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The concept of 'Surveillance Capitalism' and its relevance for Adult Learning and Education

Der Artikel nimmt Wittpoths Diskussion über Erwachsenenbildung und soziale Diagnosen als Ausgangspunkt und ergänzt diese um eine neue soziale Diagnose, nämlich die Idee des „Überwachungskapitalismus" als Kontrast zu den Überwachungstheorien von Foucault und Deleuze, die erhebliche Auswirkungen auf den Diskurs der Erwachsenenbildung hatten. Die Autor:innen entwickeln zentrale Themen des Überwachungskapitalismus, insbesondere die Vorstellung, dass die überwachende Instanz nicht länger staatlicher Natur ist, sondern aus einer Vielzahl von Unternehmen besteht. Zuboffs Theorie und deren Merkmale werden dargestellt und führen zur Frage, ob ihr eine vergleichbare Relevanz für die Erwachsenenbildung zukommt. Die Analyse basiert auf einer Sammlung (empirischer) Literatur, die Überwachungskapitalismus als Bezugsrahmen verwendet. Dabei werden vier thematische Bereiche identifiziert, in denen der Überwachungskapitalismus für die Erwachsenenbildung von Bedeutung ist: die Frage des Datenschutzes und der Datenkompetenz als Bildungsziele der Erwachsenenbildung, Forschung zu KI-gestützten Plattformen zur Arbeitssuche, Aktivismus und Lernen in sozialen Bewegungen trotz Überwachungskapitalismus sowie Lernanalytik am Beispiel zweier spezifischer Plattformen. In all diesen Feldern bedient sich der Überwachungskapitalismus Techniken der Verwirrung, Ablenkung und Täuschung. Die Autor:innen fordern daher sowohl ein erhöhtes Problembewusstsein als auch gesetzliche Schutzmaßnahmen.

The article starts from Wittpoths discussion of Adult Education and Social Diagnoses and adds a new social diagnosis, namely the idea of 'Surveillance Capitalism' as a contrast to Foucaults and Deleuzes surveillance theories, that had substantial effects for the adult education discourse. The authors develop the core themes of soruveillance capitalism,

especially the idea that thesurveilling agency is no logner a government, but a set of companies. Zuboffs theory and its characteristics are displayed and lead to the question whether it has a similar relevance for adult education. The analysis builds on a collection of (empirical) literature that use Surveillance Capitalism as frame. This identifies four different themes of the relevance of surveillance capitalism in adult education: The question of data protection and data literacy as aims of adult education, research on AI driven job search platforms; Activism and learning in social movements despite surveillance capitalism as well as learning analytics with regard to two specific platforms. Surveillance capitalism uses techniques of confusion, distraction and deception in all these areas and the authors call for both awareness as well as protective legislation.

The concept of 'Surveillance Capitalism' and its relevance for Adult Learning and Education

Anke Grotlüschen & Bernhard Schmidt-Hertha

Abstract: The article starts from Wittpoths discussion of Adult Education and Social Diagnoses and adds a new social diagnosis, namely the idea of 'Surveillance Capitalism' as a contrast to Foucaults and Deleuzes surveillance theories, that had substantial effects for the adult education discourse. The authors develop the core themes of soruveillance capitalism, especially the idea that thesurveilling agency is no logner a government, but a set of companies. Zuboffs theory and its characteristics are displayed and lead to the question whether it has a similar relevance for adult education. The analysis builds on a collection of (empirical) literature that use Surveillance Capitalism as frame. This identifies four different themes of the relevance of surveillance capitalism in adult education: The question of data protection and data literacy as aims of adult education, research on AI driven job search platforms; Activism and learning in social movements despite surveillance capitalism as well as learning analytics with regard to two specific platforms. Surveillance capitalism uses techniques of confusion, distraction and deception in all these areas and the authors call for both awareness as well as protective legislation.

