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Considerations on Artifacts of Digital Culture in English Language Teaching

Conspiracy Theories on the Instagram Feed

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Abstract: In this contribution, we present some considerations on the role digital artifacts could and should play in 21st-century language teaching. Our argument focuses on social media feeds (in particular: the Instagram feed) as a prototypical example of digital artifacts. We highlight the potentially manipulative force of the Instagram feed using the example of conspiracy theories as a case-in-point. Illustrating our argument with examples from ongoing empirical work, we suggest and elaborate on three challenges entailed by implementing social media feeds in the language classroom: They constitute a moving target due to their dynamics, inspire a false sense of security because of filter bubble as well as third-person effects and confront us with the question of "What can we do in the classroom?". We conclude by suggesting possible components of Critical Digital Literacy as an answer to this question.

Keywords: social media; language teaching; filter bubble; conspiracy theory; critical digital literacy

1 Introduction

On 6 January 2021, Donald Trump delivered a speech at Capitol Hill, upon which protesters stormed the Capitol in an attempt to stop the Congress from ratifying the results of the 2020 presidential election. The following passage is representative of the speech in general:

> "All of us here today do not want to see our election victory stolen by emboldened radical-left Democrats, which is what they're doing. And stolen by the fake news media. That's what they've done and what they're doing. We will never give up, we will never concede. It doesn't happen. You don't concede when there's theft involved.
> Our country has had enough. We will not take it anymore and that's what this is all about. And to use a favorite term that all of you people really came up with: We will stop the steal." (AP News, 2021)

Trump's speech centres on the belief that the Democrats secretly faked the election results for their own benefit, betraying the majority of the US population. According to Trump, the mass media backed the Democrats by covering everything up. In other words, what Trump disseminates in his speech is a so-called conspiracy theory.[1] This case also illustrates that conspiracy theories do not only serve the purpose of explaining reality (in this case: *Why did we lose the election?*). They can also turn into a powerful catalyst that inspires collective action (Imhoff & Lamberty, 2020; Jolley et al., 2020).

Trump's speech is only the tip of the iceberg of the Stop the Steal conspiracy theory. Already in the days immediately following the election, these ideas spread on social media (Grotzfeld, 2021). On Instagram, for example, @teamtrump published posts that cautioned users to be watchful and report cases of election fraud, memes were circulated that alluded to the idea that Biden's team found a way to use the accounts of dead citizens for the election, and @stop_the_steal_2020 shared diagrams trying to reveal irregularities in the election data (see Figure 1).

Figure 1: Instagram Posts in the Context of the 2020 US Presidential Election (@teamtrump, @realderek, @stop_the_steal_2020)

[1] We are aware of the fact that not everyone may feel comfortable using the label "theory" for narratives that may be based on premises that are far from established scientific knowledge (such as that the earth is flat or that 5G radiation can be used to influence people's behaviour). Still, we choose the term "theories" here as neutral, descriptive term of the constructs at hand. As the philosopher Karl Hepfer (2020) points out, theories are simplified models of reality. Essentially, they consist of a system of statements that refer to, elaborate on and support each other. Their declared aim is to reduce complexity in order to allow for grasping a specific aspect of reality better. Consequently, Hepfer (2020) argues that conspiracy theories do not differ in these regards from what we typically refer to as a theory and – we may add – what constitutes 'scientific' theories (see also Schildhauer, 2015, on lay vs. expert theories in blogging discourse). What makes conspiracy theories special is their object (a conspiracy), that they are typically presented as non-falsifiable (because there is either a plethora of eclectically collected 'evidence' or the absence of evidence is presented as the proof of the existence of a conspiracy – or both) and that they entail assumptions that are at odds with science such as the existence of lizard rulers of the world (Hepfer, 2020). From a sociology-of-knowledge perspective, Anton and Schetsche (2020) argue similarly for a neutral approach, which includes the use of the term 'theory', in order to gain a full(er) understanding of the object under scrutiny.

In other words: Amongst others, the Instagram feed became an important digital sphere on which users encountered this particular conspiracy theory. However, social media users may not only be confronted with material related to the Stop the Steal theory. In fact, a whole plethora of conspiracy theories is disseminated on various platforms such as YouTube, Twitter, TikTok, Instagram, and others. For example, Russell Brand claims in one of his YouTube videos on COVID-19 conspiracies (which is representative of others):

> "It's difficult to imagine that the companies or states that we grant this power won't take advantage of the ability to harvest data from other areas of our lives and to make decisions about the kind of places where we work, the kind of access that we're granted to public utilities and amenities – if it's convenient to their end to do so. […]
> One of the areas of concern is that people that benefit from these measures would be big tech companies and big pharmaceutical companies. We already know they have incredible lobbying power. We already know that they are able to exist to some degree free from the intervention of the law. Your ability to live an ordinary life will now be to a degree controlled by a powerful institution." (Brand, 2021)

On TikTok, the ConspiracTEA videos by @tythecracyguy, in which a high school senior presents various conspiracy theories in a sensationalist manner to more than 3 million followers, are just a click away (Gerlach & Schildhauer, 2023).

