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Filter Bubbles and Lockdowns

In this final chapter we analyse two current challenges: (1) filter bubbles – the polarisation of society related to social media and (2) teaching during the lockdowns due to COVID-19. These two analyses – together with the arguments and analyses put forward in former chapters – lead us to the final conclusion of the book, namely that a critical-constructive Bildung approach to teaching, in our view is both possible and desirable, in the digital age, in which we are now living. This in contrast to purely technical views on education or in opposition to purely voluntaristic views see chapter 1). Thus, we argue that the new media situation that includes digital media must be taken seriously, in school teaching, with the aim of supporting and challenging students to explore, evaluate and improve their knowledge, attitude and existence, critically and constructively in the new media reality, encouraging them to work for the wellbeing of all people and life on this planet in the digital age.

Polarisation can be seen most evidently in relation to so-called ‘Trumpism’ and we discuss the tendency in relation to Bildung and social cohesion in the first section of this chapter. This concerns the polarisation problem of what can be seen as the post-factual society, with low confidence in the fact-producing institutions, with consequences for, e.g., the climate debate and the struggle with the Corona pandemic.

In the second section of this chapter, we use the COVID-19 pandemic lockdown of the education system with Denmark as an example to try to give a snapshot, or diagnosis, of the contemporary education system’s ability to use digital media for teaching and Bildung purposes. We discuss the physical lockdown of the school system in spring 2020 in relation to education and Bildung, to ‘take the temperature’ of the current state of development in digital mediated teaching. This can be looked at as a stress test of the education system, which is therefore also related to Bildung, if society is not to end up as a pure instrumental system.

Yet, we want to stress, that the lockdown created a peculiar situation where only distance teaching was possible, together with other peculiar and extraordinary circumstances (e.g., the lack of many normal physical-social contact and activities). In former chapters we have advocated that, in line with the critical-constructive Bildung tradition, it is actually possible to develop 'good teaching' in the new digital media environment. But we do not argue that full online distance teaching (or learning!) could or should *substitute* for teaching, where students and teachers are physically present to each other. And no critical and serious research on media and education that we have relied on in this book supports, as desirable, full online teaching. What we have argued, is only that some kind of hybrid – combination – teaching, which includes *both* digital and analogue media, teaching with and without physically present teachers, students and third parties is possible and – in certain forms – desirable and necessary. Thus, nowhere in this book do we suggest that teaching should be carried out as pure online teaching. Instead, we suggest that it could and should be developed through experiments, using combinations of different media, including physical presence. In the meantime, the situation in spring 2020 suddenly became a huge experiment where all teachers at every level of the education system were forced to do their best under lockdown conditions; this has allowed us to examine the current capability of the educational system regarding digital media and teaching.

Both challenges (i.e., the polarisation of society related to social media and the lockdowns due to COVID-19) show the need to develop teaching that aims for critical-constructive Bildung activities situated in the new media environment that includes digital media. Thus, we conclude this chapter – and the book – by highlighting the advantages of a critical-constructive Bildung approach to teaching in the digital age but also by summarising some of the most important ways this can be pursued; in doing so, we argue that this will also make society better off with regard to populism and further pandemics.

The Polarisation Problem and Social Media

In our critical-constructive concept of Bildung we distinguish between three important dimensions: *knowledge*, *attitude* and *existence* (see Chapter 1). The first of the three dimensions concern facts and, more broadly, are about what knowledge is and what knowledge a citizen requires to participate in good and adequate ways in the society. Yet, it is important to restate that the task, seen from a critical-constructive Bildung perspective, is not to transfer or infuse a

certain amount of knowledge into the students; this will instrumentalise education and is an all-too-simple model of how knowledge and learning function. In previous chapters we have called this a technical view of education. From a critical-constructive Bildung perspective, knowledge should rather be *addressed*, meaning that teachers should encourage, support and challenge their students (and themselves!) to explore and improve their knowledge, which is a totally different thing than trying to transfer or infuse a certain amount of knowledge to the students.

Bildung, Critical Knowledge and its Institutions

Thus, students should, for instance, seen from a critical-constructive Bildung perspective, work critically with newspaper articles, confront different sources and perspectives with each other and try to find out, as part of their teaching, what can be argued to be more valid, sound, supported by evidence and/or good arguments etc. than other, less-convincing, statements. Also, it must take into account, that in a functionally differentiated society, which is as complex as ours, many facts are impossible to fact check.¹ What can be done is source criticism: seeing things from different perspectives and media, using libraries and public institutions and consulting different experts, but also being aware that all this depends on trust in institutions, which again depends on both developments of trustworthy institutions and the people who secure, support and trust them.

If the civilian independent democratic institutions lose the trust of the people, we are in a situation where humanity will not be able to deal with huge and essential problems like climate change or a global pandemic. With the digital media revolution and social media, we have seen polarisations between institutions like the mass media and healthcare and, for instance, election authorities on the one hand and populist politicians and groups on social media on the other (Jurkowitz et al., 2020; Li and Su 2020). In the new media environment, communication is taking place more directly between politicians and citizens (groups or filter bubbles of interconnected citizens, respectively), which disrupts the habitual connection between citizens and politicians filtered by the mass media's critical intervention. Also, the cultivated elite of the public sphere has been bypassed by bloggers, microbloggers and youtubers. Some of these bloggers provide fake news and earn big money through clickbait activities

¹ Following Luhmann (2000b) what we know we know from the mass media – and now we also got the Internet and social media.

in the form of news links with conspiratorial headings (Allcott and Gentzkow 2016; Edson et al., 2018).

