'Google Speak': The discursive practices of search in home-education

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Abstract

Learning with technology is increasingly understood to be a social process involving unique and telling discourses. An emerging research agenda has resulted, investigating the links between 'talk' and student technological practices but is yet to include home-education. Preliminary evidence exists of a relationship between particular types of 'talk' and success with particular online activities, namely online search. This may prove especially pertinent to home-educators who report that their most prolific online activities are those reliant upon search engines like Google. This paper presents select findings from a study into online search and the associated discursive practices among early primary students and their parent-educators in Australia. Data from observations, tests and interviews with five home-educating families were analysed recursively using a system guided by Fairclough's Critical Discourse Analysis. Specifically, this paper seeks to investigate: which discursive practices are privileged in these sites during online search; the extent to which these practices contribute to relations of power and the extent to which these practices are found alongside effective online search. Findings revealed a prevalence of inequitable discursive practices, those that either inhibited the equal conversational power of speakers or which naturalised inequitable power relations more generally. These discursive practices were found alongside ineffective online searches. Notwithstanding, participants continued to speak positively about search engines and their educational power. This rhetoric-reality gap is theorized in the paper as the work of dominant ideologies surrounding technology in education. Findings can assist the growing number of home-educators and their students to use online search more effectively. Insights regarding links between discursive practice and search practice may also help ensure that discourse helps to maximise the educational benefits associated with online search.

Keywords: *information-seeking; Google; home-education; home-school; home learning; Critical Discourse Analysis; Fairclough; Digital-Native*

Renee Morrison's research focuses on technology and the capacity to assist educators and students reach their full potential in the 21st century. Her research profile also investigates the changing role of teachers today, including those in alternative systems (home-education), and highlights the relationship between ICT use and effective pedagogies. Specifically (but not exclusively) Renee's work considers how search engines like Google are being used in educational environments and how they may be better used to enhance educational outcomes. A focus on 'Generational Digital Divide' rhetoric and upon ensuring discourse is used as a resource, rather than an obstacle for pedagogies is also present in her research. Renee is interested in challenging asymmetries in power and knowledge as manifested in discourse and in contributing knowledge which may serve to question pervading ideologies surrounding today's students and educators. She has experience in both quantitative and qualitative methodologies;

particularly Critical Discourse Analysis and semiotics. Previously Renee's research has employed Gramsci's concept of Hegemony and Cohen's Moral Panic.

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Introduction

Home-education was once understood as an eccentric form of schooling chosen by two small, but distinct groups of parents. Van Galen's (1988) seminal work used the terms 'pedagogues' and 'ideologues' to represent these groups based upon motivation to home-educate. Pedagogues, Van Galen (1988) explained, are parents at odds with traditional teaching methods or the nature of public schooling. Ideologues instead have a desire to teach conservative religious values (Van Galen, 1988). More recent studies report a wide array of motivations to educate at home (Gann & Carpenter, 2017; Hanna, 2012; Harding, 2011). Some suggest ubiquitous access to educational materials made possible by the Internet (Bullock, 2011; McAvoy, 2015; New South Wales Parliament, 2014) help account for the recent growth in home-education; growth witnessed in Australia (Chapman, 2017) and elsewhere (Issimdar, 2018; Neuman & Guterman, 2013). Certainly, there exists evidence of increasing reliance upon the Internet in this context (Bullock, 2011; Hanna, 2012). The most common online activities reported by home-educators and their students, moreover, are those dependent upon successful online search (Bullock, 2011; Neil et al., 2014). Online search is associated with several educational benefits, yet little is known about this practice in home-education beyond such reliance.

Irrespective of location, internet technologies like search engines have long been credited with giving students more power. Indeed, because information online is available to anyone, anywhere at any time, today's students are thought to have the same, if not better (Prensky, 2001), access to the information their educators do (Jalongo et al., 2015). In theory, this equitable access can reduce power imbalances between teachers and students, making students more active participants (Kroksmark, 2016; Tapscott, 2009) than that inherent in traditional didactic pedagogies. Such a levelling of status may not necessarily present in more equitable 'talk' though, some suggesting that technology-based lessons decrease opportunities for effective teacher-student dialogue (Asterhan et al., 2012; Gillen et al., 2007).

This paper presents select findings from a study into online search and the associated discursive practices in Australian home-education. It responds to increased understanding of a relationship between particular discursive practices and student online search (Castek et al., 2012; Knight & Mercer, 2015). The paper is guided by the following questions:

- RQ1 What discursive practices are privileged during online search and during discussions of online search in Australian home-education?
- RQ2 To what extent do these discursive practices contribute to relations of power?
- RQ3 To what extent are these discursive practices found alongside effective online search?

The remainder of the paper is organised as follows: First, I outline the paper's theoretical framework introducing Critical Theory and Critical Discourse Analysis and identifying their suitability for the research. Next, I consider the context of home-education focusing on its growing popularity and success as an alternative to school-based classrooms. I then consider research on technology in home-education before highlighting the more relevant findings from studies examining the interplay between technology and discourse in education. In lieu of any research into home-education discursive practices or home-education search practices, a review of studies investigating discursive practices in search more broadly follows before the methods are outlined. Findings and a discussion of these are then presented, serving to locate

the present study within the existing literature and to theorise the participants' search and discursive practices as reflecting wider social ideologies. Some brief concluding remarks with a view to the future then follow.

Theoretical Framework

Critical Theory

In the late 1960s, a new critical paradigm gained momentum in educational research, one influenced by Habermas (1963) and the work of the Frankfurt School (Turner, 1996). Beyond just understanding social realities, this critical paradigm aims to expose and challenge realities which house inequitable power relations by drawing attention to the ideologies that legitimise them. Education can both *reflect* and *change* society, making it particularly attractive to critical research and these emancipatory aims (Rogers, 2004). Educational contexts have also traditionally been built upon 'taken for granted' inequitable distribution of status.

This study is framed in Critical Theory. Because it focuses upon relations of power; both the power afforded through discourse and through online search; this framing is particularly fitting. Critical theory assists by positioning the power given to certain practices and participants as resulting from wider ideologies. Like all critical work, the study seeks to interrogate whose interests these ideologies serve. More specifically, the study uses Critical Discourse Analysis to expose "the apparently natural flow of talk" pertaining to online search and to denaturalise common-sense assumptions about the practice (Luke, 1995, p. 12).

Critical Discourse Analysis

Critical Discourse Analysis (CDA) is an interdisciplinary theory that combines linguistic examination with social theory to denaturalise language practices (Rogers, 2002). CDA sees "linguistic practices as not simply reflecting underlying […] social realities but as constructing and legitimising" them (Coyle, 2000, p. 57). The 'critical' in Critical Discourse Analysis reflects its particular interest in social realities where inequitable distributions of power are naturalised by language.