This "mediatization of conspiracy theories" (Stano, 2020, p. 483) has led to the fact that the World Wide Web and, in particular, social media are "presently, the centre stage for the dissemination of conspiracy theories" (Leal, 2020, p. 497). According to current statistics, these social media are a key part especially of adolescent life worlds (e.g. mpfs, 2021, for Germany), with Instagram and TikTok being of particular prominence for teenagers and young adults (mpfs, 2021; Statista, 2021). In light of the considerations above, the question is therefore not *if*, but *when* and *how* secondary school students will encounter conspiracy theories and other kinds of misinformation on their own frequently-consulted social media feeds (Antos & Ballod, 2019; Hendricks & Vestergaard, 2018).

This makes it imperative to make social media feeds – and conspiracy theories – a topic in instructional contexts. It is in particular language classrooms that can and should play a crucial role in that regard: Conspiracy theories can be detected, deconstructed and to some extent debunked by employing the instruments of critical discourse analysis (Gerlach & Schildhauer, 2023). In digital contexts such as the social media feed, this requires what we have come to call critical digital literacy (see Section 4), which is very much based on linguistic competences of analysing and critically reflecting on language-in-use (Knopp, 2020). Additionally, it is part of this skillset to engage in (digital) discourses around conspiracy theories by providing an informed as well as critical perspective – and thus arguments that may, hopefully, help conspiracy believers to find a way out of the rabbit hole. Even though our considerations are relevant to every language classroom, this paper focuses on the *English* language classroom – amongst others because English has developed into *the* lingua franca of the Internet (Richter, 2022).

We therefore argue in the following – to use the wording of this special issue – that social media feeds and related skillsets should be part of the 21st-century canon in language teaching. Our argument is guided mainly by the observation that our plea for making social media feeds a part of the canon entails three substantial challenges:

(1) The "moving target" challenge arises from the fact that social media feeds are a prototypical artifact of digital culture which is highly fluid and personalized.
(2) The "others – not me" challenge is connected to third person and filter bubble effects that may be particularly prominent on social media feeds.
(3) The "what can we do" challenge relates to the implications of (1) and (2) for language classrooms.

As an answer to (3), we propose Critical Digital Literacy as a 21st-century skillset and argue that this should be fostered in (language) classrooms using conspiracy theories on social media feeds as a prominent example of misinformation and manipulation in adolescents' digital life worlds.

In what follows, we elaborate on each of the three challenges in turn (Section 2, Section 3, and Section 4) before drawing some preliminary conclusions in Section 5. The discussion is mainly conceptual, but grounded in our own empirical work, namely the linguistic investigation of filter bubble effects (Schildhauer, 2022) as well as an explorative interview study into teachers' perspectives on conspiracy theories and social media in language teaching (e.g. Weiser-Zurmühlen et al., under review a/b).

2 Social media feeds as a moving target

In his monograph *Kultur der Digitalität*, Stalder (2017) identifies three key features of the practices and processes that constitute digital culture, namely referentiality, community and algorithmicity. On social media feeds, all three of them intersect (Table 1).

Table 1: Features of Digital Culture according to Stalder (2017) as applied to social media feeds (own chart)

Referentiality	In a digital culture, cross-references are built between cultural artifacts by curating, mixing and re-mixing existing content (cf. also Jenkins et al., 2013). It has become part of the core affordances of social media platforms that users can like and share content (e.g. Pflaeging, 2015), and the meme culture prominent on social media platforms is one example of how content is (re-)mixed (Nissenbaum & Shifman, 2018). Thus, social media feeds may display a lively mixture of original/re-posted photographs, snippets of TV news broadcasts, memes, infographics and so on and thereby turn into a locus of referentiality on various levels.
Community	Digital culture is marked by the emergence of participant networks ("affinity spaces"; Gee, 2013) around certain topics, professions or political action. On social media, a user's network is decisive for which content appears on their feed. The examples in Figure 1 appeared on our Instagram feed because we followed certain Instagram accounts such as @stop_the_steal_2020, @teamtrump and others. Hashtags such as #stopthesteal and #trump2020us are also a means of expressing topic-centred connections on social media feeds, leading further into discourse spheres (Schildhauer, 2022).
Algorithmicity	In creating a user's social media feed, platforms employ algorithms that personalize a user's experience. These algorithms exploit a user's previous interactional behaviour (liking, sharing, following, time spent on a certain post etc.; e.g. Mahapatra, 2020a, 2020b). For example, this data enables the algorithms to suggest potential new accounts a user could follow and to rank the content on the feed according to its (assessed) relevance to a user. Essentially, therefore, any social media feed is co-authored by algorithms (Leander & Burriss, 2020). These algorithms are far from neutral, but are designed to serve the economic needs of the platform designers (Jones & Hafner, 2021).

