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Multimodal representation in virtual exchange: A social semiotic approach to critical digital literacy

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Abstract

For agentive and influential involvement in online communities, language learners and teachers need to develop critical digital literacy (CDL), conceptualized by Darvin (2017) as an awareness of "how meanings are represented in ways that maintain and reproduce relations of power" (p. 5) and thus privilege some and marginalize others online. Virtual exchange (VE) provides an ideal socio-cultural and socio-semiotic context for fostering CDL (Hauck, 2019) as it is an educational intervention that is—by default—digitally mediated. In this contribution, we examine the employment of semiotic practices for multimodal representation and how they "shape power relations with others" (Bezemer & Jewitt, 2009, p. 1), thereby drawing on a social semiotic approach (Bezemer & Kress, 2016) to CDL (Bilki et al., 2023). Our insights stem from a six-week VE between two higher education institutions in Turkey and the UK, which brought together 48 future English as a Foreign Language (EFL) teachers. The task-based exchanges yielded a rich dataset which allows us to illustrate how CDL is materially achieved through transformative processes observed in multicultural, multilingual, and multimodal interactions. Our findings speak to Kern's (2014, 2015) appeal for a relational pedagogy and highlight the need to promote CDL in EFL teaching and teacher education to foster critical reflection on meaning-making conventions while exercising agency to establish powerful online relations with others.

Keywords: Multimodal Representation, Virtual Exchange, Social Semiotic Approach, Critical Digital Literacy

Language(s) Learned in This Study: English

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Introduction

Language learning and teaching increasingly implies development and use of multimodal, multicultural, and multilingual skills in digitally-mediated environments. The resulting challenge for educators who want to prepare learners for agentive, equitable, and influential engagement in these environments is twofold: not only do they need to develop their own digital literacy—the "ability to adapt the affordances and constraints of [digital] tools to particular circumstances" (Jones & Hafner, 2012, p. 13)—but also their *critical* digital literacy (CDL), an awareness of "how meanings are represented in ways that maintain and reproduce relations of power" online (Darvin, 2017, p. 5). A focus on CDL is thus timely within the current intercultural climate because those who lack awareness of how symbolic power operates in online intercultural encounters and those who cannot use it to their advantage risk being marginalized (Bourdieu, 1991; Kramsch, 2016; Satar & Hauck, 2021).

In this contribution, we research and study CDL in regard to the ways in which teacher trainees, as individuals and in small groups, used multimodal resources to "represent their understanding of the world,"

in this case for the purpose of self-representation, and "to shape power relations with others" (Bezemer & Jewitt, 2009, p. 1). We thus draw on an innovative approach to researching CDL informed by multimodality and social semiotics (Bilki et al., 2023). The backdrop for our considerations is a virtual exchange (VE) between two higher education institutions in Turkey and the UK, which brought together 48 future teachers of English as a Foreign Language (EFL) who were EFL speakers themselves.

VE¹ "is a practice, supported by research, that consists of sustained, technology-enabled, people-to-people education programs or activities in which constructive communication and interaction takes place between individuals or groups who are geographically separated and/or from different cultural backgrounds with the support of educators or facilitators" (EVOLVE, 2019, para. 1). It "combines the deep impact of intercultural dialogue and exchange with the broad reach of digital technology" (EVOLVE, 2019, para. 1). Over the past two decades, there has been increasing interest in VE in initial language teacher education programs (e.g., Hauck & Kurek, 2017; Hauck et al., 2021; Müller-Hartmann, 2006; The EVALUATE Group, 2019) as it allows teacher trainees to discover, experience, and reflect on the multi-layered aspects of their own technopedagogy (Desjardins & Peters, 2007) in authentic linguistic and intercultural settings (Hauck & Kurek, 2017). VE has been found to provide an ideal socio-cultural and socio-semiotic context for fostering linguistic, communicative, intercultural and digital skills, supporting language teachers' inclusion in online social and professional communities and enhancing their readiness for the 21st century language classroom (Guichon & Hauck, 2011; Müller-Hartmann & Hauck, 2022; Sadler & Dooly, 2016). However, critical digital literacy (CDL) skills in VE contexts remain "under-acknowledged and consequently also underexplored" (Hauck, 2019, p. 190). Exceptions are a small number of studies from the field of computer assisted language learning (CALL) (Bilki et al., 2023; Hauck, 2019; Nicolau, 2021; Satar & Hauck, 2021) which focus on "the ability to exercise agency" (Hauck, 2019, p. 191) in multimodal, multicultural, and multilingual settings such as those encountered in VE.

The current article belongs to this emerging body of research and uses social semiotics (Bezemer & Kress, 2016) as an analytical framework. In doing so we align with the SLA approach to CDL described by Hauck (2019) and Bilki et al. (2023), who conceptualize CDL as VE participants' "awareness of the impact of digital meaning-making in establishing, maintaining, and (re)producing intercultural understandings and relationships of power (Darvin, 2017; Jones & Hafner, 2012)" (p. 71). In fact, our work builds on Bilki et al. (2023), who established initial themes that emerged from analyzing teacher trainees' e-portfolios and revealed their understandings of CDL using an interpretivist methodology. Here, we look for evidence as to how themes related to self-representation were enacted by the participants in their multimodal exchanges.

The concept of power underpinning this study draws on Kramsch's (2016) understanding of symbolic power. Exploring the multiple faces of symbolic power in intercultural communication, Kramsch proposes that they are part of natural processes of socialization into "culture," which "is both allocated and exercised" in conversational intercultural encounters (Kramsch, 2016, p. 524). In line with this view, we seek to understand how participants "frame and re-frame the distribution of symbolic power" (Kramsch, 2016, p. 526) in VE encounters and how they employ the most appropriate semiotic means to their advantage. As such, our focus is not solely on participants' ability to exercise symbolic power, but also on their ability to identify when to allocate symbolic power to others—hence our interest in both power and inclusiveness, which are seemingly contradictory concepts.

After a brief introduction to social semiotics and CDL, we outline our methodological approach including information about the participants, the tasks they engaged in, the nature of the data we collected, and our approach to analyzing how the trainee teachers interacted and made meaning during their exchanges. This is followed by the presentation and discussion of our findings. The final section draws the paper to a conclusion, highlighting the benefits of a social semiotic approach to CDL and implications for future research in VE-based language teacher education contexts and beyond.

