# TEACHER / STUDENT PARTNERSHIPS IN ONLINE VIDEO CORPUS CONSTRUCTION AND ANNOTATION. ENCOURAGING HIGHER EDUCATION STUDENTS' DIGITAL LITERACY

# ANTHONY BALDRY

University of Messina

## FRANCESCA COCCETTA

Ca' Foscari University of Venice

## DAVIDE TAIBI

CNR-ITD Palermo

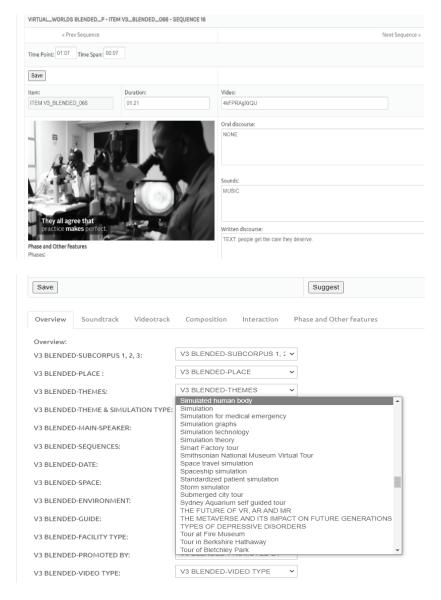
Abstract: Online video corpora constructed by Higher Education students play various roles in specialised digital learning. When supported by analytics, this can be a productive way of engaging with the multisemiotic processes associated with digital literacy. However, when reappraised, corpora thus produced often play significant roles in contexts other than those for which they were originally envisaged. The final section of the paper reflects on video corpora's role in consolidating digital literacy in Higher Education as part of inter-university and cross-degree teacher-student partnerships.

**Keywords:** corpus monitoring, digital literacy, learning analytics, OpenMWS; video corpora

# 1. Introduction: video corpus construction, annotation and monitoring

The advent of video-sharing websites needs to be accompanied by tools that allow Higher Education students to construct online video corpora on themes of their own choice. Websites such as *YouTube* and *Vimeo*, as well as other video platforms with educational concerns, such as Khan Academy (https://www.khanacademy.org) and others, including Ted (https://www.ted.com), whose expert speakers have backgrounds in business, science, and technology as well as education, do not provide students with an online framework that allows them to share their interpretations of videos within online projects. Enabling such projects is, instead, the major focus in the development of Multimodal Web System (henceforth: OpenMWS, http://openmws.itd.cnr.it), a specialised video corpus platform (Figure 1), that provides students with online distance-learning resources and guidance in the construction of video corpora as well as tools for analysis of the individual videos they contain. As Figure 1 (top part) shows, OpenMWS supports the presentation of embedded YouTube videos split up into sequences for

subsequent analysis and annotation, using descriptors such as those also shown in Figure 1 (bottom part). Crucially, as part of a shared environment, the corpora that individual students produce can be retrieved, and peer-reviewed by others, who can make further contributions. In particular, the *Multi-Summary and Peer Evaluation* section of OpenMWS (see Figure 4 below) allows students to express their interpretations of specific videos and compare them with those of others, encouraging the expression of different experiences and foregrounding alternative perspectives.



**Figure 3**: The OpenMWS interface: (top) transcribed sequences; (bottom) sequence annotation tools

OpenMWS can claim to break new ground in online group project work in its recourse to word processing and spreadsheet tools that students, in their preparation of the corpora, are either already familiar with, or which they can quickly master. In other words, students can work offline when preparing corpora, but are encouraged to 'go live' as quickly as possible so as to benefit from the online guidance that OpenMWS provides through the inclusion of analytics, i.e., tools that help monitor and guide the various stages in the corpus development. Monitoring is, of course, a key concept in the guidance and performance of individual students and student groups (Alemayehu, Chen 2021; Broadbent, Poon 2015; Lera-López *et al.* 2010; Theobald, Bellhäuser 2022) but is also applicable to, and supportive of, the constant updating of open-ended corpora that different groups of students can engage with (see Sections 2 and 3 below). The existence of monitor corpora and the need for monitoring ongoing corpus construction and content is, naturally, far from new:

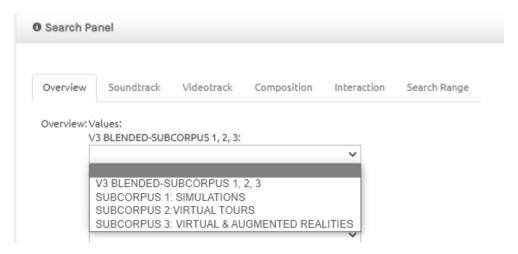
A monitor corpus is a dataset which grows in size over time and contains a variety of materials. The relative proportions of different types of materials may vary over time. The Bank of English (BoE), developed at the University of Birmingham, is the best known example of a monitor corpus. (http://corpora.lancs.ac.uk/clmtp/1-data.php).

The principle of corpus expansion over time is traditionally taken to apply to very large linguistic corpora; for example, COCA (Corpus of Contemporary American English) states:

[t]he corpus contains more than one billion words of text (25+ million words each year 1990-2019) from eight genres: spoken, fiction, popular magazines, newspapers, academic texts, and (with the update in March 2020): TV and Movies subtitles, blogs, and other web pages. (https://www.english-corpora.org/coca/)

However, there is no reason why the open-endedness, traditionally associated with large monitor corpora such as BoE and COCA, cannot be profitably applied to the construction of specialised video corpora, particularly when the growth process addresses specific Higher Education needs, such as the reusability of corpora beyond the contexts for which they were originally conceived (see Sections 2 and 3 below). Obviously, at the time when monitor corpora (Sinclair 1991: 24-26) were first envisaged, analytics, whether of the monitoring or learning type, were not available, making it appropriate to revisit this concept in relation to video corpora within a project whose starting point is an online platform that allows YouTube videos to be re-indexed and efficiently accessed on the basis of their most significant sequences, but whose endpoint is, significantly, stimulating trust among undergraduate students, participating, often for the first time, in the collaborative construction of an online artefact.

As shown in Figure 2, in keeping with the principle of open-ended, reusable specialised corpora and, in particular, the modular approach adopted with OpenMWS, *Blended Realities* is the end result of three separate projects, each consisting of one hundred videos illustrating various blends of virtual (VR) and augmented reality (AR) or which are simulations relevant to training contexts, where feasibility, cost, and safety are major factors and which make use of these technologies, often in association with Artificial Intelligence (AI applications).



**Figure 4**. OpenMWS interface: one part of the search tool affordances

The role of learning analytics when guiding students through the various stages of corpus building and encouraging their engagement with digital multiliteracies is such that when students log on, the OpenMWS platform tracks their 'moves', by recording which text boxes have been selected and changed. In many cases, this takes place when the online environment of OpenMWS is used to adjust initial offline transcriptions and annotations. For example, a video's initial offline division into sequences using a spreadsheet can easily be checked, in order to establish whether a precise match in duration exists between a sequence's oral production and its corresponding written transcription. This is done by opening the Sequence Annotation functionality, selecting the sequence in question and clicking on the video (Figure 3, centre left). Thanks to the side-by-side presentation of video sequence and transcription (Figure 3, centre right), the student can, if need be, adjust the video sequence's duration (Time Span, Figure 3, top left), when, as frequently happens, the video sequence cuts out one or two seconds before reaching the end of the corresponding transcription. Adjustments made in this way are recorded for subsequent examination by teachers and/or researchers participating in online video corpus monitoring and other related studies (Taibi 2020; 2021; Taibi et al. 2022).

VIRTUAL_WORLDS BLENDED_P - ITEM V3_BL	ENDED_043 - SEQUENCE 01	
< Prev Sequence	Why This Virtual Human Is Being Injured by Scientists	
Time Point: 00:00 Time Span: 00:09		
Save		
item:	Duration:	Video:
ITEM V3_BLENDED_043	04:21	9yqa0wfw2lA
- MAITANN	MIXIN 1/	Oral discourse:
Why This Virtual Human Is Being Injured by :		OBMS: The human body is complex. I hurt so bad.
		Sounds:
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BLANK		
		Visual images:
		FR1a: Human body FR1b: A man spe
Subphases and/or functions:		
SP1: The bones in our body		
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	aniparani managani rima diku	
Soundtrack 1: BLENDED - SPEAKER:		
OBMS, Steven Yule Ph.D		

**Figure 5.** Guiding students in the description and annotation of video sequences

As mentioned above, the *Multi-Summary and Peer Evaluation* section of OpenMWS corresponds to a more sophisticated version of the Comments section found in many video-related websites that students entrusted with such adjustments, especially those new to a specific corpus, can select and use by clicking the Film Title section (Figure 3, second row) to gain access to a pop-up link to summaries (Figure 4), and peer reviews about this video's content and characteristics, before returning to the annotation of the sequence at hand. This selection is recorded, allowing researchers to understand, whether students view the entire video and/or read the summary before 'diving into' an annotation session.