The brief characterisation in Table 1 shows that social media feeds can be classified as a prototypical locus in which practices of digital culture are enacted. It also suggests why social media feeds may constitute a particular challenge in instructional contexts – as compared to the analysis of 'traditional' (i.e. canonical) cultural artifacts: On the one

hand, and just as any other text (Adamzik, 2016), they serve a communicative purpose. From a user's perspective, this includes, for instance, being entertained, sharing their daily experiences and becoming informed about what is new in their network as well as in the world beyond. On the other hand, social media feeds are no self-contained units as, say, a short story with a beginning and an ending: On Instagram, for example, users can continue scrolling down their feed even if there are no further contributions from their network. The algorithm then suggests further content they might enjoy.

These aspects inspired us to label social media feeds as a moving target: They are virtually endless because they dynamically re-create themselves while being read, and they do so in relation to a variety of variables related to previous usage in an attempt to personalise user experience. In other words: When engaging with social media feeds, "we can no longer assume that we are reading a shared text" (Leander & Burriss, 2020, p. 1266). Essentially, and due to this algorithmic co-authorship, social media feeds may look different at any given moment, for any given user.

In a classroom context, this can constitute a challenge as is stated by one respondent in the context of our interview study:

> *Eine weitere Sache, und das betrifft eigentlich eines dieser Kriterien dieser Textsorte, ist, dass die ja so flexibel ist. Die verändert sich, man kann also immer nur einen bestimmten Zustand sich ja vornehmen. […] Und die [Schüler*innen] lassen sich dann nicht so richtig darauf ein, […] weil sie das Argument auf ihrer Seite haben, dass das ja unabgeschlossen, sozusagen ein Fragment ist. […] und diese Form der Offenheit ist einfach schwerer zu händeln im Unterricht und für Schüler, glaube ich, auch schwerer zu ertragen letztlich. Weil sie natürlich immer eigentlich ne Gewissheit brauchen, ob das, was sie jetzt herausgefunden haben oder denken zu einem Text, richtig ist oder nicht.* (I-01)
>
> Translation: *For another thing, and that relates to one of the features of this genre, namely that it is so flexible. It changes so one can always only focus on a specific status. […] And they [the students] do not fully engage with it because they have the argument on their side that this is open-ended, a fragment, so to say. […] And this form of openness is just more difficult to deal with in teaching and also more difficult to bear for students, eventually. Because they always need some certainty whether what they have found out or think about a certain text is correct or not.*

The interviewee points exactly to the fluidity of social media feeds discussed above and states that students rather prefer definite and finite results than accepting the idea of the fragmentary, which is open to new developments at any moment.

Apparently, it constitutes a metacognitive skill to be aware of this aspect, and a mindset tolerant to ambiguity and dynamics is needed. While this certainly poses a challenge, we argue that this challenge is decidedly *educational*: The skills and attitudes mentioned are certainly desirable educational goals in a digital culture and both the quote and our analysis show that social media feeds are a perfect – canonical – example to strive for them in a classroom.

3 The psychology of social media feeds

3.1 Filter bubbles and echo chambers

The algorithmicity of social media feeds pointed out above is relevant to our argument in yet another way. Due to their aim of personalising a user's experience on the platform, social media algorithms may lead to the emergence of filter bubbles. As a buzzword, *filter bubble* has been used in an underdefined way (Bruns, 2019). Here, we understand it generally as a digital sphere in which a certain kind of content is much more likely to be encountered than any other.