Literature Review

In this section, we delineate and discuss the main concepts which are relevant to the analysis, presentation, and discussion of our data such as social semiotics—including self-representation and group identity—and how they interface with our understanding of CDL.

Social Semiotics and Multimodal Representation

Social semiotics considers "the media of dissemination and the modes of communication that people use and develop to represent their understanding of the world and to shape power relations with others" (Bezemer & Jewitt, 2009, p. 1). The approach assumes that all signs (i.e., meanings) are motivated and that communication modes have different meaning potentials. Modes are chosen depending on their aptness to represent certain meanings within a given socio-cultural context and depending on the modal affordances and limitations of a given (learning) environment (Bezemer & Kress, 2016). Social semiotic analysis thus examines the affordances of the chosen modes, how meanings are made through certain design choices, and how these choices shape social relations (Kress, 2010).

A social semiotic approach to multimodal communication enables the investigation of social actors' modal choices for communication and learning, including how power relations and identities are instantiated (Jewitt & Henricksen, 2016). From a performance approach to identity "as a form of socially meaningful practice" (Blommaert, 2005, p. 208), increased multimodality in digital spaces can "destabilize situated identities" of language learners (Klimanova, 2021, p. 196) and can position those who are adept at multimodal communication as "competent and capable communicators" (Klimanova, 2021, p. 196). Similarly, to successfully establish an online (social) presence, language learners need to engage in online communication and interaction by drawing on relevant elements "of their communicative repertoire" and "aspects of their multiple identities" (Satar, 2020, p. 149).

In this paper, we align with the critical and multilingual shift for identity research in CALL (Klimanova, 2021). We see learners—and thus also VE participants—as sign makers engaging with different semiotic modes. We explore participants' practices of exercising and allocating symbolic power during processes of meaning-making, collaboration, and representation of their self and group identities. Our aim is to make motivated sign-making explicit as we investigate participants' transformative engagement while carrying out VE tasks.

The possibilities VEs offer participants to perform their identities—both as individuals and as a group—by drawing on their "semiotic budget²" (Hauck & Satar, 2018) to position themselves in relation to other VE participants, as part of a group and within the context of an exchange, seem endless. Satar and Hauck (2021) illustrate the impact of a digital and semiotic skills gap on equitable online representation and participation in learning communities such as VE and conclude that this "digital divide" can not only reproduce or perpetuate existing exclusion, but create new (digital) inequalities. Bilki et al. (2023), also drawing on social semiotics, report participants' perspectives on the use of different modalities—texts and images portraying the self and their group identity—for meaning making. Their study aimed at a deeper understanding of how CDL is conceptualized by language teacher trainees. They identified four main themes in the participants' post-task reflections: (a) self-representation, (b) building connections, (c) inclusiveness, and (d) sociopolitical landscape. Due to space constraints and on the basis of relevance to multimodal representation and symbolic power, this study will explore self-representation and its sub-themes of awareness of modal affordances in self-introductions and displays of affinity towards the cultural context of their virtual partners. Inclusiveness will be explored with sub-themes related to achieving interactional equality and solidarity among different group members in their exchanges. In the next section we expand on this conceptualization of CDL.

Critical Digital Literacy (CDL)

"As a convergence of both digital and critical literacies," Darvin (2017) explains, "critical digital literacy examines how the operation of power within digital contexts shapes knowledge, identities, social relations,

and formations in ways that privilege some and marginalize others" (p. 2). He also propounds that digital literacy from a critical lens helps us understand how technologies are used in situated and encultured ways—something Thorne (2003, 2016) refers to as cultures-of-use—and how the material dimensions of online spaces can be indicative of dominant ideologies, economies, and institutions (Darvin, 2017). The latter has been echoed by Helm (2019) in relation to VE, who points out that the online environments used for exchanges are not ideologically neutral, nor are they inherently equitable. They steer learners to normative behaviors and meanings, shape how learners position each other, how they perform identities, and how information is legitimated and distributed (Helm & Hauck, 2022). In addition, learners' varied levels of digital literacies, multimodal communicative competence, and semiotic skills tend to influence, if not determine, their VE experiences (Satar & Hauck, 2021). The reason is that—in digital spaces—they "need to understand the semiotic potentials of a much wider range of resources" (Bezemer & Kress, 2016, p. 111) for meaning making, communication, and identity creation.

Bilki et al. (2019) argue that those learners who can represent their meanings and identities effectively online by capitalizing on the affordances of the modes and media available (i.e., with symbolic competence; Kramsch, 2016), will have comparatively more symbolic power than their peers. This way of framing what happens in online interactions such as VE also aligns with Kramsch and Hua's (2016) understanding of language as a social semiotic system, and culture as a process of meaning making. As such, culture—as a symbolic practice—is fluid, negotiated in context, and an agentive and discursive process.

Bilki et al. (2019) suggest that VE can be a sandpit for learners to experiment with this fluidity, more specifically with online meaning-making and identity representation and—in this way—become aware of power dynamics implicated in digital social practices, one characteristic feature of CDL. They argue that such awareness will enable learners to address inequalities that stem from varying levels of symbolic power and to consciously practice inclusiveness by supporting others in having a presence and a voice online, thus in exercising agency and in becoming influential online participators.

Finding your voice online and helping others do the same are defining elements of critical digital pedagogy (Morris, 2017), and another core dimension of CDL, particularly in VE contexts. "While some can express their identities, emotions, and thoughts effectively achieving intended impact," Bilki et al. (2023) observe, "others' voices may not be *listened to*" (p. 60). This is likely to lead to social inequalities by privileging and thus empowering some while marginalizing others (Bourdieu, 1991).

Beyond issues related to online presence and voice, Bilki et al. (2023) conceptualize CDL as learners' awareness of the impact of meaning-making potentials—affordances and limitations—of digital media and the way in which they exercise agency while gaining intercultural understandings and establishing (symbolic) power relationships during an exchange. Their approach is inspired by Darvin's (2017) definition of CDL as "the examination of how meanings are represented in ways that maintain and reproduce relations of power" (p. 5) and Hauck's (2019) argument that engaging in VE can help learners become critically digitally literate (i.e., aware of how operating in digital spaces shapes ways of thinking and doing and thus meaning making). This focus on meaning making and meaning representations captures the nexus between social semiotics and CDL.