# **Multi-summary**

Close

Summary

#### SIMULATIONS VIDEO CORPUS 43 - Why This Virtual Human Is Being Injured by Scientists:

#### Background information

This video presents what the researchers in South Korea created, a neutral network to control a simulated human body, which could be the future of physical therapy, surgery, and robotics. The broadcaster firstly illustrates the complexity of the human body that consists of 206 bones and of more than 600 muscles. Then he describes the processes that are involved. The researchers start with the training of the virtual body and then they teach an algorithm that allows it to control the skeleton. After this brief overview, the speaker explains the need for these researchers to simplify the body and the various activities it is able to accomplish, from simple walking to cartwheeling. Throughout the video we get to see the skeleton moving while coordinating its muscles, all made possible thanks to the use of a higher-end CPU and graphics card from 2017.

#### RATING: 5

**Figure 6**: Pop window with access to the main summary (other summaries not shown)

Recording changes provides information about the frequency of interactions with the various parts of the analysis of sequences and constitutes a guide as to where the assistance incorporated in OpenMWS needs to focus. While adjusting video sequence starting points and durations is a necessary step in students' engagement with digital environments, more complex annotations and analytics are already possible within OpenMWS or planned, including, in the latter case, how well students stand up to the challenge, in the absence of oral discourse, of establishing where a sequence can be said to start and end through observation of the written discourse, music, and visual images that it deploys. Such a step is consistent with monitoring and enhancing a student's capacity to undertake critical analysis of videos (see Sections 2 and 3 below).

Building trust is a step-by-step process. One example of improvement that has already been introduced relates to the SUGGEST functionality (Figure 3, bottom right), prompting students to change an existing entry where data are identified as absent, as happens with the speaker's name, omitted in the Oral Discourse text box, but present in the annotation (Figure 3, extreme bottom left). Currently, both the correct tag and the name have to be retyped, but a planned ACCEPT SUGGESTION functionality will allow omissions to be added with a simple click. This example shows how a machine learning technique derived from AI can be linked up with learning analytics to provide the overall guidance students require. Needless to say, whenever the SUGGEST button is pressed, learning analytics records the faith users have in AI approaches, itself an area where specialised multisemiotic digital literacy research that overcomes mistrust in reliability is still in its infancy (Chong et al. 2021). Cost-effectiveness is one of the aspects that learning analytics can illuminate with precise data. For each student, engaging in the adjustment of a video, it is possible to count up the number of changes made in a specific, timed session. To the knowledge of the author of this section, this too is an innovation in the analysis of learning activities based on video corpus construction (Taibi et al. 2022: 163, 171). Hence the current development underway, to include a dashboard that visualises:

- Number of sessions for each student;
- Duration of each student session;
- Frequency of changes made in a specific time session;
- Comments sent to teachers.

Access to this dashboard can be regulated so that:

- Students only see their own interactions;
- Teachers see the interaction of the whole group of students;
- Comparison between individual students' indicators and averages for the whole group can be used to monitor and encourage group/individual participation.