The value of CDA for educational research is well established (Gee, 2004; Luke, 1995; Rogers et al., 2005). Rogers (2004) explains "in educational settings, language is the primary mediational tool through which learning occurs" (p. 12). Language helps us share ideas, and reveals what students know or understand (Koole, 2015). But language does more than this. Language is a social practice through which individuals establish identities and navigate relationships (Wodak, 1999). It is these language practices, those determined by, and determining social structures, that CDA scholars are interested in, that they consider 'discourse' (Fairclough, 2015). Discourse, and by extension CDA, is thought to be more pertinent than ever in education due to perceived changes in student and educator roles (Fairclough, 2015). Drawing upon Giddens (1991), Fairclough (2013) explains "relationships once automatically affording authority […] are in decline" (pp. 97-98), suggesting that now, student and educator power is instead negotiated largely through discourse. The persistent, but ultimately problematic, rhetoric surrounding today's 'Digital Native' (Prensky, 2001) and their 'superior' cyber-expertise has similarly altered the status enjoyed by students - and student speakers - when learning with digital technologies.

Though to date, no studies are found that use CDA to investigate home-education, nor online search, a small number investigate discourse and online search more broadly. Some preliminary findings include: that technology can alter the social and learning relationships available in education (Theobald et al., 2016); that parents take for granted their child/ren's technological proficiency (Danby et al., 2013); and that the "potential of collaboration and discourse should be exploited in search-based tasks" (Knight &

Mercer, 2015, p. 303). The present study attempts to further our understanding of such tasks and the accompanying discursive practices when conducted as part of home-education. It considers the role these discursive practices might play in contributing to power relations and seeks to explain why certain discourses are privileged and whom they serve.
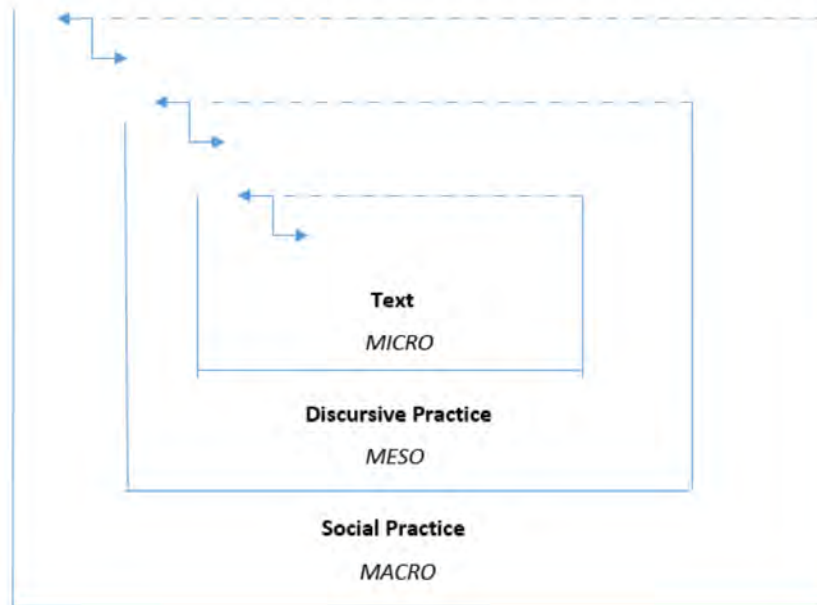

Figure 1. Theoretical framework. Adapted from Fairclough (1993, p. 73).

Like Bakhtin, the dialogic philosopher readers may be more familiar with, Fairclough (2015) describes discourse as inextricably linked to social relations as well as social constructions of power. He suggests texts are more than a collection of linguistic features and reveal much about what individuals take for granted, including their knowledge, beliefs, and values. These internalised assumptions, what Fairclough (1993) calls 'Members' Resources', are socially constrained and constitutive and influence how individuals interpret discursive and social practices, including their own, even unconsciously. Fairclough and Bakhtin's theories work in concert with one another here in that this process of interpretation is of paramount importance. Both theorists understand discourse to be a social phenomenon, one where no utterance is "a completely free combination of forms of language" (Bakhtin, 1986, p. 81) and where "meaning cannot be reduced to the utterance of the speaker [n]or to the interpretation of the listener, but emerges from the context between them" (Omland, 2020, p. 2).

Fairclough's three-tiered model for CDA assists in investigating this context. It considers how texts are produced, how they are interpreted and the 'Members' Resources' upon which this interpretation relies, as well as the social conditions making these 'Members' Resources' privileged (Fairclough, 1993). In line with his model, this study conceptualises any spoken discourse as "simultaneously a piece of text, an instance of discursive practice and an instance of social practice" (Fairclough, 1993, p. 4), requiring three corresponding levels of analysis. The study conceptualises the participants' discourse as not just linguistic choices (micro), but as choices reflecting wider discursive (meso), and ultimately, social (macro) goals. The participants' discourse is explored for its ability to expose how certain search and discursive practices are interpreted, as well as the social conditions in which those interpretive procedures are privileged.

CDA provides the study with a lens and an apparatus to investigate online search and the associated discursive practices in these home-education sites. The study's critical framing considers search

and discursive practices as influential to status and as practices creating, responding to, and resulting from wider social ideologies.

Literature Review

Home-education – a success story

This study defines home-education as "the [voluntary, permanent] education of students, parent-directed, at home" (Neil et al., 2014, p. 107). It does not include families who, due to COVID-19, had to continue tuition at home, but anecdotal evidence exists that some of these families will continue educating at home after the pandemic. Academic interest in the motivations to home-educate, an interest already spanning 30 years (Jackson, 2009; Ray, 2015), is thus likely to continue. As established, studies have tended to move beyond Van Galen's (1988) dichotomy in accounting for home-education, instead focusing upon wider environmental and historical influences, including the emergence of ubiquitous technology. A desire to raise independent and active learners, a desire proponents of Dialogic Pedagogy will appreciate, has also been reported (Bell et al., 2016; Harding, 2011). Bell et al.'s (2016) study of over 450 American families reported 10 underlying motivations to home-educate, the most predominant being the desire to offer student-centred learning (see also Harding, 2011, re Australian parent-educators). Growing studies reporting elevated academic success, studies to which we now turn, might also attract parents to educate outside of schools.

