

## Original Research

# Evaluating the BBC's L2 approach to teaching English consonants online: A digitally oriented pedagogic phonetic analysis

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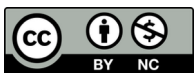
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*The vast majority of online L2 teaching platforms have always remained preoccupied with digitalising demonstrable pedagogic practices that facilitate the learners' comprehension of linguistic input on the digital screen. This is particularly observable in the field of L2 phonetics where instructors' performance (vocalic, facial, and bodily) typically reflects such pedagogic practices based on their theoretical knowledge of the field. However, it is not always the case that instructors' pedagogic-phonetic performance can demonstrate or stage this form of phonetics knowledge, even with the ubiquitous presence of Internet 'digital gadgets' that are technologically enabled by L2 teaching platforms online. As a corollary to this problem, the present study continues and develops previous research conducted by the author on a pedagogic-phonetic critique of the BBC's Internet-based L2 teaching of English vowels. A synthetic methodology of Bernstein's model of Pedagogic Recontextualising Field (PRF) and Moinuddin's theoretical notion of 'digital gadgets' is utilised as DPRF to demonstrate how the BBC's online L2 teaching of English consonantal pronunciations, though digitally transforming text-theoretic phonetics descriptions, has partially failed to employ crucial aspects of pronunciation pertaining specifically to voicing and manner of articulation. The research data comprises 22 video-based screenshots drawn from the BBC Learning English website with materials archived for public use. Informed by the above synthetic methodology of DPRF, the present study concluded that the BBC's online teaching of English consonants has set up what can be described as a partial digital PRF; this has been ascribed to the proven hypothesis that the BBC-based website proffers a restricted space for digitally recontextualising 'visible' practices associated with consonantal pronunciation to the exclusion of phonetically productive aspects of L2 teaching segmental units of English consonants. As such, these aspects are recommended to be incorporated into the phonetic-pedagogic practices afforded by the BBC's digital PRF (DPRF).*

**KEYWORDS:** BBC, consonants, digital gadgets, digital pedagogic recontextualising field, DPRF, L2 phonetics, L2 teaching, segmental phonetics



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## 1. INTRODUCTION

Error analysis research has mainly operated on the methodological grounds of contrasting L2 learners' errors against L1 habits towards a diagnosis of linguistic errors. This study departs from error analysis approaches and their contrastive methods and focuses, instead, on the pedagogic practice of L2 teaching segmental phonetics proper and its mediation through online platforms' technologically enabling digital gadgets. However, the study is restricted in scope to the investigation of English consonants as a way of complementing previous research on the BBC's Internet-based L2 pedagogic practices of teaching English

vowels (Salama, 2022). Indeed, this new digitally oriented focus on the BBC's pedagogic practice of English consonants warrants further research into the remaining sets of data derived from the same BBC Learning English website. The problem-motivated rationale for this continued research is no different from the one adduced in Salama's (2022) pedagogic-phonetic investigation of the BBC-English segmental pronunciation of vowels. Yet, further to this research, the digital dimension is reckoned to be an integral part of such a rationale. Salama's (2022) rationale for proceeding along the same line of research derives from an observation of the shortcomings of contrastive-analytic methods of

L2 learning of English phonetics. These shortcomings, according to the author, consist largely in their being incapable of 'investigating the pedagogic practices involved in the L2 teaching of English phonetics itself' (Salama, 2022, p. 496). Consequently, the research adopting these methods has rarely shown serious interest in the pedagogic practices facilitating the contrastive aspects conducting a realistic and digitally alert diagnosis of pronunciation problems. In this problem area, Salama (2022) has enlisted Long's (1990) principle of 'maturational constraints' on SL phonology manifested in the latter's observation that starting L2 learning of pronunciation after the age of 6 'appears to make it impossible for many learners [...] to achieve native-like competence in phonology' (Long, 1990, p. 274). But Salama's (2022) foregoing outline of the research problem seems to be lacking in discussing the digital dimension inseparable from the design of online platforms teaching L2 phonetics as being part of the problem itself. Indeed, whereas the pedagogical practice of teaching L2 phonetics online is worthy of research, the L2 teaching platforms technologically enabling such practice are by all means equally significant for revealing the subtleties of techno-human performance.

The present study, then, aims at investigating the BBC's Internet-based L2 teaching of the segmental pronunciation of English consonants and the 'digital gadgets' (Moinuddin, 2021) contributing this form of online teaching. There will be a focus on certain digitally visible pedagogic practices of teaching three consonant-specific features: (i) breathed plosives; (ii) auditory vibration of voiced fricatives, affricates, and nasals; (iii) place of articulation. Taken as a teaching model, the BBC Learning English website is presented with screenshot-style adaptations, so that a full-fledged analysis of the pedagogic practice of the Internet-based L2 teaching of English consonants can be conducted and mediated by the BBC's L2 platform.

In this context of research, a methodological synthesis of Bernstein's (1971, 1975, 1990, 1996) pedagogic-linguistic approach and Moinuddin's (2021) notion of 'digital gadgets', is utilised for the sake of analysing the three segmental aspects of the BBC L2 teaching of English consonants named above. Also, the pronunciation type pertaining to this pedagogic practice has been argued to be typically representative of 'present-day BBC-English pronunciation' (Salama, 2022, p. 499-500).

So, building on the methodological synthesis referred to above, the present study propounds the following research hypothesis: an incomplete DPRF is constituted by the BBC Learning English website whereby the L2 teaching of segmental phonetics can be said to reflect a sort of partial digital transformation of linguistic knowledge into the practical skill of pronouncing consonants. To (dis)prove the foregoing hypothesis, the current study addresses the following overarching question: to what extent is there a full-scale DPRF that is constituted by the BBC Learning English website and that digitally enables the transformation of the theoretical knowledge of English segmental phonetics into an actual practice of the L2 teaching of English consonants?

The remainder of this study is structured in six sections. Section 2 reviews the relevant literature on the pedagogic-phonetic perspectives adopted towards studying English consonants. Section 3 presents the theoretical framework of digital pedagogic recontextualising fields (DPRFs) as utilised in current research. Section 4 outlines the research methodology in terms of data collection and description as well as the procedure followed in the course of data analysis. Section 5 offers the data analysis. Section 6 provides the overall discussion of the study findings and recommendations. Section 7 concludes with a summary of the main research topic, the key findings emerging therefrom, and limitations of study.

## 2. LITERATURE REVIEW

The research conducted on English consonants from a pedagogic-phonetic perspective abounds. To begin with, Chan (2007) undertook a study with the twofold aim of (i) examining the extent to which Eckman's (1977) Markedness Differential Hypothesis (MDH) was valid for delineating the process of acquiring word-final consonants by twelve Hong Kong Cantonese L2 learners of English and (ii) investigating the relevance of universal markedness (voiced obstruents > voiceless obstruents > sonorant consonants) to Cantonese ESL learners' interlanguages. The study reached three main findings: (i) voiceless plosives were characterised by a non-release strong tendency, (ii) voiced obstruents by being devoiced, and (iii) the lateral sonorant consonant /l/ by being the most challenging segment to pronounce for the target learners. Likewise, Sridhanyarat (2017) adopted the MDH towards investigating how 45 Thai undergraduates of different proficiency-level groups acquired their L2 English marked and unmarked fricative consonants in their interlanguage. The study demonstrated that the Thai participants encountered pronunciation problems at the level of the marked fricatives of /v/, /z/, /θ/, /ð/, and /ʒ/ and that only advanced participants managed to acquire the unmarked /f/ and /s/ as well as the marked /ʃ/ in word-initial and -final positions.

Also, Rose (2010) probed the question whether the L2 speech model known as Perceptual Assimilation Model (PAM) could be employed in predicting 'how L2 contrasts in Spanish will be discriminated by L1 speakers of American English' (Rose, 2010, p. 181). The study examined the discrimination of five word-medial intervocalic contrasts of Spanish consonants, viz. /r/-/r/, /r/-[rʃ], [r]-[rʃ], /r/-/t/, and /r/-/d/. Drawing on a sample of 90 participant Native Speakers or NSs, the study yielded 6,480 responses (1,080 per level) with two results observed. First, NSs could accurately discriminate only four out of the five contrasts; the one that was not discriminated consisted in the fifth contrast of the two allophones of the trill /r/ ([r]-[rʃ]). Second, considering such contrasts, the PAM proved to predict two broad contrasts: 'an *uncategorised* vs. *categorised* contrast and a both *uncategorisable* contrast' (Rose, 2010, p. 192-193).

Additionally, Rattanasone and Demuth (2014) used an elicited-imitation-task method to explore the acquisition of coda consonants as performed by twelve three-year-old children

with preschool exposure to Australian English. The study found out that, although being good in respect of /t/ and /s/, the participants' performance was remarkably poor in relation to the phonologically more complex /ts/ coda. The authors' perceptual and acoustic analysis demonstrated this poor consonant-coda performance to be ascribed to possible L1 Mandarin effect. One further study was carried out by Lengeris and Nicolaidis (2016) on the identification and production of English consonants by L2 Greek learners of English. In this study, methodologically, while consonant identification was investigated both in quiet and in two types of noise with a competing talker and an 8-speaker babble, consonant production was assessed with English listeners identifying the Greek speakers' production of English consonants. The study found that higher identification scores were achieved in quiet than in noise, and that a more detrimental negative effect was observed in the scores of the 8-speaker babble than in those of the competing speaker.