# 2. Corpus semiotics and the reusability of corpora

The author of this section teaches in a degree course in Linguistic and Cultural Mediation which, inter alia, has a vocational focus on the mediator in tourism. Clearly, this includes the role of the tourist guide and their skills when interacting with their clients. Over the last decade, the hospitality industry has undergone massive growth (EHL Insights n/a). Employees in this industry are well aware of the importance of the English language, and its command, in the delivery of quality service (Zahedpisheh et al. 2017). Hence the need to take into consideration the shifting nature of these skills in light of the changes that have taken place in the digital age, and, more recently, in light of the new possibilities that virtual tours can offer in post-Covid society. For example, during Covid lockdowns, virtual tours were well appreciated as temporary substitutes for real tours (El-Said, Aziz 2022), thus leading tourist guides to reconsider their role in the tourism industry. A survey carried out among 123 professional Portuguese tourist guides shows that "if they had the technical skills, [73.3% of respondents] would consider creating their own virtual tours, which they regard as an opportunity for the moment" (Carvalho 2021: 55). Nowadays, the tour guide is no longer just a person leading a crowd of tourists and waving some kind of flagging device, but increasingly an offscreen speaker who uses the camera to suggest s/he is visiting specific places in the company of their viewers. So, when it comes to the teaching of English for Tourism Purposes, educators must understand its practical applications and be able to design learning tasks and activities that learners can use "to perform their jobs more effectively" (Edwards 2000: 292).

The Virtual Tour subcorpus section (henceforth: VT) of *Blended Realities* can be applied to the work of tourist guides in various contexts, including, in particular, vocational training and continuing education. Clearly, digital genres have extended the range of tours, and access to them. And in so doing have fundamentally changed their nature. As Tieghi and Muniz (2020) observe, for example, the use of virtual reality in tourism represents a way for travellers to make a pre-visit to a place, and experience what it feels like to be in a given hotel room and admire the landscape awaiting them. In this respect, hotel chains, cruise companies and travel destinations use VT 'promotions' to make travel experiences more complete and generate desire among consumers, in keeping with Dann's (1996: 2) frequently cited remarks:

[v]ia static and moving pictures, written text and audio-visual offerings, the language of tourism attempts to persuade, lure, woo and seduce millions of human beings, and, in doing so, convert them from potential into actual clients.

This means that both novice and seasoned tour guides can benefit from the examples contained in the *Blended Realities* corpus. For example, tours of physical spaces that cannot be reached by the general public, such as tours of the International Space Station (Item 130: Narrated 3D tour of the International Space Station) or seabeds (Item 126: New Seafloor in Google Earth Tour), presuppose a different type of 'experience broker' (Weiler, Walker 2014) on the part of a tourist guide when mediating between the places described and the tourists in question. VTs and virtual tourists differ from their physical counterparts, as underscored by various sectoral associations (Carvalho 2021), owing to the greater emphasis accessibility in tourism (ENAT. nowadays on https://www. accessibletourism.org/) and the need to develop internet services (see the Internet Marketing for Tourist Guide seminar promoted by the European Federation of Tourist Guide Associations). The Quality Charter of the latter organization (https://www.feg-touristguides.com/quality charter.php) stipulates standards and best practices on issues as varied as communication, knowledge, continuing professional development and competence. What emerges from this charter, which supports Cohen's (1985: 20) statement that "the communicative component is the kernel of the professional guide's role", is the need for tourist guides to possess communication skills and competences in languages that must be constantly reassessed. However, besides technical and language skills, semiotic skills are also required, in particular, those relating to how a particular video could have been structured in a different way or how, when planning their own video, tour guides might draw on the underlying meaning-making strategies adopted in one or more existing videos. Creating opportunities in vocational training for trainees to practice their communicative skills is essential and includes the possibility for students to record their own oral description of a video sequence and then compare it with the original description.

Such activity includes selecting and comparing existing sequences in videos, proposing their repurposing as potential sequences in new videos, as well as positing their likely effects on viewers of immersive video tours. The availability in OpenMWS of clear, easy-to-search indexing is invaluable in this respect. The VT subcorpus was annotated for five guide categories: 1) caption-based written guidance; 2) eagle eye; 3) off-screen guide; 4) onscreen guide; and 5) silent guide. All but seven videos fall into one of two categories, the onscreen (72/100) or offscreen type (21/20), demonstrating that the narrator/guide promoting visits is the 'standard' subgenre for VTs. However, much of the value of search categories of this type lies in their identification of special cases. Hence, the four eagle-eye videos are a subcategory of off-screen guide where the offscreen speaker describes spaces and objects, some of them simulated, viewed from a vantage point above or below viewers: besides Items 126 and 130 mentioned above, included in this category are 360° VR Tour of Space (Item 132) and What's inside the Space Needle? (Item 133). Instead, two videos – Oldest Submerged City in The World Found in Greece? (Item 137) and Discovering the Hidden Depths of the Ruinart Cellars (Item 162) – exemplify caption-based written guidance videos where music and written captions replace an identifiable guide's oral narration.