The Creation of Filter Bubbles

In the meantime, most bloggers probably do try to be honest, but the complexity is enormous and hard to navigate. This problem has increased because our new communicative infrastructure has been commercialised. One consequence is the risk of filter bubbles where, for instance, people only get search results when, e.g. Facebook updates their feed only with views that confirm their own convictions. Humans seem to have a tendency to consider information to be true if it confirms what they already believe and this effect is increased in online communities, creating the risk of mutual confirmation of fake news (Giglietto et al., 2016, 4).

The algorithms of social media platforms increase this tendency but do not create it in the first place. Within the population, individual choice seems to limit exposure to attitude-challenging content in the context of Facebook (Bakshy et al., 2015). Thus, most people share false and misleading content because social media focuses their attention on factors other than accuracy (e.g., partisan alignment) (Pennycook et al., 2020). Social media platforms, or rather the companies providing them to us, with their enormous possibilities for democratic debate and connectivity, are, paradoxically, responsible for some of this bias in *connectivity*, in disconnecting society as a whole and separating it into subsystems with different connections and views (Tække 2019b).² They³ divide users into different filter bubbles or enhance the tendency instead of trying to balance the situation with their algorithms. The filter bubbles are like separated worlds of knowledge with different conceptions of what is true, providing society with huge disconnectivity between them (Li and Su 2020).

On the one hand, this seems like a retrogression to the era of the party press, but on the other hand, it is something that is new and has not fully been explored. In the time of the party press, the form was simple transmission; now there are many possibilities for fact checking, feedback and discussion in various groups. The commercialisation of our communicative infrastructure with algorithms only aimed at making companies rich might be a problem if it means that the

² A survey carried out in the United States found that 44 per cent of the population get their news from Facebook (Gottfried and Shearer 2016).

³ In the terminology from Chapter 5 'they' are the Big Cyborgs (Big Companies empowered by Citizen Big Data Machines).

companies increase disconnectivity but, despite the creation of economic inequality, a company like Facebook may have been the greatest when it comes to creating connectivity in the new medium environment (which also is their slogan), but also in creating disconnectivity (Tække 2019b). Filter bubbles connect like-minded people, just like conflicts integrate opponents (following Luhmann 1995), but with commercial algorithms programmed with the intention to *split* populations up into different interest groups with totally different knowledge and outlooks. Thus, *internal connectivity* also implies external *disconnectivity* on the societal level with big risk for societal disintegration (Tække 2019b).

Social Media Propels Populism

The globalisation of trade, the neoliberal deregulation of financial capitalism and the centralisation of democratic institutions, all driven by digitalisation, mean that populist fake news finds subscribers, for instance, in the Rust Belt in the US and in far-flung areas of Denmark (but also certain urban suburbs). This means that the shared identity of the western countries is weakened and there is an increased cognitive dissonance between different filter bubbles e.g., the educated and uneducated. In some way, this was already foreseen by Castells (2003) who distinguishes between *flow of space* and *place of space*. *Flow of space* connects the educated populations in and between the ('the centre of') big urban city areas and, at the same time, disconnects the populations living in the outskirts and deranged suburbs left with only *place of space*.

What Castells did not foresee was that the marginalised areas were also connected by digital media and interpellated by populist politicians. Populism works by a double distinction; first they claim that only they represent the people, second, they distinguish between those who belong to the people and those who do not (Müller 2016). As a consequence, we see a bifurcation in US society between citizens who believe in the institutions, that Biden won the election and, for instance, that COVID-19 is real and, on the other hand, citizens who, interpellated by populist politicians and opinion polls, do not believe in the institutions, but do believe that the election was stolen by the Democrats, and that COVID-19 is a fiction. In relation to filter bubbles and polarisation, social tumult and divisions facilitate our willingness to believe news that confirms our enmity toward another group (Edson et al., 2018), so we have a bad spiral of development where the medium environment plays a big and increasingly significant role.

The Bildung Approach to the Polarisation Problem

New norms and regulations have not yet been developed to handle the new communication situation. Big mass media, like Fox News and CNN are now actively helping to divide the US population (Jurkowitz et al., 2020), while social media platforms like Twitter and Facebook have begun to play the role of censoring authorities. Where not only illegal statements like threats of violence are censored by social media but also organisations and people who have expressed the ‘wrong’ message are filtered out by the search engines of social media platforms without democratic control, we have a huge democratic problem and risk even more radicalisation. We need new institutions to regulate social media such as those we put forward in relation to education in Chapter 5 (see Figure 5.7). As it is now, the big media corporations self-regulate and censor conspiracy theorists instead of conducting a democratic debate about, for example, COVID-19 with participation from those in the health institutions. We need transparency and democratic control grounded in a new kind of institution, at arm’s length from the politicians and economic interests, that can regulate how the machine learning algorithms work.

We are in a dangerous situation and even though Bildung seems like a small actor, it is more important than ever for public educational institutions worldwide to work hard to support and challenge students to explore, evaluate and improve their *knowledge*, including, most importantly, what knowledge is, how it is produced in institutions, how we democratically can control institutions and the production of knowledge, how to make source criticism and how we control the Big Cyborgs (see Chapter 5).⁴ However, they *also* need to work to support and challenge student’s *attitudes* towards knowledge, encouraging them to see things from different perspectives, to think dialectically, not in black and white, to listen carefully to other people with different views, discussing these seriously in genuine dialogue; that is, encouraging students to treat others as colleagues that can be wrong and should be corrected, but which could also be right and therefore call for correcting oneself.⁵ Finally, this task also includes eye for student’s *existence*, meaning that the critical work with knowledge should not be

⁴ Thus, if search engines downplay different views on a subject, Bildung must be backed by a democratic, transparent institution that guarantees the full diversity of views – otherwise source criticism will be impossible.

