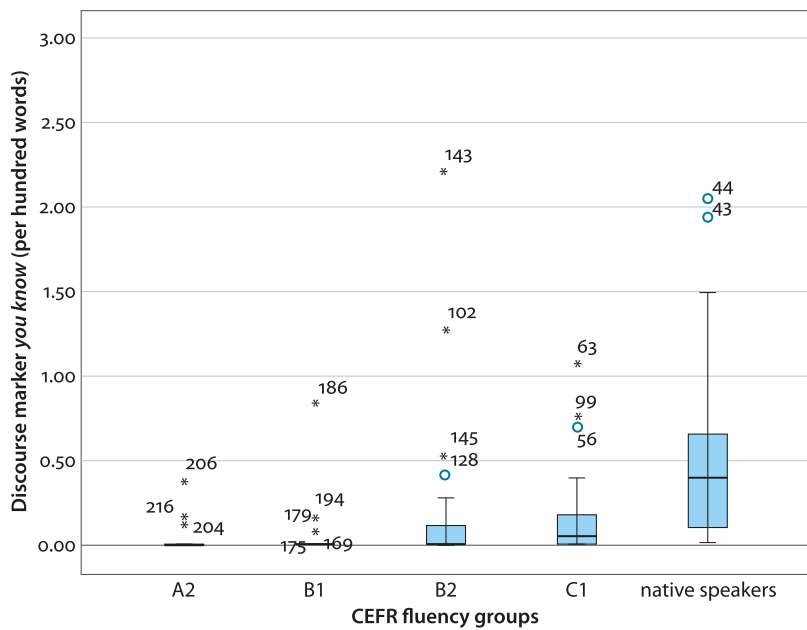
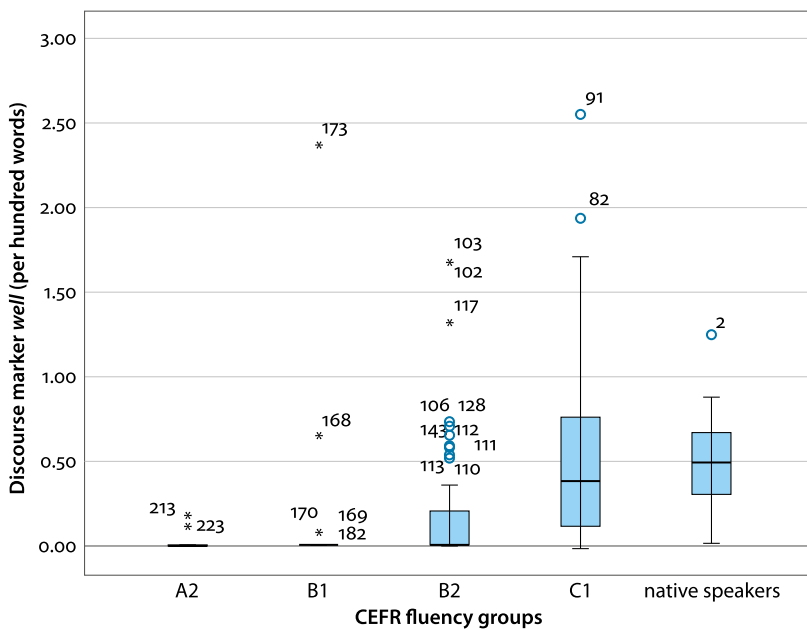
<B> *I don't think so* </B>

<A> *well*<sup>(1)</sup> *you started at two* </A>

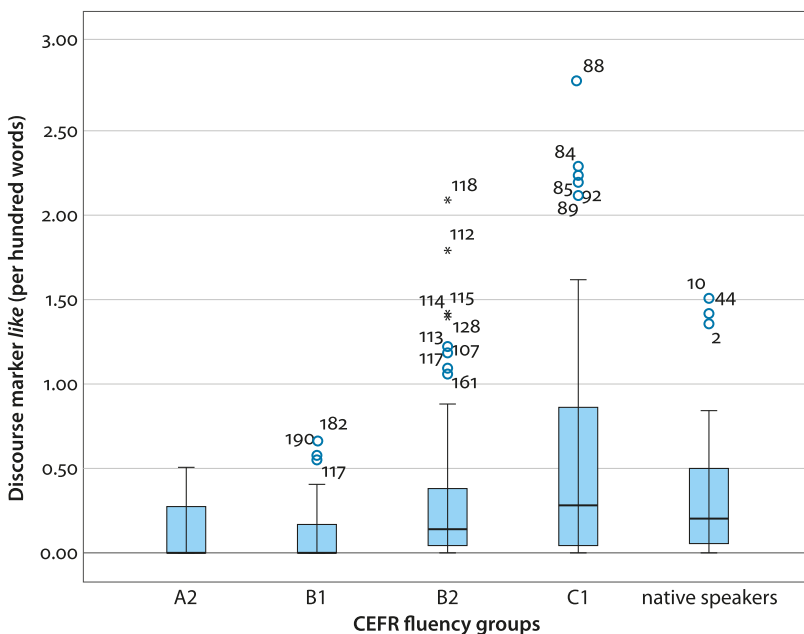
<B> *it's (eh) yeah . well*<sup>(2)</sup> *it's difficult if you want to be good at it . but* </B>