These two videos – just 2% of the subcorpus – indicate how rare it is for VTs to dispense with the physical presence of a tour guide, but point to the significance of subgenres as demonstrated in the final video, *What's on Offa?* – *Offa's Dyke Path* – *The Highlights* (Item 163), representing the sole occurrence of the silent-guide type. This video is about a hiker rambling along Offa's Dyke Path,

a walking trail that follows the dyke that King Offa of Mercia ordered to be built in the 8<sup>th</sup> century as a defence against the Welsh (https://www.nationaltrail.co.uk/en\_GB/trails/offas-dyke-path/). In the video, the hiker/guide is depicted, but never talks or describes the places he visits. As a semiotic choice, the use of overlays and extensive use of images relating to signage (signposts, maps, placards and plaques) in English (and occasionally in Welsh) is in keeping with the dictum that actions speak louder than words, but also invites further reflection on this video's overall meaning-making strategy, as a choice fraught with questions over its applicability in other contexts.

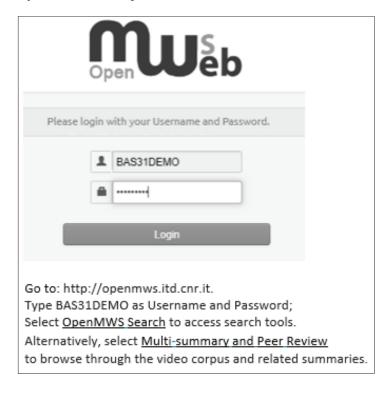
As hinted above, when used in tour guides' initial vocational training and/or continuing education, the VT subcorpus can also be used as a source of inspiration in students' creation of VTs. Illustrative of this are the genre subtypes identified above and their frequency in the subcorpus. Trainees can reflect on the effects of these subtypes on potential clients and choose those they consider most effective for the purposes of specific types of tour. However, the question that this section ultimately poses is: what further steps can be undertaken to ensure video corpora function to stimulate semiotic awareness? In answer to this, the dashboard proposed in the first section of this paper might well use analytics to show and record the data-driven choices made by trainees including their subsequently retrievable observations about awkward obstacles, such as the pronunciation of placenames, explanations of local cultural manifestations and translations of idiomatic expressions. Such a dashboard would harness the potential that video corpora have to combine data-driven learning (DDL) with simulation strategies (Coccetta 2022; Baldry et al. 2022). It would display results to both trainees and teachers, possibly in a section called My Choices, which would substantially be an extension of the already existing Multisummary and Peer Review functionality.

# 3. Conclusion: reflections on teacher/student partnerships

This paper stems from a Workshop on Virtual Worlds and Artificial Intelligence: A Multisemiotic Video Corpus-based Approach that the authors gave at the BAS/31 conference (Timişoara, Romania), which used the *Demo* version of the *Blended Realities* corpus to illustrate the potential/actual outcomes of teacher/student partnerships in a changing digital world. Instructions to access the *Demo* are given at bottom of Figure 5.

The first part of this article mentioned the need to ensure that video corpora can, in principle, be modified and uploaded constantly, thereby stimulating corpus growth over time and encouraging link-ups between video corpus projects that began life as separate initiatives. Indeed, the *Demo* version of the *Blended Realities* corpus is the result of the amalgamation of three previous corpora each consisting of one hundred videos, themselves the result of projects undertaken by different groups of students. It is one of many such projects, currently being undertaken in Italian universities, with contributions from students enrolled in different universities and different degree courses, (Taibi et al. 2022; Baldry et al. forthcoming) within a framework of agreements between the Italian CNR and various University departments. OpenMWS's search tools are designed to allow virtual linkage of corpora sharing at least some descriptors so that they can be searched virtually as if they were a single corpus (Baldry, Kantz 2022). However, in the case of *Blended Realities*, currently containing some seven thousand sequences annotated over a period of two years, frequency of use led to combining

the data within a single spreadsheet in order to apply annotations more systematically to the entire corpus.