However, as Satar and Hauck (2021) underscore, CDL also "presupposes a degree of critical consciousness in relation to technology use" (p. 279). Apart from drawing inspiration from Darvin (2017), their interest in the critical dimension of digital literacy is informed by Kern's (2014) call for a "relational pedagogy" which encourages learners to consider past as well as present literacy practices, offering them perspectives that allow them "to engage critically with today's media but also to help shape the language and literacy practices that will develop with new technologies of the future" (p. 353). Kern's (2014) aim is to develop among students "a disposition for paying critical attention to relations among forms, contexts, meanings, and ideologies" (p. 353).

In VE contexts, such critical consciousness requires VE task design "that triggers guided reflection on tools and interactions" (Hauck, 2019, p. 203), and encourages participants "to examine the linguistic and non-

linguistic features of digital media and becoming aware of biases and assumptions and their impact" (Hauck, 2019, p. 191). This was the approach chosen in the task design for the VE which provides the data for this contribution. It was guided by the following overarching research question:

How is CDL instantiated in VE participants'—in this case language trainee teachers'—multimodal exchanges?

Next, we outline our methodology including information about the participants, the tasks they engaged in, the nature of the data we collected, and our approach to data analysis.

Methodological Approach

We take a qualitative stance using social semiotics (Bezemer & Kress, 2016) as our analytical lens. Based on our conceptualization of CDL in the literature review, we focus on (a) how trainee teachers capitalized on modal affordances to express themselves and shaped their relations with others; and (b) how they made use of tool and modal affordances to find their voice and help peers to do the same.

Participants and Context

This study took place within a VE designed and implemented to enhance internationalization at home (O'Dowd & Beelen, 2021) at two higher education institutions in Turkey and the UK. Forty-eight English language teacher trainees (21 in Turkey and 27 in the UK) participated in the exchanges during the spring semester of the 2018-2019 academic year as part of the respective CALL courses in both institutions. UK students were international, largely from East Asia. One was from the UK. VE was curriculum-embedded in the UK: participation was a compulsory, but non-assessed requirement to achieve module outcomes (experiential practice in VE). In Turkey, participation in VE was presented as an extra-curricular activity and voluntary. Data for research was generated as part of the teacher trainees' exchanges, yet only data from participants who gave informed consent upon completion of the exchanges were analyzed (N = 44). All but four UK students gave their consent. In addition, approval was received from both institutions' ethics committees prior to data collection. Pseudonyms are used throughout. Participants whose faces are shown in the images gave informed consent.

VE Design and Data Collection Procedures

Our curriculum-embedded VE design followed a three-layered approach (Figure 1). At the core of the design, the first layer of VE development, was the identification of VE learning outcomes to be integrated into the CALL courses which, in turn, are part of the teacher education programs at both institutions. The joint objective was to equip teacher trainees with the knowledge and skills to implement VE in foreign language teaching in the future (experiential practice). CDL development was not a specific objective of the VE design.

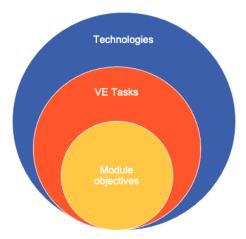
Next, three collaborative tasks (Appendix A) were designed with increasing cognitive demand to be completed over a period of 6 weeks. As an icebreaker activity, the first task was a whole-group information exchange task (self-representations) with each participant describing themselves and their respective cultural background. The second task aimed at a deeper reflection on (self-)representation to co-construct multinational, multicultural, and multilingual group identities. While the first two tasks involved interpersonal exchanges, the third task required transactional exchanges (exchange of information) and critical evaluation of the technologies used in the exchange in terms of their affordances and limitations. Group formation was the same for Tasks 2 and 3 and each small group was made up of four to five students.

The third layer of the VE design was to select appropriate online tools and applications for task execution and—similar to Layer 2—required increasing levels of learners' technological and multimodal skills for task completion. For the first task, participants used a Padlet board (asynchronous communication) and were given freedom on their choice of modes (text, still image, audio, and/or video). The second task required synchronous collaboration and the simultaneous use of Zoom and Google Slides to co-construct a

group identity through intercultural dialogue (Zoom) followed by multimodal representations (Google Slides). For the third task, to enable deeper reflection on digital literacy, participants evaluated the tools used during the exchange for their capacity to foster language learning and digital literacy in a synchronous meeting via Zoom.

Figure 1

A 3-layered Approach to Curriculum-embedded VE Design: Module Content at its Core Embedded into VE Pedagogy and the Use of Innovative Technology



Following each task, participants completed an e-portfolio with data-led reflection (Mann & Walsh, 2017) on intercultural competence and CDL. These processes yielded a rich multimodal dataset: the Padlet self-introductions of 48 students, 10 group identity representations on Google Slides, recordings of 20 small group Zoom interactions (between 60 to 90 minutes each), and 37 e-Portfolios (Appendix B).

Social Semiotics: Analytical Procedures

To increase the analytical strength of our social semiotic data evaluation and to address the macro social concerns, as recommended by Jewitt and Henriksen (2016), we draw on the interpretivist conceptualization of CDL by Bilki et al. (2023). To evidence how CDL is materially achieved, we present systematic social semiotic multimodal microanalyses of teacher trainees' digital artefacts and recorded interactions.

The key analytical concepts of social semiotics are *transformation*, *transduction*, and *mimesis* (i.e., transformative practices as signs for learning; Bezemer & Kress, 2016). Transformation relates to semiotic change within the same mode. This includes expression of the same signs/meanings in a different form using the same mode. For example, in the mode of writing, meanings can be expressed as poetry or prose. Translations and interpretations across languages are also examples of transformation. Transduction relates to semiotic change across modes, such as meanings made in written language versus images. On the other hand, mimesis is creative imitation or re-enactment of the actions of another social actor. For instance, a language learner's creative imitation of an actor's language use from popular media would be described as mimesis (Satar, 2020). As Bezemer and Kress (2016) point out, transformative processes are never perfect translations or re-representations and always entail *gains* and *losses* in meanings.