This can arise if a circle of like-minded users forms a tightly-woven network – often referred to as an echo-chamber (e.g. Bruns, 2019). As these users may tend to share and prefer to encounter content in line with their own views (Del Vicario et al., 2016), an

information enclave similar to a bubble may arise. Algorithms support this process along two mechanisms: Based on user data, they suggest accounts a user could follow based on a similarity principle. Additionally, the "explore" function available on social media apps such as Instagram uses an algorithm which suggests content that is sufficiently similar and different to previously viewed content to keep a user highly interested (Meta, 2022). The result comes close to the "unique universe of information for each of us" (Pariser, 2012, p. 9), which Pariser suggested as his techno-critical idea of the filter bubble.

Even though the outcome may not be as extreme as envisioned by Pariser (Bruns, 2019), both mechanisms can result in users encountering primarily content that confirms rather than challenges their previously existing worldviews. Some studies related to the filter bubble debate suggest that this may be convenient and even desired for some users (Brundidge, 2010; Parmelee & Roman, 2020). This is apparently particularly manifest for users with a low interest in news diversity (Dubois & Blank, 2018).

3.2 An example: filter bubbles in the 2020 US presidential election

In various experiments on Instagram, we have tested the filter bubble hypothesis (Grotzfeld, 2021; Kemper & Schildhauer, 2022; Schildhauer, 2022). One of these experiments was conducted in the context of the 2020 US presidential election: We set up two new, completely empty Instagram accounts. With each, we followed the account of one presidential candidate. Instagram's recommendation algorithm then suggested accounts to follow based on our first choices. Among these were members of the Trump family, Mike Pence, Students4Trump, Fox News etc. vs. Jill Biden, Kamala Harris, Barack Obama, CNN and so on. As a result, two networks of 75 accounts each emerged.

The posts on each feed were remarkably homogeneous regarding the political views they expressed. In opposition to the election fraud posts on the Trump feed, posts on the Biden feed asked for patience in the counting process and even ridiculed the Stop the Steal theory (see Figure 2).

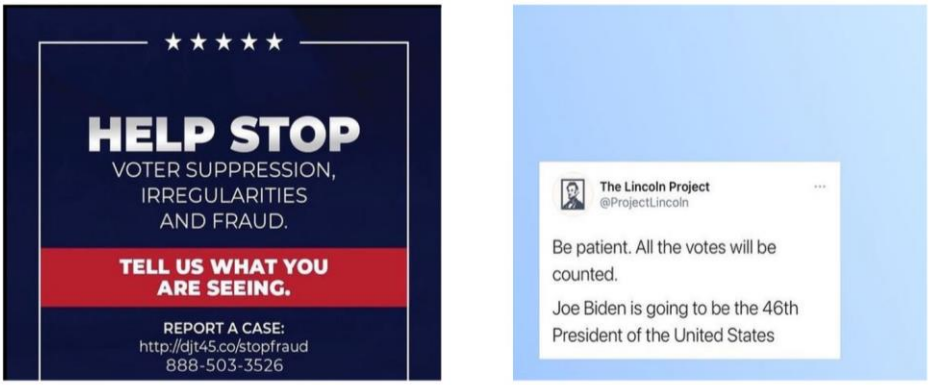

Figure 2: Instagram Posts Related to the Presidential Election (@teamtrump, @ProjectLincoln)

Other topics, too, were recontextualized in these very different ways (see Figure 3 on the next page). COVID-19, for instance, featured prominently on the Biden feed, mainly in relation to its dangers. On the Trump feed, COVID-19 hardly played a role. One of the few posts related to the topic on the Trump feed presents an infographic that tries to downplay COVID-19. It also alludes to another conspiracy narrative, namely that 'the media' present false information to spread fear and control the masses.

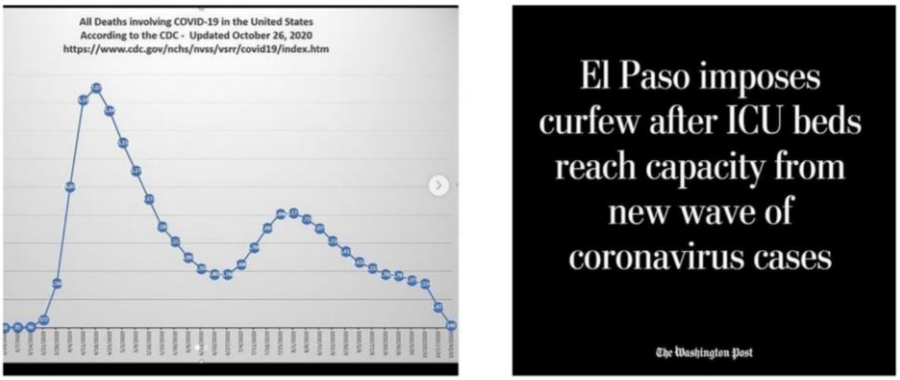

Figure 3: Instagram Posts Related to COVID-19 (@donaldtrumpjr, @washingtonpost)

In sum, the experiment offers a glimpse at two different discourse spheres in which real world social practices are recontextualised in different ways and in which users are much more likely to encounter content of one kind than of another. In other words: two filter bubbles. The experiment shows how easily filter bubbles emerge if recommendation algorithms are allowed to take the lead.