Students educated at home reportedly perform as well as, if not better than, their school-attending counterparts (Board of Studies, Teaching & Educational Standards NSW [BOSTES], 2016; Jackson, 2014; Ray, 2015). In one Australian state, home-educated students, and students previously home-educated scored significantly higher than their school-attending peers in almost every test of the National Assessment Program: Literacy and Numeracy (BOSTES, 2014). Admittedly, these results are based on a small but growing percentage (approx. 10%) of home-educated students volunteering to be tested. Regarding this state's (NSW) school certificate, one received after four years of secondary schooling, higher than average marks for those previously educated at home were again reported, the difference growing positively with duration of home-education (BOSTES, 2014). At university, home-educated students in Australia, as in America (Cogan, 2010), also perform above average (Hear Our Voices Australia [HOVA], 2014), with more attaining degrees (both bachelor's & above) than in the general Australian population (Wight, 2019).

Benefits beyond academic achievement are also reported of home-education (Allan & Jackson, 2010; Saunders, 2010). Home-educated students are found to be as mature, if not more mature socially, than school-attending youth (Saunders, 2010) and have a strong sense of self-worth (Allan & Jackson, 2010). This disposition could result from parent-educators adopting fewer didactic pedagogies (Bell et al., 2016), a response, some suggest, to the parents' own negative experiences with a traditional autocratic school environment (English, 2015).

Importantly, much research claiming to compare home-educated and school-attending students considers only narrow aspects of educational progress, or those reducible to numerical scores (Murphy, 2014). Studies also frequently fail to adequately consider the diversity in home-education, including pedagogical style (Neuman & Guterman, 2016), previous achievement levels (Ice & Hoover-Dempsey, 2011), and levels of parent commitment (Murphy, 2014). Methodological shortcomings including biased samples, affiliations with home-education advocacy organisations (Ray, 2015; Wight, 2019), and narrow scope (BOSTES, 2014) similarly render some studies ungeneralisable.

Internet use in Home-education

Despite three decades worth of home-education research and internet technologies being accessible for about as long, scarce research investigates internet use in this setting (Jackson, 2017). Such a gap is somewhat surprising as home-educators have long been found to adopt new technologies (Coleman, 2014). Skelton (2016) found that students educated at home receive more technological exposure than those at school. Home-educators report that using technology (Dumas et al., 2010) and the Internet specifically (Sabol, 2018) improves their students' educational experience and helps provide a rich, individualised and engaging curriculum. Hanna's (2012) research, a unique study spanning ten years, found a dramatic increase in Internet reliance over that period among most of her sampled (*n*=250) American home-educators (See also Gann, 2016; Sabol, 2018).

Research on technology use in home-education typically focuses on which devices are used, how frequently and why. Little research considers how *effective* such use is in attending to students' educational needs. In the United States, several home-based educational systems (charter schools, virtual schools and cyber schools) rely upon internet technologies specifically, but investigations of these similarly fail to study the *quality* of internet use (Barbour & Reeves, 2009). This gap, coupled with the increased understanding that online search is complex and difficult (Chevalier et al., 2015; Eynon & Geniets, 2016), and the most prolific online activity conducted in home-education makes the current study timely. The growing number of families choosing (or being required) to home-educate and knowledge that online search correlates with educational benefits (Van Deursen & van Dijk, 2010) similarly demands a greater understanding of search engine use in this setting.

Online search and Discourse

By Grade four (typically nine years of age), the Australian Curriculum and Reporting Authority [ACARA] (2019) states that students should be able to "use ICT to plan an information search" (p. 2). This directive reflects an understanding that the ability to find, comprehend, and evaluate information online is crucial for participation in society today (OECD, 2010, 2015). Online search is associated with several benefits (Casey et al., 2012; Halavais, 2009; Johnson, 2010; Van Deursen & van Dijk, 2010), yet much research reports a skill deficit among students (Fraillon et al., 2015; Gui & Argentin, 2011; Morrison & Barton, 2018; Quintana et al., 2012) meaning they may not reap these rewards. Findings from the recent National Assessment Program (NAP) ICT literacy tests paint a bleak picture indicating that even in year 10, only half of the tested Australian students can script "well targeted searches for electronic information" when searching online (Fraillon et al., 2015, p.112-113). Though few studies investigate online search in home-education (Morrison, 2021), broader literature on online search, and effective online search specifically, are informative.

Several factors are found to positively influence student online search. Higher reading proficiency, for example, reportedly assists students in scripting well-targeted search queries and selecting relevant websites (Duarte et al., 2011). Strong prior content knowledge of topics searched is also related to student search success (Keil & Kominsky, 2013), as is the amount of adult guidance (Gossen et al., 2014) and explicit instruction received (Huertas-Bustos et al., 2018; Walton et al., 2018). Of particular bearing to this study are findings that student search success is related to certain discursive practices (Knight & Mercer, 2015). This finding reflects a wider academic interest in the interaction between discourse and digital technology use (Hao, 2020; Major et al., 2018) including the extension of traditional concepts of conversation (Littleton & Mercer, 2013; Mercer et al., 2010; Wegerif, 2013). Several researchers have identified the possibility for digital technologies to not only influence discourse (Danby et al., 2013; Omland, 2020; Theolbald, 2015; Wegerif & Major, 2018), but to become participants in learning conversations (Craig et al., 2018; Davidson, 2020; Wegerif & Major, 2019). Others contend that when the allowances of both

digital technologies and discourse are utilised, "new forms of discussion" and the co-construction of knowledge result (Major, 2018; Stahl et al., 2014, p. 188; Wegerif, 2013). This co-construction, importantly, does not necessarily depend on all participants consistently agreeing. In 2012, Castek et al. found that grade seven students who expressed their own ideas but also built on one another's collaborated more effectively when searching the web. Knight and Mercer's (2015) study into collaborative online search similarly reported that the most successful searchers were speakers who "engage[d] critically but constructively with each other's ideas" and where "joint consideration" is given to opinions before decisions are made (Knight & Mercer, 2015, p. 310). This will sound particularly promising to readers of this special issue given Dialogic Pedagogy's central intention to foster learner agency and given its understanding that often, "the one who does not agree […] but perpetuates and deepens critical examinations […] is, in fact, the most valuable, legitimate, and necessary participant" (Marjanovic-Shane, 2016, p A53). Importantly, contributions made by the teacher have been found to be the critical factor in ensuring student contributions are a central focus and that students and teachers become legitimate and equal dialogic partners in meaning making (Mercer et al., 2019; Omland, 2020; Theolbald, 2015). Indeed, imperative to success in many digital tasks is educators "focus[ing] on the effective use of talk scaffolds" (Major et al., 2018, p. 13) and modelling "equitable kind[s] of debate" (Mercer et al., 2010, p. 370).