Souza (2017) examined L1 Brazilian-Portuguese (BP) EFL learners' awareness of the L2 phonotactics of English and raised the issue of whether there could be a link between L2 pronunciation accuracy and L2 phonotactic awareness. The author tested the learners' awareness of L2 onset consonant clusters, and a Foreign Accent Rating Task was employed to measure L2 pronunciation. The results showed both that L1 BP learners exhibited a high awareness of L2 phonotactics similar to that displayed by L1 English speakers and that higher accuracy in L2 pronunciation was closely connected with high phonotactic awareness. Both results stressed the necessity of teaching phonotactics in foreign language classrooms for the sake of increasing the accuracy of L2 pronunciation. Moving to Arab students L2 pronunciation of English consonants, Alzinaidi and Abdel Latif (2019) attempted to identify which English consonant sounds and clusters posed a pronunciation challenge to Saudi EFL students. The study utilised 40 Saudi female university students with two different proficiency levels of lower-intermediate and intermediate; a four-section productive pronunciation test was completed by the participant students, so that their errors in pronouncing English consonant sounds and clusters could be diagnosed in different word positions. The data analysis demonstrated that the students' highest error percentages were the following: (i) the consonant sounds /ʒ/, /ŋ/, /p/, /ɹ/, and /tʃ/; (ii) the [d] and [t] allophonic realisations of the regular past morpheme known as -ed; (iii) the consonant-cluster sets of 3 and 4 segments.

Also, in the context of Arab L2 learners of English consonants, Khudhair (2023) aimed to (i) measure the capacities of 50 participants (of the Department of English, College of Education for Women at Iraqiya University) to accurately produce consonant clusters and (ii) discover the problem areas of producing consonant clusters in different word positions. The study employed a descriptive-analytic method to explain the following results of data analysis. Apropos their L2 pronunciation of initial clusters, while 33.6% of the participants proved to be correct, 66.4% were incorrect; regarding final clusters, whereas 32%

were correct in their pronunciation, 68% were incorrect. Further, reversing the target L2 from English to Arabic, Aldamen and Al-Deaibes (2023) investigated the pronunciation of emphatic consonants as produced by American L2 learners of Arabic. The study utilised 19 participants (5 native speakers and 14 L2 learners) towards doing an experiment wherein the participants produced pairs of monosyllabic CVC in relation to whether the initial consonant was plain or emphatic. In this study, two consonant-specific acoustic parameters were examined – COG of fricatives and VOT of voiceless stops. The results on consonants showed both that L2 learners produced what the authors called '*comparable VOT values to those of native Arabic speakers*' and that those learners unexpectedly demonstrated that '*the beginning learners produced a higher F3 in the context of fricatives only*' (Aldamen & Al-Deaibes, 2023, p. 1).

Recently, working on the BBC Learning English website as an L2 platform of teaching English online, Salama (2024) has offered new insights into the visual semiotics of digital educational practices with kinetic-vectorial design. The study utilised a synthetic methodology of Van Leeuwen's (2016) kinetic design model and Kress and Van Leeuwen's (2021) model of ideational vector analysis. The methodology has been applied to the data sets of five images drawn from the BBC website teaching L2 English. The data analysis proved the empirical validity of the synthetic methodology proposed, mainly by investigating the visualised design of the website's vectorial kinetics such as mobility and movability in its L2 teaching practices. Also, a crucial distinction between pedagogic and digital vectors was demonstrated to differentiate how the website's teaching features were controlled by the instructors and the website's techno-semiotic design, respectively. Lastly, the study found that the kinetic-vectorial analysis of the BBC website uncovered a kind of spatiotemporal compression of the pedagogic content mediated by the website. However, these findings have not been discussed in a comparative mode that could weigh the BBC Learning English website against other leading online L2 teaching platforms. Perhaps this is precisely what the present study is intended to achieve while discussing the findings of current research.

Let us now present the theoretical framework adopted in the present study, where the theorised notion of digital pedagogic recontextualising fields (DPRFs) is in focus.

### 3. THEORETICAL FRAMEWORK: DIGITAL PEDAGOGIC RECONTEXTUALISING FIELDS (DPRFS)

Within Bernstein's (1975) field of sociolinguistic vision, the pedagogy is equated with '*a valid transmission of knowledge*' (Bernstein, 1975, p. 156), though he always staked out the claim that pedagogy itself ought to highlight 'ways of knowing' rather than mere knowledge states. It can be inferred, then, that the Bernsteinian type of pedagogy has remained faithful more to the practical than to the theoretical aspects of knowledge, given the communicative nature of such epistemological aspects. At some later stage of research, Bernstein (1975) developed the practical aspect of pedagogic knowledge into a sociolinguistic

identification of different, albeit complementary, ways of knowing, and has thus opened new vistas of what can be described as 'the how-to-know aspect of learning input' (Salama, 2022, p. 498). Indeed, he raised the following relevant question: 'Are there any general principles underlying the transformation of knowledge into pedagogic communication ...?' (Bernstein, 1996, p. 39). This question has been formulated in a bid to investigate the potential for the 'pedagogising of knowledge' (be it linguistic or otherwise); and, ultimately, provide for 'what makes pedagogic communication possible' (Bernstein, 1996, p. 39).

Bernstein (1996) has introduced the term 'pedagogic device' as notionally distinct from Chomsky's (1957) concept of 'language acquisition device' or LAD. Bernstein's (1996) pedagogic device is strictly focused on external language – as opposed to LAD's internal language (*i-language*) – development and its main concern is the learner's performance as being inseparable from the pedagogising of linguistic knowledge. Practically, the pedagogic device should be viewed as predicated on Bernstein's (1990) seminal distinction between two forms of pedagogic practice, *visible practice* (VP) and *invisible practice* (IP). Whilst a VP will invariably place emphasis on the language learners' performance or their external product, an IP remains known only to the transmitter, and not to the learners themselves. Crucially,

Salama (2022), building on Bernstein (1990), argues that pedagogies (visible and invisible) have different foci: 'whereas the focus of visible pedagogies is an external gradable text, invisible pedagogies focus upon the procedures/competences which all acquirers bring to the pedagogic context' (Salama, 2022, p. 498).

As part of his sociology of education, Bernstein's (1996) concept of 'pedagogic device' is argued to be associated with three types of rule, viz. distributive, recontextualising, and evaluative. The focus of current study is the recontextualising type of rules, for this type underlies the concept of PRF which constitutes the theoretical basis of the present theoretical framework. Recontextualising rules are proposed by Bernstein (1996, p. 46) to bring forth 'specific pedagogic discourses'. Bernstein's (1996) definition of 'pedagogic discourse' elucidates the nature of recontextualising rules: 'Pedagogic discourse embeds rules which create skills of one kind or another and rules regulating their relationship to each other [...]. We shall call the discourse which creates specialised skills and their relationship to each other 'instructional discourse', and the moral discourse which creates order, relations and identity 'regulative discourse' (Bernstein, 1996, p. 46). Also, for a full recognition of the PRF, Salama (2022) has had recourse to Bernstein's (1996) schematic presentation of the two types of discourse, instructional and regulative (Figure 1).



Figure 1. Instructional and regulative discourses in pedagogic discourse (Bernstein, 1996)

Indeed, Salama (2022) has concluded that 'it is the regulative discourse that affords the rules of the internal order of instructional discourse itself; thus, it is the regulative discourse that dominates the pedagogic field' (Salama, 2022, p. 498).

Notably, it can be said that Bernstein's (1996) term of 'pedagogic discourse' has offered insights regarding the how-to-know of circulating and reordered discourses, with one pedagogic discourse shifting from its 'original site' to a new one, where a pedagogically discursive transformation is likely to occur. Bernstein's (1996) point has significantly culminated in the identification of the recontextualising principle of pedagogic discourse; or, in his own terms, 'pedagogic discourse is a recontextualising principle' (Bernstein, 1996, p. 47). This principle has in turn resulted in Bernstein's (1996) core concept of Pedagogic Recontextualising Fields or PRFs. As Bernstein (1990) points out, the sole concern of such fields consists in 'the principles and practices regulating the circulation of theories and texts, from the context of their production or existence to their reproduction' (Bernstein, 1990, p. 198). Thus, as Salama (2022) argues, 'any form of knowledge or science is liable to be a form of PRF, wherein the actual discourse on theory can pedagogically be transformed into an imaginary discourse that is addressed to some imaginary audience of learners or acquirers of some skills' (Salama, 2022, p. 498).