3.3 The third-person effect

Katharina Kemper (Schildhauer & Kemper, under review) used the two Instagram feeds in a lesson she taught to a year 12 learner group. She asked her students to analyse and reflect on the two Instagram feeds and found that her pupils quickly identified the existence of filter bubbles. The pupils also argued that users viewing the Trump feed would be very much influenced in their worldviews by this content, and that the recommendation algorithms would contribute to that. However, the pupils were not ready to see that filter bubbles and recommendation algorithms might play a role for the users viewing the Biden feed – and in their own lives, too.

In media psychology, this is referred to as the third-person effect (Conners, 2005; Davison, 1983): People regularly over-estimate the manipulative effect media may have on others, and under-estimate the effect they may have on themselves. Arguably, this may lead to a less cautious kind of media behaviour due to the reasoning that others are more likely to 'walk into the trap' than oneself is. In our interview study, a teacher observed the same effect when reflecting on smart phone use together with their students:

> *Aber wenn es daran geht, dann mal zu reflektieren, was mach ich eigentlich den ganzen Tag mit dem Smartphone und so, da war derselbe Effekt […], dass der Einschätzung halber das eigene Tun als nicht so stark von außen beeinflusst wahrgenommen wird wie jetzt das der Gegenseite.* (I-01)
>
> Translation: *But when we move on to reflecting – what do I actually do all day long with the smartphone and so on – there was the same effect […] that one's own behaviour is judged to be less influenced from the outside than that of the other.*

When focusing on conspiracy theories on social media feeds, this effect and the resulting false sense of security may become particularly dangerous, as it is combined with the filter bubble effect and several psychological properties of conspiracy theories as such:

- Filter bubbles emerge silently because the algorithms work underneath the surface (Pariser, 2012). Therefore, filter bubble effects are hard to trace for individual users – especially if users are unaware of the bubble or do not consider experiencing a filter bubble likely (third-person effect). Additionally, users may feel comfortable in their bubble as it serves the general drive to avoid content that challenges one's existing worldviews (Parmelee & Roman, 2020).

- If users show an interest in conspiratory content, e.g. by viewing certain posts longer, recommendation algorithms may present related conspiratory content more frequently. Even though the causal relations between exposure to conspiracy theories and belief in them are far from clear yet (Uscinski et al., 2022), research has documented positive correlations between the two (Bessi et al., 2015). This holds true in particular if digital media (as opposed to traditional mass media) are used as the sole source of information (de Coninck et al., 2021) and if users follow algorithmic recommendations to enter echo-chambers (Törnberg, 2018) as networks of like-minded users circulating content among themselves (see Section 3.1 above). By recommending 'more of the same' to users who have viewed conspiratory content, algorithms may increase the manipulative force of such theories.
- Psychological research on conspiracy theories has found that they apparently work in a similarly subtle way (Douglas & Sutton, 2008): Once worldviews and attitudes have been changed after a conspiracy theory encounter, people tend to forget that their attitudes and worldviews were different before – i.e. that they were influenced by conspiratory content.
- Additionally, conspiracy theories address key motives of human existence (Douglas et al., 2020). They offer easy explanations of reality (epistemic motive) as well as a feeling of being in control (existential motive). Additionally, they allow people to feel good about themselves, for example due to the feeling of being in possession of special knowledge, and their in-group (social motive). Even though it is not clear yet to what extent conspiracy theories keep their promises to their believers in the long run (Douglas et al., 2020; Jolley et al., 2020), these properties certainly create an initial attraction.