⁵ As we saw in Chapter 2, young people are not equipped with particularly good IT skills. As confirmed by Herrero-Diz et al., (2020) teens are more likely to share content if it connects with their interests, regardless of its truthfulness, that trust affects the credibility of information and the appearance of newsworthy information ensures that, regardless of the nature of the content, this information is more likely to be shared among young people.

something 'external', that students regard as only 'schoolwork' and without relevance for their own life. Thus, work with knowledge in the school should include and be based on actual experiences students have with knowledge-situations in their own life, of many different kinds, making it relevant to explore and improve their knowledge and their attitude towards knowledge, but also make knowledge into something existential, as was the main aim of Socratic dialogue, as portrayed, for instance, in Plato's 'Meno'. If a student comes to this conclusion without much thought, that "I am so and so", it should be gently challenged in school: Is this really who I am? Or is it a result of parents, filter bubbles, populism, commercials etc? This also include a *deconstruction* of the populist distinction above, making the world black and white.

Taking Others Seriously

When it comes to the *attitude* dimension of Bildung it is the success criterium to take the perspective of the other and with impassion, empathy and knowledge to understand the other person in her own right as an unique being. This is, together with 'the passion for knowledge' (see above), the kit that keeps a good society together.

In the debates about #MeToo, the result of the American presidential election and whether COVID-19 is real, we see that discussions are going on in different echo chambers, in separated filter bubbles. In Facebook groups and comment fields of debaters and politicians, who actually give space for debate between different opinions, we see hate speech, accusations, prejudices, dehumanisation and a total lack of trying to understand each other. What has been the success criterium since the enlightening period, in connection to the idea of Bildung, namely, to try to understand the opponent and her motives, experiences and outlook, is under pressure or totally missing from the debates on social media.⁶ Populist politicians are trying to use this to gain more followers by being most unnuanced and black and white. So, we have a situation where leaders show a role model that must be countered and challenged in the school. Here, again, the school looks little and without the necessary power, but it must keep on teaching in and about how a worthy debate could take place between two or more persons with mutual respect that tries to understand each other's outlook

⁶ This is not necessarily the general picture: many interactions on social media are peaceful, dealing with topics like horses, food, theory and social relations, and there are also positive debates about politics, climate and health. The problem is that we miss norms and regulations in relation to conflicts, fake news and, e.g., populists. We also need regulation of the influence of money on search results and what is contained in our feed. We need democratic control and Bildung.

and situation. Overall, this is what holds society together and helps everyone to feel included.

When it comes to *existence*, the school must support, encourage and challenge students to become persons that are taking responsibility not only for one's own ego, but for the common good, the climate and people living in other places. The individual must be supported to become strong enough not to choose easy solutions running after the populist notes in their networks and dehumanising people from other places, or those with another outlook or economic situation (e.g., religion or class).

All in all, the critical-constructive Bildung approach calls for good role models in the schools and if the politicians and opinion leaders cannot live up to the Bildung ideal presented in this book we really need the teachers to try to support and encourage their students to become true knowledge seekers and guards, experimenting in the school with correcting misinformation on the internet, improving dialogue in social media, breaking out of filter bubbles and caring about the common good.

The COVID-19 Lockdown and What It Shows Us About Digitally Mediated Education

In Denmark, a number of research reports have been published dealing with the state of the education system during the COVID-19 pandemic in the spring of 2020. For a number of reasons, it has not gone well, which shows that even in Denmark, one of the worlds most digitalised societies, success not only depends on hardware and software, but also on the development of new forms of teaching situated in a media environment that includes digital media. We now selectively pinpoint aspects from three research reports (in relation to primary schools, youth education and universities), then put the findings into perspective and discuss them.

Lockdown: Primary Schools

In primary school (which, in Denmark, involves children from about six to fifteen/sixteen years old; thus, includes lower secondary schools), many children did not have contact with their teacher on a daily basis. No more than 34.1% of children completely or predominantly agreed that they had had daily contact with a teacher, while 48.9% predominantly or completely disagreed. In contrast, quite a

few teachers stated that they did have daily contact with their students (Qvortrup et al., 2020: 38–39). It can be difficult to decide who is right (and perhaps both are to a certain extent, but experience and comprehend ‘contact’ differently), but it seems that many students in primary school did homework alone at home during the shutdown (81% of students state that they had, to some extent, worked with independent problem solving). They had not received instruction via, for instance, Zoom, done assignments with others via the internet (Qvortrup et al., 2020: 46), or completed assignments involving physical activity. The chairman of the Danish Teachers’ Association, Anders Bondo Christensen, is quoted in Politiken (2020): ‘the experiences from the closure demonstrate that nothing can replace good old, hand-held teaching in the classroom’. From a critical media perspective, this statement is at least partly wrong if it means, that in this extraordinary lockdown situation (see the beginning of this chapter), the incompetence of the school system is only blamed on problems with digital media. No matter how poorly it performed, it was only due to digital media that some kind of teaching was even possible, thus enabling the schools to get through lockdown.⁷ Also, we should not forget that being physically present in a noisy classroom is not always good for all students. Further, there were also huge differences as to how different students evaluated their online teaching. A little more than half of students stated: ‘I do well with this kind of [full online] teaching.’ Some of the quieter students had a blast being at home in peace, while others such as weaker pupils, those from poorer socio-economic backgrounds and those who received no help from their parents, felt they struggled more than usual (Qvortrup et al., 2020).