Keywords: Surveillance Capitalism; Adult Literacy Education; Data Literacy; AI Literacy; Learning Analytics; Adult Education

Zusammenfassung: Der Artikel nimmt Wittpoths Diskussion über Erwachsenenbildung und soziale Diagnosen als Ausgangspunkt und ergänzt diese um eine neue soziale Diagnose, nämlich die Idee des „Überwachungskapitalismus" als Kontrast zu den Überwachungstheorien von Foucault und Deleuze, die erhebliche Auswirkungen auf den Diskurs der Erwachsenenbildung hatten. Die Autor:innen entwickeln zentrale Themen des Überwachungskapitalismus, insbesondere die Vorstellung, dass die überwachende Instanz nicht länger staatlicher Natur ist, sondern aus einer Vielzahl von Unternehmen besteht. Zuboffs Theorie und deren Merkmale werden dargestellt und führen zur Frage, ob ihr eine vergleichbare Relevanz für die Erwachsenenbildung zukommt. Die Analyse basiert auf einer Sammlung (empirischer) Literatur, die Überwachungskapitalismus als Bezugsrahmen verwendet. Dabei werden vier thematische Bereiche identifiziert, in denen der Überwachungskapitalismus für die Erwachsenenbildung von Bedeutung ist: die Frage des Datenschutzes und der Datenkompetenz als Bildungsziele der Erwachsenenbildung, Forschung zu KI-gestützten Plattformen zur Arbeitssuche, Aktivismus und Lernen in sozialen Bewegungen trotz Überwachungskapitalismus sowie Lernanalytik am Beispiel zweier spezifischer Plattformen. In all

diesen Feldern bedient sich der Überwachungskapitalismus Techniken der Verwirrung, Ablenkung und Täuschung. Die Autor:innen fordern daher sowohl ein erhöhtes Problembewusstsein als auch gesetzliche Schutzmaßnahmen.

Schlüsselwörter: Überwachungskapitalismus; Erwachsenenalphabetisierung; Datenkompetenz; KI-Kompetenz; Lernanalytik; Erwachsenenbildung

1   Introduction: Why Surveillance Capitalism matters

Scientific diagnoses of society significantly influence practices in Adult Learning and Education (ALE) and guide scientific research. This influence is well documented in the book "Adult Education and Societal Diagnoses" by Jürgen Wittpoth, published over twenty years ago in 2001. We will use the articles from Wittpoth's book as a model to discuss more recent theories and their relevance to the field.

One widely recognized contemporary theory examines the economic models of data collection and artificial intelligence in an era of constant surveillance (Zuboff, 2019). This theory highlights the increasing exploitation of data by major internet companies and argues that this trend poses fundamental threats to both economies and democratic societies. Since education is essential for equipping individuals with the skills needed in today's economies and for strengthening democracies, Zuboff's theory is particularly relevant as a societal diagnosis that encourages further research in adult education and learning.

This article is organized as follows: First, we discuss the development of the theory as it relates to disciplinary and control societies, approaching it from a distinctly economic perspective. Next, we aim to capture the main themes of the concept of Surveillance Capitalism. This task is challenging because the primary publications tend to focus on specific cases without relying on systematic empirical data or a well-developed terminology. However, Shoshana Zuboff has become a foundational reference for several empirical studies in the field of education.

While the topics of education, higher education, teacher professionalism, and family dynamics frequently appear in research on surveillance techniques, there is a noticeable lack of studies addressing adult education and learning in conjunction with the concept of Surveillance Capitalism. Therefore, the authors conduct a brief literature review to assess the relevance of Zuboff's theory in this context and to explore the perspectives and roles of adult education research and practice within a framework of Surveillance Capitalism.

2 Literature review: From Disciplinary Society to Control Society to Surveillance Society

Society theories often build on earlier models, whether intentionally or not. While this particular theory has relevant predecessors, it does not explicitly link to them. However, it is pertinent to suggest a connection to theories on disciplinary and control societies, as these concepts have become increasingly relevant to adult education and lifelong learning.

Foucault and Deleuze

Michel Foucault's concept of governmentality has significantly influenced theories of adult learning and lifelong learning. Scholars such as Rothe (2011, 2012) have used this idea to frame lifelong learning as a technique for subjectivation under the neoliberal objectives of governments. Kopecký (2011) interprets Foucault's central argument as a form of indirect pressure that is often invisible and operates through prevailing discourses (p. 258). Faulstich refers to Foucault's notion of a disciplinary society (Foucault, 1977), describing it as a panopticon where the supervisor remains unseen, and those being supervised are left uncertain about whether they are being observed (Faulstich, 2006). This perspective is supported by Fejes (2008), who discusses the role of disciplinary technologies in education.