Returning to online search specifically, Coiro et al.'s (2011) investigation of seventh graders found that collaborative dialogue and conducting online inquiry in pairs resulted in "new opportunities to co-construct meaning [which in turn] fostered more efficient and productive comprehension of online informational texts" (Castek et al. 2012, p.482). The aforementioned study by Knight and Mercer (2015) similarly found that the most success was experienced by those (11- and 12-year-olds) participating in the most exploratory talk. Other discursive practices found to assist student search include extending another speaker's ideas and equal contributions to dialogue (Castek et al., 2012). The experiences of less successful student searchers have likewise been found to correlate with distinctive discursive practices (Castek et al., 2011; Chang, 2017).

Studies of online search at home, but not in home-education, tend to report discursive practices which differ from those found to correlate with search success (Danby et al., 2013; Davidson, 2011). Specifically, parents and children have both been found to underestimate the importance of the parent's discursive contributions in supporting the child's online search, as with other digital technologies (Plowman et al., 2008; Theobald et al., 2016). Danby et al.'s (2013) examination of a family's talk during online search found that children often disengaged from dialogue with their parents.

> To show that they were unavailable […] they kept their gaze directed at the particular technology, talking aloud
> as they used it, or they continued using the technology accompanied by silence rather than answering (p. 94).

This seeming reluctance to "relinquish the floor to the other or to make room for the other's active responsive understanding", in Bakhtin's terms (1986, p. 71), may inhibit true dialogic teaching and the equitable kinds of dialogue previously found associated with student search success. The parent's discourse in Danby's study similarly accepted an established digital identity in their young children (< 3 years old), forewent instruction (as in Plowman et al., 2008) and failed to draw attention to the literacies required for online search. In a similar study, Davidson (2011) found that children collaborating with parents during online search also talked in ways preserving their identity as competent, independent online searchers (Davidson, 2011). Should this confidence, held by both parents (Danby et al., 2013) and children (Davidson, 2011), be inflated, however, as much research reports of young people's online search (Aesaert et al., 2017; Erdemir, 2011), it may limit collaborative discourse, previously found to positively influence search practices (Knight & Mercer, 2015). If students and parent-educators can engage in discursive

practices correlated with success when searching, we can better establish contexts where new educational benefits are assured.

Method

Quantitative and qualitative data were collected from observations, search proficiency tests and interviews to develop an in-depth understanding of online search in home-education. While qualitative data (particularly spoken discourse) are informative, students (Tiidenberg et al., 2017) and educators (Mansour, 2013) have been found to report different, even contradictory, practices compared with practices actually observed, meaning such information is more reliable when complemented with quantitative data (e.g. that collected during observation and tests). The research design chosen also begins to address certain gaps in the literature. The age of students, for example, was guided by a lack of research into online search of Australian students in early primary years (Gui & Argentin, 2011; Quintana et al., 2012). Obtaining data from observation and tests also helps the study offer some unique evidence of search in a field often limited by self-reporting (Di Salvo et al., 2014).

Participants

Five families (referred to as Family A, B, C, D, and E) who were home-educating children aged nine and 10 years-old in South-East Queensland participated in this part of the study. Invitations to participate were distributed via social media home-education support networks and through a professional email group. Convenience sampling (Creswell, 2014) was then utilised. Both students (*n* = 7) and their parent-educators (*n* = 5) were participants. The parent-educators (all female) reported having used search engines themselves as a home-education resource for between one and 20 years and reported their child/ren had been searching online for between one and five years. Families came from a wide array of socio-economic backgrounds and all reported home-educating for at least two years. In addition to addressing a gap in the existing literature, the child/ren' age aligns with when Australian students are expected to be able "to use ICT to plan an information search" (ACARA, 2019, p.2).

Data collection

Observation

The five families were each observed conducting online searches 'as they normally would' for 20 minutes during the first of three visits to their homes. Screen capture software (*CamStudio*) recorded mouse movements and typing, while a video recorder captured the participants' discursive practice. Utilising video recordings meant the observations could occur without the presence of a researcher, helping to minimise the "partialness of the observer's view" while still collecting data that offered a sense of being in the social action (Cohen et al., 2000, p. 313).

This instrument offered the opportunity to record naturally occurring discourse, as prioritised in CDA, and to observe online search *in situ*. Both discursive practice during the search, and footage of the search, were collected as data to help understand the dynamic nature of search engine use in these homes.

Search proficiency test

During the second visit, all participants (five parent-educators and seven students) independently sat a custom-designed search proficiency test including an 'on-paper' and online component. Participants were given 30 minutes to complete as much of the online component as possible. The on-paper component was not timed. The test assessed the participants': knowledge of search terminology; ability to manipulate search results; ability to predict search results; ability to conduct online searches to meet specific informational needs; and their ability to utilise specific search tools. Designing the online items involved

extensive testing of various search topics and of queries likely scripted for each. *CamStudio* was again used to record the participants' search practices during the test's online component. The test was piloted for its reliability and age-appropriateness with educators and students prior to administering in April 2017.

Interview

During the final visit, parent-educators and their students were individually interviewed by the author using a semi-structured design. Interview as a method "is particularly useful […] for accessing individuals' attitude and values – things that cannot necessarily be observed" in other ways (Silverman, 2006, p. 114). Questions sought information regarding the participants' use of online search, confidence in online search, and confidence in their students'/parent-educators' online search. Parent-educator interviews lasted between 20 and 40 minutes and those with students lasted between 13 and 24 minutes. These were video and audio recorded for subsequent transcription. Participants were also shown footage from their search proficiency test during the interview, allowing them opportunities to explain certain practices or add contextual information.

Data Analysis

Data analysis procedures were primarily guided by CDA, an approach typically associated with qualitative research. An increasing number of CDA studies, however, employ quantitative methods to support their primary qualitative information, as this research does.

Quantitative Data

Quantitative data from the observation and proficiency test were used to begin addressing RQ3 regarding the efficacy of the online search in these Australian homes. A complete description of the coding procedures for searches conducted is beyond the scope of this paper. For illustrative purposes, some coding was employed according to: number of searches conducted; types of query scripted; number of websites entered per topic; time spent per topic; time on useful versus irrelevant websites; and search success.

Qualitative Data

Discourse from the observations and interviews made up the qualitative data for the study and assisted in addressing all three research questions. Audio recordings of observations and interviews were transcribed verbatim. Transcripts were analysed using a system guided by Fairclough's (2015) three-tiered model for CDA (Figure 1), involving the recursive analysis of language to understand its social functions and determinants.