**Figure 7**. Accessing the *Blended Realities* video corpus

The results of this project, suggest that students willingly participate in online project work, when carefully framed within the overall objectives of the degree course that the students are following (Baldry, Kantz 2022). There are, however, other objectives that transcend the boundaries and confines of individual degree courses. These include ensuring that basic digital literacy transcends simplistic interpretations of tools - and somewhat pointless references in undergraduate CVs to 'basic knowledge of Microsoft Office' – and hinges instead on an interpretative semiotic framework. Online projects such as *Blended Realities* thus encourage students to interpret well-known spreadsheets and word processing tools not in terms of their differences, but as an integrated functional and semiotic entity, the mastery of which lies in understanding and implementing their affordances for integrating tabular, linear and diagrammatic texts. As such, video corpus construction is, in part, a data-driven answer to questions about what it takes for a table, as an integration of linguistic and visual resources, to be resemiotised as a diagram, a semiotic entity distancing itself from languageinstantiated thematics (Baldry, Thibault 2006: 62-68). With its assembly of data produced through an OpenMWS search of the Blended Realities corpus, Figure 6 illustrates a tabular presentation of video-sequence annotations that helps appreciate the relevance of AR in videos produced in many different countries, social contexts and workplaces.

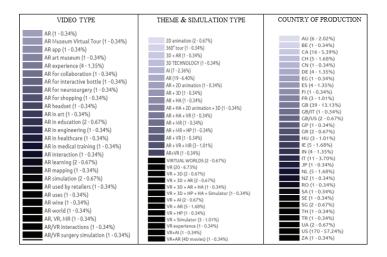
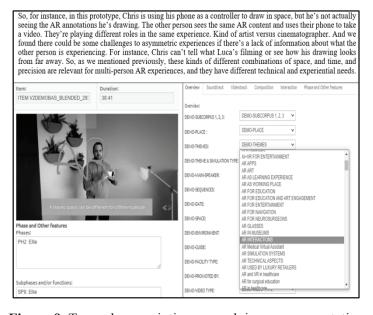


Figure 8: Tabulated search data from Blended Realities

However, like many video corpora produced so far within the project, the corpus contains diachronic data (Baldry 2021), a testbed for future diagram-producing tools to be incorporated in OpenMWS reflecting social, technological as well as semiotic changes over time. Such testbed data underscores the significance of student contributions in the teacher/student partnerships being undertaken. However, despite current platform shortcomings, the *Blended Realities* corpus already provides challenging examples of AR semiosis as Figure 7 exemplifies in its presentation of a sequence from Item 293: *Exploring AR interaction (Google I/O* '18).



**Figure 9**. Towards a semiotic approach in corpus annotation

The sequence's verbal description (top part) and visual presentation (left-hand side), represented here by a single frame, are linked to thematic choices available to the student annotator (right-hand side). The example shows how assumptions about the normal, symmetrical realities of two individuals' visual perception can be modified in AR to the point where their normal perception is achievable only when blended together through the verbal description of a third party. This is almost a metaphor for the reshaping of mindsets that the *Blended Realities* corpus is attempting to achieve with its focus on recontextualization processes that typify online worlds and more specifically constitutes an illustration of remediation (Bolter, Grusin 1999) and resemiotisation (Iedema 2003) processes. As such, the example also illustrates the objective of shifting students' mindsets away from formal linguistic analysis and encouraging analysis of semiotic processes.

To summarise what has been stated in this paper: OpenMWS is a platform allowing systematic annotations for each video in a corpus, but embracing different interpretations made by students within the diverse realities of different degree courses, while recognising the overarching pedagogical need in today's society for all students to gain experience and awareness of perspectives that transcend traditional sectoral boundaries (e.g., Science vs. Humanities). Behind it lies a definition of digital literacy aligned with a focus on the changing nature of semiosis in a digital society. As described in various publications (Baldry et al. 2020; Baldry, Thibault 2001; Coccetta 2022), this type of research also involves challenges and changes in perspective, such as the shift in video corpus studies away from the traditional word-based conceptions typical of corpus linguistics, and embracing instead descriptor-based searches that support the quest to identify recurrent visual/verbal patterns within an approach that adapts DDL (Coccetta 2022) to the needs of critical multimodal discourse (see Vasta, this volume; Vasta, Baldry 2020; Baldry, Kantz 2022).