However, speaking of online L2 teaching platforms such as the BBC Learning English website, Bernstein's (1996) notion of PRF as proposed above lacks the theorisation necessary for analysing the digital design features of such platforms and their contribution to the recontextualisation of academic discourse into visible pedagogic practices. In the present theoretical framework, Moinuddin's (2021) theoretical notion of 'digital gadgets' is employed in a way that analyses the digital dimension of PRF associated with platforms of the sort. According to Moinuddin (2021), digital gadgets reconstruct 'the meaning and identity of spatiality in virtual notions that are not existing but existing very much in idea, shape and size' (Moinuddin 2021, p. 16). In this technical sense, such gadgets work out as facilitators of all forms of knowledge and information on a digital or actual click. The interconnectedness of knowledge/information and digital gadgets methodologically renders the latter fitting into Bernstein's (1996) theory of recontextualised fields of knowledge, particularly for the sake of 'understanding digital culture' (Miller, 2020) on the Internet-mediated level of L2 teaching.

This methodological aspect can readily be maintained if 'the screen space of digital gadgets' is taken into consideration. Moinuddin (2021) defines this kind of space as being 'a space that has an intimate relationship with user and the user interacts

with screen or gadgets so many times in a day in order to being updated or to being connected to the world' (Moinuddin, 2021, p. 17). This is precisely the case with Internet-mediated forms of knowledge and information as particularly updated daily and through multiple user-screen-space encounters in a day (Malyuga et al., 2016). Educational practices are no exception to this rule (Grishechko et al., 2016). The pedagogic contents of such practices, once screen-spaced, manifest various digital gadgets that play out their typical role in facilitating the transmission of pedagogic discourse – but in its digital screened context. Crucially, this role of educationally oriented digital gadgets may help revisit Bernstein's (1996) instructional type of discourse (ID) schematised in Figure 1 such that it is technologically transformed into Digital Instructional Discourse (DID), without changing Regulative Discourse (RD) as the moral creator of order and determinant of identity. These aspects of revisiting will be discussed as part of the discussion of findings and implications.

One important function of digital gadgets in this respect is their ability to 'control time and distance at the same moment' (Moinuddin, 2021, p. 11). But digital gadgets cannot function in the absence of time and location; in other words, their 'operational efficiency' would be dysfunctional should the two dimensions (time and location) fail to exist in any practice, including educational practices (Moinuddin, 2021, p. 165). Indeed, the configuration of digital gadgets is conceived of as 'spatio-digital compression', and this sort of compression is argued to be about all about 'the virtual construction of digital spaces that is embedded in digital gadgets variedly' (Moinuddin, 2021, p. 169). Thus, viewing Bernstein's (1996) PRFs in this light, the recontextualisation of (invisible) academic knowledge into Internet-mediated (visible) pedagogic practices would entail the operation of varied technological digital gadgets towards a spatio-digital compression of these practices. Also, as a result, the time and location of the same visibly pedagogic practices are controlled by the same operating digital gadgets.

The coming section is dedicated to presenting the BBC Learning English website as a digital pedagogic recontextualising field (DPRF) of the Internet-based L2 teaching of English consonants and the DPRF-bound methodological procedure followed in the present study towards conducting data analysis.

## 4. METHODOLOGY

### 4.1. Data

The current study's data comprises a set of 22 screenshot-style audio-visual videos archived for the public use of English-language learners on the BBC Learning English website (BBC, 2024). Established in 1943, the website has had a long pedagogical pedigree of around 80 years now. The target videos cater pedagogically for the L2 teachers and learners of the pronunciation of BBC-English consonants online. Ideally, these videos can be considered a practical form of segmental-phonetics education with a particular focus on certain articulatory and, on occasions, auditory aspects of pronunciation in relation to consonant sounds, with a view to facilitating the pedagogic practice of such

sounds. The BBC's current pedagogic field is filled by one and the same L2 English female instructor. Thus, this instructor seems to occupy and manipulate the whole pedagogic field on the BBC website in terms of the practice of the L2 teaching of English consonants – and vowels (Salama, 2022) – as phonetically segmental units. Indeed, the teaching behaviour of the BBC instructor and its digital-gadget enactments will be the focus of the digitally oriented pedagogic phonetic analysis presented below. Apropos the methodological question of what kind of English the instructor seems to use as a form of L2 teaching, the present study follows Salama's (2022) detailed argument for electing to describe this type of English by the amalgam term *BBC-English pronunciation* (Salama, 2022, p. 499-500).

There is yet another set of data drawn from the British Council website on Teaching English Pronunciation Online (British Council, 2024). This is provided in the context of current research as a reference point to another prestigious platform for L2 teaching English pronunciation. The present data set is again captured in one screenshot-style image of the British Council presentation video. This empirical reference point is presented as part of the discussion of findings in the Conclusion to demonstrate how the digital gadgets of the British Council's L2 teaching practice online compare and contrast with the BBC's in terms of their DPRFs.

### 4.2. Procedure

The present study follows Salama's (2022) methodological procedure towards data analysis, yet with a different twofold focus on a form of data analysis and a digitally enhanced theoretical framework. As concerns the data analysis, it involves the two sets of BBC's L2 teaching of English consonants and the British Council's L2 teaching of English pronunciation; the latter set is delayed as a reference point till the Conclusion. Regarding the theoretical framework, it consists in applying the DPRF as a more developed theoretical notion than the one (PRF) proposed in Salama (2022). In what follows, the study outlines the workings of the procedural approach methodologically adopted here towards analysing and comparing the BBC-specific data on the L2 teaching of English consonants online.

The procedure is informed by the Digital Recontextualising Pedagogic Field (DPRF) as methodologically emerging from Bernstein's (1990, 1996) pedagogic-linguistic approach and Moinuddin's (2021) theoretical notion of 'digital gadgets'. Thus, the starting point of current procedure was recognised through the digitally enabled pedagogic space of the BBC website itself in its form as a potentially recontextualising field whose relevant pedagogic scope has been the L2 teaching of English consonants in terms of specific digital gadgets. On account of these digital gadgets, such a pedagogic scope has been embodied as a spatio-digitally compressed visible form of the videos taught on the educational website. There is a threefold operationalisation of the procedure: (a) data pedagogic observation, (b) linguistic-phonetic description, and (c) assessment of the digitally enhanced input of teaching reproduced.

*'One important function of digital gadgets in this respect is their ability to 'control time and distance at the same moment' (Moinuddin, 2021, p. 11). But digital gadgets cannot function in the absence of time and location; in other words, their 'operational efficiency' would be dysfunctional should the two dimensions (time and location) fail to exist in any practice, including educational practices'*

Let us briefly sketch out each stage. First, the pedagogic observation of data relied on capturing video screenshots at some pedagogically visible moments when the digital recontextualisation of particular pronunciation details from the theoretical domain of English segmental phonetics transpired. Second, the digital recontextualised pronunciation details were then linguistically (i.e., phonetically) examined in relation to the pedagogic behaviour of the BBC's instructor; this sort of behaviour proved to be significant to the L2 learners' performance of relevant consonant sounds in their phonetic contexts, particularly when considering the digital gadgets coterminous with the same pedagogic behaviour. Third, and last, an assessment of the reproduced pronunciation details was highlighted in terms of the significant missing (or invisible) aspect of pedagogy on the BBC website as a spatio-digitally compressed pedagogic field.

## 5. STUDY RESULTS

### 5.1. BBC English consonants as DPRF

As mentioned earlier above in the Introduction, the same pedagogic-linguistic approach (Bernstein, 1971, 1975, 1990, 1996) has been applied to the BBC English vowels with analytic focus placed on certain linguistic criteria that fit the phonetic description of vowel sounds as discrete segments taught on the given pedagogic field of the BBC Learning English website. These criteria have been covered, and they included tongue height, lip position, duration, and vocalic complexity (Salama, 2022, p. 500-508). But, as argued in Section 3, in current research, this pedagogic-linguistic approach has been digitally augmented and enhanced in a way that develops Bernstein's notion of PRF into a spatio-digitally compressed form of Digital Pedagogic Recontextualising Field or DPRF.

Thus, now, the present study shifts the focus of analysis to consonant sounds as the second half of the BBC's tutorials on segmental phonetics, yet with a freshly widened scope of the DRPF. It should therefore be stated at this point of analysis that the (descriptive) pedagogic criteria involved have turned out to be starkly different at two levels of co-analysis. First, the analytic level of consonant-focused investigation is highlighted since the classification criteria of vowels and consonants are not identical (Jones, 1922; Gimson, 1989; Laver, 1994; Kreidler, 2004). Second, the BBC's pedagogic-linguistic field is examined in terms of digital gadgets that control the time and distance virtually co-constructed through the BBC website itself. Thus, in view of the two levels outlined above, it has been observed that

there is a specific digitally mediated pedagogic recontextualisation of three consonant-oriented criteria: (i) breathed plosives; (ii) auditory vibration of voiced fricatives, affricates, and nasals; and (iii) place of articulation. A fully illustrated account is provided in the coming subsections.