However, when discussions shifted from Foucault's theories to Judith Butler's ideas on subjectivation, the inquiry into lifelong learning as a method of surveillance and governmentality became less prominent. Meanwhile, Gilles Deleuze (1992) expanded on Foucault's analysis of the disciplinary society, offering a visionary account of what he termed the "control society." In this framework, disciplinary societies primarily critique governments for implementing techniques of regulation and self-regulation that help maintain their power. In contrast, control societies move away from viewing governments as the main centers of power, instead recognizing corporations as pivotal players. As society transitioned from industries to services and from factories to computerization, the sophisticated technologies of a control society adopted principles of entrepreneurship and marketing. This shift emphasizes rapid turnover over sustained discipline, leading individuals to become metaphorically "locked up" in consumer debt rather than being confined in factories (p. 260). Deleuze's brief article from 1992 already pointed to computerization and marketing as instruments of social control (p. 260). Further education is thus perceived as an ongoing entrepreneurial endeavor.

> As the company replaces the faculty, continuous training tends to replace the school, and continuous monitoring replaces the exam. This is the safest way to hand over the school to the company. In the disciplinary societies you never stop starting (from school to the barracks, from the barracks to the factory), whereas in the control societies you never finish anything: Company, further education, service are metastable and coexisting states of the same modulation (Deleuze, 1992, p. 156). [Own translation]

In 1992, before the advent of the internet, navigation systems, streaming services, and social media, Deleuze shifted the focus from governments to enterprises as the driving forces and controlling entities operating behind the scenes. Unlike technologies of subjectivation that suggest a governing structure, Deleuze's concept of a control society is governed by an ideology of entrepreneurship (Pongratz, 2007).

Zuboff's notion of surveillance capitalism does not describe a society; rather, it pertains to an economy. This economy is not managed by turning everyone into entrepreneurs who self-regulate according to their own business plans and the goals set by their governments. Instead, Zuboff identifies the key players, not mere puppets. Her economic theory examines the companies that create and profit from surveillance.

Zuboff: Surveillance Capitalism

Shoshana Zuboff starts with her term 'Surveillance Capitalism' (2019) and identifies five global companies that shape the digital markets: Google, Amazon, Facebook, Microsoft and Apple (2019, p. 24), she calls them the Top Five internet companies (2019, p. 38). She argues these companies are the main drivers behind "A new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales" (Zuboff, 2019, no page number). She points to the role of the internet companies in the early 2000s, when they made their users dependent on them, before national or supra-national bodies applied data protection rules. Her thesis is that companies monetize behavioral data, especially for targeted advertising. According to her, the secret extraction of data is a characteristic of surveillance capitalism, moreover, the companies build on euphemisms and legal, but unfair strategies to hide their practices from the user (Zuboff, 2019).

Data on human behavior and preferences are sold to advertisers, prognosing behavior (of customers) to improve the sales. This is usually quite well known to the audiences, and they may develop a belief that they simply do not click the advertisements they see. However, Zuboff argues that users do not act as individuals, but are herded (p. 292–293). The significant others, the community, the herd builds social pressure for the individual (p. 496), orchestrates good behavior and our empathy causes us to swing with the herd (p. 501). This may be great in mobilizing for democratic elections, but it also explains why undemocratic statements go viral around the world. Another user strategy would be not to use social platforms and not to share data. However, Zuboff argues that individual data are not relevant anymore, as long as the herd provides data (p. 504–507). This is applied in health and car insurances, that vary according to the user characteristics.

The next step in surveillance capitalism is called "make them dance" (Zuboff, 2019). Data are not only sold for prognosing buyer behavior. They get sold to organize customer behavior, to make users act in ways that they would not do without the platforms. This is clear when we think of video surveillance or face and voice recognition – people behave differently when they feel supervised, especially when the supervision is invisible as in Foucault's (1977) notion of a Panopticon (Pongratz, 2007). But making

them dance is different: Zuboff calls them tuning, herding and conditioning (2019, p. 336).

The idea of tuning builds on nudging, the user receives nudges to act, e. g. to accept cookies because it is too complicated to modify them, or to book flights and hotels, to release the stress of all the pop-ups that indicate how many other users would currently try to book the same places. Nudges could close mobile phones at eleven p. m. and nudge the user to go to bed, fridges may close after too many calories used, smartwatches nudge us to stand up once per hour and cars may refuse to start when they realize drunken drivers (2019, p. 338). Tuning and nudging thus is a fundamental innovation for the internet of things. Herding means that we follow the herd, and conditioning applies techniques known from gamification. The best example is the Pokémon game, that directs the herd to real life places where Pokémon playfights take place, and drive them to local restaurants, that paid for this service (2019, p. 358, p. 363). The purpose of gamification is to direct the herd to where the advertised products are sold, confirming this positively with asterisks, praise symbols, or sounds. The herd is optimized to buy as many goods as possible, but it also has to work and produce data, so health games (fitness centers, apps, studios) play a big role in gamification and conditioning (p. 357).