<A> *(mm)* </A>

<B> *I think you can just be an amateur and try and just . well*<sup>(3)</sup> *slide down you're not gonna be good at it at first but* </B>







**Figure 2.** Boxplots of relative frequencies of the discourse markers *well*, *you know* and *like* for learner and native groups

Based on the qualitative features of C1, “only a conceptually difficult subject can hinder a natural, smooth flow of language” (Council of Europe 2018, 171–172). Speaker B is able to speak fluently and appropriately employs DM *well* – when reformulation is needed to perform pragmatic functions rather than producing long pauses, which would probably have resulted in an impression of disfluency. If the instances of *well* in Example (1) above had been taken out, the speakers would also have been able to get their messages across, but they would have produced (un)filled pauses and lacked the pragmatic functions that *well* serves.

### 5.2.2 *Discourse marker you know;*

In the learner data a linear developmental pattern can be seen. The proportions of non-users declined from 87% at A2 to 43% at C1. In Example (2), Speaker B at B2 produced three instances of *you know*. The first one co-occurred with an intensifier, *actually*, signaling the introduction of key information. The second instance prefaced a re-start and the third one follows the vague item *kind of*. These two instances may indicate that the speaker is searching for content or appropriate words. This use of *you know*, not surprisingly, is common in learner data because learners need more time to formulate what they say in a foreign language (Polat

2011). Other evidence suggesting disfluency was seen in the hesitation markers (*eh*, *mm*, *er* and *em*, underlined) and silent pauses (transcribed into one, two and three periods). In the speech produced by a B2 speaker, “there are few noticeably long pauses” (Council of Europe 2018, 171–172, see Appendix). If Speaker B had not employed DMs, there would have been more evident pausing, which could possibly have downgraded Speaker B’s fluency level to B1.

- (2) Example of DM *you know* at fluency level B2 (File: TW035, LINDSEI-Taiwanese)

<B> *in Korea . well . Korea (eh) re= (eh) really really . I mean . polite </B>*

<A> *the Korean people right </A>*

<B> *yeah . (eh) . (mm) well . (er) superficially they are polite but actually you know<sup>(1)</sup> <overlap /> <starts laughing> it’s another way <stops laughing> it’s another </B>*

<A> *<overlap /> <laughs> oh okay </A>*

<B> *you know<sup>(2)</sup> another .. things . (em) </B>*

<A> *were they friendly . do you think they were friendly to you </A>*

<B> *they are friendly to me cos they are kind of you know<sup>(3)</sup> association . to: greet foreign students <overlap /> so: .. it’s the job </B>*

Like DM *well*, *you know* can be employed as a compensatory filler. This function could be found in the speech of nearly half the B2 learners, while most of the learners below B2 could have used silent pauses and such filled pauses as *er* and *mm* to serve the same function. The latter group was more likely to be seen as disfluent, distinct from the B2 speakers. In CEFR, the fluency at B1 featured evident pausing (see Appendix).

### 5.2.3 Discourse marker like

Of the three prominent DMs under investigation, *well* and *you know* were used by all 50 British native university students in LOCNEC, although 9 (18%) of them did not produce *like* as a DM. In terms of relative frequencies, *like* was least frequently used (0.33 instances phw), compared to *well* (0.5 instances phw) and *you know* (0.47 instances phw) by the native group. In contrast, the analysis of learner data shows that *like* was most often used by learners at all four levels. The proportion of its users in each learner group was also higher than for the other two DMs. 48% of A2 and 48% of B1, 78% of B2 and 79% of C1 used *like* as a DM. It was also found that the relationship between the relative frequencies and fluency levels was weak. In other words, compared to *well* and *you know*, *like* was the least likely to be a distinguishing feature between fluency levels. It is therefore interesting to examine how lower-level speakers use *like*.