### 5.2. Breathed plosives

In the pronunciation of English plosive stops /p, b, t, d, k, g/, the BBC L2 platform pays meticulous attention to the difference in voicing between the breathed and voiced sound segments; this is exhibited in the use of the visible pedagogy of the classic piece-of-pair technique in Figure 2. This technique is utilised as a practical test of the strong puff of air accompanying the voiceless plosive consonant /p/; the same consonantal feature is missing from the counter voiced plosive consonant /b/, which is comparatively far less strong than /p/. Obviously, the BBC's instructor is keen on visually demonstrating this pedagogic practice in the hope that L2 learners of English – whose L1 phonological system does not include such a voiceless counterpart of /b/ – may form the new habit of producing voiceless /p/. Indeed, the uninitiated native speaker of Egyptian Arabic typically makes the phonetic error of 'substituting /b/ for /p/'; and, thus, instead of pronouncing the English word [plastic] as /plæstɪk/, s/he would typically mispronounce it 'bilæstɪk/' (Broselow, 1993, p. 74). This type of error is further observed to be concomitant with the other error of inserting the extra vocalic epenthesis of /ɪ/ immediately after erroneous /b/. But, in addition to this technical phonetic detail, the classic piece-of-paper technique can be viewed as a traditional gadget with an educational value, i.e., empirically facilitating the demonstration of the typical voicelessness of /p/. Having said that, the same traditional gadget can also be said to have the BBC-enabled digital gadget of screen-spaced demonstration. It is through this digital gadget that the instructor is pedagogically connected with the potential L2 learners watching the tutorial videos. This sort of pedagogical connection offers a spatio-digital compression of the teaching situation, particularly in terms of the time and location of the pedagogical practice captured, which are controlled by such a digital gadget of screen spacing. Notice, also, that the piece-of-paper technique itself, being screen-spaced, has become a digital gadget.

Further, as demonstrated in Figures 3 and 4, the BBC instructor continues with the same digital gadget of screen-spacing to demonstrate the contrastive voicing of /p/ and /b/, yet more practically through the different less-digital gadget of *hand technique*. Thus, it can be said, here, that there exists a form of digital-non-digital visible pedagogy that opens up a spatio-digitally compressed pedagogic space for L2 learners to follow up the same practice. Interestingly, it is through this sort of space that the learner becomes empirically sensitive to the extra puff of air associated with the production of breathed /p/, which is technically known as 'aspiration' (see below). Indeed, but for such a digitalised phonetically distinctive feature of voicing, the two words *pack* and *back* (Figures 3 and 4) would exhibit no auditory signal or cue for their distinction in meaning.



Figure 2. The BBC-mediated piece-of-paper technique of testing the lack of voicing in /p/



### pack /pæk/

Figure 3. The BBC-mediated hand technique of testing the lack of voicing in /p/

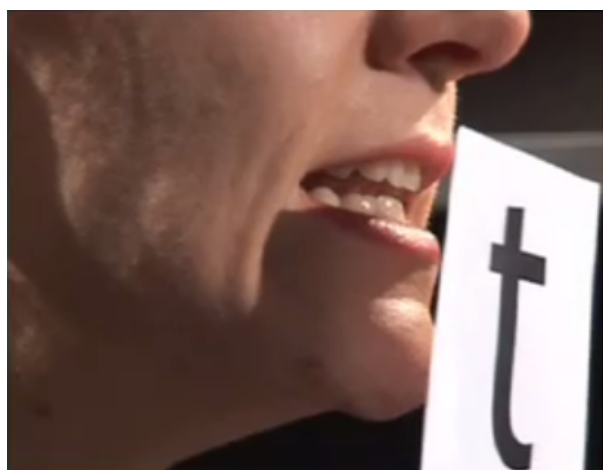


### back /bæk/

Figure 4. The BBC-mediated hand technique of testing the voicing in /b/

Indeed, the screen-spaced piece-of-paper technique of testing breathed plosive stops continues to be visibly pedagogised by the BBC instructor in Figures 5 and 6. The video screenshots appearing on the BBC-mediated L2 teaching of the breathed consonants of /t/ and /k/, then, seem to digitally recontextualise the phonetic aspect of aspiration, which represents 'a slight *h*' that is heard after consonantal explosion and before the vowel (Jones, 1922, p. 24). This form of phonetic recontextualisation

can be recognised here as digitally non-captioned performance by the BBC instructor. Thus, the pedagogic tool of the piece of paper (utilised in Figures 5 and 6) amounts to being a BBC-screen-spaced virtually constructed test of the presence of phonetic aspiration in the production of [t<sup>h</sup>] and [k<sup>h</sup>]; the piece of paper is physically affected by the presence of 'an audible release of air after the opening of the closure and before the onset of vocal fold vibration for the vowel' (Gut, 2009, p. 56).



**tin /tɪn/**



**din /dɪn/**

Figure 5. The BBC-mediated pedagogic technique of testing the aspiration of breathed [t<sup>h</sup>]



**came /keɪm/**



**game /geɪm/**

Figure 6. The BBC-mediated pedagogic technique of testing the aspiration of breathed [k<sup>h</sup>]

Even so, phonetically problematic is the restricted pedagogic presentation of aspirated breathed [p<sup>h</sup>, t<sup>h</sup>, k<sup>h</sup>], not least because it dismisses from the BBC's DPRF the other possible allophones in the articulation of these breathed plosives. Table 1, taken from Gut (2009, p. 57), offers some of these allophonic variations of /p, t, k/, which are popular in the accent of present-day BBC-English pronunciation.

As the table shows, besides the aspirated breathed plosives, there are other allophonic variants with different phonetic contexts that would enhance the complementary distribution of the consonantal segments of breathed plosives in BBC-English pronunciation, and that would in turn enrich the sound inventory of L2 learners or acquirers in the BBC's DPRF (Table 1).



Table 1  
 Allophonic variations of English breathed plosive consonants (Gut, 2009)

BREATHED PLOSIVE STOPS	ALLOPHONIC VARIATION	PHONETIC CONTEXT
/p, t, k/	[pʰ], [tʰ], [kʰ]	as only before stressed vowel
	[ʔp], [ʔt], [ʔk]	syllable-final after vowel
	[p], [t], [k]	elsewhere
	[pʷ], [tʷ], [kʷ]	before rounded segment

### 5.3. Auditory vibration of voiced fricatives

The phonetic quality of contrastive voicing is pedagogically recontextualised in the video presentations of certain consonant sounds. The video screenshots in Figures 7 and 8 manifest alteration between what the BBC instructor describes as ‘voiced and voiceless consonants’. In Figure 7, the instructor opts to introduce the voiced /v/ in contrast to the voiceless /f/; but in Figure 8, she begins with the voiceless /s/ and then moves to its voiced counterpart /z/. Crucially, here, the instructor’s pedagogic discourse is certainly synchronous with the digital visibility of the phonetically contrastive pairs of /v/ vs. /f/ and /s/ vs. /z/. The digital gadget employed here can be said to be captioned performance of such contrastive pairs, with captioning being in digital synchrony with the instructor’s mediated oral performance (phonetically screen-spaced). This offers a spatio-digitally controlled pedagogic space with different pronunciation points for training, where the L2 learner of English can experiment with fricative vibration as entry- and endpoints throughout the different tutorial videos. Interestingly, Catford (2001) pays special attention to such an experimental aspect of vibration and lack of vibration with the same fricative examples used on the BBC website. Catford (2001) makes specific reference to ‘an obvious

*difference in sound: the prolonged [f] is simply a long-drawn-out hissing sound, but the prolonged [v] is a long-drawn-out buzzing sound*’ (Catford, 2001, p. 36). Proceeding with the same features of hissing and buzzing, Catford (2001) points out that it is practically possible for the learner to carry out ‘the same experiment with [s] and then with [z] as in zero: [s s s s ...] [z z z z ...]’ (Catford, 2001, p. 36). Indeed, the BBC instructor follows almost the same strategy of digitally screen-spaced buzzing, which strongly indicates the phonetic feature of voicing, in such a way that contrasts the voiced with the breathed (or voiceless). There is, however, another pedagogic tool that has been dismissed from the recontextualising field of the BBC in distinguishing the hissing of [s] and the buzzing of [z]. The tool is underscored by Laver (1994), who points out that the ‘*difference between voiceless [s] and voiced [z] can be heard very easily if one pronounces these sounds while covering the ears with the hands*’ (Laver, 1994, p. 128). The fact is that Laver’s (1994) experimental technique of ear covering seems to be more visibly effective (than that adopted by the BBC instructor) at the virtually constructed pedagogic level of phonetic recontextualisation, since it leaves good enough digitally compressed space for L2 learners to mimic the same technique and try it on their own.