Lockdown: Upper Secondary Schools

In upper secondary education, the common form of teaching has been teacher presentations (Zoom) followed by the students having to complete tasks. So lessons were comprised of 10 to 15 minutes of instruction and then work alone, or in groups, in front of a computer screen isolated from others at home. Only 25% of the teachers had experience with doing [full] online teaching and they expressed big differences in relation to how good their teaching was (Jørgensen et al., 2020: 32, 37). According to Andersen, every fourth teacher stated that their school, either to a small degree or not at all, ‘has organised the sharing of

⁷ In Denmark, all primary schools have Aula, a common online communication platform for employees, parents and students which was running long before the lockdown.

knowledge and experience with distance learning between colleagues.' Furthermore, about half of the teachers, stated that the school, to a low degree or not at all, 'has organised sharing of materials and/or teaching courses between colleagues.' In other words, for half of the teachers, the reorganisation was 'an uncoordinated matter' (Andersen 2020: 17). This means that in the upper secondary schools, there was little sharing of knowledge.

The students, too, experienced little plenary dialogue and community, too many submissions and too much monotony, while teachers found it difficult to help and guide (Jørgensen et al., 2020: 68). The teachers found it difficult to know whether the students understood their presentations (Jørgensen et al., 2020: 5). Some teachers stated that their teaching became monolingual, that they were met with a wall of silence and they found it difficult to identify those who could not keep up (Jørgensen et al., 2020: 101). While the teachers experienced a lack of response and had more assignments to correct and feed back, the students thought that they received a lot less attention than before – so it looks like a large workload with little result! Many teachers used 'video conferencing', but found it hard to observe whether the students kept up or understood and students became less motivated during the period. Teachers who acknowledged this and tried to think 'outside the box' did not have the time to pursue these options (Jørgensen et al., 2020: 5,6).

The researchers also found some nuances in the upper secondary education that probably also apply to primary school, namely that online sit-alone teaching is good for the quieter student, while, to a greater extent, the academically weakest have found it more difficult to keep up (Jørgensen et al., 2020: 11, 45).

Lockdown: Universities

Two-thirds of university students had problems with their motivation during the closure; the majority experienced increased stress, anxiety and loneliness (Jensen et al., 2020). Nine out of 10 missed informal gatherings with fellow students and six out of 10 missed conversations with their lecturer. A qualitative study from the IT University of Copenhagen (ITU) found a strong correlation between social aspects and motivation and identified that the stress, anxiety and loneliness probably connected with the missed informal gatherings is a huge problem (Andersen et al., 2020). Academically there was general satisfaction with the Zoom format when questions could be asked and the teaching was live or recorded. But many educators met a wall of turned off cameras and microphones with anxious students behind the black scenes.

Discussion

When looking at the educational problems experienced during the lockdown in Denmark in spring 2020 there are a number of explanations which are important to acknowledge if digitally mediated education – with a critical-constructive Bildung perspective – is to compensate for lockdown and the digitally development under normal conditions shall have a better direction in the times to come. Before discussing these explanations, it must be noted that the issue is complex and should be viewed in a nuanced way.

An Extraordinary Situation

First of all, it is important to take account of the extraordinariness of the lockdown situation. Neither the educational system, the teachers or other sectors of society were prepared for this specific situation; nor were individual citizens or students. In spring 2020, many institutions and individuals might have been in some kind of shock and did not know what to do. This was not what they had expected. Also, many non-formal institutions, like cultural institutions and concert halls etc., were more or less locked down, limiting the possibilities of social contact and informal interaction between students. The three reports we have presented above only deal with the first lockdown which took place in spring 2020. Thus, it would be hasty and wrong if one concluded from the reports above, that full online teaching is totally undesirable, because the *impact* has been overwhelmingly negative. Such conclusions rely on a deterministic view on media and education. Yet, what we argue against, is not that the effects were ‘so and so’ in spring 2020, but rather that these effects are not *unconditional*, but mediated through an extraordinary context, an unprepared society, including the educational systems and the responses that teachers, students and others formed during this special situation. Thus, it is likely, just as we have seen in general with regard to digitalisation, that the educational and societal ‘response’ to the first lockdown in spring 2020, is only the *first* response, while more elaborate, better developed and/or different responses might be expected from later periods of lockdown.

Development of Responses in Different Directions

Secondly, it should also be remembered, as we outlined in Chapter 3, that responses to digitalisation and thus also to lockdowns and extraordinary

situations with full online teaching can evolve and develop in extremely different ways, depending on the basic societal and educational values teaching and schooling are based on. This is also not visible in the three reports, nor in hasty statements like the one we cited above about ‘good old, hand-held teaching in the classroom’, which implies that ‘good teaching’ means almost totally different things, depending on whether you have a technical, voluntaristic or critical-constructive *Bildung* outlook. Thus, we foreshadow that for educational systems and teachers that are based primarily on the technical outlook, full distance online teaching, if lockdowns continue in the future, will move in the direction of trying to obtain full control of students and their behaviour, through digital surveillance and control systems; and thus, also focus on problems like activating and controlling the students to do certain things, determined by the system. Thus, they will build up an educational Big Cyborg (see Chapter 5). On the other hand – and in the opposite direction – will educational systems and teachers that are based primarily on the voluntaristic outlook begin to integrate computer games, the interests of the students in their home settings, invent new games and plays, that can facilitate free development of the students’ own interests and abilities in a motivating way. Finally, we speculate, that educational systems and teachers that are based primarily on the critical-constructive *Bildung* outlook, will try to use digital media to enforce community support and challenge the students in many different ways to reflect on an extraordinary situation critically and constructively, to improve the situation, understand it better, experiment with different attitudes and care for each other as existential beings who are perhaps stressed by the new situation or perhaps enjoying it, depending on individual circumstances; supporting the students to (re)create themselves and the situation in different and, perhaps, better ways.

