The Kinetic-Vectorial Design of Internet-Mediated L2 Teaching Practices: The Case of BBC Learning English Website

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Abstract

This study offers new insights into the educational-linguistic visual semiotics of online teaching as a digital practice with kinetic-vectorial design. Towards this end, a twofold social semiotic approach is utilized as a synthetic methodology. First, Van Leeuwen's (2016) kinetic design model is employed with a view to revealing the movement types of Internet-mediated L2 teaching practices. Second, Kress and Van Leeuwen's (2021) model of ideational vector analysis is used in a way that uncovers the subtle pedagogical practices of the same type of teaching as directional and transactional acts addressed to educational-website networked L2 learners worldwide. The data sets targeted for analysis comprise screenshot-styled images from the BBC Learning English Website available for public purposes of L2 teaching. A total number of functionally related five images have been selected with an eye to the BBC's pedagogic content online on the techno-semiotic levels of design kinetics and vectoriality. The current study has reached three findings (with emerging relevant implications). First, the synthetic kinetic-vectorial method of analysis has proved to be empirically effective in investigating the visual semiotics of design mediated by educational websites such as the BBC Website. Second, there emerged kinetically motivated 'pedagogic' and 'digital' vectors, respectively controlled by the BBC instructors and the design features of the website itself. Third, and last, the kinetic-vectorial analysis of the BBC Website revealed a sort of spatiotemporal compression of pedagogic content; further, the visual aspects of spatial and temporal movements (mobility and movability) appeared to have occurred across different semiotic modes, verbal and visual.

Keywords: BBC Learning English Website, digital vectors, kinetic design, L2 teaching, pedagogic vectors, social semiotics, spatiotemporal compression, vector analysis

1. Introduction

One of the notable features of Internet-mediated teaching websites and its educational platforms is their interactive interface designs. This is particularly so in view of the attested practical nature of L2 teaching in general (Hall et al., 2023). Suffice it to see and know how technologically progressive such designs seem to be in the current digital era of online teaching and learning (Öztok, 2019; Daniela, 2020; Kergel, 2021; Lütge, 2022; Kumpulainen et al., 2022; Sadeghi, 2022; Kergel et al., 2023). Also, the same arena of Internet-mediated teaching and learning has been further enhanced, yet challenged, with Moinuddin's (2021) revolutionary concept of "digital spatiality" and its concomitant technological gadgets as well as mappings of space and spatial discourses on online pedagogical practices. With such enhancement and standing challenge, a great deal of learning websites (such as the BBC Learning English Website) have had a recourse to digitally integrated pedagogic multimedia that can effectively traverse different semiotic modes and multimodal channels of communicating their educational messages. No longer has the verbal message alone become pedagogically informative; but, rather more interactively, the visual and aural modes of communication have participated in the educational floor as a way of coping with the digitally new forms of "participatory culture" and their challenges in the domain of media education (Jenkins, 2009).

In light of the above account, the present study seeks to examine the kinetic-vectorial design of Internet-mediated educational practices, with an intensive analytic focus on the BBC Learning English Website and its pedagogic domain of L2 teaching. Educational semiotics has long been known to challenge the epistemological premise that there is an extra-curricular existence of abstract knowledge beyond the learner (Bonnycastle, 2005). Crucially, with the digital advent of visual-design semiotics, the challenge has become even more affirmative and plausible, particularly in the presence of a well-recognized techno-semiotic sphere of educational practices online (Radford, 2013). Indeed, the complexity of such a visual-design form of online educational practices renders a social semiotic account of visual grammar methodologically needed, for it is through its analytic toolkit that experts on education (and even learners!) can better understand visual and multimedia literacy. Speaking of a multimedia world, Crystal (2011) made it unequivocally clear that "it is not possible to focus exclusively on the spoken or written element, treating everything else as marginal – as non-linguistic extras"; and he crucially added that all the elements (linguistic or otherwise) "combine in a single communicative act, and their joint roles need to be considered" (p. 139).

Consequently, in a bid to deal with the above issues and challenges, the present study offers a twofold social semiotic methodological

synergy of kinetic-design analysis (Van Leeuwen, 2016) and ideational vector analysis (Kress & Van Leeuwen, 2021). On the level of the kinetics of educational visual design, both the mobility and movability of pedagogic performance online can be tackled in terms of an integrated system of kinetic-design network (see Figure 1). The system includes analytic binary terms that produce a configuration of design kinetics of toys, but such a configuration can be extended to conducting other potential design kinetics of different objects of research. On the level of ideational vector analysis, transactional processes between the instructor and target learners are particularly focused. The ultimate goal at this level is to disentangle the visual *directional* (i.e., indexical) content of teaching online and its multimodal design. The data sets suggested for analysis at the foregoing two levels of educational visual semiotics (kinetic and vectorial) are screenshot-styled images derived from the BBC Learning English Website.