Figure 7. BBC-English contrastive presentation of /v/ and /f/

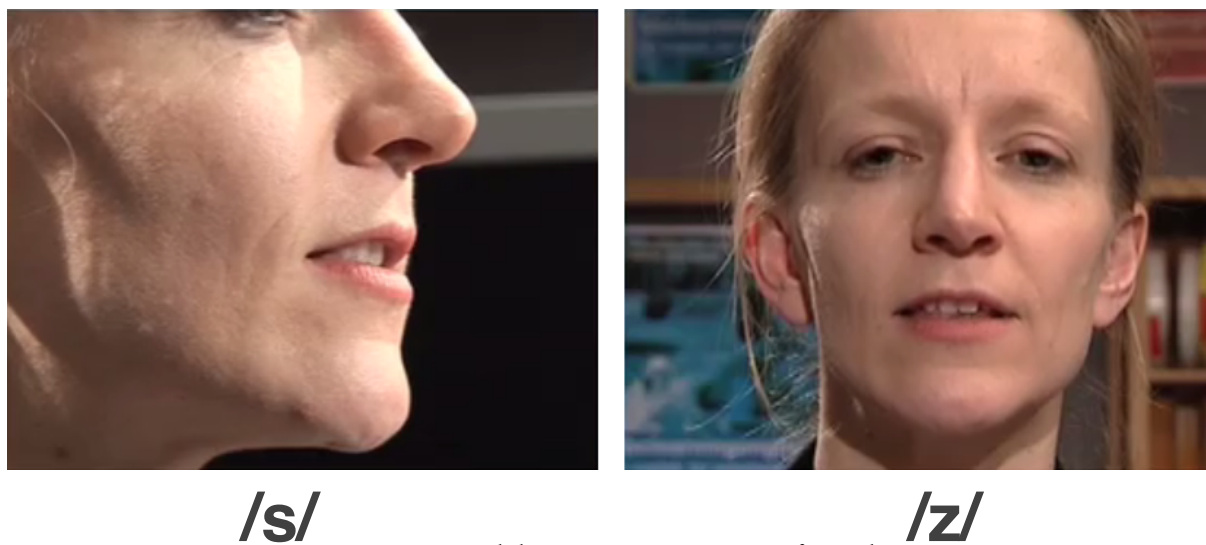


Figure 8. BBC-English contrastive presentation of /s/ and /z/

Again, the contrastive voicing is utilised on the BBC website's screen-spaced demonstration of differentiating the two English affricates /tʃ/ and /dʒ/. As shown in Figure 9, the instructor brings these two affricate sounds together in order to recontextualise the phonetic difference in voicing, where the breathed /tʃ/ lacks the vibration associated with the voiced /dʒ/. Again, this has been virtually constructed and compressed through the co-production/work of the two digital gadgets of a screen-visualised caption (/tʃ/ and /dʒ/) and the video-mediated instructor's oral/aural performance per se – a captioned-per-

formance digital gadget. Indeed, English affricates are classified under the category of what Gussenhoven and Jacobs (2005, p. 13-14) describe as *complex consonants*. According to them, an affricate is 'a combination of a plosive and a fricative at the same place of articulation (i.e., homorganic); thus, they are like plosives, but the release is so slow that friction is heard' (Gussenhoven & Jacobs, 2005, p. 14).

The two affricates are argued to occur distinctly in 'the speech of the speakers of certain accents of English' (Carr, 2013, p. 12).



Figure 9. BBC-English contrastive voicing of /tʃ/ and /dʒ/

However, dismissed from the BBC's recontextualising field is the phonetically significant affricative feature coming out of certain sound sequences such as [tr] and [dr]. As Ball and Rahilly (1999) explain, despite the phonological fact that the

English affricates /tʃ/ and /dʒ/ are normally treated as 'single units', there emerge 'affricate combinations' with regular patterns in the initial sounds of *train* and *drain*. In such a phonetic context, the [r] element 'has a narrower channel than the normal

*approximant-r*, which means that the [t] and [d] are released with an *affricated airflow*' (Ball & Rahilly, 1999, p. 69). As a result, once followed by [r], the two English consonants [t] and [d] do have a recurrent allophonic feature of affricativity, which may deserve some digitally aided pedagogic emphasis in the L2 teaching of English segmental phonetics.

Further, as concerns voicing, the BBC continues with the mediated L2 teaching of English nasals /m, n, ŋ/, with a digitally featured pedagogic focus on the vibration felt through the nose as exhibited in Figures 10, 11, and 12. As visually demonstrated, the BBC instructor pedagogically draws the attention of L2 learners of English to the nose as the physiological medium wherein the phonetic feature of nasal vibration can be tested and tried by the learners by means of screens-spaced mimicry.

Significantly, this type of pedagogic behaviour should be recognised as a spatio-digitally controlled virtual (i.e., potentially open up for L2 learners' receptivity online) performance via the BBC-enabled oral/aural content and its concomitant finger-nose play-out.

According to the instructor, if this acting out of nasal vibration fails, then these sounds are not correctly produced; thus, such a phonetic feature is brought within the visible pedagogy of teaching nasal consonants, alongside their captioned performance. Indeed, this can be justified on the grounds that the feature of nasal vibration – which is a distinctive phonetic feature of all three English nasals – is perceptible enough should the L2 learners of English touch their noses with the fingers in the same acting-out style of the instructor.



**/m/**

Figure 10. BBC-English pronunciation of /m/



**/n/**

Figure 11. BBC-English pronunciation of /n/



Figure 12. BBC-English pronunciation of /ŋ/

Despite having digitally demonstratively pedagogised the phonetic feature of nasal voicing, the BBC has partially failed to recontextualise the significant devoiced allophones of English nasals /m/ and /n/. *'Although no opposition occurs between voiced and voiceless nasals in English, a somewhat devoiced allophone of /m/ and /n/ may be heard when a voiceless consonant precedes'* Cruttenden (2014, p. 211). Cruttenden (2014, p. 211) provides typical examples of partially devoiced English nasal consonants, e.g., *'smoke, smart, topmost; snake, sneeze, chutney'* (Cruttenden, 2014, p. 211). Offering voiceless nasal instances of the sort would certainly be pedagogically beneficial to the complementary distribution of nasal voicing in English; at least, it should enhance the allophonic repertoire of nasality on the part of L2 learners of English.

#### 5.4. Place of articulation

Also, the BBC website recontextualises the place of articulating sounds as one of the readily and digitally demonstrable aspects of the segmental phonetics of English consonants. This is feasible since it allows the classification of consonant sounds according to *'the organs which articulate them'* (Jones, 1922, p. 13). Employing the chief articulatory organs, Jones (1922) distinguishes six main classes of consonants: (i) labial sounds, with two subdivisions of bi-labial sounds (e.g., /p, m, w/) and labio-dental sounds (e.g., /f/); (ii) dental sounds, with two subdivisions of pre-dental sounds (e.g., /θ/) and post-dental, or alveolar, sounds (e.g., /z, ʃ, t/); (iii) palatal sounds (e.g., /j/); (iv) velar sounds (e.g., /k, ŋ/); (v) uvular sounds, with no English examples available; (vi) glottal or laryngeal sounds, exemplified with the glottal stop /ʔ/ or [ʔ] – dialectally depending on its phonemic or allophonic status.

The BBC's spatio-digally recontextualising field seems to be selective of certain consonants that can visibly be pedagogised in terms of their place of articulation. The first example is presented through the digital gadget of captioned performance

in the screen-spaced video appearing in Figure 13. Here, as the screenshot exhibits, the instructor displays the pre-dental status of /θ/ by sticking the tongue-tip out of the mouth between the upper and lower teeth in a played-out style. Obviously, this is a digitalised visible form of pedagogy, which is calling for sound mimicry on the part of L2 learners of English.

Of course, this is also accompanied by the digitally mediated manner-of-articulation feature of *audible* fricativity, where *'the air is squeezed out between tongue and teeth (apico-dental articulation)'* (Kreidler, 2004, p. 36). However, notably, the voiced counterpart /ð/ is not presented in relation to /θ/ in terms of the phonetic feature of contrastive voicing; it is rather phonetically pedagogised as an independent sound segment that distinctly carries the same place of articulation as its breathed counterpart /θ/ shown in Figure 14.

Notably, again, the instructor's pedagogic behaviour is mediated through the gadget of playing out finger-tongue-demonstrated voiced fricativity. The gadget's effectiveness cannot be perceived aside from the BBC's spatio-digally compressed medium. After all, the instructor would not be able to play out this current pedagogic behaviour in the absence of such a BBC-enabled medium.

Moving to the English nasal consonants /n/ and /ŋ/, the BBC instructor emphasises their different places of articulation in Figure 15, mainly through a similar mediated gadget of playing out the vocal-tract interior and the vocal performance of distinct alveolar-velar place-of-articulation productions. Thus, here, the BBC focuses on how the two English nasals /n/ and /ŋ/ can phonetically be differentiated in terms of their distinct digitally-visualised as well as vocally-performed and captioned place – and not manner – aspect of articulation.

Perhaps, for the great majority of L2 learners of English, the nasal /ŋ/ is a problem area of pronunciation, mainly because *'many languages do not have a consonant formed like /ŋ/'* (O'Connor, 1980, p. 51).