All in all, we should take care not to generalise too much from the reports above, because they might only give a glimpse of some of the effects of the first responses to the extraordinary lockdown situation.

Some Possible Explanations

With these precautions in mind, we now turn towards some possible explanations for the specific effects of the first educational responses to the lockdown situation.

Some of the responsibility for the negative effects, that the three reports indicate, probably lies with the politicians and the management of the educational institutions. They have invested huge amounts of money in hardware and software (including control systems), but not so much in supporting teachers

and others in developing new forms of Bildung-orientated teaching that take account of and are situated in the new media environment that includes digital media.

Also, over the last 15 years, preparation time has gone down for all three levels of educational institutions. This means that at the same time as the digital media revolution and the investments in hardware, the educators have had less time to prepare, develop and reflect on their teaching. On top of this, the COVID-19 lockdown has shown that knowledge sharing between those who have actually developed new forms of teaching, got into teaching digitally, or just have experience with digital teaching, have not been used by the institutions to share knowledge with the rest of the teachers.

Further, in regard to social responsibility, the schools have failed. Schools have a huge social function which is the necessary foundation for teaching and learning. Students must find trust in themselves and in others and create a community in which they feel safe and know how to contribute. The children in primary school who are lucky to be in what, for the sake of simplicity, can be called 'surplus families' are looked after at home when they do homework and participate in online teaching; this also counts for the upper secondary schools where students with similar family situations are compensated and helped with their social relationships and self-esteem. Yet, for children and students for whom this is not the case, things might become more difficult, decreasing chances for equality. For university students, who often live by themselves, the problem might be even greater. Therefore, we especially see the problems at the university in regard to the social dimension. At ITU, some teachers facilitated informal social activities; their students felt better and were better able to hang on academically (Andersen et al., 2020). If such initiatives had been taken in the rest of the educational institutions, we would probably have seen a different picture. In the ITU study, the majority of students found it intimidating to ask questions, which is perhaps the case for all Danish universities – and something which should be high on the list of what the closure has clarified, which must be dealt with in the future. The students do not know each other well enough to feel safe and they need an appropriate habitus (Bourdieu) that they can trust. This must be supported through the educational system, by addressing what we have called the *existence* Bildung dimension (see Chapter 1).

Overall, it can be said that the closure has revealed a gigantic political and managerial failure: educators have not been supported enough to develop new forms of teaching through digital media.

Written Interaction

The reports show a strange kind of ignorance, like a form of educational research that somehow does not know about their topic. Obviously, they have produced a lot of usable knowledge like shown in this chapter, but the reports do not in any way deal with questions of how teaching can be developed and attuned to the new digital situation. As we have showed in previous chapters, especially in Chapters 3 and 4, many different approaches to and experiments with new forms of teaching have actually been developed by educators, to some extent in collaboration with researchers, but the reports don't say anything about whether these are known, applied or have been ignored by Danish teachers; nor does it seem that the authors of the reports are either aware of or interested in these.

It is striking that none of the reports look at the importance of the written interaction in relation to the closure and forced distance learning. As we discussed in Chapter 3, the parallel written interaction, significantly improves information clarity, depth and overview and social aspects such as phatic elements and the creation and affirmation of social relations. There are many qualities to mention, e.g., written interaction does not follow oral turn-taking (it has non-linear meaning cohesion, which is easy to understand and follow when reading, see Tække 2006). You can add links and criticise, enrich and deepen the oral interaction in the video conference in the parallel written interaction (and it can be saved and used as notes). The Socio Media Education experiment (SME) (see Chapter 3) showed that, for upper secondary school students, it takes about half a year to learn to interact in writing on academic topics and handle hashtags, tags, hyperlinks, etc. It is up to the schools and their management to start use the action research produced by us and other researchers and to support and enforce experiments by providing the teachers with knowledge, resources, space and time. Phenomenologically seen, teachers on all levels have practiced technics where they walk around the class and respond to movements, facial expressions and sounds from the students. Such a teaching technique is not one-to-one possible in pure digital teaching but, can to some extent, be functionally equivalated through experiments. For instance, turning on and off microphones and cameras for different groups in the online classes, using parallel written interaction, finding-solutions that work in the different classes and also including the social dimension and making informal activities for the students. Seen from a critical-constructive *Bildung* perspective, it is necessary that the social dimension is taken seriously to make a foundation for discussing knowledge,

attitude and existence, in ways that genuinely engage the students and make it possible for them to participate fully in the teaching (see Chapter 4).

The Spanish Kitchen

Paradoxically, the teachers who seems to have strongest reservations towards digital media⁸ are those who have been fiercely opposed to its introduction, who prefer a mechanical form of teaching (in the extraordinary full online situation in spring 2020), providing the students with instructions and then, with no process feedback or class discussions, have simply corrected submissions from their students. The students miss the community of the class and also the interaction with their teacher. At best, this can be seen as a very limited kind of second wave teaching in conditions where the classroom is now totally digital, but with the digital space being used only as a transmission channel.

In our action-based research going back to SME (see Chapter 3) it became clear that when students were different places in the geographical space while being together in the virtual space it provided new educational possibilities. Examples were that students on holiday in other countries, or sick at home could participate, but more on-the-spot examples were students on execution at e.g., business, reporting to the class community, or where the whole class were on educational journeys keeping in contact using organised and documented activities through written interaction.