Zuboff convincingly explains how surveillance capitalism takes over the economies, but she also claims that this is highly dangerous for democratic societies. Advertisement can consist of party programs for forthcoming elections – as well as propaganda, that is meant to destabilize societies. Users believe that they were self-determined in their decisions, and as long as users believe in this narrative, companies and ideologists can easily chase them around.

This is also the core message of the Israeli scholar Yuval Harari (2016), who argues that most of our decisions are not taken out of free will, because genes and brain neurotransmitters shape our will (Harari, 2016). He argues that neurotransmitters make us believe that we now want to eat this pizza, to marry this smart and fancy person, to vote for this or that party, but most of the decisions build on a humanistic understanding of introspection – the individual will – as the core authority for decision-making. His theory claims that Humanism is a religion among others, elevating humans above animals and robots and successful in times dominated by mass war and mass industrial workers. In times of drones and robots, Humanism loses its function and leads to the question whether and why humans claim they were equal and supreme to artificial intelligences or animals.

Harari claims that under the regime of data capitalism, algorithms will predict the profession and the partner that most probably make us happy throughout life, they will predict which goods we want to buy and appreciate (e. g. music) and which party we want to elect. Harari suggests that algorithms will often nudge us to make better decisions, react less spontaneously and more to our values (e. g. we would choose parties because of their programs and their actions instead of the personalities). If we open our data to algorithms, medical diagnostics and would become much better and rely on the latest research – as long as the algorithmic bias is overcome (Criado-Perez, 2020).

While lifelong learning has often been identified as a governmentality technique in Foucault's terminology and further education is mentioned several times in Deleuze's short text, there is little knowledge about the overlap between adult learning and education or lifelong learning with the more recent theory on surveillance capitalism by Zuboff (2019).

This article seeks to explore surveillance capitalism as a societal diagnosis relevant to adult learning and education. So, the main part of the analysis lies in embedding Zuboff's theory into earlier approaches that substantially influenced adult education research, and in selecting, presenting and embedding aspects of her theory that may inform the field. However, one of the functions of this kind of article – in line with Jürgen Wittpoth's (2001) collection – also lies in an overview of the research related to the theory under consideration. This leads to a leading question for a small-scale literature review: How does Surveillance Capitalism affect Adult Learning and Education? What are the roles Adult Learning and Education can play concerning Surveillance Capitalism?

3   Data Collection

Surveillance capitalism resonates much less with adult education research than disciplinary theory by Foucault, so in order not to overlook relevant research, a small systematic literature review, covering 2019 to 2024, seemed necessary. A first search was applied with google scholar and ERIC. The term "adult education" + "surveillance capitalism" led to nearly no results, while reducing adult education into "education" ends up in a wide discourse on school and higher education research, with the international discourse being more vivid than the German one.

A refined search was conducted with Publish or Perish with the terms "adult education" AND "surveillance capitalism". The number of results was limited to 100. Manual controls of the first 30 articles found that surveillance capitalism was either mentioned arbitrarily or applied to social media content or formal and higher education, but not related to adult learning and education. The search in the remaining 70 hits was then narrowed to Adult Learning and Education journals. The remaining articles are presented in the findings section.

4   Themes of research on Surveillance Capitalism and Adult Education

One major finding was that the theory of surveillance capitalism has led to a substantial amount of educational research (Pea et al., 2023), but mostly focusing formal (Gouseti et al., 2024) and higher education programs (Davies & Nyland, 2022). The Stanford University researchers Pea et al (2023) specify four different surveillance technologies: Location Tracking, Facial Identification, Automated Speech Recognition, and Social

Media Mining, and claim they are "all making headway into PreK-12 schools, universities, educational research" (Pea et al., 2023, p. 318). Location tracking is applied on American campuses: "On American campuses, college students are being watched, tracked, and managed by an accelerating nexus of technologies" (Pea et al., 2023, p. 319), and they report scenes that European students cannot imagine:

> Beyond all the activity logging attendant to their uses of student IDs, video surveillance cameras record students' faces, GPS tracks their movements, and their messages and photos are monitored on social media and email. Online courses and digital textbooks log their study habits minutely, and their pathways through campus buildings are recorded whether in class, dorm, cafe, library, or sporting events. Colleges say they're using these surveillance data to keep students safe, engaged, and making progress, but we should ask how the reduced freedom to act without surveillance is shaping student agency and responsibility since surveillance is a means of control and suppression (Pea et al., 2023, p. 319)

Tracking and location data is also collected in formal education, especially with classroom software, and video surveillance in schools becomes normal (Pea et al., 2023, p. 319). As a consequence, authors call for better data protection and more digital or data literacy as aims of education.

These surveillance dynamics seem far away and barely imaginable for European adult education. Nevertheless, European adult education institutions are also part of the system if they utilise the possibilities of learning analytics and adaptive learning systems (Ahmad et al., 2023), social media marketing or artificial intelligence (Dreisiebner, 2022). In the medium term, it is likely to become increasingly difficult for adult education to escape the principles of surveillance capitalism. Based on our review, we identified some central aspects which are discussed in ALE research concerning the concept of surveillance capitalism: Date protection and data literacy, in particular in the context of job search platforms, activism and learning in social platforms, as well as learning analytics.

Data protection and data literacy as aims of adult education
Data protection is underway, e. g. with the General Data Protection Regulation (GDPR) in the European Union since 2018 as well as several initiatives regarding artificial intelligence. Surveillance capitalism and data collection is seen as one of the three core dangers of generative artificial intelligence (the others being hallucinations and algorithmic biases) (Grotlüschen et al., 2024, p. 4). They argue: "Both, the use of text as well as the collection of user data, can be understood as part of surveillance capitalism, that builds its revenue on making users transparent and dependent (2024, p. 4). The authors find from an ad-hoc survey that 42,3 % of generative AI users in a non-representative sample in 2023 expect correct information (p.8) and that this is worse when users are less experienced.

The US American scenarios confirm the lack of awareness, because research projects "have shown how people, on average, have a very weak understanding of exactly how their personal data is collected, linked, used, sold, and re-sold" (Hokka, 2022,

p. 268). The author claims that better digital literacy skills are needed. Her research uses the Disconnect software, an application that shows how data are used, to raise awareness among adults. One participant argues, that the Disconnect results were very confusing, not because of advertising or data analysis companies tracking, but "I was really confused to notice that [the file-hosting service] Imgur was in contact with a Russian news site. What should I think about this?" (Hokka 2022, p. 274–275) The author claims users are less concerned about their data but about the consequences on elections and democracy. This kind of confusion is one of the core techniques of surveillance capitalism, as several other findings show.

Digital literacy is interconnected with digital numeracy and has substantial overlap. Numeracy researchers state:

> Zuboff's (2019) recent theory on surveillance capitalism calls for critical awareness of how human behavior is predicted and modified based on personal data to benefit leading internet companies. The upshot is that citizens who do not develop digital numeracy and a critical stance in this regard are vulnerable, e. g., to actions by various service providers. (Gal et al., 2020, p. 388)

Researchers obviously agree that adults need the competences to handle the new pressure from surveillance capitalism, but little is known about what kind of competences is needed. Awareness seems to play a role as well as understanding confusion as an instrument of surveillance. At the same time, Zuboff's work also shows considerable scepticism towards the possibilities of the individual as a critical and enlightened consumer to withdraw from the dynamics of surveillance capitalism. She also refers to failed or undermined attempts at legal regulation (Zuboff, 2019).

Job search platforms and the digital literacies they require

Very little educational research points to the effects of surveillance capitalism regarding platform economy, e. g. job search platforms. This seems disconnected from adult education and learning at first sight. However, a closer look reveals that adult education includes services for job searchers provided by community or training centres. Smythe (2019) follows users in community-based technology centres as they submit their resumes to job portals (indeed.com) that offer algorithmic preselection services to their customers (the employer). Findings show that the user is confused about where her information might go (p. 381). "Ray [pseudonym of the tutor] has experience applying for jobs online and after several weekly sessions in on indeed.com advises Carla [pseudonym of the learner] to avoid automated platforms such as indeed.com whenever possible because resumes "get lost" in a sea of other resumes, are subject to unknown filters and other "processes" that make it unlikely that people like Carla will find an appropriate position." (p. 382) This confirms that confusion is one of the main mechanisms of surveillance capitalism. Smythe et al.'s (2021) work on e-recruitment also confirms that complex literacy skills are needed to manage e-recruitment platforms and that users are confused about what data job advertisement platforms, employers and job agencies may collect about them. Following Zuboff, some skepticism of data pro-

tection in this context is indicated. The use of rather substantial data like resumes should be of great interest for commercial use and therefore of great value for firms that can sell it.