Figure 13. BBC-English place of articulating /θ/



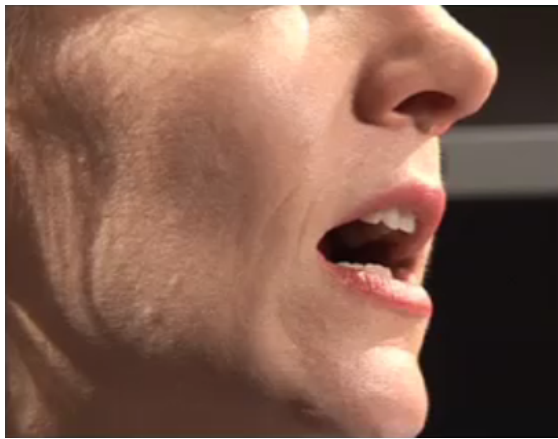
Figure 14. BBC-English place of articulating /ð/

In Figure 15, /n/ is pedagogically differentiated from /ŋ/ on the phonetic grounds that, whereas the former consonant is alveolar, the latter is velar; thus, the digitally demonstrated alveolar-velar distinction would enable the L2 learner of English to produce the two nasals from their different points of articulation inside the vocal tract based on a complex network of pedagogically effective digital gadgets. This spatio-digitally controlled re-contextualised aspect of place-of-articulation distinction has been further pedagogically enhanced with examples of /ŋ/ that contrast with other examples of /n/ in different phonetic contexts, medial and final, in Figures 16 and 17, respectively.

Indeed, the BBC's foregoing screen-spaced pedagogic re-contextualisation of the nasals /n/ and /ŋ/ can be better fine-tuned should the instructor present the nasal /ŋ/ in place-of-articulation contrast with the English plosive /g/, where another phonetically significant distinction emerges: whilst the articulation

of /ŋ/ demonstrates velar closure but absence of velic closure, /g/ shows both velar closure and velic closure (Collins & Mees, 2008, p. 38). Interestingly, this can be ascribed to the phonetic fact that the velic closure of /g/ renders it oral in articulation, i.e., the velum is raised to shut off the nasal cavity in a way that forces the air to go through the oral cavity; on the other hand, the same velic closure is missing in the course of articulating /ŋ/ in a way that lowers the velum to allow the air to escape through the nasal cavity.

Thus, it may be more pedagogically advisable for the BBC to integrate this contrastive phonetic aspect between /ŋ/ and /g/ on the distinctive grounds of nasality versus orality; or, more specifically, besides the distinctive places of articulating /ŋ/ and /n/, there needs to be some further digitally controlled and enriched space on the BBC for pedagogically featuring the contrastive manner of articulating /ŋ/ and /g/.

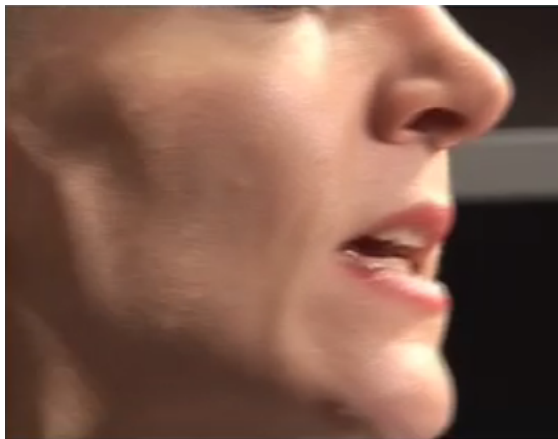


**/ n/**



**/ ŋ/**

Figure 15. BBC-English places of articulating /n/ and /ŋ/

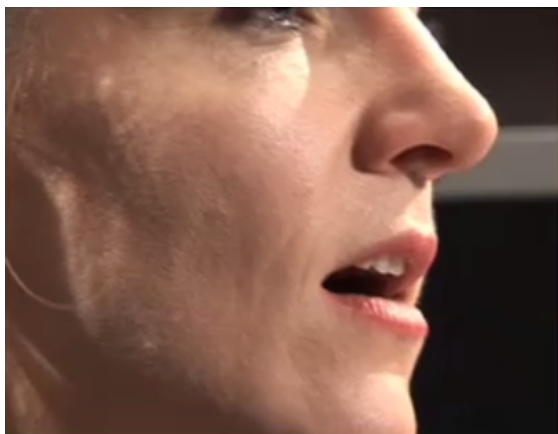


**singer /'sɪŋə/**



**sinner /'sɪnə/**

Figure 16. BBC-English contrastive places of articulating /n/ and /ŋ/ in medial positions



**son /sʌn/**



**sung /sʌŋ/**

Figure 17. BBC-English contrastive places of articulating /n/ and /ŋ/ in final positions

Crucially, this pedagogic aspect of contrasting /ŋ/ and /g/ can be substantiated if the recurrent English orthographic pattern of the letters ng is taken into consideration. English words like sing, sang, song, sung, ring, rang, wrong, rung, have been cited by O'Connor (1980, p. 52) in order that the L2 pronunciation difficulty of avoiding, say, [sŋŋg] instead of standard [sŋŋ], may pedagogically be highlighted. According to O'Connor (1980), in phonetic contexts like this, the /g/ should be avoided if possible.

Regarding the BBC's digitally enabled recontextualisation of consonantal place of articulation, there remain two problematic cases of /l/ and /r/. But, prior to taking each in turn, it should be noted that for some L2 speakers of English – most notably Japanese speakers – the two consonants (/l/ and /r/) are almost

impossible to differentiate on a phonemic level. This is so because of the phonological fact that the sound system of Japanese lacks the English phonemic contrast between /r/ and /l/: 'the Japanese /r/ phoneme having a range of allophones which to English ears sound similar to either English /l/ or /r/' (Collins & Mees, 2013, p. 218).

Of course, a problem area like this is not encountered, for example, by L2 Arabic speakers of English, since in their L1 sound system the same phonemic contrast /r-/l/ holds, e.g., the Arabic word /raʒul/ or man shows initial-final phonemic contrast between /r/ and /l/, respectively. Thus, considering L2 Japanese learners of English, the BBC's screen-spaced pedagogic recontextualisation of contrasting /r/ and /l/ may be justified in Figure 18.



Figure 18. BBC-English contrastive articulation of /r/ and /l/

Taking the English consonant /l/ as part of the BBC's PRF, one may assume the instructor's focus on its place of articulation. This is easily demonstrable in Figure 19, where the BBC instructor exhibits a visible form of played-out pedagogy with her index finger drawing the L2 learners' attention to the exact point of articulating English /l/ inside the vocal tract; that is, alveolar place of articulation, with 'the tip of tongue in contact with the upper teeth ridge, allowing the air to escape on both sides' (Gimson, 1989, p. 203-204). Here, it is easy to observe how the digitally mediated gadget of playing out the academic knowledge/discourse of phonetics finds its way through the digitally compressed pedagogic space permitted by the BBC website.

Additionally, the BBC is pedagogically keen on the digital screen-spaced recontextualisation of the allophonic variants of English /l/; these are known as clear [l] and dark [ɫ] as demonstrated in Figure 20. The example words *loaf* and *foal* cited by the BBC's instructor in the screenshot indicate that clear [l] occurs before a vowel sound, whereas dark [ɫ] in a final position. Again, but more informatively, the co-work of gadgets can be

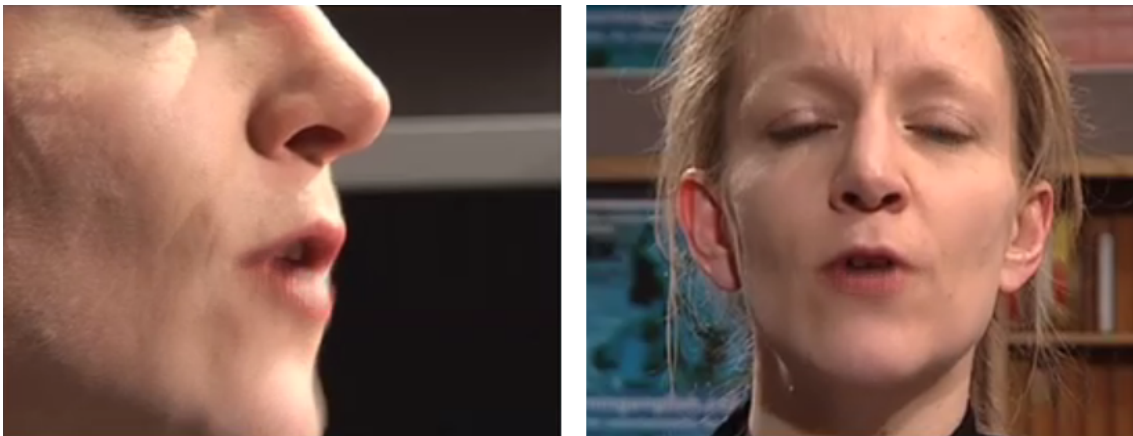
said to ideally pedagogise the concerned aspect of allophonic variation, basically by means of the instructor's played-out lip work and the digitally enabled visibility of the transcribed instances of *loaf* /lɒʃ/ and *foal* /fəʊl/ as video captions. But, here, there exist other phonetic contexts conspicuously missing from the BBC's screen-spaced pedagogic field, particularly if one follows the theoretically phonetic fact that clear [l] occurs also before the semi-vowel /j/ as in the word *value*, and dark [ɫ] occurs, not only before a pause, but before consonants as well (Collins & Mees, 2008, p. 90). The present allophonic distinction between [l] and [ɫ] can be ascribed to the phonetic aspect of tongue velarisation, where the articulation of [ɫ] is slightly velarised with 'a concave upper surface'; and this is not the case with [l] as being the non-velarised allophone with 'a convex upper surface' (Collins & Mees, 2008, p. 90).