3.4 Conspiracy theories on social media feeds: a topic for the classroom at all?

In our interviews, we were alerted to a particular challenge related to this aspect. Essentially, one interviewee states that teachers might open Pandora's box by making their students encounter conspiracy theories because they may exert such a strong attraction on them:

> *[…] dass die [Schüler*innen] dann anfangen, selbstständig ohne Anleitung sich weiterzutummeln und Recherchen anzustellen. Und wenn das nicht begleitet wird, dann drohen natürlich besonders junge Menschen doch auch schnell, diesen Mechanismen zu erliegen, die dort in Anwendung gebracht werden. […] Die abhängig machende Wirkung solcher Erzählungen scheint doch so groß zu sein, dass auch Oberstufenschüler […] Gefahr laufen, da hineingezogen zu werden, und da kann man als Lehrkraft nicht immer den Deckel drauf machen.* (I-01)

> Translation: *[…] that they [the students] then start to do research on their own and without any guidance. And if that is not accompanied in any way, especially young people are in danger of succumbing to the mechanisms that are used there. […] The addictive effects of such narratives appear to be so immense that even A-level students […] are in danger of being drawn into it and as a teacher you cannot always stop that.*

The teacher's concerns can be conceptualised as an extension of a phenomenon referred to as Familiarity Backfire Effect (Krekó, 2020): By making efforts to debunk a conspiracy theory, exposure is necessarily increased – or students are made aware of it in the first place. The easy access to conspiracy theories on social media feeds discussed above could then potentially lead to students going down a rabbit hole.

This raises the question of whether conspiracy theories – and especially their manifestations on social media feeds – should be a topic in the classroom at all. Inspired by the interviewee quoted above, we included this question in the subsequent interviews. Our interviewees answered in the affirmative and argued that these encounters better

happen in the guided atmosphere of the classroom than without guidance in the world outside as for instance in the following quotes:

> *Also ich stimme zu, dass es nen schwieriges Thema ist, wo man wahrscheinlich, wenn man da unvorsichtig vorgeht oder nicht weiß, wie man da sozusagen durch die Reihe geht, um so Reflexionsvermögen zu erzeugen, vielleicht auch wirklich was kaputt machen kann. Aber ich denke, das Thema ist wirklich wichtig, und ich fände es als Lehrer unmöglich, sozusagen den Anspruch aufzugeben, den Schülern an authentischen Beispielen was Wichtiges beizubringen, sondern sozusagen nur an konstruierten oder irgendwie für Schulbuch gemachten zu unterrichten. Also ich finde, da muss der Anspruch sein, mit diesen Themen, die hochgradig relevant für die Schüler sind, zu arbeiten. Und da muss man vorsichtig sein, dass man es nicht verbockt sozusagen.* (I-06)
>
> Translation: *Well, I agree that this is a difficult topic where you can probably really cause some damage if you approach it incautiously or if you don't know how to proceed through the unit. But I think that this topic is really important and I as a teacher would find it inappropriate to give up the aim of using authentic examples to teach students something really important, and instead to only use examples that are imagined or somehow made for the textbook. So, I think it has to be our standard to work with these texts, which are highly relevant for the students. And there you have to be careful not to mess anything up, so to say.*
>
> *Ich denke immer noch, dass es sinnvoller ist, Schüler auf die wirklich wahre Welt mit all ihren Fallstricken vorzubereiten, als sie in Watte zu packen und zu versuchen, sie von Dingen fernzuhalten. Das ist meiner Ansicht nach einfach nicht Aufgabe von Schule, und natürlich kann man gewisse Dinge dadurch verbreiten, wovon sie sonst eventuell nicht gehört hätten. Auf der anderen Seite glaube ich aber auch, dass alles Relevante sowieso durch die Medien verbreitet wird. […] Es wird sich, es wird sich über Social Media sowieso verbreiten. Und dann ist es mir lieber, wir nehmen so ein strittiges Thema und haben die Möglichkeit, das einfach mal rational im Unterricht uns erst mal anzuschauen, und haben vielleicht dadurch die Chance, so etwas zu entkräften oder zumindest ihnen andere Sichtweisen aufzuweisen.* (I-04)
>
> Translation: *I still think that it makes more sense to prepare students for the real world with all its pitfalls than to try and protect them by keeping them away from everything. This is, in my opinion, simply not the task of school; of course, you can spread things which the students would not have heard otherwise. On the other hand, I also think that everything of relevance is spread via the media anyways. […] It will spread via social media anyways. And then I prefer taking such a tricky topic to look at it rationally in the lessons so we have perhaps a chance to debunk it or at least to show different perspectives.*

These strong pleas from practitioners are in line with considerations on strategies to counter conspiracy theories suggested in the psychological literature (Krekó, 2020), in particular *healing* (after an encounter with a conspiracy theory, e.g. by rationally debunking it) and *immunisation* – a group of strategies aimed "to shield the audience with necessary cognitive, emotional or motivational skills to resist this temptation [of conspiracy theories]" (Krekó, 2020, p. 247). It is mainly the latter idea that we address in our final section as we believe that a key goal of education in light of the challenges brought by manipulative discourses on social media feeds (such as conspiracy theories) is to enable our learners to deal with them competently, on their own, in the future.