Fairclough (1993) identifies any instance of discourse as "simultaneously a piece of text, an instance of discursive practice and an instance of social practice" (p.4). In line with this three-dimensional model for CDA (Figure1), data were recursively analysed at a micro-level (through linguistic examination), a meso-level (through consideration of texts as signifiers of discourses), and at a macro level (through consideration of discourses as signifiers of wider social ideologies). At the micro level, texts were analysed as individual utterances with special consideration given to vocabulary, grammar and textual structures (see Fairclough, 2015, pp.129-130). At this stage analysis was "highly sensitive to language nuances" and each utterance was treated as a single text (Cohen et al., 2000, p. 299).

Data were also analysed (at the meso level) for the presence of any patterns in discursive practice. This involved a consideration of not only the utterances themselves, but patterns in the manner in which

they were produced by speakers and consumed and interpreted by listeners. During the observations, records were made of:

- the types of speech acts engaged in (the force of utterances);
- the duration of certain speech acts, in seconds.

Any patterns identified were analysed for evidence of common-sense assumptions about searching and searchers with the aim of exposing the participants' 'Member's Resources'; the tools they use when interpreting what it means to search and talk about search.

While the meso level of analysis aimed to uncover certain discursive practices and these 'Members' Resources', the macro-level analysis aimed to understand how and why these resources were privileged, accepted as 'natural' or 'taken for granted' by participants (Henderson, 2005). According to Luke (2002) macro-analysis considers the "social formations, institutions, and power relations that […] texts index and construct" (p.100). Rather than focusing on individual utterances (micro) or individual discursive practices (meso), that is, the macro-level analysis treated data collectively as evidence of wider social phenomena, including pervasive ideologies.

Findings & Discussion

This research was guided by three research questions:

- RQ1 What discursive practices are privileged during online search and during discussions of online search in Australian home-education?
- RQ2 To what extent do these discursive practices contribute to relations of power?
- RQ3 To what extent are these discursive practices found alongside effective online search?

Given CDA considers discursive practice inextricably linked to social practice, including the legitimisation, naturalisation or even demise of power structures, findings regarding RQ1 and RQ2 will be presented together below. Findings regarding the efficacy of the online search (RQ3) then follow.

During the observation, the only instrument to include discourse *between* students and parent-educators, coding was used to identify the types of speech acts engaged in. Fairclough (2015) explains that identifying an utterance as a speech act (what Bakhtin, 1986, refers to as a speaker's 'speech plan' or 'speech will') involves attempting to identify the speaker's purpose in producing it. Thirty-three different speech acts were identified during the observations. Table 1 presents a tally of several of the most common speech acts made during observations.

Table 1. Tally of Speech Acts during 'collaborative' search

Row	Speech Act	Parent-Educators #	Students #
1	Question/answer sequences	79	68
2	Reading aloud	68	68
3	Suggestions (and responses) to take certain routes	68	40
4	Instructions/redirecting type statements	87	11
5	Evaluating sites (reference to date/authors)	55	31
6	Describing sites/what has been found	56	28

7	Commenting on site –not related to query	27	25
8	Rhetorical question	39	4
9	Encouragement/criticism	41	1
10	Discussing information quality	30	10
11	Repeating previous utterance	25	15
12	Argumentative discussions re steps to take	11	27
13	'Lesson type' instruction re generic search skills [a]	31	1
14	Seeking clarification/seeking help or information	13	16
15	Off-task talking/behaviours	7	16
16	Discussing information source	16	5
17	Encouraging query 'be more specific'	19	1
18	Self-talk/thinking out loud statements	7	13
19	Behavioural correction	17	1
20	Verbalising the typing process	3	12
21	Questioning the relevance of the task	2	13
22	Rephrasing question	11	3
23	Referring to past lessons/skills covered	11	2
NA	Various other speech Acts <combined for brevity>	45	15
	Total utterances	769	426

Note. [a] Additional recording of the length of these utterances occurred.

As presented, the most commonly recorded speech acts were 'question/answer sequences', 'reading aloud' and 'suggestions to take certain routes'. Interestingly, nearly a quarter (23%) of the utterances made (rows 2,5-8, 18, 20, 25-28, 30, 32 and 33) did not appear intended to elicit a response, such as when thinking aloud, while typing, or asking a rhetorical question.

Also noticeable was that parent-educators made nearly twice as many utterances (769) as the students (426) during these 'collaborative' searches. Far from an "open-ended spirit of dialogue", this may present what Matusov and Miyazaki (2014) describe as a more "monologic relation [where speakers] do not generate actions with new significance" (p. 2-20). On the surface, this count might appear to reflect a superior speaker authority on behalf of the parent-educators. Fairclough (2015) suggests such a powerful position is typical in classrooms where "pupils take turns only when a question is addressed" (p. 149). While this (micro level) count does fail to present an 'equal contribution to the dialogue', a feature previously associated with positive online search experiences (Castek et al., 2012), what is potentially more telling is the students' (meso level) interpretation of, and response to, their educator's utterances. Indeed, despite speaking less frequently, several findings suggest that the students were the more powerful parties to the dialogue accompanying 'collaborative' search, not the parent-educators. Excerpt 1 presents the talk occurring during one observation where a parent-educator and her two home-educated students (aged 9-10 years) search together.

Excerpt 1: Observation of online search: Family A

44.	Parent A	That one? It's a YouTube video. I think we'll pass on that. So when you're looking up stuff like this, -
45.	Student A1	No, the other one, big head
46.	Parent A	-- you've got to be really careful that you don't click through to anything. Do you know what I mean? So don't -- you can click on a picture
47.	Student A2	That's --
48.	Parent A	-- but then don't click through to the actual website because you're not sure where you're going. All right?
49.	Student A1	Whoa! Is that a [sic] actual snake?.
50.	Parent A	That looks like an actual snake [?too?].
51.	Student A2	No, [?if?] that is not an actual snake.
52.	Parent A	You don't think?
53.	Student A2	No.
54.	Parent A	No, that could be a snakeskin. Found in Malaysia. Biggest snake. So that's going -- see how it's got the address underneath here? It's going to Youtube.
	[...]	
55.	Student A1	Can we get out of this?
56.	Parent A	Yep, we can. All right. What was the next thing?
57.	Student A1	Next one is --
58.	Student A2	Biggest egg ever!
59.	Parent A	What kind of egg though?
60.	Student A2	Chicken egg.
61.	Student A1	No, the biggest egg ever recorded. It doesn't matter –
62.	Student A2	Biggest chicken egg.
63.	Parent A	In the world? Ever laid?
64.	Student A1	[CROSSTALK] Ever laid.
65.	Student A2	Ever laid.
66.	Parent A	Right. That's pretty big.
67.	Student A2	That's fake.
68.	Parent A	You think?
69.	Student A2	Yes.
70.	Student A1	[?Yep?Yeah?].
71.	Parent A	Well, how do we know that it's fake or real?
72.	Student A1	We [?always got a?] –
73.	Parent A	We kind of don't, do we?
74.	Student A2	[?Whoa?Wow?]. [?Wow?Whoa?], that's a big egg.
75.	Parent A	That's a big egg.