In the present situation we have a documented teaching experiment from one of the teachers participating in the DUFA-project (see Chapter 4), carried out when all of the students at her upper secondary school stayed at home in the spring of 2020. Thus, Anne Lise Bennedsen, associate professor in Spanish and social studies at Rødkilde Gymnasium, came up with the idea that the students could cook Spanish food at home in their respective kitchens. The homework was that the students had to shop. The weakest students took pictures and wrote in their Facebook group in Spanish, the more skilled spoke Spanish on video in the kitchen. The activity also involved the parents/families. In addition, the teacher virtually visited the homes and families of her students which is of great importance in Spanish culture. Everyone thought it was funny that tortillas can fail and look funny. Via their Facebook group, all the students virtually came to each other's homes – and were together.

⁸ See Chapter 2 in relation to 'media panics.'

Another Spanish teacher, probably inspired by Anne Lise who shared her idea on the Spanish teacher network, also experienced this as a great success, but varied the process in that the students stood at home in their kitchens and made tortillas according to Spanish recipe while on Microsoft Teams. As Rødkilde Gymnasium did not have a school kitchen, the repatriation provided an opportunity that otherwise did not exist. The cultural (culinary) aspect of the subject unfolded and all the senses came into play, something which the teacher hopes to be able to repeat and further develop after the lockdown. The activity also seems to be good for the class community and for the students' feelings of being seen and respected by the others and helped them to get to know each other and their respective homes. Such activities where students must go out and shop, cook, practice a foreign language and live out 'the culture' of their country, not to mention the social aspect, is in sharp contrast to the very limited second wave teaching described above. A theoretical lesson from the experiment with Spanish Kitchen is that when a class and its teachers only have the virtual space for their *Bildung* activities they must try to reclaim the physical space and use it educationally. Again, it is strange that none of the reports investigated such good examples and correlated them with the wellbeing and marks of the students (Anne Lise Bennedsen's students got better marks than usual in the spring of 2020). Also, the experiment could easily be expanded to become a full-blown third wave teaching experiment, in which students could take online contact to students in Spain (or other countries) and exchange culinary experiences, receipts and other cultural knowledge that could be educationally and socially relevant and also foster better social well-being both in Denmark and elsewhere.

Expanding Possibilities of *Bildung* in Online Teaching

It seems clear that the typical form of teaching during the lockdown described in the reports does not provide good conditions for *Bildung*. How can the teacher be said to put herself in play as otherness when only, if at all, providing short instructions and then correct assignments? Knowledge must be presented and discussed in plenum and in groups, perspectives and attitudes must be considered and otherness external to the class invited to participate and existence experimented with in the process. What we would suggest – if teachers were given the time and opportunity to develop their online teaching seen from a critical-constructive *Bildung* perspective – is to use the analytical 'Bildung and media' model from Chapter 4 and analyse the four media practices as explained

in Chapter 2 under the new circumstances, with the current obstacle that it is not possible to be together physically:

1. *Participation practices* (interaction) relates to the educational understanding and application of new possibilities for interaction and participation in the new media environment. The design question could be: How can we develop ways of using online media that make as much interaction between students, students and teachers and between the class and otherness from outside the class possible? Perhaps students could also be invited into this design process, making use of their experiences with online interaction.
2. *Community practices* (organisation) also relates to participation, but at the organisational level. New forms of participation require the development of organisational forms, norms and ethics that enable participation. The design question could be: How could we, as teachers together with our students, develop an online organisation, that supports the teaching activities and the class community as much as possible?
3. *Expression practices* (production) relates to the area of expressing oneself in digitalised communities. It requires knowledge and skills to express oneself in new media both socially and professionally. The design question could be: how can we develop online teaching that makes it possible for students to express themselves and their knowledge products in as many different ways as possible? Perhaps the students could also be invited into this design process, making use of their experiences with expressing themselves in online media (e.g., making films)?
4. *Impression practices* (interpretation) relate to skills to search information and conduct source criticism, but now using the different locations of the students and what they have at hand. The design question could be: how can we develop an online teaching, that works critically constructively with as many different kinds of online content and formats as possible? This includes making use of extra online resources, like the physical surroundings of the students and the teachers, but also other persons around the world, who are contacted through online media. This could also include online mediated impressions of animals, plants and places.

Developing First, Second and Third Wave Online Teaching

The design and development of online teaching could make use of the analytical model of the three waves (see Chapter 3), which is also integrated in the analytical

'Bildung and media' model in Chapter 4. This can be seen as three levels of development through which teaching is transformed into new modes of communication and organisation that becomes possible with digital media. In relation to the lockdown, the teacher could develop her teaching wave by wave by getting along with new media that becomes relevant, for instance, to video conferences.

If this is done from a critical-constructive Bildung perspective, the first wave applies to the most basic steps of Bildung activities, not least to getting used to and finding yourself in the video-conference format, where one's face, anxiety-provoking for some, is shown as a close-up picture. This must be supported for the most vulnerable and practised, for instance, in groups so the students find trust in themselves and each other; like they should practice how and when to turn on the microphone and camera, like the parallel written interaction. The first wave is analytically seen as a phase in which the school can begin to workout Bildung activities that address the main challenges of the new digital medium environment, such as anxiety in relation to showing one's face online or writing online. This must be practiced without prohibition and indifference (see Chapter 3), wave one lies beneath the other waves and is a prerequisite for moving the teaching along.