Of relevance are also the concepts of semiotic agility and remediation (Prior, 2010), semiotic budget² (Hauck & Satar, 2018), cultures-of-use (Thorne, 2003, 2016), and intercultural affinity (Kupka et al., 2007). Prior (2010) describes semiotic remediation as "signs being transformed across media" (p. 231) and semiotic agility as people's capacity to shift "rapidly and fluently between and among semiotic worlds" (p. 233). These concepts are instrumental in tracing our participants' transformative processes. The concept of semiotic budget, within an ecological perspective, was first proposed by van Lier (2000) to describe the

semiotic resources a learning environment offers for engagement in meaning making. In this paper, we use the concept as applied to the VE context (Hauck & Satar, 2018; Hauck et al, 2021) to illustrate our participants' capacity to draw on their semiotic skills while carrying out the assigned tasks. Thorne's (2003, 2016) understanding of cultures-of-use in intercultural communication highlights the ways in which "digital communication tools are produced by and productive of culturally organized systems of activity" (Thorne, 2016, p. 189). Using this concept, we explore how modal affordances of digital tools combined with participants' digital social practices impact on their VE self-representations. Finally, in our dataset, we observed the multimodal semiotic practices used to achieve intercultural affinity (Kupka et al., 2007, p. 24), which is "an emotional disposition towards one's home culture as well as one or more foreign culture(s)" (p. 24).

Drawing on all concepts introduced above, we interrogated our multimodal data by searching for instances that not only evidence but also contradict the CDL themes found in Bilki et al. (2023) in order to refine our analysis through constant comparison. In this way, we sought to establish the systematicity and credibility of our data analysis and interpretation. Whilst primarily focusing on digital artefacts (Padlet posts, Google Slides, and Zoom recordings), we include data from participant self-reflections (e-Portfolios) where relevant to provide further evidence for our interpretations (Jewitt & Henriksen, 2016).

Data Analysis and Discussion

Here, we track participant interactions and depict their semiotic experiences of two CDL themes (Bilki et al., 2023): *self-representation* and *inclusiveness*.

VE Self-Representations: Typical and Power Posts

The three introductory posts in Figure 2 employ the same modes for self-presentation: writing and image. The multimodal design of Padlet posts are pre-determined by the software. The length of the written input is not limited. Font type and color are fixed, but users can change background color (Inset 2). Audio/visual content (images, videos, or hyperlinks to external web resources) are displayed after the written text. Written comments are displayed at the end of the post. The heart sign and the subsequent number just before comments indicate the number of likes.

Figure 2 inset 1 is a typical post in terms of content and the modes employed for meaning-making. Figure 2 insets 2 and 3, however, are examples where the teacher trainees positioned themselves differently.

Figure 2 inset 1 (by Sevgi, Group 5) is a representative introductory post in so far as it includes salutations, personal information (such as study subject, likes, pets) and expression of positive expectations from the upcoming VE. The textual content is accompanied by smileys, and a photograph. An internet search by the authors on "how to shoot a profile picture" returned the advice shown in Figure 3. Sevgi's body posture in the photograph resembles the "comfortable" pose recommended in Figure 3 inset 1 with a sideways recline, looking away, and one hand positioned upwards. Her facial expression aligns with the "smile" advice in inset 2. Thus, Sevgi's introductory post represents Thorne's (2003, 2016) cultures-of-use through the transformative practice of mimesis (Bezemer & Kress, 2016): we see a re-enactment of recommended social media profile photographs, thus a reproduction of "culturally organized systems of activity" (Thorne, 2016, p. 185) brought into the VE setting.

Anonymous 19d

with Prof. Paul Seedhouse

Figure 2

Participant Self-introductions on Padlet

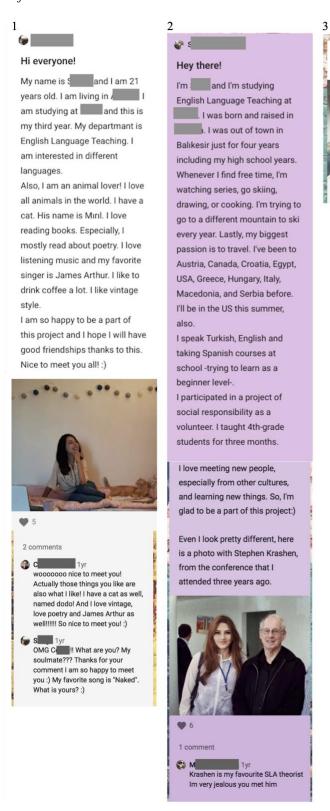


Figure 3

How to Shoot a Profile Picture (adopted from Bateman, 2023)

1 Profile Picture Pose



A good pose is a must for your profile picture. It will help you stand out.

While you can definitely borrow inspiration from professional models, its important to do what you're comfortable with.

Don't use poses that feel uncomfortable or unnatural, it'll come off that way in the picture as well.

2 Smile Shows Confidence



Smiling is a universal language. Your smile shows your confidence to the world

It highlights positivity and brings out the liveliness in the photo. The bests photos are of people smiling.

In Sevgi's photograph (Figure 2 inset 1), we see a laptop and a cup on the bottom left corner, a ginger cat sitting next to Sevgi, potentially one or two books on the bed, and a colorful wall decoration in the background. The latter four are re-semiotizations (transductions) between the image and the written text ("I'm an animal lover!", "I have a cat. His name is Mırıl.", "I love reading books.", "I like to drink coffee a lot.", "I like vintage style."). These transductions speak to Sevgi's semiotic agility (Prior, 2010) as she portrays her relaxed, positive, and confident personality, with an emphasis on the social and relational aspects of herself, receiving five likes and two positive comments (Figure 2 inset 1). Sevgi's post thus achieves the intended impact of what we call a *typical post* since it appears to "adhere to a specific framework of behavior laid out by experts" (Burns, 2015, p. 1727) and "re-inscribe the narrow stereotyped parameters of women's visual selves" (Jones, 2020, p. 34).

On the other hand, Figure 2 inset 2, Suzan's (Group 6) introductory post, is what we call a *power post*, in which Suzan performs her identity by engaging in a different semiotic practice. Similar to Sevgi, in the mode of writing, Suzan mentions some features of her social life and expresses appreciation of being part of the VE group. However, Suzan's purple background color enhances the visibility potential of the post. Most of the meanings made in the written language position Suzan as a person who has travelled widely, knows a few languages, and is socially conscientious. Unlike Sevgi, her photograph does not appear to follow social media profile picture conventions. Instead, it shows Suzan with a senior male person, identified as Stephen Krashen in the post and as an SLA linguist by another participant in the comments. Suzan reveals in writing that the photograph was taken at a conference three years earlier and that her current looks no longer resemble her image in the photograph. This has two essential implications. First, by choosing an image which no longer resembles herself, Suzan appears to achieve "affective authenticity" which is not always required to portray "corporal perfection" (Jones, 2020, p. 26). Second, this image, in Jones's (2020) words:

is not just about "being," but about "being with," both in the conventional sense of "Look at whom I am with!", and in the Heideggerian sense (Mitsein), in which how we think about ourselves is

inextricably tied up with our ability to recognize and engage with others. (p. 35)

Similarly, Figure 2 inset 3 shows Lagan's (Group 8) selfie taken with another senior male person, Prof. Paul Seedhouse, as identified in the post. Despite the post being anonymous and the written mode lacking personal and social information, Lagan's post receives three likes. Similar to Suzan, Lagan finds it apt to use this picture to relate his professional self to a *famous other* foregrounding *who he is accompanied with*.