## References

- Alemayehu, Lekissa, Hsiu-Ling Chen. 2021. "The Influence of Motivation on Learning Engagement: The Mediating Role of Learning Self-efficacy and Self-Monitoring in Online Learning Environments" in *Interactive Learning Environments*. DOI: 10.1080/10494820.2021.1977962.
- Baldry, Anthony. 2021. "Multimodality and Genre Evolution: A Decade-by-decade Approach to Online Video Genre Analysis" in Ilaria Moschini, Maria Grazia Sindoni (eds.). *Mediation and Multimodal Meaning Making in Digital Environments*. London and New York: Routledge, pp.151-167.
- Baldry, Anthony, Paul J. Thibault. 2001. "Towards Multimodal Corpora" in Guy Aston, Lou Burnard (eds.). *Corpora in the Description and Teaching of English.* Bologna: CLUED, pp. 87-102.
- Baldry, Anthony, Paul J. Thibault. 2006. *Multimodal Transcription and Text Analysis: A Multimedia Toolkit and Coursebook*. London: Equinox.
- Baldry, Anthony, Kantz, Deirdre, Loiacono, Anna, Marenzi, Ivana, Taibi, Davide and Francesca Tursi. 2020. "The MWSWeb Project: Accessing Medical Discourse in Video-hosting Websites" in Francesca Bianchi and Elena Manca (eds.). Specialised Discourse and Multimedia. Linguistic Features and Translation Issues. ESE: Salento University Publishing, pp. 433-472. DOI: 10.1285/i22390359v40p433.
- Baldry, Anthony, Deirdre Kantz. 2022. "Corpus-assisted Approaches to Multimodal Discourse Analysis for English for Medical Purposes" in Veronica Bonsignori, Belinda Crawford Camiciottoli, Denise Filmer (eds.). *Analysing Multimodality in*

- Specialized Discourse: Innovative Research Methods and Applications. Wilmington (DE): Vernon Press, pp. 1-22.
- Baldry, Anthony, Francesca Coccetta, Deirdre Kantz. 2022. "What If? Healthcare Simulations, Online Searchable Video Corpora and Formulating Hypotheses" in Anna Franca Plastina (ed.). Analysing Health Discourse in Digital Environments: Current Paradigms and Practices. Cambridge: Cambridge Scholars Publishing, pp. 126-146.
- Baldry, Anthony, Bianchi, Francesca and Nicoletta Vasta (eds.). Forthcoming. *Online Video Genres and Specialised Discourse: Engagements, Empowerments and Extensions in Corpus-based Approaches*. ESE: Salento University Publishing.
- Bolter, Jay D., Richard Grusin. 1999. *Remediation. Understanding New Media*. London: MIT Press.
- Broadbent, Jaclyn, W.L. Poon. 2015. "Self-regulated Learning Strategies & Academic Achievement in Online Higher Education Learning Environments: A Systematic Review" in *The Internet and Higher Education* 27, pp. 1-13. DOI: 10.1016/j.iheduc.2015.04.007.
- Carvalho, Ilidia. 2021. "Portuguese Tourist Guides and the Digital Age" in *International Journal of Tour Guiding Research* 2 (1), pp. 46-62.
- Chong, Leah, Guanglu Zhang, Kosa Goucher-Lambert, Kenneth Kotovsky, Jonathan Cagan. 2022. "Human Confidence in Artificial Intelligence and in Themselves: The Evolution and Impact of Confidence on Adoption of AI Advice" in *Computers in Human Behavior* 127, p. 107018. DOI: 10.1016/j.chb.2021.107018.
- Coccetta, Francesca. 2022. "Multimodal Corpora and Concordancing in DDL" in Reka R. Jablonkai, Eniko Csomay (eds.). *The Routledge Handbook of Corpora and English Language Teaching and Learning*. London and New York: Routledge, pp. 361-376.
- Cohen, Erik. 1985. "The Tourist Guide. The Origins, Structure and Dynamics of a Role" in *Annals of Tourism Research* 12, pp. 5-29. DOI: 10.1016/0160-7383(85)90037-4.
- Dann, Graham. 1996. The Language of Tourism. A Sociolinguistic Perspective. Oxon: CAB International.
- Edwards, Nathan. 2000. "Language for Business: Effective Needs Assessment, Syllabus Design and Materials Preparation in a Practical ESP Case Study" in *English for Specific Purposes* 19, pp. 291-296. DOI: 10.1016/S0889-4906(98)00029-5.
- EHL Insights. n/a. "Hospitality Industry: All your questions answered" [Online]. Available: https://hospitalityinsights.ehl.edu/hospitality-industry#:~:text=Over%20the%20past%20two%20decades,the%20global%20eco nomy%20(3.2%25) [Accessed 2022, August 3].
- El-Said, Osman, Heba Aziz. 2022. 'Virtual Tours as a Means to an End: An Analysis of Virtual Tours' Role in Tourism Recovery Post COVID-19' in *Journal of Travel Research* 61 (3), pp. 528-548.
- Iedema, Rick. 2003. "Multimodality, Resemiotization: Extending the Analysis of Discourse as Multi-semiotic Practice" in *Visual Communication* 2 (1), pp. 29-57. DOI: 10.1177/1470357203002001751.
- Lera-López, Fernando, Javier Faulin, Angel A. Juan, Victor Cavaller. 2010. "Monitoring Students' Activity and Performance in Online Higher Education: A European Perspective" in Angel A. Juan, Thanasis Daradoumis, Fatos Xhafa, Santi Caballé, Javier Faulin (eds.). *Monitoring and Assessment in Online Collaborative Environments: Emergent Computational Technologies for E-learning Support*. Hershey (PA): IGI Global, pp. 131-148.
- Sinclair, John. 1991. Corpus, Concordance, Collocation. Oxford: Oxford University Press.
   Taibi, Davide. 2020. "Analysis D: Shaping Digital Identities through Group Study: A Simulated Case Study using Online Tools and Videos to Explore Animal-Human Interaction" in Nicoletta Vasta, Anthony Baldry (eds.). Multiliteracy Advances and Multimodal Challenges in ELT Environments. Udine: Forum, pp. 190-195.