4 Critical digital literacy as a 21st-century skillset

The core of the "what can we do"-challenge mentioned above is how to empower students in their interaction with social media feeds, which means: exploiting the potentials without being trapped by the dangers which we illustrated here using the example of conspiracy theories.

When Jones and Hafner published their first edition of the seminal book *Understanding Digital Literacies* in 2012, they conceptualized *digital literacy* as:

> "[…] not just […] the ability to operate a machine or decipher a particular language or code, but as the ability to creatively engage in particular social practices, to assume appropriate social identities, and to form or maintain various social relationships." (Jones & Hafner, 2012, p. 11)

The previous sections, however, have illustrated that being digitally literate today – roughly a decade after Jones & Hafner's first edition – has to entail more than the ability to identify and engage in social practices in digital affinity spaces. Accordingly, Jones and Hafner write in the preface to the second edition of their book:

> "Perhaps more than when we wrote the first edition, we are keenly aware of the civic dimension of digital literacies […] being 'digitally literate' requires from people a willingness to interrogate the political and economic systems that digital media are a part of, and to work together with others to try to influence these systems." (Jones & Hafner, 2021, p. xv)

In line with these considerations, a chapter formerly labelled "Critical Literacy" was renamed into "Critical Digital Literacy" (CDL), suggesting a new edge to the concept of digital literacy, which the authors define as "the ability to understand how this system works and how to formulate creative (and often collective) strategies to change it" (Jones & Hafner, 2021, p. 154). By "system", they refer to the overall digital landscape and the ways in which it empowers – or disempowers – its citizens.

These ideas connect well to our discussion in the previous sections, which highlighted the role of algorithms in co-authoring social media feeds directly (via ranking and suggesting content) and indirectly (via suggesting accounts to follow) and, thereby, their fundamental role in the emergence of filter bubbles and the spread of conspiratory content. As the algorithms are designed by programmers who have very clear (in this case: economic) aims and policies in mind that influence fundamental decisions on which data is used by the algorithm in which way (Carrington, 2018; Williamson, 2017), it is of utmost importance to deconstruct and understand these policies underlying the social media feed (cf. also the contribution by Reinhardt, pp. 258–281 in this issue, on digital language awareness).

That being said, we suggest a CDL framework (see Figure 4) as an attempt to specify which components CDL as a skillset could comprise. In doing so, we endeavour to fill the "civic dimension" mentioned by Jones and Hafner (2021, p. xv) with some more life by drawing on concepts such as discourse ability (Hallet, 2008) and critical foreign language pedagogy (Gerlach, 2020).

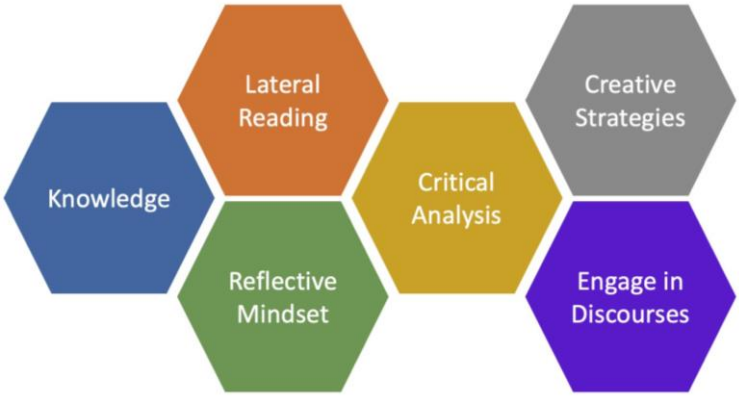

Figure 4: A potential critical digital literacy framework (our own illustration)

The *knowledge* component should comprise knowledge of how recommendation algorithms can create filter bubbles and according to which principles these algorithms work.

However, we very much agree with Ananny and Crawford (2018), who point out that it "may be necessary to access code to hold a system accountable, but seeing code is insufficient" (2018, p. 981). Students should rather be enabled to experiment with the algorithm, similar to our example above (Section 3.2). In doing so, they can experience its effects and reconstruct its principles (Kemper & Schildhauer, 2022; Schildhauer & Kemper, forthcoming) by reverse engineering, that is "to guess what's going on inside of the black box when all we have access to are inputs and outputs" (Jones & Hafner, 2021, p. 157). We believe that this knowledge, gained by reflective experience of algorithmic effects, may have a more lasting, transformative impact than (solely) viewing the algorithm as a snippet of code.