Thus, current research addresses one primary question: What is the kinetic-vectorial design of the educational visual semiotics in the L2 teaching mediated by the BBC Learning English Website? The twofold social semiotic synthetic approach indicated above is utilized in the empirical investigation of the data sets at stake. The remainder of this article unfolds in five sections. Section 2 reviews the relevant literature on the semiotics of educational practices, including online and class-mediated teaching and learning. Section 3 outlines the theoretical framework adopted in the present study. Section 4 offers the research methodology in terms of data and procedure. Section 5 presents the empirical data analysis validating the current kinetic-vectorial research methodology. Section 6 concludes with a discussion of the main findings and implications emanating from data analysis.

2. Literature Review

The research conducted on the semiotics of educational practices online has only recently flourished and become an interesting area of educational-media investigation. To begin with, Bharti and Aulakh (2017) touted a semiotic analysis of the digital medium of education as an attempt to conceive of a process whereby elementary-school kids can interact with digital media for the sake of understanding the real-time surrounds in nature. Also, the authors made a point of securing what they describe as the "effective comprehension," which has been argued to materialize on account of using the relevant elements in digital medium. The data used in this study consisted of primary and secondary sets. The primary set was collected via questionnaires from teachers, students, and parents in schools across Indian states (namely, U.P., Bihar, Jharkhand and Punjab); the secondary set of data was gleaned and studied through online questionnaires, web portals and app stores followed by focused-group discussions. Upon data analysis, the authors found that all teachers were not equally trained for teaching and that an abundance of technology caused a noticeable disconnect between children and nature. Also, as one crucial implication, the use of technology and its concomitant semiotics was highly used in the field of entertainment and very sparingly in the realm of education itself.

Pelkey (2020) offered a semiotic Peircean account of two case studies analysing visual data generated by the data-collecting tool of Google Image Search. Whereas the first case study was concerned with the didactic visual comparative analysis of brand logos, the second tackled the comparative analysis of images delineating the Tibetan Wheel of Life and Yama the monster of death. Both case studies demonstrated how the embodied semiotics of didacticism could bridge a gap concerning the under-utilization of online image search tools in investigating human culture and cognition. Leone (2021) conducted an in-depth semiotic analysis of online-teaching spatiality. The study focused on classroom spatiality as a creator of educational roles. The author has demonstrated how the classroom spatiality would not be an easy task should it be confined strictly to embodied educational practices. He further recommended the need for rethinking digital teaching environments. This can be secured through the pedagogic activation of semiotic practices whereby attention to non-verbal communication strategies can prove more effective than those routinely adopted ones on the verbal plane of educational practice.

Also, Salama (2022) proposed a pedagogic-phonetic critique of the BBC online L2 teaching practices of English vowels as a pedagogic recontextualizing field (PDF). The study utilized visual teaching materials of images pertaining to the videos on vowels tutorials, where the BBC instructor's pedagogic practices were analyzed through Bernstein's (1990, 1996) educational-linguistic approach. The findings of this research revolved around the BBC's visible practices of teaching vowels as being limited in pedagogic space due to the phonetically significant aspects missing from the BBC's PRF. While the semiotic aspects of visualizing the BBC's RPF were not covered in this study, other verbal and para-verbal aspects were investigated as part of the pedagogic behaviour of the instructor herself and the BBC educational medium online.

Thus, based on the brief review of relevant literature presented above, there seems to be a lacuna in the educational semiotics of pedagogic visual data as mediated by the Internet in particular. Perhaps this may boil down to the dearth of research on the area of educational semiotics compared to other types of semiotically oriented research including, *inter alia*, political semiotics (Selg, 2010, 2011, 2013; Ventsel, 2010, 2012, 2014) and the semiotics of religion (Yelle, 2012; Ponzo, 2019). Let us now offer the theoretical framework adopted in current research, where a methodological synergy of kinetic-vectorial analysis is elucidated.

3. Theoretical Framework: A Methodological Synergy of Kinetic-Vectorial Analysis

The theoretical framework offered in current research rests on a methodological synergy of two social semiotic analytic models. The first derives from Van Leeuwen's (2016) kinetic design grammar as focused on the visual semiosis of movement in its two chief types of mobility and movability. The second social semiotic model was first proposed in the first edition of *Reading Images: The Grammar of Visual Design* (1996), and then republished in subsequent editions (Kress & Van Leeuwen, 2006, 2021). The model is recognized to be the first comprehensive social semiotic account of analysing images and its visual semiotics as an extension of Halliday's Systemic

Functional Linguistics/Grammar (originally, Halliday, 1978, 1985). However, in the present context of research, a methodological focus is laid specifically on Kress and Van Leeuwen's (2021) account of the ideational vector analysis of transactional process in visual design. Thus, the current theoretical framework has a twofold methodological structure of the two previous social semiotic models, and it can technically be labelled here as a kinetic-vectorial model of visual analysis. In what follows, each approach is discussed in turn.