Activism and (learning in) social movements despite surveillance capitalism

Regmi (2024) claims that activism against systemic racism was made possible by social media, but connects the artificial intelligence behind the timelines with Zuboff's idea of Surveillance Capitalism: "For example, the video of the murder of George Floyd in May 2020 shared through social media reignited #BlackLivesMatter movement. However, the corporate push towards the creation of a technological world order has widened the digital divide in an increasingly unequal world. Moreover, the collection of psychological data for improving the performance of AI including the notion of surveillance capitalism (Zuboff, 2019)" (Regmi, 2024)[1]. Similar arguments stem from the feminist movements. Jubas (2023) argues that social media allows social movements like #metoo, as well as their learning opportunities, to rise. They claim that the discourse on surveillance capitalism is only one side of a double-edged sword (Jubas, 2023, p. 136).

Regarding the chances of feminist empowerment in the Global South, Gurumurthy & Chami (2019) state that surveillance is not only a capitalist extraction for profit, it is also a government control system:

> The 2013 exposé by the former CIA employee Edward Snowden of the United States PRISM surveillance programme has conclusively revealed the existence of a US government back door to data held by Apple, Google, Facebook and Microsoft. Governments from developing countries have also joined the surveillance game. For instance, the Chinese government is collaborating with the Alibaba group to set up Sesame Credit, a nationwide social credit system that will assign a trustworthiness score for all citizens based on extensive mining of behavioural and preference data. Gurumurthy & Chami 2019, p. 91)

Jeremic (2019, p. 117) claims that hashtag activism has more benefits than risks, but see the risks with Zuboffs warnings that "political surveillance has been transcended by a surveillance economy", and they continue by building on Harari (2018), who "warns that in the future algorithms will soon predict our feelings, moods and emotional reactions to further exploit or manipulate us" (Jeremic, 2019, p. 117).

We conclude that activists who see social movements interconnected with Adult Education and Learning, agree that they can benefit from social media despite surveillance capitalism, however, they contradict the theory: They argue that capitalism and surveillance state act hand in hand when it comes to the control and suppression of minorities or opposition. Again, the concerns are more articulate regarding democracies and less so in terms of capitalism, online advertisement or data surveillance. This might underestimate surveillance capitalism, where, according to Zuboff, the top five internet companies already are much more powerful than national governments or their supranational organisations (Zuboff, 2019).

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1   The article is online first and does not have page numbers.

So far, adult learning and education overlap with the notion of surveillance capitalism in three ways: First, research shows that data protection, awareness, and digital literacies are needed generally, and more specifically when it comes to platform economies like job search engines. Second, adult learning in its form of social movement and activism faces a double-sided sword of social media as a controlling and empowering structure. However, when the types of artificial intelligence that foster surveillance are considered, there is little adult education research: localisation tracking, and facial and voice recognition remain under-researched, probably because few can imagine how this could play a role in educational settings. However, Pea et al. (2023) indicated that schools and universities in the U. S. are well underway in applying all surveillance modes.

Learning analytics: the cases of Coursera and Blackboard

One major piece of research stands out, it is a dissertation on e-learning platforms Coursera and Blackboard by Petreski (2021). She loosely relies on Zuboffs and other concepts of surveillance and data capitalism (2019, p. 23). Her dissertation overcomes one of the most difficult methodological questions in researching surveillance capitalism in adult education and learning: surveillance technologies are invisible and closed up, they are hidden from public view. Petreski uses the privacy policies, consent agreements, and interviews with key actors within the organizations to capture the surveillance techniques applied by the two e-learning providers.

The author applies critical grounded theory and generates a "core category of Exploitation of the learning community, the constituent concepts such as; the Vendor-Institutional Complex, Use of learner-generated value for profit, and the Behavioral monitoring and engineering; and the sustaining category, the Magic Trick" (2021, p. 47). Not surprisingly, he finds that "both Coursera and Blackboard engage in such extraction of value to secure financial gains" (p. 48).