In the second wave, students must be encouraged, challenged and supported to handle, e.g., the videoconference media and the parallel written interaction on a higher and more academic level. Work is being done on building norms regarding the new interaction situations and the students must be supported to develop their own voice in this process. The transparency and registration that comes with digitalisation must also come into focus and be discussed critically, for example, in relation to commercial surveillance, but also in regard to shared documents that allow the teacher to provide process feedback. The new information situations regarding information search and source criticism are also formed at a basic level, in addition to work on processing, selection, storage, categorisation and retrieval in media chains including media platforms like Zoom, Twitter, shared documents and Wiki.

In the third wave, Bildung activities relates to the contact with the outside world, where the confidence with 'internal interaction' in the first two waves is put at risk in authentic transactions with otherness from the surrounding community, for instance with friendship classes, or geographically distributed activities like chemical experiments in the students' kitchens, physical education in nature, or a joint rehearsal of dance choreography in the living room.

Knowledge, Attitude and Existence in Online Teaching

Analytically, we see *Bildung* as the union of three inseparable elements, namely knowledge, attitude and existence, which we find in the middle of the analytical ‘*Bildung* and media’ model in Chapter 4. *Knowledge* denotes the question of *what* students need to know about themselves, society and the world to sustain and create a better world than the one we have today. Questions could be how to act on reducing loneliness in the class and in society or reduce infection. *Attitude* denotes the *question* of how students should relate to themselves, others and the world, in concrete matters of concern. Most students, for instance, could try to reach out to, say, their isolated grandparents. Another example is that they could create a project to fundraise to allow for vaccines to be sent to the Third World or other good causes, that do not directly benefit them, e.g., animals and nature in Brazil. *Existence* denotes the *question* of *who* the students can or ought to be; encouraging and challenging them to raise, develop and qualify their individual voices and ways of responding to others. In the first place the students could work with the epoch-typical key problems (see Chapter 4) in relation to the COVID-19 pandemic, such as how they can be someone that makes a difference to their classmates, teachers, parents, grandparents, children in refugee camps, endangered animals and plants etc.

Against the Technical Regime

Throughout the book and here in Chapter 6, we have criticised the technical understanding of teaching (including determinism, impact research, etc.). Against this background it seems fair to end this chapter with the following interpretations.

Firstly, it is worth noticing that the technical understanding of teaching (and media) has been mainstream and dominant for the last 30 years in Denmark, as in many other western countries, gradually displacing both the critical-constructive understanding of *Bildung* we have advocated in this book, as well as the progressive pedagogical tradition (i.e., the voluntarist understanding) (see Chapter 1).

Secondly, one could very well also conclude that our two analyses in this chapter indicate that the technical understanding (as the dominant educational regime) has failed. Why is that? Firstly, because when adults in Denmark (and other similar countries) are so bad at entering into a dialogue with otherness

(see the first analysis of this chapter), then the education system must take some of the blame and not least the last 30 years where we have had mass education in Denmark, meaning that precisely in this (and only in this) period, the vast majority have gone to both primary school and secondary school (and thus have had at least 12 years of schooling) (Dolin et al., 2020). During the same period, 'democratic education' has actually been part of the purpose of the school, in Denmark (and elsewhere) in both primary and secondary school, in one way or another (Hansen et al., 2019), but it may not help if the educational structure itself is so hard wired to a technical (and thus reductive) understanding (that at its core is not compatible with democracy, because it does not treat students as free human beings, but things to be manipulated (reducing both people, culture and nature to mere resources), while democracy, on the other hand, is fundamentally based on the assumption of individual freedom). In addition, one might well reasonably hypothetically assume that the technical understanding simply does not really 'reach out' to students with particularly weak backgrounds in one way or another (Roy 2003; Petersen et al., 2021). But to that one could also say that when the school system has performed so poorly in relation to the COVID-19 lockdown, despite an excellent IT infrastructure, then it could be argued that a technical understanding (which has been dominant for almost all the time digitalisation has really gained a foothold in the schools) is one of the main reasons that schools have not been able to handle the lockdown very well. In a previous section we also said this indirectly by arguing that politicians and school leaders must have a main responsibility for the school not being better ready for online teaching – but the question is *why* have politicians and school leaders not made the right decisions? In our view, one reason might be that they did not precisely because they have strongly endorsed, *de facto*, the technical understanding of teaching and the media, which also explains why they have invested heavily in hardware and software, partly also under the influence of an industry with economic interests, but this would hardly have been the case if it were not for the dominance of the technical understanding.

So, the upshot is that the dominance of the technical understanding seems to undermine the opportunity for real democratic social development, as well as the opportunity to be able to develop and create meaningful teaching within the new media environment. With this, we have explained some important and serious societal trends and deficits in the current education system on a deeper level than just saying that school leaders and others have made wrong or bad decisions. This also implies that the current problems cannot just be solved with some kind of soft padding with moral formation thinking (e.g., if young people

could just learn to behave better, then everything would be fine), because the problem goes deeper. And likewise, the problem is not just that politicians and leaders have idiosyncratically made the wrong decisions based on a desire for hardware: again, the problem goes deeper: it is because they have directly or indirectly endorsed a flawed, reductionist and socially problematic understanding of society, teaching and media, namely the technical. We have also seen the same problematic connection in research, which has also begun to talk about the impact and direct causality between media and teaching or learning, instead of going for the complicated and more thought-provoking detour around human actors, responses, developments, formation, reflection, etc. which has been the cornerstone of Western – especially, continental – thought, for centuries.

Conclusion

Throughout this book and in this final chapter, with regard to bubble filters and lockdowns, we have applied our action-based research and theories about teaching and Bildung in relation to digital media. Throughout we have advocated, experimented with and argued that a non-deterministic and critical-constructive Bildung perspective has something to say when it comes to teaching and digital media, in contrast to deterministic and technical research and views, that we have criticised for not properly understanding media and education, but also for promoting reductive views on humans, society and the world, seen from a critical Bildung perspective and, more generally, the tradition of continental thinking.