The kinetic-design model of analysis focuses on the visual movement of design objects. The model was presented as an analytic toolkit of toys as communicative objects in a project entitled "Toys as Communication," wherein a system network of kinetic design of such objects (toys) was schematized in the classificatory style appearing in Figure 1. However, in the present study, such a system network is extended in application to include other data sets for analysis, namely, interactive educational practices from the BBC in screenshot-styled images. Crucially, Van Leeuwen (2016) argues for the kinetic presence of two types of object-specific movement, mobility and movability. Whilst the former type of mobility indicates the potential for "displacement of an object, for examples, by wheels," the latter type (movability) represents a different, albeit complementary, potential for "movement of all, or part, of an object that does not involve the displacement of an object as a whole" (p. 337). But, as Van Leeuwen (p. 337) continues to argue, the two types of kinetic movement can be "combined in a single object," which can best be illustrated as a toy car having wheels and simultaneously opening doors. Indeed, what is significant and relevant to the context of our framework is Van Leeuwen's thesis on how such a kinetic design of movement (mobility and movability) encodes the two functions of (i) "communicating meanings and values" and facilitating and constraining "the user's [in our case, instructor's and leaner's] actions by creating subject positions" (Van Leeuwen, 2016, p. 338).

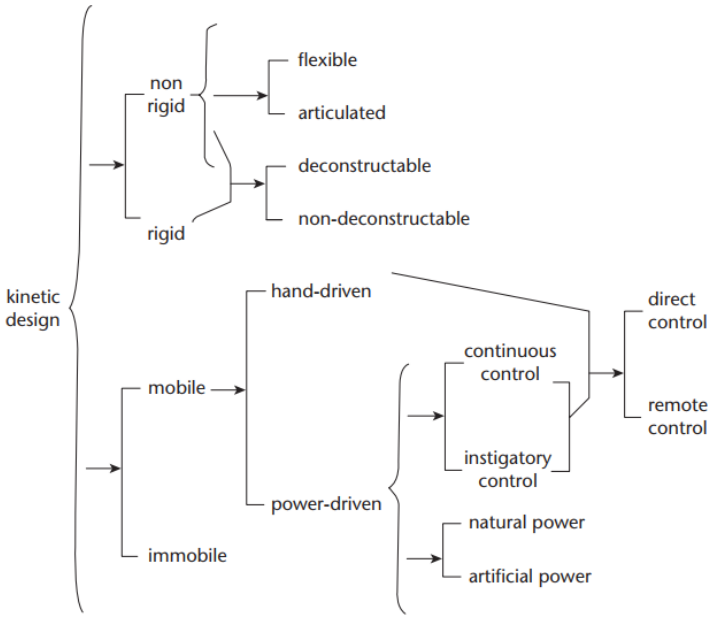

Figure 1. System network of the kinetic design of toys (Source: Van Leeuwen, 2016, p. 338)

Complementary to Van Leeuwen's kinetic-design model in this study is Kress and Van Leeuwen's (2021) ideational vector analysis as an analytic model of the visual transitivity of participant-process relationships. Vectors in visual communication, as defined by the two authors, have the function of standing as the counterpart of action verbs in verbal communication: "while the English language – whether in speech or in writing – expresses processes by words of the category 'action verbs', visually they are expressed by elements that can be formally defined as *vectors*" (Kress & Van Leeuwen, 2021, p. 45, italics in original). It is through vectors, then, that participants can visually enter the domain of transaction and assume interactive roles such as Actors and Goals on account of the vectorial relation (transitive process) itself. A schematic reduction of such a vectorial relation is proposed by Kress and Van Leeuwen in Figure 2, where one can easily notice how the two participants 'Actor' and 'Goal' are visually connected through an arrow-indexed vector. As such, one characteristic of vectors in general is directionality whereby pointing is visually featured as connective. Further, it should be made clear that vectors may be visually constituted by "bodies or limbs or tools 'in action' but there are many other ways of making represented elements vectorial"; thus, by way of illustration, "[a] road running diagonally across a picture space, for instance, can be a vector. The car driving on it is then an Actor in the process of 'driving'" (Kress & Van Leeuwen, 2021, p. 55).