As Jones (2020) reminds us, selfies "reverse the direction of the gaze" and "are not just a way of showing myself to you, but of communicating to you my experience of being looked at" (p. 25). In this sense, selfies perform a communicative action. While the images regarded as appropriate in typical posts (e.g., Figure 2 inset 1) appeared to communicate: *Look at a pretty picture of myself*, the other power posts (Figure 2 insets 2 & 3) appeared to relay: *Look at who I associate myself with*. Through their multimodal choices in representing themselves, Suzan and Lagan went beyond not only established cultures-of-use (self-images in social media) but also the emerging cultures-of-use of self-introduction posts in this specific VE (i.e., depicting a likeable, relatable self through images). Their multimodal choices evidence how they paid critical attention to "relationships between people and the various social worlds (face-to-face and virtual) they engage in" (Kern, 2015, p. 234).

VE Self-representations: Intercultural Affinity

We now explore another self-introduction (Figure 4) which received the highest number of comments (7) and likes (13). It was a unique post as regards its use of the video mode as a semiotic resource. In this post, the participant, Sofia, made good use of her semiotic budget (Hauck & Satar, 2018) and achieved intercultural affinity (Kupka, et al., 2007), which is to say a display of her emotional propensity towards her home culture, the culture of the place she was at as an international student, and the culture of her VE partners.

Figure 4 inset 1 is the textual content of Sofia's introductory message. She presents herself as a multilingual and international (Italian) student currently studying in the UK. She mentions that she has visited the VE partner country, Turkey, which is "beautiful and fascinating". Figure 4 inset 2 demonstrates how Sofia engages in transduction (Bezemer & Kress, 2016) of some of the meanings made in her text. This includes a picture of herself "in Istiklal," a busy tourist street in Istanbul, Turkey, "blissfully eating a Turkish bagel (simit?)" as described in her post. The street which would be recognizable to Turkish students, her smiling face, and the bagel in the image relay and reinforce these meanings. In the background, some Turkish flags are visible. Due to the semiotic limitations of Padlet, Sofia was not able to attach both an image and a video. Thus, she chose to include the video as a URL to a personal cloud file storage space.

Sofia's explanation of her own introductory post indicates that her modal choices were indeed motivated (Figure 4 inset 3). She reported that she intentionally chose a picture of herself in Istanbul smiling and holding a bagel to relay her "real" lived experience of the Turkish culture. Sofia also mentioned that she chose to shoot a video at a local market (Extract 1) as an "authentic" sign representing where she lived in the form of "a more realist and direct knowledge of reality" (Figure 4 inset 3). The image and video were transductions of the meanings in her written commentary and successfully situated her identity as an Italian student studying in the UK who had a lived experience of the Turkish culture.

Extract 1 is the video file (34 seconds) shared in Sofia's post, which is recorded in an old market in the British city where she was studying. The video footage is taken from a fully subjective first-person point of view and discloses what Sofia sees while she is walking. We do not see Sofia in the footage, but her perspective of the "authentic" experience. The narrative does not sound scripted with a natural flow and frequent pauses and fillers as Sofia describes what is visible on the camera and explains why she likes the market. Extract 1 insets 2 and 3 are still images of the video when she comes across a Turkish street food restaurant on her way to a pizza restaurant. The quality of her voice (surprised tone), the discourse marker ("oh"), her attempt to quickly change the camera layout to landscape and back to portrait again, as well as her move closer to the shop indexes spontaneity in discovering the Turkish restaurant in the process of taking the video. She then turns to the opposite direction to walk towards a pizza place. We see a queue in

1

front of the shop and Sofia tells the listeners "Here they make very good pizza."

Figure 4

Sofia's Introductory Post

Anonymous Hi everyone! I'm doing a master in Applied linguistics and TESOL at University. I am Italian and I was born in a small city near Venice, in the North East of Italy. Now I'm living in and I like exploring new places here in this vibrant city. Below is a very amateur short video of me walking in market :)https://www.dropbox.com/

/VID_2

.mp4?

dl=0 a thing that not many people know about me is that at the moment I'm doing a language exchange with my Spanish flatmate: she talks to me in Spanish and I talk to her in English, when we improve we will swap! I love learning new languages, as a matter of fact in the past I also studied French and Chinese (and also a bit of Cantonese but it's sooo difficult!). I also love travelling: I went to Turkey last year and I think it's such a beautiful and fascinating country! Here is a picture of me in Istiklal (Istanbul) blissfully eating a Turkish bagel (simit?). What I find exciting about this telecollaboration is that I will get to know people from different cultures and I hope it will be fun!:)

2



3 Sofia's e-portfolio entry following Task 1

While creating the post to introduce myself on Padlet, I tried to only include information that the students from [Turkish] University may find interesting and relevant. I thought it was a great advantage for me to have a positive Turkish experience to share: showing a picture of myself in Istanbul and mentioning the Turkish word for the typical baguels was a way to prove that I was not saying that Turkey is beautiful just to sound nice but I have really been there and experienced something real. I have also shared a video of a local market in [name of British city] to show something authentic about the place I live. I have chosen video as a channel of communication as I think it makes people feel more involved and allows them to grasp a more realist and direct knowledge of reality.

Extract 1

Sofia's Self-Introduction Video

Spoken narrative

The post-script numbers in the narrative relate to the moments at which each still image was taken. I'm at [name of market] now. It's one of my favorite places in [name of the British city]¹. It's quite a big market. It's in the city center. (.) And I like it because they sell fresh food and vegetables and they're quite cheap. Ah I know it doesn't look so exciting from this video (.) probably (outbreath) but I really like it because I think it's an authentic place. And (.) oh a Turkish street food restaurant!² I've never been there³. Ah oh now I'm going to have some good pizza. Here⁴ they make very good pizza. Bye!