Platforms combine the data from individual learners with metadata of millions of other learners to suggest what learners see in their browsers, all this is organized to nudge the learner to enroll into costly online degrees. The author argues:

> The fact that the learners are unaware that they are being shown specific content that influences them towards enrolling into an online degree and spending money, and furthermore the fact that they cannot opt out of being influenced unless they never use Coursera again, makes the extraction of value from data unfair. Additionally, once the learner enrolls in an online degree program, their data is being extracted and used to retain them in the programme, motivate them, and support them in order to continue learning. However, by continuing to be enrolled in these programmes, they are also continuing to pay and produce data. (2021, p. 49)

The most interesting finding is the so-called magic trick, that prevents massive learner protest or upheaval (2021, p. 67): "What makes this extraction unfair is the behavioural monitoring and engineering that supports this extraction, and the magic trick that maintains the exploited in a state of unawareness and confusion" (p. 48). Petreski compares the surveillance techniques:

> Any good magician uses three basic methods to pull off a magic trick; confusion, distraction, and deception. Similarly, these practices are also present in the Magic Trick that big data based online education vendors are playing on the learning community (2021, p. 68)

His findings show how confusion is generated by not showing the learner what data are collected and how they can control it. Distraction is generated by constantly talking about privacy policies instead of data collection policies and deception is applied by suggesting the companies' aims were the learner success and degree which would lead to the learners' financial profit, instead of clarifying that all the company cares about is their profit (Petreski, 2021).

5   Discussion

Zuboff's understanding of power has been criticized as it is strongly based on Skinner's behaviorist theory (Ketels 2023, p. 48). Another point of critique is the lack of a social theory foundation for her theses and the credibility of the critical statements of an author who has long held a very optimistic view of the effects of big data and similar developments. Furthermore, the question arises as to the extent to which the analyses focusing on the business models of internet companies have such an impact on society in general that they can be seen as a diagnosis of social development as a whole. Beyond that critique, Zuboff's social analysis is now widely received and taken up, for example, in the context of a critical examination of digitalised health data (Maschewski & Nosthoff 2022). Concerning the use of the concept of surveillance capitalism in adult education research, three central aspects can be identified.

First, Surveillance Capitalism has a much smaller effect on ALE research than the earlier concepts like knowledge society, risk society or a hedonistic society. The theories discussed in the early 2000s also build on well-known scholars, like Pierre Bourdieu's field theory, that is interlinked with the notion of a hedonistic society (Tippelt & Pietraß, 2001), as well as Marx' definitions of work, in which the discourse on work society (Faulstich, 2001) is rooted.

Second, as data and surveillance capitalism heavily rely on data protection regulation, the anglophone countries have a more active discussion regarding schools (Sefton-Green, 2022), higher education (Lauder & Mayhew, 2020) and the surveillance of teachers (Holloway & Lewis, 2021), because the surveillance practices are in line with the law. This is also relevant for family life and time regimes (Barassi, 2020).

Third, in answering the research question: How does Surveillance Capitalism affect Adult Learning and Education? What are the roles Adult Learning and Education can play about Surveillance Capitalism, we would summarize that the literature points to four issues:

- The call for data protection and data literacy: Adult education is seen as a means to improve data literacy of societies, but better data literacy cannot protect societies against damages based on surveillance capitalism – it also needs better legal protection.

- The change in job search (and other) platforms and the skills to handle them: Adult education often addresses job seekers or people who would like to redirect their careers, so they come across platform economy and surveillance techniques. Adult education providers need to be prepared to handle these.
- Social justice activism under surveillance, not only by capitalism, but states: Adult education has overlaps with grassroots organisations and activism and the literature reveals how social media become a double-sided sword for activism.
- Learning analytics on the rise and commercial adult education plays a role in it: Commercial adult education providers, especially online providers, substantially apply surveillance techniques and commercially benefit from extracting user data.

The literature shows that techniques of confusion, distraction and deception are the "magic tricks" to keep users on the platforms, further exploit their data and benefit commercially from them. In case the users have a choice, better awareness and critical digital literacy may protect them from further or more intense exploitation. However, in many ways, users are already dependent on surveillance capitalism, e. g. because all their contacts use widespread text messengers. In this case, better awareness does not lead to protection, this needs strong and protective legislation.

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