Of the three DMs, *like* was the most popular among the 23 A2 learners, producing 0.14 instances phw of *like* (see Table 3 above). *Like* often co-occurred with (un)filled pauses and false starts (73% of the 22 instances), as demonstrated in Example (3) by an A2 learner, and was thus clearly due to hesitation, exemplifying the qualitative features of fluency at A2, where a speaker “can make him/herself understood in very short utterances, even though pauses, false starts and reformulation are very evident” (Council of Europe 2018, 171–172, see Appendix). Although the development of *like* starts early at A2 (see Figure 2 above) compared to *well* and *you know*, Example (3) shows A2-level learners’ excessive use of *like* as a hesitation marker, which may be evaluated to signify a lower fluency level.

- (3) Example of DM *like* at fluency level A2 (File: JP101, LINDSEI-supplemented)
- <A> (mhm) okay (em) how is your Chinese .. ho= how is your Chinese </A>  
 <B> (erm) <laughs> .. (em) .. (er) I studied Chinese .. four year </B>  
 <A> (mhm) </A>  
 <B> (er) . (erm) . I . can speak .. (erm) . like like . conversation . and . I can listen the class Chinese class </B>  
 <A> okay . okay so it’s good </A>

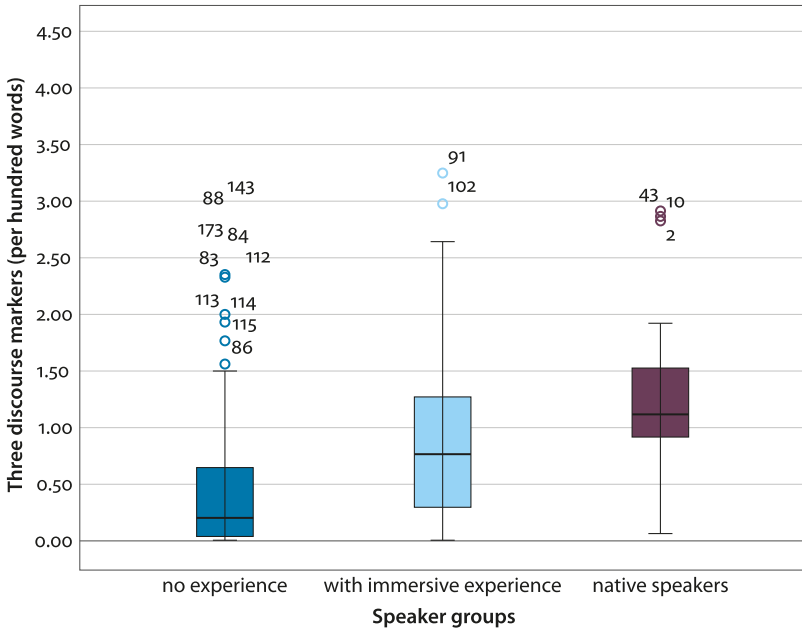
The empirical corpus data show that speakers at higher fluency levels use more DMs to enhance fluency as well as for their pragmatic functions. The pragmatic functions of the DMs are discussed in the above examples in their immediate co-texts, demonstrating the contribution of DMs in the framework of fluency in CEFR.

### 5.3 Use of discourse markers and learners’ immersive experience

In order to analyze the relationship between the use of DMs and learners’ immersive experience, the learners were divided into two groups: those with immersive experience in an English-speaking country ( $n=72$ ) and those without ( $n=101$ ; see Table 2 above for more detail). The native counterparts ( $n=50$ ) served as a benchmark. A Spearman’s correlation test indicated that the relationship between the relative frequencies of the three DMs as a grouped category and the three speaker groups was moderately positive ( $r_s(223)=0.506$ ,  $p<0.0001$ ). The same positive relationship was found individually between the three speaker groups and the use of *well* ( $r_s(223)=0.54$ ,  $p<0.0001$ ), *you know* ( $r_s(223)=0.535$ ,  $p<0.0001$ ) and *like* ( $r_s(223)=0.196$ ,  $p=0.003$ ).