Stills from the video footage



As we see the world through her eyes, this video depicts Sofia as a multilingual and multicultural person. We observe semiotic remediation (Prior, 2010), as places mentioned in the video—a British food market, a Turkish street food restaurant, and a (potentially Italian) pizza restaurant—enable Sofia to navigate multiple indexical fields related to eating and cultures which evoke her multicultural self. Capitalizing on her semiotic budget (Hauck & Satar, 2018) then, Sofia achieves intercultural affinity (Kupka, et al., 2007): demonstrating a disposition towards her own home culture, towards the immediate culture she is adapting to as an international student, and towards the culture she is discovering in interaction with her VE peers.

Inclusive Practice in Co-constructing Group Identity

Next, we investigate inclusive transformative processes in multicultural, multilingual, and multimodal group identity co-construction and representation. Figure 5 inset 1 is the title slide of Group 2 and inset 2 is a typical content slide used to establish their group identity. Group 2 chose *United Nations* as their group name, the rationale of which was explained by a group member as follows:

Our group name is United Nations because our nations are totally different and we are united for this task. (Gaye, TEDU, e-portfolio)

Figure 5 inset 1 shows the national flags of all group members in equal size and of equal distance from each

other. In terms of semiotic design, the flags are positioned at four corners of the slide, and none occupy a more prominent position. Here we observe the concept of inclusiveness not only through a concern for equality in the spatial semiotic design of the slides but also through transformation and transduction processes (Bezemer & Kress, 2016). The participants' national affiliations are re-semiotized visually through different country flags. The alphabetical order of the list of names and as well their transformation in phonetic alphabet also demonstrate an interest in the implementation of an inclusive, objective criteria for design.

Figure 5

Google Slides for Group Identity Co-construction by Group 2



Figure 5 inset 2 focuses on the topic of food with dishes from all partners' cuisines. The design of the slide follows a similar pattern to the title slide with food pictures of equal size and distance from each other. Beneath the dishes, rectangular spaces of again equal size and distance are allocated for names of group members who associate themselves with each dish. The slide title is plurilingual (English, Turkish, Chinese, Arabic), demonstrating the process of transformation. For the names of the dishes, however, the participants choose to engage in the process of transduction as they visualize each dish with an image and use English in the mode of writing. Group member names associated with each dish do not appear to follow an exact match of national representation, which can be interpreted as food being one topic that "unites" the members for this task.

Thus, the design of the slides as well as the transformation and transduction processes observed in this digital artefact reinforce the group's concern for inclusiveness and equal representation. Both the spatial semiotic design of the slides the groups created to represent group identity and transformation and transduction processes observed in the digital artefacts show that participants of this VE were critically aware of interactional dynamics. They acted upon these concerns for inclusiveness by creating opportunities for equal representation of all group members and their identities and cultures, displaying a critical process

of connecting, elaborating, and transforming meanings (Kern, 2015).

Inclusive Interactional Practices in Small Group Video Calls

Finally, we illustrate how participants engaged in inclusive interactional practices in group video calls by taking Fairclough's (1992) conception of "discourse as a place where relations of power are actually exercised and enacted" (p. 43). Extract 2 comes from Group 10, Task 2: co-construction of a group identity on Google slides. Here, we examine how Sofia demonstrated sensitivity towards equal levels of task contribution and avoidance of dominance in task completion. Sofia's reflection following Task 2 in her e-portfolio guides our subsequent observations:

It was not easy to both talk and create the slides, mainly because we could not see Onay and Sevil while editing the document. ... However, I think we did it in a cooperative way and everybody was trying not to be too dominant but, at the same time, to contribute as much as possible. In some moments I felt that maybe Laila and I were editing the slides slightly more than our partners so I many times encouraged them to be more active saying things like « feel free to add pictures or change whatever you like » and I think it worked. (Sofia, Group 10, reflection on Task 2)

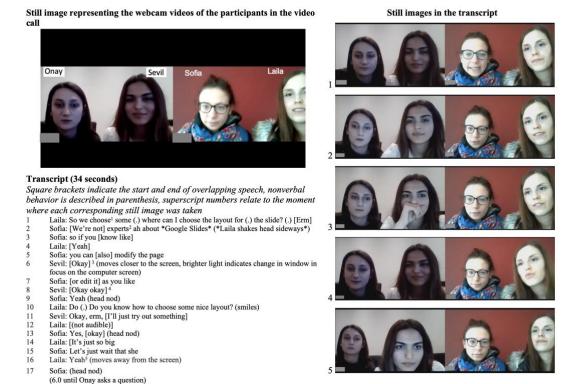
Extract 2 shows the participants from Turkey (Onay and Sevil) and from the UK (Sofia and Leyla). Each pair met locally and used a single computer for the video call. Sofia's reflection above suggests potential semiotic misalignment (Wigham & Satar, 2021), differences between the semiotic resources available in interactional spaces of participants in Turkey and the UK. As indicated in Sofia's reflection, while Sofia and Laila only looked at the Google Slides window, the screen organization of Onay and Sevil's computer might have been different. There may also have been moments of semiotic lag (Wigham & Satar, 2021), meaning delay in the transfer of audio and video data in the video call as well as a delay in updating the changes made in Google slides. These are important points to note as we interpret online video-mediated interaction.

In Extract 2, we see how Sofia engages in a delicate interplay between symbolic power and inclusiveness. First, she appears to assume a powerful role as the social actor who controls the interactional space by orchestrating who takes the next action (lines 2, 3, 5, 7, 15) thereby enacting power by deciding who can participate in interaction (Bencherki et al., 2021). Yet she also utilizes her authoritative stance to subsequently relinquish it by positioning herself and her local partner (Laila) as "not experts" (for novice vs expert register, see Benwell & Stokoe, 2002), which Laila confirms by shaking her head sideways (line 2).

Between lines 2 and 9, we observe Sofia suspend control through an explicit statement of epistemic stance by qualifying the UK participants as "not experts" and inviting the Turkish partners to edit the slides and contribute to task completion. This positions all VE partners as equals in relation to digital competencies. She also extends the invitation non-verbally: we interpret her relaxed body posture away from the screen indicating removal from the interactional order (Satar & Wigham, 2017), her head nods (line 9 and line 13), and silence (line 17) as transduction processes supporting this invitation. Yet, in line 15, we observe Sofia recommending her local VE partner, Laila, to refrain from interfering and to wait for their VE partners to complete their action. As the person who continues to coordinate turn taking and task contribution, Sofia remains the social actor who assumes a more powerful interactional stance. Thus, Sofia demonstrates her "ability to navigate cultural and social norms in communication, as well as harness the semiotic potential of various modes for purposes of agency and interactional power" (Pinnow, 2011, p. 383).