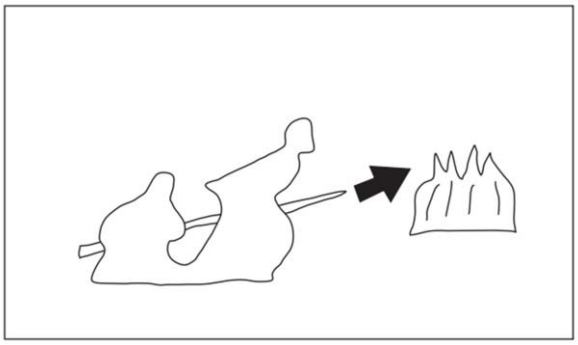

Figure 2. Schematic reduction of an arrow-indexed vectorial relation between Actor and Goal (Source: Kress & Van Leeuwen, 2021, p. 48)

Indeed, with the vectorial design feature of directionality, one can see how the kinetic movement of visualized objects may nicely dovetail with the analytics of the ideational meanings of vectors as pointers. That is, the directionality of kinetic movement can be visualized in the form of vectors; and this may explain the logic of current theoretical framework into correlating the model of kinetic design with that of ideational vector analysis. Hence the current methodological synergy of kinetic-vectorial analysis. But, prior to applying the above framework to the visual data analysis drawn in images from the BBC Learning English Website, the coming section describes the data-collection process and outlines the methodological procedure followed towards analysing the target data.

4. Methodology

4.1 Data

The data selected for present kinetic-vectorial analysis consists of five screenshot-styled images captured and drawn from the BBC Learning English Website (www.bbc.co.uk/learningenglish/). The website was established in 1943, and since then its educational interface design features and pedagogic practices have been remarkably developed in keeping with gigantically progressive digital technology. The images captured can be considered a visual record of educational practices and pedagogic moments that delineate the kinetics and vectorial relations in different teaching situations of the L2 teaching of English on the website. Such situations vary according to the target skills and the epistemological frames and domains associated with them. For example, the pronunciation skill is epistemologically framed as part of the discipline of phonetics and its segmental and suprasegmental domains of teaching. But, notably, there are other teaching situations with consciously integrated skills, e.g., reading-comprehension-cum-pronunciation. These are visually composite and their kinetic-vectorial design is semiotically more complex. As such, the variously situated moments of teaching can be said to have been selected with an analytic purpose in mind; that is, depicting the subtle digitally designed movements of vectors in terms of their mobility and movability as well as their impact on the communicative values and constraints or facilities pertaining to the creation of subject positions (instructors and learners).

4.2 Procedure

The current study follows the methodological synergy of kinetic design model and ideational vector analysis outlined above in the Theoretical Framework Section (Section 3). Procedurally, the analysis starts from the kinetic design of the educational practice visually objectified in the images under investigation. At this early stage, analytic focus is placed on the subtle design features of either mobility or movability, or in some cases both. The overall design features indexing movement should be carefully considered as they are the analytic triggers for further analysis of ideational (vector) meanings. This kinetic-design stage of analysis is mostly descriptive as it sets the scene for understanding the structural relations between inert and moving gadgets of the educational practice depicted in images. Thereafter, the procedure shifts to the ideational-vector-analysis stage that handles the directionality of ‘pedagogic vectors’ and ‘digital vectors’ within the overall kinetic design. I have coined these complex terms of ‘pedagogical vectors’ and ‘digital vectors’ with a view demonstrating how each and every pointer in visually depicted educational practices can be functionally explained as a visible pedagogic practice, to follow Bernstein’s educational sociolinguistics (Bernstein, 1990, 1996). Pedagogic vectors are tentatively hypothesized to be manipulated by instructors themselves, and such vectors are unfailingly directed towards a teaching purpose on the BBC Website; that is, such pedagogical vectors are by no means aesthetically ornamental. Of course, they are typically shot through with aesthetic values in terms of shapes and colours as well as their overall layout on the webpage; but, crucially, they are functionally oriented towards serving a teaching/learning purpose – a kinetically marked teleological design feature, so to speak. Digital vectors, on the other hand, are hypothesized to be controlled by the website design itself; they are digitally pre-designed as auto-vectors to sustain the L2 teaching practice itself.

5. Analysis: The Kinetic-Vectorial Design of the BBC L2 Teaching of English

One empirical observation of the here-and-now homepage of the BBC Learning English Website is the image appearing in Figure 3.

Notably, this image is by no account fixed or digitally unalterable; far from being so, indeed. The kinetic design of the image is by default changeable based on the designer's updated tutorial input. According Van Leeuwen's (2016) system of kinetic design, this feature can be said to be a non-rigid flexible design, whose movement may be described as a kinetic form of movability. Yet, the same image has a mobility kinetic-design feature manifested in the educational list of the three side sections visually positioned to the right of the foregrounded instructor (Georgie). These three sections fall in different epistemological domains, and are therefore kinetically moving on to three different skills; namely, Grammar, Business English, and Phonetics. Visually focused, then, is the instructor Georgie with the pedagogically thematic caption "Present perfect continuous with Georgie." This kinetic juxtaposition of the instructor and the pedagogical theme can be viewed as a rigid non-constructable design feature in the current teaching situation; that is, no instructor (other than Georgie) is institutionally permissible to teach this pedagogical theme. Thus, the other two instructors – be they visually explicit or implicit – are visibly sidelined and kinetically dysfunctional in current teaching situation.