In lines 44-48 and again in 71-73 the parent-educator attempts to instruct the students about some potential pitfalls of online search; inappropriate content and inaccurate content. A noteworthy, potentially adverse, feature in these exchanges, one typical of several observations, is the students' interruption of the parent-educator's instruction (lines 45 and 74). Indeed, although very few parent-educator utterances across the observations were coded 'Lesson type' instruction like this (Table 1, Row 13) nearly half (42%) of these instructive utterances were interrupted by students, identified as students beginning to speak mid parent-educator utterance. Fairclough (2015) suggests interruption is one of four devices whereby a more powerful discursive participant (in this instance, the student) constrains the contributions of those less powerful (the parent-educator). While readers may be quick to suggest that Dialogic Pedagogy "gives legitimacy to dissensus, discord [and] argument" in the classroom where differences in opinion "are welcome and taken as serious opportunities to learn something more", such learning first requires the interrupter remain 'on topic', a feature infrequently observed here (Marjanovic-Shane, 2016, 66-70). Controlling the topic of talk in this way is another device recognised by Fairclough (2015) as affording a speaker more authority. In lines 67-73, though the parent-educator appears to answer her own question regarding what is "*fake or real*" (line 73), her rising intonation acts to elicit further discussion. Again, the students ignore her, failing to build on one another's ideas, a discursive practice associated with more productive collaborative online search

(Castek et al., 2012). All students, in fact, were witnessed ignoring suggestions made by parent-educators; identified as students failing to respond to a parent-educator's question or changing the subject. While proponents of Dialogic Pedagogy welcome more equality in turn-taking than that seen in traditional classrooms, such discursive practice, in fact, again reflects an inequality albeit one where the teachers' voices appear suppressed. Even more telling perhaps is that the parent-educator in Excerpt 1, like others, accepts every diversion, evidenced by her continuing the new topic brought up by students. This again appears to represent a privileging of inequitable discursive practices, practices inhibiting the conversational power of the parent-educators.

Far from supporting dialogic education, some suggest that technology-based lessons can actually decrease opportunities for effective teacher-student dialogue (Asterhanet al., 2012; Gillen et al., 2007). In this study, these opportunities appeared affected by the inequitable discursive power afforded students. Elsewhere (Morrison, 2019) I have suggested that this power likely reflects and reinforces dominant ideologies surrounding technology and children today. More specifically, I theorise the disproportionate discursive power students enjoy during search as stemming from the persistent, though questionable, rhetoric of Prensky's (2001) 'Digital Native'. The assumption that today's students are always more technologically-advanced than their educators continues to be challenged empirically (Gui & Argentin, 2011; Quintana et al., 2012), yet persists in academic literature (Judd, 2018; Wang et al., 2013) and educational policy (Combes, 2013; Jones & Czerniewicz, 2010). During interviews, several parent-educators from the current study spoke in ways that reflected belief in an inherent, age-based difference of digital status. Parent D states

> *"I probably need to make more of a conscious effort to learn to do something or to find something with technology. Whereas they probably – it would probably be a bit more natural for them."*

This belief, also reported by school-based educators (Macpherson, 2013) and other Australian parents (Green et al., 2011), likely affects how parent-educators interpret their students' search and discursive practices. Their habit of letting students direct both, that is, despite infrequent search success (as discussed later) may reflect internalised assumptions that their students are stronger searchers than themselves. It may also reflect a belief that students need "opportunities to develop understandings that they find internally persuasive, rather than simply being presented with the authoritative word of the teacher" (Aukerman et al., 2017, p. 4). Such a redefinition of relationships is, Marjanovic-Shane (2016) contends, frequently beneficial and always present in meaning-making in Dialogic Pedagogy. A desire to teach "in ways that allow student perspectives to meaningfully shape the course of [class activities and] classroom dialogue" should, notwithstanding, be considered alongside findings that adult guidance (Gossen et al., 2014) and explicit instruction (Huertas-Bustos et al., 2018; Walton et al., 2018) positively influence student search success.

Also found in the participants' discursive practice was acceptance of another inequitable power relation: that between searchers and search engine. As highlighted, during observation a prevalence of speech acts not intended to elicit response was found (Table 1). Reading aloud from the screen, commenting on websites (unrelated to query) and monologuing while typing were privileged discursive practices, none of which promote conversation. By foregrounding the web content, interface, and search process, these practices could be said to raise the status of the search engine, diminishing that of other speakers and searchers. Indeed, such a passive stance among student searchers has previously been self-reported (Morrison, 2016). In a study investigating Grade 8 school-attending students' online search, Morrison (2014), employed semiotics, which deems all social phenomena, including interactions with

search engines, as processes of communication. Participants were asked to choose one of two stylised images to describe their communication with a computer during various scenarios: one image representing a 'passive' user and the other, an 'active' user. For scenarios relating to manipulating hardware (e.g. installing a printer or adjusting volume), most students (80%) chose the 'active user' image. Similarly, students chose this image more often than not when describing searching via Facebook or YouTube. When the scenario involved searching for information via Google, however, most students (60%) selected the picture representing a passive user.

Another way the participants' discursive practice was found to assign power to search engines in the present study, included discursive representation of the technology as 'animate beings.' Both parent-educators and students described search engines as "*saying,*" "*giving,*" and "*sharing*" information with them. Though likely an unconscious linguistic choice, representing the search engine as capable of 'human' action in this way, raises its status above that of inanimate technology. Hillis et al. (2013) state although "it is humans who design these entities [they] seem to take on lives of their own" (p. 5). This discursive practice of giving technology personal attributes, though not search engines specifically, was previously found by Wegerif and Major (2019). Excerpt 2 shows an example of this, as well as several discursive practices which raise the status of search engines over searchers. It begins four minutes into one observation where Family D is conducting a search on 'Where did the foxtrot come from?'