Native students used more DMs overall and with greater within-group consistency than those with or without immersive experience (Figure 3). A Kruskal-Wallis test found that the relative frequency of DM use by any speaker group was significantly different from its use by the others ( $\chi^2(2, n=223)=56.948$ ,  $p<0.0001$ ,

$\epsilon^2 = 0.257$ ). Dunn's post hoc pairwise comparisons revealed significant differences between the three groups (the no-experience group and those who had had such experience,  $p < 0.0001$ ; the no-experience and native groups,  $p < 0.0001$ ; and the immersive experience and native groups,  $p = 0.006$ ). These results suggest that immersive experience may positively influence the acquisition of DMs.



**Figure 3.** Boxplots of the relative frequencies of the three focal discourse markers for learners with and without immersive experience and native speakers

This study further analyzed each level individually between learners with and without immersive experience. The results revealed a significant difference at the B2 level, suggesting that B2 learners with immersive experience (Mdn = 0.55) produced significantly more DMs than those at the same level without immersive experience (Mdn = 0.18,  $U = 779.5$ ,  $p = 0.004$ ,  $r = 0.35$ ).

## 6. Discussion

This section addresses the two research questions regarding (i) the development of three focal DMs across the fluency levels of CEFR and (ii) the effects that immersive experiences in English-speaking countries have on DM use.

## 6.1 Developmental pattern of discourse markers across fluency levels in CEFR

Analysis of learner data reveals that the use of DMs positively correlated with fluency level. On the whole, it is reasonable to conclude that the use of DMs was indicative of perceived fluency. As mentioned earlier, instead of silent pauses and filled pauses (e.g., *er* and *mm*), DMs can be employed to increase fluency (Hedge 1993; Götz 2013).

It is worth noting, however, that the use of DMs does not develop steadily with fluency levels. In the cases of *well* and *you know*, the breakthrough is made between B1 and B2, and then the maximum use is observed on attaining C1, when most learners adopt these two DMs as frequently as their native counterparts do. This phenomenon was previously reported in Neary-Sundquist (2014, 652), who identified a sudden rise in the frequency of a wider range of pragmatic markers “between Levels 5 and 6”, Level 6 being the highest. However, we cannot infer their equivalent levels in CEFR.

The use of DM *like* displays a different developmental pattern. It is least influenced by learners’ fluency levels, possibly because the frequency of *like* was found particularly high in A2 learners. They prefer to use *like* often with (un)filled pauses and false starts when a lexical gap or speech difficulty emerges, thus clearly indicating hesitation. This confirms the phenomenon that DM *like* might fulfill “potentially disfluent functions” by monitoring, punctuating and reformulating (Cribble 2017).

While the fluency levels of the learner data in this study had been assigned on the basis of CEFR, previous studies (e.g., Neary-Sundquist 2014) did not offer sufficient information on their learners’ proficiency or fluency levels. Although a few studies (e.g., Jones et al. 2018) also adopted CEFR to describe this variable, the data collection methods and contexts differ from each other. These discrepancies make it problematic to compare the use of DMs across datasets.

## 6.2 Effects of immersive experience on the use of discourse markers

This paper reports a strong and positive relationship between the frequencies of DMs in general and learners’ immersive experiences, suggesting that DMs can be acquired incidentally when learners are given the chance to stay in a country where the target language is used, a finding that is in line with previous studies (e.g., Polat 2011; Gilquin 2016; Liu 2016; Götz and Mukherjee 2018). Such cultural and linguistic immersion may provide L2 learners with naturalistic input, increased opportunities for social interaction and repeated exposure to the DMs used in naturally-occurring contexts, which may serve as a driver of L2 DM

development and further enhance oral fluency. Although Götz and Mukherjee (2018) report that a significant positive effect on the use of DMs was found only when the immersive experience continued for more than one year, this study finds a positive relationship after a shorter interval (average 9.25 months) on learners across CEFR levels.

The DMs *you know* and *well*, in particular, were found to be influenced by learners' immersive experience. This may perhaps be explained by the interpersonal nature of these DMs. For example, *you know* is commonly considered an interpersonal DM, signaling that speakers are sensitive to the needs of their listeners and are monitoring the state of shared knowledge in the conversation (O'Keeffe et al. 2007). Exposure to the target language in its natural environment encourages learners to understand and use the language for these interpersonal purposes, which spurs the development of native-like patterns of language use (Liu 2016). Similarly, *well* as an interpersonal DM is often under-represented in EFL learner speech due to the lack of both exposure in authentic contexts and social interaction (Huang 2019). The present study finds that *well* can be developed rather sooner in the natural exposure of L2 learners, which is consistent with Liu (2016).