The BBC's last consonant considered in terms of its place of articulation is /r/ as exhibited in Figure 21. Scrutinising the production of English /r/ in the screenshot reveals the BBC instructor's pedagogic indexing to the back of her vocal tract. By now, it has become clear that pedagogic behaviour of the sort is enabled



**/l/**

Figure 19. BBC-English place of articulating /l/



**loaf /ləʊf/**

**foal /fəʊl/**

Figure 20. BBC-English articulating of clear [l] and dark [ɫ]



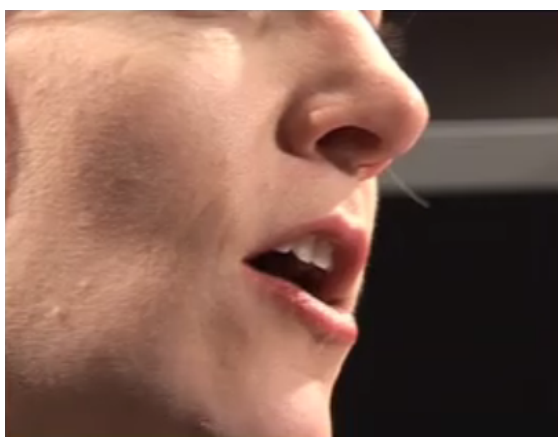
**/r/**

Figure 21. BBC-English place of articulating /r/



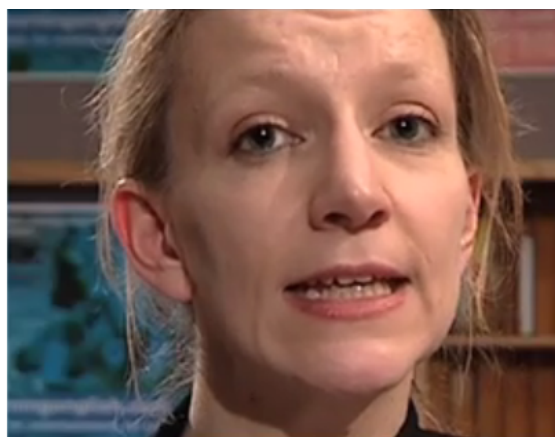
by a spatio-digitally controlled teaching platform that is based on a mediated gadget. I prefer to call it a functional spatialisation of 'co-speech gesture' (Enfield, 2009): the pedagogic performance of /r/ is screen-spaced to be coterminous with the functional gesture of the instructor's index finger. Of course, this spatialisation is itself a digital gadget whereby a phonetic technical detail is pedagogically recontextualised and made part of the current DPRF. Unsurprisingly, due to the same DPRF, the instructor is confined to the phonemically prototypical place of articulating English /r/, which is characteristically described as being 'a voiced post-alveolar frictionless continuant (or approximant) [ɹ]' (Gimson, 1989, p. 207). But, again, the BBC's PRF seems to be missing other phonetically significant allophones of English /r/. Two allophonic variants are dismissed here: (i) following the consonants /t, d/, /r/ may be slightly fricativised, e.g., *drive* and *tree*; (ii) following /θ/, /r/ can be realised as a quick tap against the dental ridge [ɹ̥], e.g., *three* (Brown, 1990, p. 26-27). Also, the BBC L2 platform is keen to pedagogically mark the non-rhotic

status of the type of English taught on its digitally enabled website; this non-rhotic status is associated with all those varieties of English that have pre-vocalic /r/. This aspect can readily be recognised in the two video screenshots in Figures 22 and 23. In the screenshots, the BBC instructor exemplifies the phenomenon of linking 'r' in two contrastive instances. In Figure 22, the final /r/ followed by pause in *this is my car* is dropped in the pronunciation of the instructor; but, in Figure 23, the /r/ is linking since it precedes the initial short vowel /ɪ/ in the word *is* as demonstrated in *my car is blue*; at this point of pedagogic presentation the /r/ is pronounced by the instructor so long as she does not stop across the word boundary of *car is*. Here, the complex digital gadget of captioned performance is observed to control the time and location of such a pedagogic moment of cross-video contrast between rhotic and non-rhotic varieties of English. The phonetic knowledge frame here is dialectal, and its digital transformation into mediated pedagogic behaviour is, again, part of the BBC's DPRF of teaching L2 phonetics.



## this is my car

Figure 22. BBC-English exemplification of final (non-linking) /r/



## my car is blue

Figure 23. BBC-English exemplification of linking /r/

Thus, the two video screenshots (Figures 22 and 23) can be deemed one pedagogical unit through which the non-rhotic status of BBC English is digitally recontextualised by means of contrasting final /r/ versus linking /r/ as speech phonetic entities in BBC-English pronunciation.

## 6. DISCUSSION

The BBC Learning English website has accurately answered Bernstein's (1990) description of a pedagogical praxis, i.e., the recontextualisation of invisible pedagogies (IPs) into visible pedagogies (VPs). Further, as a platform of teaching L2 phonetics, the website has demonstrated the functional work of 'digital gadgets' (Moinuddin, 2021) as enabling the spatio-digital

compression of the pedagogical recontextualising field of the BBC. Hence the notion of DPRF claimed to be a contribution in current research. At this point, I may revisit Bernstein's (1996) instructional discourse that is schematised in Figure 1 and adapt it to the present context of researching the BBC-mediated L2 teaching of English consonants. This can be re-schematised in Figure 24, where the textbook domain of segmental phonetics was shown to represent a form of invisible pedagogy, known strictly to the transmitter via his/her technical expertise in this domain; on the other hand, the website-enabled actual performance of the instructor proved to be the visible form, known to L2 learners or acquirers of the BBC-English pronunciation of consonants as segmental units.

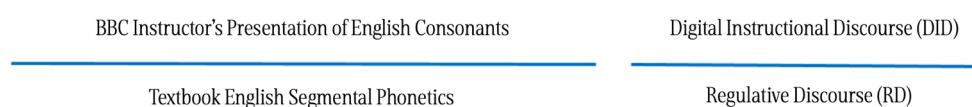


Figure 24. Digital instructional discourse and regulative discourse on BBC Learning English website

Invoking Bernstein's (1990, 1996) notion of academic discourse (and its regulative nature), one may conceive of an academic type of segmental-phonetics discourse on English consonants; this type of regulative discourse (RD) seems to have regulated the digital instructional discourse (ID) proposed in the present study. Indeed, the current context of research has significantly contributed to Bernstein's academic discourse and has systematically bifurcated into two types of DID and RD (Figure 24). Demonstrably, RD was presented as the theoretical knowledge of segmental phonetics that is established as textbook format offstage, and that can possibly be interpreted as the 'invisible pedagogy' known only to the transmitter, or in this case, to the BBC website's instructor. Demonstrably, again, the BBC instructor's L2 teaching of English consonants has been recognised or categorised as a type of DID that took the form of *digitally enabled* 'visible pedagogy', being known to the learner/acquirer and being a performance-specific aspect, spatio-digitally controlled by a number of digital gadgets. Two primary digital gadgets have been analysed and proved to be constitutive of the BBC website's DPRF. The first digital gadget was the screen-spaced demonstration of the BBC-mediated pedagogic behaviour which controlled the time and location of this behaviour and shaped its transmission to potential L2 learners. The second was the captioned performances which subsumed three main digital sub-gadgets: (i) the visuo-vocal production of pedagogic behaviour where speech and captions co-occurred (Figures 2-5); (ii) the visuo-aural production of pedagogic behaviour with a phonetic-feature (e.g., fricativity) concomitant with captions and playing out (Figures 13 and 14); (iii) the functional spatialisation of co-speech gestures (Figure 21).

Specifically at the level of DID, the BBC learning website can be compared with other equally prestigious platforms teaching L2 phonetics online. The one selected in the present context

of research is the British Council-mediated presentation video on teaching English pronunciation online, given by Maxim Barkov (British Council, 2024). For space considerations here, I focus strictly on the digital gadgets exhibited in the video presentation. The comparative scope of the BBC and the British Council particularly includes the digital gadgets enabling the DPRF. There is a rich repertoire of digital gadgets that aggregately seems to control the spatio-digital educational environment of the British Council website. Like the BBC website, here the British Council video is the primary screen-spaced-medium digital gadget that enables all the remaining pedagogically recognised digital gadgets. Missing from the BBC's DPRF is the interactive screen-spaced practical tips verbo-visually featured as bullet points in the video: Google Classroom, Edmodo, Kialo, etc. Yet, unlike the BBC website, here again the British Council website seems to be confined in the recontextualising pedagogic field to shadowing; that is, the pronunciation techniques of imitating and mimicking dominantly native speakers of English.