Excerpt 2: Observation of online search: Family D

148.	Student D1	Wasn't it 1930s?
149.	Parent D	Yeah, it became popular in the 1930s is what it said, didn't it?
150.	Student D1	Yeah.
151.	Student D2	But –
152.	Parent D	[?But in?] 1915 was when –
153.	Student D2	-- who wa- -- so there was Vernon and Irene Castle, --
154.	Student D1	[CROSSTALK]
155.	Student D2	-- Harry Fox and –
156.	Parent D	Betty Lee.
157.	Student D2	-- Betty Lee. [CROSSTALK]
158.	Parent D	that was a dance teacher
159.	Student D2	And she danced with Vernon Castle?
160.	Parent D	Oh, it didn't say that.
161.	Student D1	It doesn't say that -- Vernon Castle [INAUDIBLE]. Yeah
162.	Student D2	[?And?] what -- when was it? 19- --
163.	Parent D	-- -14, is when it first kind of [?came about,?] and it was popular in the 1930s. Is that what it said?

In lines 149, 160 and 163 the parent-educator refers to the website "*saying*" things despite no 'verbal' function being in operation. In line 161, one of the students replicates this discursive practice. This was typical of the manner in which search engines were discussed by all participants reflecting a shared assumption about the technology and its power. Use of the term 'says' when searching online or when making reference to on-screen texts has previously been reported among parents (Davidson et al., 2020; Given et al., 2016) and positions the technology as an active participant in the learning conversation. (Craig et al., 2018; Davidson, 2020; Wegerif & Major, 2019). Research regarding the capacity for computers to participate in learning conversations has existed since long before the Internet (Weizenbaum, 1966). Some suggest, however, that if students have similar interactions with technology as those in traditional classrooms, including the initiation, response, evaluation [IRE] exchange where just one does the 'evaluating', it is unlikely to provide new educational benefits (Wegerif & Major, 2019). Speaking of evaluation, note that Parent D (Excerpt 2) immediately appears to trust what the site "*says*" above her student's recollection (Line 160). She appears to disagree with the student's suggestion, stating only that the search engine *"didn't say that"* and by implication, anything different must be incorrect. Far from welcoming 'multiple voices', such practice encourages the student to align their thinking uncritically with that shared by the technology. Stewart (2010) suggests that if students are discouraged from being "active

in the construction of knowledge," if they see understanding as passive instead of transactional, it "offers nothing new to the topic being explored" (p. 15). Parent D's choice to respond in this way, as opposed to perhaps *"you didn't read that"* also reveals much about the parent-educator's interpretation of online search. She interprets the practice, it appears, as one again where the searcher is a passive receiver with the search engine assigned a more powerful position regarding 'truth'. Aukerman et al. (2017) explain this is common in classrooms where meaning is frequently treated "as singular and pre-determined" (p. 5). Such trust in the search engine's reach and 'correctness' was also found in the students' discursive practice, many suggesting that anything not found on Google, must be something "no one knows". Huvila (2016) suggests such beliefs are widespread in western society where the limitations of technology are accepted as limitations of what knowledge is and what knowledge is worth seeking.

In interview, most students reported choosing the first result from the Search Engine Results Page (SERP) somewhat immediately. This practice again affords search engines immense power. Advances in their algorithms, admittedly, mean search engines are better at guessing what we want, but researchers warn this further diminishes searcher control (Caviglia & Delfino, 2016; Kammerer & Bohnacker, 2012). When tested, it was actually the parent-educators more than the students who chose the first SERP result. This is interesting given that three of the four parents discouraged students from doing so during observation ("*Don't just choose the first one. Read the information. Scroll down"; Just try down a little bit";* and *"maybe just scan down the first page of your responses").* This reflects a rhetoric-reality gap, one where educators discursively promote different, even contradictory, practices compared with true 'classroom' practice (as in Mansour, 2013). The instinct to choose the first SERP result, even when consciously aware of its limitations, may reflect the strength of wider technological ideologies which appear 'natural' (Wodak & Meyer, 2009). Technologically-deterministic beliefs, for example, as to the educational promise of all things digital (Selwyn, 2010) might help explain continued reliance upon Google's placement of results. So widespread has this reliance become, in fact, (Karaseva, 2016) that the multi-billion-dollar search engine optimisation industry, once satisfied with a spot on the first SERP, now need sites to appear at the *very top* of the first SERP to be profitable (Hochstotter & Lewandowsky, 2009). Such a culture, and its resulting behaviours, inhibit the kinds of learning environments desirable; environments where students and teachers (not tech-giants like Google) have authorship over meaning making (Matusov et al., 2019) and where "students are active participants in the classroom instead of passive receivers of knowledge" (Stewart, 2010, p. 3). In the present study, the participants' search and discursive practices reflected such passivity and, importantly, were not found alongside effective online search.

In this study, online search was considered 'effective' if it was related to new educational opportunities. Elsewhere I have suggested (Morrison, 2021) that what makes search engine technology valuable is not its ability to quickly deliver digitally resources previously available in print form. Rather, search engines make available countless new educational benefits (Casey et al., 2012; Halavais, 2009; Johnson, 2010; Schroeder, 2014; Van Deursen & van Dijk, 2010). The incomprehensible depth of information online, as well as unprecedented access to government resources, to institutions and repositories like world-class libraries, and the capacity to evaluate dozens of resources simultaneously (on the SERP) offer opportunities previously unheard of. The participants in this study, however, were not capitalising upon these.

Table 2 presents data regarding the search practices of four families who searched together during observation including: the time spent per topic; the number of sites entered per topic; and search success. Because each family conducted 'open ended' tasks (those where they could choose what was searched for), search success was identified when participants read an 'answer' from the screen or took notes having expressed satisfaction in what was found. Utterances reflecting a desire to move on due to boredom or frustration, followed by a new search topic helped identify 'unsuccessful' searches.

Table 2. Collaborative Online Search During Observation

Case	Search topic	Time	# sites visited	Success
Family A				
	Biggest chicken	95	-	Y
	Biggest snake	175	-	N
	Biggest egg	85	-	N
	Smallest dog	275	-	Y
	Tasmania	35	-	N
	Biggest elephant	100	-	N
	Plovers	137	-	Y
	Magpie 1	55	-	N
	Magpie 2	150	-	N
	Glow worms	110	-	Y
Family C				
	Endangered animals: Huskies	132	1	Y
	Endangered animals: Tigers	180	1	Y
	Plants in sand	279	1	N
	Plants in gravel	485	5	N
	Spiritual energy	320	1	Y
Family D				
	Foxtrot	695	3	Y
	Lino printing	412	3	Y
Family E				
	Soccer basics	455	4	Y
	Raised vegetable garden	793	4	Y
	19 searches			58%

Note. Times measured in seconds. Portions of Family A screen capture unavailable. Family B did not search together.