In that regard, the knowledge component connects directly to what we have labelled *reflective mindset*: This includes the ability to reflect on how the constraints and affordances (e.g. Hutchby, 2014) of a certain platform influence the individual personally. Considering third-person effects, this may be difficult and cause discomfort. The reflective mindset also includes the tolerance to the dynamics and fragmentary nature of digital artefacts addressed in Section 2.

Our considerations on conspiracy theories as one prominent example of digital manipulative discourses have pointed to the necessity of the ability to engage in *lateral reading* (Jones & Hafner, 2021, p. 153; see also Antos & Ballod, 2019) – i.e. making fact checking a habit in order not to be trapped by conspiracy theories. Platforms such as snopes.com dedicated to debunking conspiracy theories and other kinds of misinformation can be an empowering tool in that regard.

This component can in some way be regarded as the precondition for *critical analysis* as the ability to deconstruct artifacts of digital culture in a fashion that is akin to critical literacy approaches. This entails asking the basic questions of: Who speaks? Who is (not) represented in what way? How does power play a role? Leander and Burriss (2020) as well as Schildhauer and Kemper (forthcoming) suggest further analytical questions along the lines of, for example:

- In what way may algorithms play a role in generating the social media feed and where/how can we identify this influence?
- Who built the algorithm(s), why and how do they operate?
- What impact may this potentially have on the users'/one's own perception of specific topics and issues?

In line with some conceptions of critical literacy (Luke, 2014) and critical foreign language pedagogy (Gerlach, 2020), critical engagement should not stop when the results of such an analysis have been obtained. On the contrary, these should be the starting point for devising *creative strategies* of how to take action in order to induce change in various ways and on various levels – from informing others about algorithms, manipulative discourses and their effects (Gerlach & Schildhauer, 2023; Kemper & Schildhauer, 2022; Schildhauer & Kemper, forthcoming) to devising new systems that work according to different policies.[2]

A crucial part of taking action especially in the (foreign) language classroom is the communicative ability to *(re-)engage in discourses*, e.g. by initiating informed conversations about social media, filter bubble effects and potentially conspiratory content with everyone who is willing to listen in the sense of Hallet's (2008) concept of discourse ability.[3]

[2] A contemporary example of users "devising a new system" is the open-source microblogging platform Mastodon, which was launched in 2016 as a grassroots alternative to Twitter. When Elon Musk purchased Twitter in spring 2022, large numbers of users joined Mastodon (Bell, 2022) – apparently in response to an increased awareness of economic interests underlying Twitter.

[3] From the perspective of teaching methodology, this aim could be pursued in various ways. Gerlach and Schildhauer (2023), for example, propose producing a video-response to one of @tythecrazyguy's TikTok

5 Conclusions

In this paper, we have elaborated on some considerations concerning the role artifacts of digital culture could and should play in English language teaching (and elsewhere), and which challenges may be entailed. We used the social media feed as a prototypical example of a digital artifact and, in order to highlight the presence of manipulative discourses as one of its key dangers, focused on contemporary conspiracies as a case in point. The challenges we highlighted were based on our own empirical work that includes linguistic (critical discourse analysis) approaches to social media algorithms as well as explorations of teacher's perspectives on conspiracy theories as a digital practice.

On this basis, we argued that particular challenges in this context arise from the nature of the social media feed as a fluid and highly personalised digital artifact (moving target challenge) and from the (amplified) psychological aspects of filter bubbles and conspiratory content ("others – not me" challenge). From these arises the need to engage with social media feeds as a special text type in the language classroom, which is why we suggest to include this new text type into the canon in line with the overarching topic of this special issue. Additionally, we raised the question of how (language) classrooms can respond to the previously mentioned two challenges ("what can we do" challenge) and suggested a preliminary framework of Critical Digital Literacy as a preliminary answer.

In order to further specify this framework and implement it into classroom practice, more conceptual and empirical work is needed. In this paper, we have just taken the first steps into that direction as part of exploring the "New Horizons" of language teaching in the 21st century. The social media feed as an artifact of digital culture – with its potential merits and dangers – should be part of this endeavour.

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videos. Role-plays and simulations would be another way to practice the necessary discursive-argumentative skills. Similar approaches can be found in the broader field of media pedagogy (e.g. in the project "The Game is not Over"; BFSFJ, 2022). Therefore, an interdisciplinary approach that combines the strengths of media and language pedagogy could be a promising perspective for future conceptual work. We would like to thank Jochen Sauer for making us aware of the project "The Game is not Over".

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