## 7. Conclusion

This study examined the developmental patterns of three DMs – *well*, *you know* and *like* – and revealed their frequency ranges in learner groups at four different fluency levels, based on the CEFR-aligned sub-corpora of LINDSEI and NS data as a benchmark. A strong positive correlation between perceived fluency and the overall frequency of DMs was found, suggesting that the use of DMs in learner data develops linearly with the increasing fluency levels; the higher-level learners (C1) use DMs almost as frequently as their native counterparts do. Similar patterns were also found in the use of *you know* and *well*, but not with *like*. Learners' immersive experience was also found to positively correlate with overall and individual DM frequency, especially in B2 learners.

Although the present study has shed light on the development of DMs, there remain a number of limitations to note. One such limitation is that the variable of immersion was simply manipulated by the stay-abroad experiences of each individual without measuring or controlling the quality or quantity of socio-cultural exposure. This would be expected to influence the development of fluency and DMs, thereby influencing results. Some learners went abroad for formal education and some went abroad for other purposes. Only the duration of their stay was recorded in the metadata of the corpus under investigation. Another limita-

tion of this study is the unequal distribution of the number of learners with different L1s at different CEFR levels, which is especially important when analyzing the immersive experience for different levels. In this situation, some subsets (e.g., A1 and B1) might not be large enough to be properly reflected in the results. Furthermore, the functions of DMs in the corpora under investigation are not quantified. Although it is manageable to categorize the 3,395 instances, providing additional information regarding the way in which each DM is actually used and its distribution, this study focuses on the developmental patterns and how they work for fluency-enhancing purposes, and consequently, a qualitative analysis of typical instances was sufficient to answer the research questions.

Further research may consider the above issues. Instead of analyzing corpus data, smaller datasets might provide qualitative information, such as students' prior learning contexts and levels of immersive experience, which would help validate the contribution of immersion in the target-language environment. The use of DMs in different age groups could also be investigated. The current study examined university students' development of DMs across CEFR fluency levels. Older or younger cohorts may adopt DMs differently. In addition, for the purposes of language assessment, interviews with CEFR examiners may reveal their insights into the roles of DMs in fluency.

This analysis of a multi-level learner corpus has important pedagogical implications. First, given the beneficial effect of immersive experiences on the acquisition of DMs, it is suggested that seeking opportunities for repeated exposure to naturally occurring and spontaneous target-language, as well as socio-cultural interaction, would allow learners to learn language, learn about language and learn through language. Second, learners in the classroom could be instructed to become aware of the use of DMs in order to improve fluency and interaction in significant dialogues. Data in a corpus of naturally occurring discourse can therefore provide an empirical basis for language description by showing how DMs as a speech management strategy are used in natural contexts. In addition to awareness-raising, these features can be encouraged in the speech of learners, from which they can see how fluency is enhanced using DMs in a given context.

The results of the current study also have implications for spoken English assessment in the global context. DMs, along with many other variables, may play a part in the assessment of speakers' proficiency. DMs not only serve pragmatic functions, as discussed in the literature, but could also affect the way that fluency is rated when judged by the CEFR scales, as has been demonstrated in the present study, where the relationship between the frequencies of DMs and fluency levels is shown to be positively linear. In a global context where English is used as a lingua franca, English users can be aware of the presence or absence of DMs across fluency levels and acquire the ability to manipulate DMs for greater fluency.

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## Appendix. Qualitative features of spoken fluency operationalized in the scales of the CEFR (Council of Europe 2018, 171–172)

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- C2 Can express him/herself spontaneously at length with a natural colloquial flow, avoiding or backtracking around any difficulty so smoothly that the interlocutor is hardly aware of it.
- C1 Can express him/herself fluently and spontaneously, almost effortlessly. Only a conceptually difficult subject can hinder a natural, smooth flow of language.
- B2+
- B2 Can produce stretches of language with a fairly even tempo; although he/she can be hesitant as he or she searches for patterns and expressions, there are few noticeably long pauses.
- B1 Can keep going comprehensibly, even though pausing for grammatical and lexical planning and repair is very evident, especially in longer stretches of free production.
- A2+
- A2 Can make him/herself understood in very short utterances, even though pauses, false starts and reformulation are very evident.
- A1 Can manage very short, isolated, mainly pre-packaged utterances, with much pausing to search for expressions, to articulate less familiar words, and to repair communication.
- Pre-A1
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