Figure 3. A kinetic design of the pedagogic vectors organizing the visual semiotics of the BBC L2 teaching of English

Proceeding with Figure 3, one may hasten to focus on Georgie's 'index finger' as a vector with a visually framed direction in the image. Obviously, the direction of this vector is purposely made towards the pedagogic theme appearing in an aesthetically attractive design of different colours and vivid layout. Here, the vector is strictly pedagogic with the theme ideationally constructed as Goal and Georgie as Actor, even if the vector is not qualified as being literally transactional enough to demand anything from any participants inside or outside the image. Since this is an instructor/pedagogue-controlled vector, I prefer to call it a pedagogical vector; a pedagogically motivated vector, so to speak. There is another crucial pedagogic vector in the image, though. It is Georgie's direct gaze to image viewers or the website's visitors/learners. The vector is likewise controlled by the instructor/pedagogue, and is certainly transactional and highly interactive with the target leaners (Goal) potentially visiting the website. Importantly, the kinetics of both pedagogic vectors (index finger and gaze) are bound in movement by one and the same self-controlled participant, the instructor; and equally importantly, both vectors seem to be situationally connected: The gaze vector dynamically and actively invites the leaners to follow the direction of the second vector of the index finger.

Moving to the image in Figure 4, the viewer would not mistake the continuity of kinetic design of movement from the image in Figure 3. The section on the L2 teaching of Business English has been moved as a discrete autonomous unit of educational practice. Its design is visuo-verbally telling of a pedagogic theme with the caption "How to make calls and use IM at work." On a click, the whole teaching practice will immediately start with this theme unfolding pedagogically in a kinetic design of digitally scenic movability. From the designer's point of view, a multiplicity of graphically designed vectors can be observed in two categories: (1) the laptop's screen-readable messages "OFFICE ENGLISH" and "calls and instant messages" separated out by an avatar-simulated figure and a pre-fabricated reminder pointing to the figure's ear (putatively, micro vectors visually embedded into the laptop as a matrix/macro vector) and (2) the collection of office gadgets, viz. a cup, eye glasses, and a lampshade – all ready to be used by a business figure in the situation. The Goal all these vectors kinetically moving towards is the learner. Actually, I prefer to technically call these 'digital vectors' as distinct from (and certainly complementary to) the aforementioned 'pedagogic vectors' manipulated by the instructor or pedagogue in the L2 teaching practice. The former type of vector (denoted as a 'laptop' and office gadgets of a cup, eye glasses, etc.) is digital on the grounds it is typically design-controlled and digitally pre-designed (and not humanly pre-disposed) to technologically sustain the L2 teaching practice itself. Thus, these are design-controlled digital vectors (auto-vectors) whose kinetics situationally and mechanically presumes the presence of learners. As concerns instructors, their presence is kinetically presumed on account of their mobility: Even if the instructor is not visualized in person, s/he must be there off the educational stage and accessibly have an institutional recourse to all the kinetics of the

two categories of digital vectors discussed above.

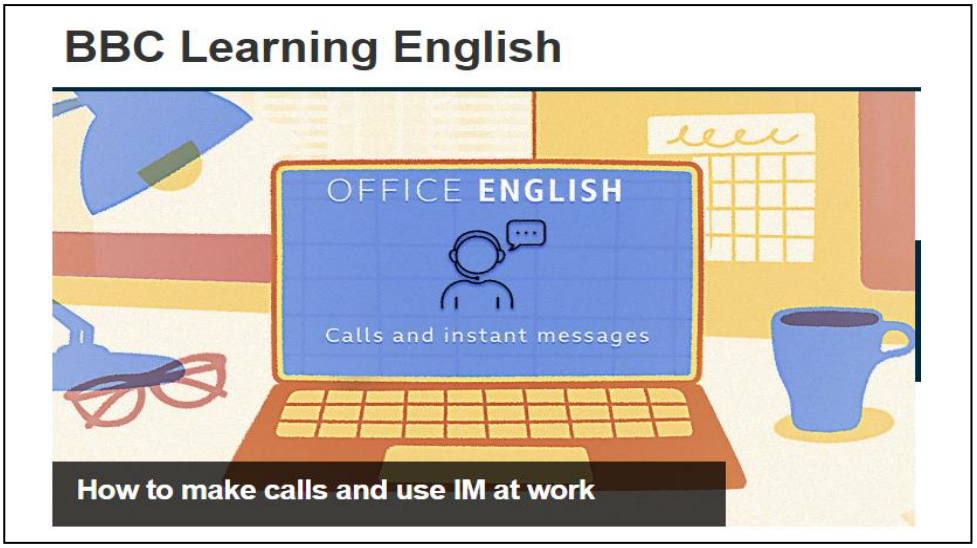

Figure 4. A kinetic design of multiple digital vectors in the L2 teaching practice of Business English