- Taibi, Davide. 2021. "Learning Analytics in Support of Video Corpus Construction and Exploration" in Carsten Busch, Regina Frieß, Martin Steinicke, Tilo Wendler (eds.). ECEL 2021. Proceedings of the 20th European Conference on e-Learning. Academic Bookshop, pp. 450-459.
- Taibi, Davide, Francesca Bianchi, Philipp Kemkes, Ivana Marenzi. 2022. "Learning Analytics at the Service of Interpreter Training in Academic Curricula" in Stefania Maria Maci (ed.). Corpus Linguistics and Translation Tools for Digital Humanities: Research Methods and Applications. London: Bloomsbury Academic, pp. 153-176.
- Theobald, Maria, Henrik Bellhäuser. 2022. "How am I Going and where to Next? Elaborated Online Feedback Improves University Students' Self-regulated Learning and Performance" in *The Internet and Higher Education* 55, p. 100872. DOI: 10.1016/j.iheduc.2022.100872.
- Tieghi, Ana Luiza, Carolina Muniz. 2020, March 26th. "Realidade virtual pode ser alternativa para turista viajar sem sair de casa" in *Fohla de S. Paulo*". [Online]. Available: https://www1.folha.uol.com.br/turismo/2020/03/realidade-virtual-pode-ser-alternativa-para-turista-viajar-sem-sair-de-casa.shtml [Accessed 2022, August 3].
- Vasta, Nicoletta, Anthony Baldry. 2020. Multiliteracy Advances and Multimodal Challenges in ELT Environments. Udine: Forum.
- Weiler, Betty, Kaye Walker. 2014. "Enhancing the Visitor Experience: Reconceptualising the Tour Guide's Communicative Role" in *Journal of Hospitality and Tourism Management* 21, pp. 90-99. DOI: 10.1016/j.jhtm.2014.08.001.
- Zahedpisheh, Nahid, B Abu Bakar, Zulqarnain, Narges Saffari. 2017. "English for Tourism and Hospitality Purposes (ETP)" in *English Language Teaching* 10 (9), pp. 86-94. DOI: 10.5539/elt.v10n9p86.

#### Online resources

http://corpora.lancs.ac.uk/clmtp/1-data.php [Accessed 2023, January 17]. https://www.english-corpora.org/coca, Corpus of Contemporary American English [Accessed 2023, January 17]

**Author contributions:** Section 1: Davide Taibi; Section 2: Francesca Coccetta; Section 3: Anthony Baldry.