Also, notably, the British Council appears to outnumber the BBC website in terms of the spatiotemporally demarcated digital gadgets of calendaring on pronunciation-bound events. There are varied approaches to pronunciation virtually constructed as digitally timed and located events – *Online Events*. The digitally designed panel of *Events Calendar* orders or chronicles certain occasions with technical and practical inputs, e.g., collaborative approaches for teacher learning and innovation, virtual exchange: internationalising the ELT classroom, etc. The instructor's image appearing in the video uploaded on the British Council website also seems to be another digital gadget; it serves to connect the L2 learners with the pedagogue transmitting the technical knowledge on pronunciation as well as the British Council's instructional discourse guiding the potential L2 learners viewing the website and watching this video. Even so,

it also seems that the BBC's pedagogic performance and digitally recontextualised field are more reflective of L2 phonetics than the British Council is. This is clear in the BBC website's detailed pedagogical videos introduced on the L2 phonetics of consonants (analysed here) and vowels (Salama, 2022) as well as on other non-/integrated skills of grammar, suprasegmental phonetics, and reading comprehension (Salama, 2024).

Reverting to the BBC's DPRF of L2 teaching of English consonants as analysed in current research, it can be said that such a DPRF is mainly concerned with three descriptive aspects. First, the contrastive aspect of voicing has been utilised in drawing phonetic distinction between breathed (voiceless) plosive stops and their voiced counterparts. In this respect, the piece-of-paper pedagogic technique has been mediated and made a digital gadget whereby the lack of voicing of the breathed consonant /p/ was empirically tested; also the same digital gadget has been used for differentiating the voicing contrastively holding between /t/ and /d/; further, through the same gadget, the phonetic aspect of aspiration has been tested in the production of the allophonic variant [k<sup>h</sup>]. Second, the aspect of auditory vibration of voiced fricatives and affricates has been digitally recontextualised mainly by contrasting the audibly vibrating sets of /v/, /z/ and /dʒ/ with their non-vibrating counterpart sets of /f/, /s/ and /tʃ/, respectively; this aspect has also been pedagogically enhanced through the space-screened recontextualisation of the typical model of hissing friction [s s s s ...] versus buzzing friction [z z z z ...]. Besides, the same aspect of recontextualised audible vibration has been tested at the level of the nasal consonants /m/ and /n/, where the element of nasal vibration has been digitally pedagogised as an empirical test of the phonetic feature of English nasality – as being potentially differentiated from non-nasal vibration.

Third, and last, the aspect of contrasting the places of articulating consonants has been equally digitally recontextualised; for example, the pre-dental sounds /θ/ and /ð/ were demonstrated through pedagogically visualising the captioned performance of contact between the tongue-tip and the teeth in a way that yielded an apicodental form of pronunciation. Another example is the sounds /n/ and /ŋ/; the two consonants – having the same nasal manner of articulation – have been pedagogised in terms of their digitally captioned performed contrastive places of articulation, with apicoalveolar /n/ differentiated from dorsovelar /ŋ/. Indeed, the contrastive meeting points of /n/ and /ŋ/ were recontextualised through the same digital gadgets of captioned performance: Whereas in the production of /n/ the tongue-tip is in contact with the alveolar ridge, /ŋ/ has the back of the tongue (dorsum) in contact with the velum. Further, the contrastive articulation of English /r/ and /l/ has been recontextualised through the visuo-indexically pedagogic practice of the BBC's instructor pointing to their exact points of articulation inside the vocal tract, with the post-alveolar /r/ placed in contrast with the lateral /l/. Obviously, there has been recontextualisation of the /l/ allophonic variants of clear [l] versus dark [ɫ] in terms of the phonetic feature of velarisation. Also, finally in this

regard, the non-rhotic status of BBC English pronunciation has been visually captioned and orally performed by means of the pedagogic exemplification of final-position non-linking [r] versus pre-vocalic linking [r].

At this point, there emerges one pedagogic recommendation which seems to enrich the BBC's DPRF in terms of its L2 teaching of English consonants. It is concerned with the practical necessity of incorporating a digitally enabled manner-of-articulation phonetic feature into this DPRF when it comes to the L2 teaching of English consonants. A typical case in point is the difficulty encountered by L2 learners of English when pronouncing the nasal consonant /ŋ/. Whilst the BBC's DPRF focuses on how this consonant phonetically contrasts with the nasal consonant /n/ in terms of place of articulation (i.e., velar versus alveolar), there is no spatio-digital pedagogic space for contrasting the same nasal /ŋ/ with the plosive stop consonant /g/ in terms of their phonetically distinctive manner of articulation (i.e., nasality versus orality). Indeed, it would be a pedagogic facilitator for L2 learners of English to be aware of the phonetic fact that the velic closure present in the production of /g/ is missing from that of /ŋ/; this can be justified in the light of having the orthographic spelling *ng* as a pattern in words such as *wing* and *singer*, whose typical BBC-English pronunciation is /wɪŋ/ and /sɪŋə/, respectively. Also, on a more digital level, the gadgets *digitalising* the BBC Learning English website can be further enhanced should proper attention be duly paid to further educational multimedia with interactive features, such as Google Classroom. Such digital gadgets would certainly enhance the educational spheres recontextualising fields of technical knowledge into effective visible pedagogic practices of L2 teaching and learning.

## 7. CONCLUSION

The study has problematised the performance of L2 teaching platforms, with a particular focus on the BBC's L2 approach to teaching English consonants. Such an approach was argued to stage only a restricted pedagogic field of the theoretical knowledge of phonetics, even in the presence of observable Internet 'digital gadgets'. As a result, the study continued a pedagogic-phonetic critique of the BBC's Internet-based L2 teaching of English vowels, but further developed such a critique into a critical evaluation of the same platform's L2 approach to teaching English consonants online as a form of digitally oriented pedagogic phonetic analysis. To this end, a synthetic methodology of Bernstein's model of Pedagogic Recontextualising Field (PRF) and Moinuddin's theoretical notion of 'digital gadgets' was utilised as DPRF (Digital Pedagogic Recontextualising Field). The methodology has been operationalised towards analysing a total of 22 video-based screenshots derived from the BBC Learning English website with materials archived for public use. The analysis has empirically proven the hypothesis that the BBC-based website offered a restricted pedagogic space/field for digitally recontextualising 'visible' phonetic practices pertaining to L2 consonantal pronunciation to the exclusion of phonetically productive aspects of L2 teaching of segmental English consonants.

Following Bernstein's notions of 'instructional discourse' (ID) and 'regulative discourse' (RD), the digitally oriented analysis of the BBC-archived data has demonstrated the presence of two types of discourse: (a) the RD of theoretical knowledge of segmental phonetics, realised in 'invisible pedagogy' known to the BBC website's instructor; (b) the ID representing the instructor's actual performance, embodied as 'visible pedagogy' in the context of L2 teaching. At this point, the current study contributed to Bernstein's ID, mainly by proving it to be a form of digital instructional discourse (DID); that is, a form of digitally enabled 'visible pedagogy'. With this contribution, Bernstein's classic notion of 'PRF' has been revisited and reformulated as a digital PRF, or DPRF, which was shown to be the BBC website's DPRF through a number of Internet-enabled digital gadgets. Two primary digital gadgets were analysed: (i) screen-spaced demonstration of the BBC-mediated pedagogic behaviour controlling the time, place, and manner of instructor's transmission of content; and (ii) captioned performances including three digital sub-gadgets, viz. visuo-vocal production of pedagogic behaviour with speech and captions co-occurring, visuo-auditory production of pedagogic behaviour with audible phonetic features concomitant with captions and playing out, and functional spatialisation of co-speech gestures.

Further, at the level of DID, the study compared the BBC learning website against the British Council-mediated presentation video on L2 teaching English pronunciation online – two equally prestigious educational platforms with digitally mediated spaces for teaching L2 phonetics. The analysis has revealed the presence of different digital gadgets for enabling the DPRF of each. Whereas the British Council website adopted a richer and more interactive repertoire of digital gadgets controlling the spatio-digital educational environment of the platform, the BBC website proved to be broader in its DPRF than the former, which was confined to the educational practice of 'shadowing'. Also, notably, the British Council's DPRF was observed to out-

number the BBC's in terms of the spatiotemporally demarcated digital gadgets of calendaring on pronunciation-specific events.

Leaving the comparative mode of the BBC and the British Council websites and focusing on the main educational platform of the former, the study brought out and discussed more findings in terms of the BBC's DPRF. The main finding at this point was presented in relation to the presence of three visibly pedagogised descriptive aspects (dominantly contrastive) in this DPRF: (i) contrastive voicing between breathed (voiceless) plosive stops and their voiced counterparts, (ii) auditory vibration of voiced fricatives and affricates, and (iii) contrastive places of articulating consonants. Following this, there was a significant recommendation for enriching the BBC's DPRF in terms of its L2 teaching of English phonetics: the necessity of incorporating a digitally enabled manner-of-articulation phonetic features into its current DPRF. The recommendation was practically illustrated with hypothetical digitally enabled visible pedagogies.

Finally, one limitation of this study is to be voiced here. That is, for space considerations, the present study has not been extended further towards investigating the BBC's DPRF at the suprasegmental level of L2 English phonology, including stress, rhythm, pitch, intonation patterns, etc. This would have certainly revealed other digitally enabled potentials for the workings of such a DPRF, particularly on the wider scale of teaching L2 phonology. Crucially, this area of suprasegmental phonology may productively open up prospects for future research on the same educational platform (BBC Learning English website).

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