Now, turning to the image in Figure 5, the learner may have no misgivings about the presented teaching material as an audio-visual content on pronouncing the sounds of L2 English. But, kinetically, this is not only a matter of 'pronouncing'; rather, pedagogically, it is a matter of phonemic 'performance'. The *teacher-ly* recorded model pronunciation of sounds (vowels and consonants) is digitally pre-designed to be imitated/repeated/copied by the leaner in the accurately and typically performative style of native-speaker English. The video icon itself is clickable; and thereby encoding a kinetic movability of the sounds, whose visible buttons on the phonemic chart, too, are ready (by design) to be used or clicked on for sound auto-performance. Indeed, the whole video is captioned as a preface to "The sounds of English series"; thus, there is a kinetic form of mobility in the design of the video as a whole. On the vectorial level of visual analysis, the video icon connects the learner with the content, yet instrumentally so, on account of its being a digital vector. This is, again, a design-controlled mechanical type of vector that constructs the subject position of the leaner as a potential performer of the pre-recorded sounds, and the learner's sole function here is to mimic the pedagogic content digitally situated as an audio-visual material. Further, all the button-simulated sounds (vowels and consonants) on the phonemic chart in the video are pre-designed as digital vectors, too, in the current L2 teaching situation. Thus, interestingly, there emerges a kinetic mobility of micro digital vectors visually embedded in the macro digital vector of the video itself and its concomitant operative icon, being visualized in the image (Figure 5). All such digital vectors (micro and macro) are, again, pre-designed to link the learner to the performance of individual sounds of English, segmentally, and channel the same learner kinetically to a different semiotic mode.

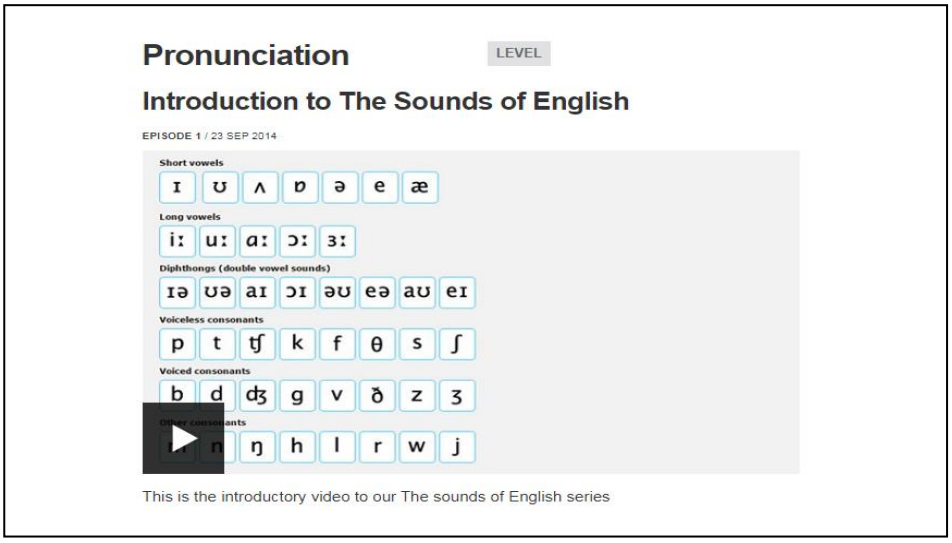

Figure 5. The kinetic-vectorial design of 'performing' the sounds of L2 English

The image in Figure 6 is also pedagogically concerned with pronunciation; it is a visuo-verbal semiotic complex of a BBC-Leaning-English series known as "Tim's Pronunciation Workshop." This particular episode of the series is kinetically highly dynamic in both space and time; that is, it ideationally presents Tim (the situated instructor) as Actor practically involved in the pedagogical activities reviewing "the Pronunciation Workshop series" and giving "a final [pedagogical] piece of advice." Here, in this particular episode, there seems to be a spatiotemporal shift from atomistic episodes to a holistic episode; and, further, this shift is particularly different, in that a final piece of advice is given (to only those learners who would follow the episode). This sort of movability is by all means interesting at the kinetic level of educational semiosis: the educational message is highly directive and suspensive, not only verbally but even more subtly visually. Tim's photos in different thematic series are kinetically compiled in one visual design – all framed in one. This sort of kinetics can technically be described as a form of spatiotemporal compression of Tim's pedagogic content. The kinetic movement of this L2 educational practice seems to simultaneously have the two dimensions of mobility and movability: on the one hand, the visually corroborated announcement about Tim works out as a mobility cue from the atomistic to the holistic; on the other hand, the actual movement of each series to the revision episode amounts to a movability of the series from their (past) digital slots on the BBC Website to a new (visually present) slot with a different time frame and a specially prepared pedagogic content.