Extract 2

Group 10, Task 2, Video Call



Summary of Findings

In sum, our social semiotic analysis highlights that VE participants displayed different levels of semiotic agility in their self-representations. While some displayed more powerful and professional self-representation and achieved intercultural affinity through good use of their semiotic budget, others produced more popular visual design. Our analysis also revealed that in online interactions, participants showed sensitivity towards being inclusive and encouraged others to contribute and have a voice. This was achieved by engaging with transformative processes in multicultural and multimodal group identity creation practices and by creating opportunities and space for their partners to participate in group video calls. We acknowledge that "[t]here will always be symbolic power struggle and conversational inequality in intercultural encounters" (Kramsch, 2016, p. 526). Yet, we can claim with some confidence that multiple layers of CDL and awareness of how they are enacted in online multimodal communication are required so that participants can "choose the best local strategy to turn the game to [their] advantage" (Kramsch, 2016, p. 526) in their VE experiences.

Conclusion

In this contribution we use VE as a socio-cultural and socio-semiotic context to explore how learners interact and make meaning by using multimodal resources. Our specific aim was to research and study CDL in order to understand how trainee teachers capitalized on modal affordances to represent themselves and how they shaped relations with others by exercising and allocating symbolic power. We see these activities as manifestations of their CDL as framed by Bilki et al. (2023), drawing on a social semiotic SLA approach and using an interpretivist methodology. We thus employ a novel approach to evidence how CDL is materially instantiated and add to the growing body of CALL studies which are informed by social semiotics

(Hauck & Satar, 2018; Hauck et al., 2021; Klimanova & Hellmich, 2021; Knight et al., 2021).

At the same time, our insights are limited to this bespoke approach to researching CDL in the context of VE. In addition, we have focused on self and group representations and the ways in which instantiations of intercultural affinity and inclusiveness emerge as indicators of CDL based on findings in another recent study by Bilki et al. (2023). Thus, we need to acknowledge not only the nascent nature of the approach, but also the fluidity of the concepts and the context. Other emerging research in the area has taken different approaches to CDL, exploring learners' strategic agency to undertake digital distractions (Murray et al., 2020) or use of digital technologies for active and global citizenship (Nicolaou, 2021). Yet these studies investigate the concept based on data from questionnaires, interviews, or other forms of participant reflections, rather than concrete digital artefacts and associated learner self-reflections. More research is needed to improve our understanding of how CDL is enacted in online interaction as critical semiotic practice (Klimanova & Hellmich, 2021) to provide models of VE activity that contribute to CDL development from a social-semiotic perspective. This can include other conceptualizations of CDL, such as Darvin's (2017) approach which expounds beyond CDL as meaning representation. Our findings are also limited to a 6-week long VE. While this offers only a snapshot for CDL, it generated sufficient data for qualitative analysis. Finally, in our analyses, there are some missed opportunities for the problematization of wider societal issues which are briefly touched upon, such as gender (e.g., women's self-representation in social media), national and cultural ideologies (e.g., the use of symbols such as flags which can reinforce dominant national/cultural ideologies), and social justice (e.g., implied privileges in self-representation as a widely travelled person). Future studies can further, and perhaps better, address these issues by drawing on a combination of critical approaches including critical discourse analysis.

We have shown, though, how VE participants demonstrated CDL informed by social semiotics in terms of awareness of symbolic power and how such power could be wielded to achieve multimodal representation, intercultural affinity, and inclusive interactional practices for positive VE learning experiences. We observed these practices in both synchronous and asynchronous exchanges through motivated modal choices and multimodal design. Yet, we do not claim that such practices are normative behavior in VE: there was also evidence in this study and in our previous work that not all learners disposed of comprehensive semiotic budgets, and—at times—demonstrated low levels of semiotic agility and inclusive behavior (Hauck et al., 2021). As a result, those affected risked being marginalized and not having their voices heard.

Hence, we reiterate Kern's (2014, 2015) appeal for a relational pedagogy and highlight the need to systematically promote CDL in EFL teaching and teacher education to foster critical reflection on using and shaping meaning-making conventions, as well as how VE participants can exercise agency online with symbolic competence (Kramsch, 2016). However, this is not an easy undertaking. Definitions of CDL as well as analytical approaches vary greatly (Bilki, et al., 2023), which makes it a challenging concept to engage with. Moreover, in certain contexts, teachers may not feel comfortable in introducing critical perspectives in their VE designs or may not know how to create safe and brave spaces to do so. To address these challenges, we can aim to improve teachers' CDL knowledge and pedagogy through continuing professional development in VE. Training opportunities offered by VE organizations, such as UNICollaboration, are invaluable for this purpose. CDL pedagogy can include a focus on tasks engaging students in social semiotic analysis of their own interactions, similar to the approach proposed by Lim et al. (2022). VE participants' data-led reflective practice (Mann & Walsh, 2017), as employed in the current study, is essential in creating learning opportunities to this effect, and in achieving transformative practice and a relational pedagogy. We argue that data-led reflective practice should be an integral, core component of VE task and project design. In this study, the limited duration of the VE did not allow us to investigate CDL development in participant reflections. Future research can explore the impact of reflective, experiential practice on VE participants' development of CDL and their capacity to establish and maintain powerful online relations where their voices are *listened to* and where they know when to *listen to* others' voices.

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Notes

- 1. The term *VE* is quite recent, and in language learning and teaching it is widely known as telecollaboration (e.g., Dooly, 2017).
- 2. The concept of *semiotic budget*, within an ecological perspective, was first proposed by van Lier (2000) to describe the semiotic resources a learning environment offers for engagement in meaning making. In this paper, we use the concept as applied to the VE context (Hauck & Satar, 2018; Hauck et al, 2021) to illustrate our participants' capacity to draw on their semiotic skills while carrying out the assigned tasks.

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Appendix A. Virtual Exchange Tasks

TASK 1: GETTING TO KNOW EACH OTHER

Adapted from: https://www.unicollaboration.org/index.php/2012/05/16/getting-to-know-each-other-2/

Task type: Information exchange

Category: Icebreaker

Subject: Finding out about each other's personal and educational background, and what they would

like to achieve in this collaboration

Duration: Two weeks

Tools: Padlet (Optional: Vocaroo, Youtube, any video recording tool, e.g., your phone)

Form of interaction: Asynchronous

Form of collaboration: Individual posts to the whole group with some interaction with through

comments, likes, etc.