Yet, both media practices and Bildung are dynamic concepts that describe a never-ending effort to encourage, support and challenge the education system as (maybe the most) important societal institution, which aims to cultivate critical-constructive citizens that can and will try to improve humanity for the sake of the wellbeing of all people and living creatures on the planet. All this is brought together in the analytical model found in the beginning of Chapter 4 including both Bildung, media practices and the three waves. Thus, it is important to notice that it is not a mechanical model that can secure media practices and Bildung, but rather a reflective model that might help to form both an analytical tool to *reflect* on educational design (experiments and the development of teaching courses) and for the evaluation (and redesign) of existing courses. So, it is not – and should not be – used as a mechanical model for teaching which treats students and classes as trivial machines. Also, as we discussed at the end of

Chapter 3, the basic educational outlook is more important than anything else. If education is understood not only mechanically, like the ‘engineer’ but also totally voluntarily, like the ‘gardener’ (see also Chapter 3), it is not likely that teaching in digital age will contribute in any satisfactory way to encouraging, supporting and challenging new generations of newcomers to take up the fight for democracy, humanity and the wellbeing of all people and life on this planet, with the means, courage and power required for this task. In this chapter, we have tried to show that this is also the case when it comes to filter bubbles and lockdowns. Only ‘the challenger’ will both aim for and perhaps also manage to develop forms of teaching that can encourage, support and challenge the students to work critically and constructively together with their *knowledge*, *attitude* and *existence* in the media environment that includes digital media and also addresses the new forms of epoch-typical key problems adequately. This is, of course, a contestable statement in many ways, but we hope that this book has produced enough support for this statement to at least take it seriously and engage in further dialogue about how teaching and media can best be understood and pursued.

More concretely, we have supported the feasibility of the critical-constructive Bildung perspective in our present digital age, through our description of four paths if teaching in digital age should be Bildung-orientated (see Chapter 4). Looking at the first path, we generally see the school as a system that, in all school subjects and in its foundations, must seek to find itself in a world where digital media brings major challenges, but where these can be developed into tools that offer new possibilities to structure teaching and schooling in both better and different ways than before, when also seen from a Bildung perspective. Looking down the second path, we see that individual subjects have to find their reconfigured way into the digital world. They must keep themselves informed of the object in their environment that they address and develop means and aims so that they do not end up as anachronisms. Looking down the third path, we are reminded of our responsibility to work out what digitalisation itself means – as a main problem of our epoch – and to seek to encourage and support new generations of people to understand media critically and develop and alter digital and other media into something that can help us all to create a better world and help to fight surveillance capitalism. Looking down the fourth and final path, we see a crossroads where the other three roads can meet and begin a spiral that includes much more third wave teaching than we see today; helping new generations to become better at meeting and dealing with dialogical otherness than today’s older generation. As we have argued in this chapter, one

of the major problems today, is that social media propels filter bubbles and populism and many people don't have a friendly and collegial attitude towards others. Otherness, both human and more-than-human otherness (the other life creatures on this earth) might be the single most important issue to deal with in future education! And here, we have demonstrated and argued, that digital media and the Internet upholds radically new possibilities of challenging students and supporting and encouraging them to deal dialogically with otherness. For centuries, *Bildung* thinkers have argued that a dialogical meeting with otherness is one of the key aspects of a *Bildung* process; but not before digital media and the Internet, has it been possible to such a degree as it is now. What is still missing, however, is that schools and teachers are supported to develop a *Bildung*-orientated teaching, that brings out the prerequisites for third wave education, otherwise, it is unlikely that the new potential for confronting otherness can be actualised in a manner that will do the job. The school in general, each of the subjects and our responsibility for digitalisation as an epochal key problem, can be part of the process of developing new forms of teaching. The development of the school becomes something that is continually revised and developed by processes that are reproduced and modified during each and every school hour executed in conjunction with the other three paths in third wave actions.

Lastly, in Chapter 5, we have also shown the risks of instrumentalising teaching using Big Data and machine-learning algorithms without democracy and *Bildung*. Here in Chapter 6, we have also argued, that democracy needs *Bildung* to challenge students to explore and improve their knowledge, attitude and existence, critically to stand up against conspiracy theories, fake news, polarisation, mistrust in institutions and their production of knowledge (not to mention that in many countries, with dictatorships and illiberal democratises, have malfunctioning institutions that must be criticised). After the dark analysis of the democratic problems in the digital age (see Chapter 5 and the beginning of Chapter 6), we have finally analysed how the education system in Denmark, one of the richest and most digitalised societies in the world, managed the COVID-19 lockdown in the spring of 2020. It has been rumoured that the second lockdown, in winter 2021, was managed better and we have also speculated, that the 'first' educational responses to the extraordinary lockdown situation, will be developed into something more concrete, when both teachers and researchers have had time to develop more detailed responses. Yet, if the reports analysing education in the spring are true, there is not much hope for democracy and social coherence in western societies, if we are relying on the

education system to help new generations into the digital age. Anyhow, in our view, this only shows that there are strong reasons, together with all the other reasons we have put forward and discussed in this book, that a critical-constructive Bildung approach to teaching is both truly needed and *desirable*, in the digital age, in which we are now living. This is also *possible* – and we have given endless examples – but perhaps not likely – if our educational system and the beliefs it is based on, fail to *reorientate* away from the dominant technical understanding of education.