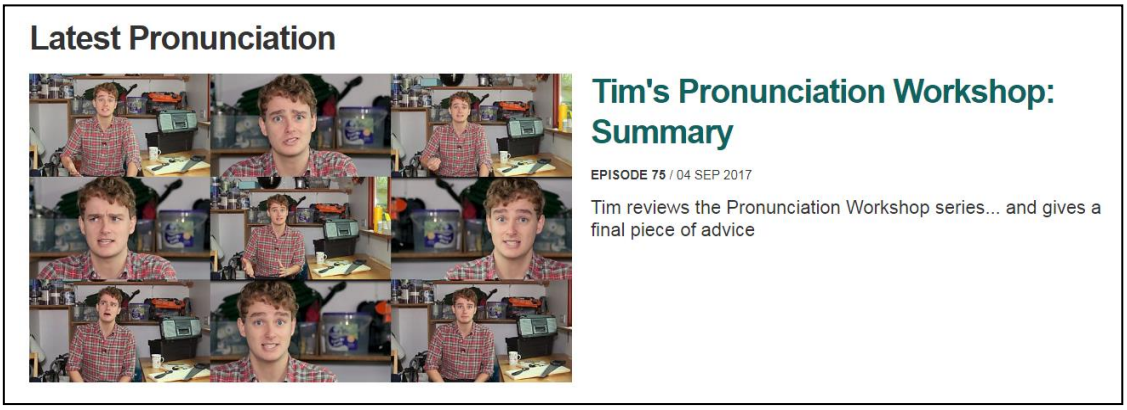

Figure 6. The kinetic-vectorial design of spatiotemporal compression of pedagogic content

Importantly, too, the vectorial connections in Figure 6 are visually telling. Each separate photo of Tim is a vector that points the leaner back in time and space to one independent episode in his regular series of "Pronunciation Workshop." This coheres well with the kinetics of movability discussed above, though with a significant element added to such a form of kinetics – connectivity. The vectorial relationship between Tim (the Actor/instructor) and learners (the Goal) are constructed in a new pedagogic light here: Tim (as a content reviewer) linked to Learners (as content reviewees). Such subject positioning is further vectorially enhanced with Tim's holistic gazescape in all the photos compiled with one and the same gaze directed transactionally at the leaners. The repetition of vectors here is certainly iconic of the emphasis of the BBC Website's pedagogic call. But let us have visual access to one instance of Tim's episodes from his Pronunciation Workshop Series in Figure 7. Perhaps it may be thought that visual kinetics here is far less active and mobilized than that in image 6. This can be assumed by virtue of the apparent kinetic shift from the holistic backwards to the former regular atomistic episodes. But this is misleading.

Figure 7. The kinetic-vectorial design of pedagogic content from 'description' to 'fiction'

Actually, the image in Figure 7 is equally kinetic in Tim's visually depicted pedagogic behaviour: He is visualized to be an instructor/Actor fully concentrating on the episode's pedagogic content as Goal in a notebook as Instrument or Medium. This ideational meaning marks a kinetic form of Actor-specific movability from one medium to another; that is, the digitally new medium of teaching content to the traditionally old medium of the notebook. After all, the BBC Website is a technically advanced educational space that is equipped with virtually all technologically advanced affordances of teaching and learning. But this kinetic shift is indeed integral to the whole digital practice, for it tends to be a vector that directs digital learners (themselves!) into trying this traditional method of learning; otherwise, Tim would not have had a recourse to the practice at all. This is borne out by the vectorial relationship visualized between the pedagogic theme on connect speech "What happens to 'n' followed by 'p'?" and the notebook itself. It can be said that the educational practice of Tim reading this theme in the notebook in his hand evokes a sense of thematic continuity and kinetic movability from 'description' to 'fiction'. The latter ('fiction') is made invisible and thus imaginative beyond the visual framing of the image in Figure 7. There is yet another sort of kinetics in the image, though. The mobility from question to answer is highly suggested in the image: the movement from the question raised as the pedagogic theme ("What happens to 'n' followed by 'p'?") to the notebook in Tim's hand and his facially concentrated look on the content therein (the notebook). This movement is anchored in the image caption reading "Learn what happens in connected speech," where the directive speech act itself is a (pragmatic!) vector that links the question to the answer across the two types of media – digital and traditional.

6. Conclusion: Findings and Implications

In conclusion, it has become clear that a kinetic-vectorial model of visual-data analysis can possibly bridge a standing gap in the hitherto marginalized field of educational semiotics, or the semiotics of educational practice, as mediated by the Internet. The present study emphasized the significance of such a field mainly by adopting a fruitfully synthetic (if not symbiotic!) methodology of research. This methodology was deeply grounded in a theoretical co-partnership of two social semiotic models: (i) the kinetic design model (Van Leeuwen, 2016) and (ii) the ideational vector analysis model (Kress & Van Leeuwen, 2021). The analysis of the images drawn from the BBC Learning English Website has empirically proven the methodological efficacy of examining the visual design of Internet-mediated L2 educational practices and its dynamic interactive features on the two interrelated levels of *kinetics* and *vectoriality*. Here, it should be said that the five images selected for analysis were meant to functionally constitute organic wholes that demonstrated significant aspects of kinetic-vectorial investigation at the visual level of the BBC's L2 pedagogic practices. For instance, the image selected from the website's homepage answered the description of a whole-part relation (Figure 3). Also, the two consecutive images on Tim's "Pronunciation Workshop" were elected with a view to demonstrating different, yet complementary, dimensions of kinetics and their vectorial directions (Figures 6 & 7).