Description:

In this task you will create a Padlet message in which you will introduce yourselves. Feel free to combine text, sound, and images on your posts. Ask your teacher if you need help.

- 1. Add your introduction post on Padlet between 18 February—24 February
- 2. Your post should include:
 - a. Personal background, e.g., name, country, personal interests, one thing that not many people know about you;
 - b. Educational background, e.g., languages you speak/learn, teacher training background, teaching experience, IT skills, study abroad experiences, etc.
 - c. Expectations from this collaboration (including what you want to achieve, any relevant experiences, worries, etc.)

At this stage, give as much or as little detail that you feel comfortable with.

- 3. In your post:
 - a. you can add text, images, links, maps, etc.
 - b. you may find it easier to create an audio or video message for this task.
 - i. For audio only messages, you can use https://vocaroo.com and share the file or link on Padlet.
 - ii. For video messages, you can use any video recording tool (e.g., your phone, laptop) and upload the file on Padlet, or upload it on Youtube and share the link on Padlet.
- 4. Read others' posts and add comments, like posts, etc. between 25 February—28 February

TASK 2: CREATING A GROUP IDENTITY

Adapted from: https://www.unicollaboration.org/index.php/2013/02/14/creating-a-group-identity-2/

Task type: Collaboration / Co-production

Category: Intercultural group identity / Multilmodality / Multiliteracy

Subject: Working internationally to create a multimodal poster to represent your group identity

Duration: Two weeks (Zoom interaction: 60-90 minutes)

Tools: Zoom, Google Slides

Form of interaction: Synchronous

Form of collaboration: Small group collaboration (4-5 people)

Description:

In this task you will work in small teams to create a group identity and represent it with a multimodal online presentation. Feel free to combine text, sound, images, and videos on your presentation. Ask your teacher if you need help.

Here is a **suggested agenda** for your **Zoom call**:

- 1. **Greetings** / introductions (If you like, you can identify one person (a volunteer) to chair the meeting if you find this easier. If not, take turns or contribute in the way that feels natural.)
- 2. **Talk** about common interests, hobbies, memories etc. to identify the things that you could include on your poster.
- 3. Suggest and agree on a **group name** that will best show the spirit of your group (e.g., the Highbrows? Crazy people etc.)
- 4. **Create** your poster presentation on **your Google Slides** together using text, images, links, videos etc. This can be **a single slide**, and ideally **no more than 3-5 slides**.
- 5. Share the link to your group's Google Slide with the rest of your friends on Padlet.

TASK 3: E-LITERACY: EXPLORING ONLINE TOOLS

Adapted from: https://www.unicollaboration.org/index.php/2012/10/20/E-Literacy-exploring-online-tools/

Task type: Analysis and comparison

Category: E-literacy skills / E-professional skills

Subject: Reflecting on the use of online tools in telecollaboration, and teaching foreign languages

Duration: Two weeks (Zoom interaction: 60-90 minutes)

Tools: Zoom

Form of interaction: Synchronous

Form of collaboration: Small group collaboration (4-5 people)

Description:

In this task you will focus on the analysis of e-literacy skills in relation to Padlet, Google Slides, and Zoom. You are expected to work in groups of 4-5 (same group as Task 2) to analyse and compare online tools for their digital literacy requirements, and potentials for telecollaboration, language learning and teaching.

Here is a suggested agenda for your Zoom call:

- 1. **Greetings** / introductions (If you like, you can identify one person (a volunteer) to chair the meeting if you find this easier. If not, take turns or contribute in the way that feels natural.)
- 2. Look at the digital literacies framework by Pegrum, M., Dudeney, G., & Hockly, N. (2018). Digital literacies revisited. *The European Journal of Applied Linguistics and TEFL*, 7(2), 3-24. Identify and compare which digital literacies language learners need to use (or can improve by using) Padlet, Google Slides, and Zoom.
- 3. Use the following questions to discuss and reflect on the use of Padlet, Google Slides, and Zoom in telecollaboration, and language learning and teaching settings.
- Before our telecollaboration activities, have you already used these tools:
 - o in private contexts? If yes, could you briefly explain how and for what purpose you have used it, please?
 - o in learning and teaching contexts? If yes, could you briefly explain how and for what purpose you have used it, please?
- In our telecollaboration tasks, in what way(s) have these tools allowed you to communicate information about your own cultural context(s), presenting your ideas, thoughts and personal identity?
- In our telecollaboration tasks, in what way(s) have these tools allowed you to have access to, understand and interpret texts, sound, images, etc. created by others?
- Which one of the communication modes (written language, images, audio/video recordings and conversations) facilitated points 2 and 3 in the most efficient way? Why?
- How can these tools be combined with other tools to extend the possibilities of creating a space for online exchange and collaboration?
- How do you or would you use these tools (or others) as a teacher in your language teaching to support language practice or intercultural interactions?

Appendix B. E-portfolio Questions

Adapted from the e-portfolio document made available by the EVOLVE project.

Section A. Intercultural competences

Write about your experiences during your virtual exchange where you feel you learned more about other cultures and how to communicate with people who come from different cultural and linguistic backgrounds than you. Maybe these are situations where you learned something interesting from your partner. Or perhaps they are situations where communication did not work out as you expected.

Write about what happened or what you were told by your partners during the task.

Do not forget to include **examples** from your interaction to illustrate what you are saying. Explain **why** you selected these examples (why are they important for you), and **what you learned from them**.

Section B. Critical Digital Literacy

Read through the points below and give examples for as many as you can. Make sure you have given examples for all three points by the end of the three tasks.

- (1) Give an example from your virtual exchange that illustrates how you have established a connection with others during the exchange and (if it applies) dealt with a challenging situation in your interactions with others.
- (2) Give an example from your virtual exchange that illustrates how you have helped another participant to establish their presence and/or find their voice.
- (3) Give one example that illustrates that you have critically engaged with computer mediated communication during the exchange. That is, you have considered:
- a) the different ways the channels of communication used during the exchange (audio, text, video conferencing etc.) allow you to interact with others
- b) the different ways these channels prevent you from interacting with others
- c) the impact of this on how you perceive others

As you write, please follow these steps: Describe + Reflect + (Re-)evaluate: what, if anything, would you do differently next time?

Section A. Intercultural competences
Section B. Critical Digital Literacy

About the Authors

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