The first finding reached in this study consisted largely in the productive methodological co-work of kinetic design analysis and ideational vector analysis, whereby a new full-fledged form of kinetic-vectorial co-analysis was shown to reveal the semiotic design of educational and pedagogic practices of L2 teaching of English online. This finding is sufficiently conceivable on the grounds that the kinetic movement of any pedagogic practice is directional in nature or by design; and hence the need for a vector analysis in the first place. Perhaps at this point the second finding may well be fittingly contextualized on the terra firma of the distinction made between 'pedagogic' and 'digital' vectors. The two terms have been contrastively coined throughout the analysis with a view to differentiating two significant categories of vectors in the L2 teaching practice of the BBC Website. Pedagogical vectors were recognized to be instructor-controlled kinetic elements whose direction is pedagogically motivated by the interaction between the instructors, on the one hand, and the learners or pedagogic themes, on the other. Instances of pedagogic vectors were demonstrated to consist in instructors' facial and bodily kinetics, e.g., gaze and index finger (Figures 3, 6 & 7). Digital vectors, on the other side, were identified as being design-controlled, mechanical, and unmotivated by instructors themselves; their digital nature derived from their being, for instance, graphically designed to mark a kinetic shift at some point in the L2 teaching practice. Instantiations of digital vectors, in this sense, were recognized in the analysis of the two categories of pre-designed laptop and office gadgets (cup, eye glasses, and lampshade) during the tutorial on Business English (Figure 4). Also, the instances of the video icon and the button-simulated sounds on the phonemic chart were discussed as digital vectors, too (Figure 5).

One implication emerging from this finding on the distinction between pedagogic and digital vectors can be discussed here. It was noticed that with digital vectors there appeared a special kind of movability kinetics whereby certain micro vectors such as 'office gadgets' were embedded in the macro vector of the laptop. So was observed the micro digital vectors of the phonemic-chart sound buttons to be embedded in the educational video as a macro digital vector. Another implication can be discussed here, too, about the complementary distribution of pedagogic and digital vectors. Such a distribution can be assumed to reinforce Bruno Latour's (1996) Actor-Network-Theory (ANT) whose main thesis is to reject any restriction of agency to humans as the *only* actors in communicative practices; rather, the thesis extends such agency to things and artefacts (of all sorts) as non-human actors/actants in the actorial network of communication, be it digital or otherwise. Here, I find the same Latourian logic applicable to the distinction between pedagogical and digital vectors; such a distinction opens up the communicative space for instructor-oriented vectors (say, gazes) and design-specific vectors (say, graphic objects) to co-operate in the L2 teaching practice towards buttressing and sustaining the educational practices of L2 teaching and learning online. So, after all, there is no escaping the fact that human instructors and technological gadgets would willy-nilly communicate in one way or the other in such practices.

The third finding arising from present study was realized in the course of analysing the kinetic-vectorial design of the revision-advice tutorial related to Tim and his "Pronunciation Workshop" (Figure 6). It is the spatiotemporal compression of pedagogic content. Utilizing the same synthetic methodology of kinetic-vectorial analysis, the visual aspects of spatial and temporal movements (such as mobility and movability) appeared to have occurred across different semiotic modes, verbal and visual. The vectorial meanings of such movements were

also demonstrated to have been systematically directed by the situated educational practice associated with Tim as a reviewer/adviser and the learners as reviewees/advisees as well as the visible pedagogics concomitant with such practice. More specifically, the kinetic movement from the atomistic episodes as pedagogic autonomous units in a series to the holistic configuration of all such units together for the pedagogic purpose of reviewing the Pronunciation Workshop Series proved to be seminal in this particular regard. The vectorial direction towards the whole series was also shown to compress the time and space of autonomous tutorials (previously taught as individual episodes). Indeed, the last-image analysis homed in on such an autonomous pedagogic nature of Tim (the instructor) who was institutionally permitted the space and time to oscillate between digital (BBC-technology-enabled) and traditional (notebook-bound) pedagogic practices; or, as metaphorically put in the analysis section, the kinetic movability from 'description' to 'fiction' (Figure 7).

Finally, let us demarcate the prospect for further research on the same point of kinetic-vectorial analysis of Internet-mediated L2 teaching of English. Indeed, in this respect and context of research, nothing could be as noteworthy as extending the analytic scope of the synthetic methodology followed in current research towards other Internet-mediated genres such as university websites or blogs. This would, in all probability, enrich the analytics of current methodology and enhance the reconciliation between kinetic and vectorial aspects of analysis.

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