During the 20-minute observation, families conducted between two and 10 searches, totalling 19 overall. As shown, nearly half (42%) of these searches were not successfully completed. Most queries (10 of 19) were scripted as natural language questions seeking definitive answers including '*Can plants grow in sand?*' and '*Where did the Foxtrot come from*?' In this way, the participants searched primarily for facts already elsewhere available. Rieh et al. (2016) suggest that the way online search has been conceptualised in society results in such information seeking, where the goal is "receptive learning" only or "receiving knowledge without any critical and creative evaluation" (p. 23). This aligns with Matusov and Miyazaki's (2014) concept of 'instrumental learning'; that which involves "acquiring pre-set curricular endpoints" and where "the learning itself is not valued" (p. 3). Being able to very quickly locate facts (a new affordance of search technology) can, admittedly, allow more time for engaging in higher-order thinking or for doing something *with* the information found. Such follow-up activities might allow for more future-oriented, open and unpredictable learning outcomes, those better aligned with true dialogic learning (Matusov, 2009). No

such 'follow-up' was observed in these homes, however. Indeed, parent-educators, like students, were frequently observed encouraging others to move on to new topics, irrespective of current search 'success.' Subsequent topics also rarely related to those preceding them. In their study into the relationship between teacher and student discourse practices, Aukerman et al. (2017) found interactions like this "which focused on displaying and procuring information [were] more limited and limiting" (p. 27). Also revealed during the observation (Table 2), was a preference for visiting only a few websites per topic. When searching alone too (in the test), most participants entered fewer than two websites per topic. This practice again equates to use that could have been replaced by a print resource, use unlikely to provide new educational benefits.

Results from the individual test also revealed somewhat ineffective online search. The test included an 'on-paper' section and an online section. The highest score possible for the 'on-paper' section was 33. The highest score possible for the online section was 55, equating to a possible total of 88 points. Students in the study scored between 17 and 40.5 points (out of 88). Parent-educators scored between 32 and 54 points (out of 88). If 50% is taken to be a 'pass', furthermore, just one student passed the paper section of the test, with no parents passing. Regarding the online section, no students passed but most (3 of 5) parent-educators passed this section. Finally, both parents and students spent more time on irrelevant websites (34% parent-educator time and 23% student time) than relevant websites (19% parent-educator time and 9% student time). Irrelevant websites were those deemed to contain incorrect, misleading or unrelated information and/or those unable to answer the item's question. While these findings appear to represent ineffective and seemingly 'unsatisfying' search, participants typically continued speaking positively about online search and its educational benefits.

Like any study, this research has some limitations that are important to address. First, much of the data were obtained some years ago. Studies into search engine use and discourse remain largely absent (Morrison, 2021), however, making this a unique contribution despite its age. Indeed, to date, no other studies have been found which use CDA to study the discursive practices surrounding online search or that study online search in home-education. Second, the study includes a tally of utterances made during collaborative search. These utterances are 'named up' in Table 1 as Speech Acts. As established, identifying an utterance as a Speech Act involves attempting to identify the speaker's purpose in producing it (Fairclough, 2015). Somewhat unavoidably, this involves a level of subjective interpretation on the researcher's behalf, as well as the responders. Despite previous critique that discourse analysts focus on "coding certain structural and/or functional patterns that are attributed […] by the researcher" (Matusov et al., 2019, p.24), Fairclough (2003) agrees with Bakhtin that "[t]exts are inevitably and unavoidably dialogical in the sense that 'any utterance is a link in a very complexly organized chain of other utterances' with meaning dependent upon an utterance's relationship with others (Bakhtin 1986, p. 69). Tallying Speech Acts in this isolated way is thus reductionist and should only be used, as here, to complement other analysis: which involves consideration of the diverse meanings being made *between* speakers; which recognises and celebrates the subjectivity of both participants and researcher; and which attempts to highlight the nuances of the social nature of language. Finally, it has been suggested, that certain codes cannot adequately reflect the myriad of possible purposes the same 'utterance type' may have. Reading aloud, for example, is not universally engaged in for the same purpose. While outside the scope of the present work, additional coding may provide further insights regarding the discursive practices privileged during online search and the extent to which these contribute to relations of power.

Concluding remarks

Internet technologies have had a "significant and irreversible" impact on home-education (McAvoy, 2015, p.82). The parent-educators in this study certainly reported growing reliance upon the Internet (as in Hanna, 2012), and upon online search specifically (Bullock, 2011; Neil et al., 2014). Online search is

associated with several educational benefits, but these are not guaranteed, nor dispersed equally. Much research reports that young people lack adequate skills to capitalise on the new educational opportunities search engines make available (Gui & Argentin, 2011; Macpherson, 2013; Morrison & Barton, 2018; Quintana et al., 2012). Interest, therefore, continues to grow in identifying environments associated with improved student online search. Some promising preliminary findings stem from a growing field investigating the interaction between discourse and technology use (Hao, 2020; Major, 2018). Studies have found, for example, that certain discursive practices assist with search collaboration (Castek et al., 2012) and search success (Knight & Mercer, 2015).

This study contributes an initial understanding of the types of search and discursive practices privileged by Australia's fastest-growing educational demographic, home-educated students. Because discursive practice is both influenced by, and influential to, status, the study also investigated the power relations present.

Contrary to previous research (Major, 2018), the technology use in these sites did not help establish a democratic environment, did not increase student discussion (Zengin et al., 2011), nor "enhance dialogic activity by promoting exposure to alternative perspectives" (Major, 2018, p. 2005). Instead, a prevalence of inequitable discursive practices was found. Some inhibited the conversational power of the parent-educators, while others naturalised the ultimate and discrepant power awarded to search engines like Google. These practices are problematic, not only because found alongside ineffective online search, but because they reflect the discursive practices culturally available (and privileged) in education today. As Danby et al. (2013) explain, accounting for how searchers talk during online search "necessitates a consideration of what it means to participate in, and understand, the social structures in which they are operating" (p. 84). In this way, and in line with Fairclough's CDA, such inequitable discursive practices can be considered the work of dominant ideologies shaping these social structures. More succinctly, both the search and discursive practices reported here can be understood as reflecting beliefs about the unquestionable power of digital technologies (like Google) and of those assumed better able to use them (like today's 'Digital Native').

Proponents of Dialogic Pedagogy have long suggested that to maximise learning, "classroom talk cannot be dominated by a single, authoritative voice" (Stewart, 2010, p. 12). Student search success has likewise been associated with collaborations where equal contributions to dialogue exist. While the parent-educators' discourse in this study certainly appeared to promote "students author[ing] their own education" and could not be said to dominate, certain other 'voices' did appear disproportionately privileged (Matusov & Mikayi, 2014, p. 1). Students and educators in all settings will likely benefit further from online search if they continue to encourage "many disparate points of view enter into dialogue", but ensure that *they* ultimately author meaning making, not the digital technologies they purport to control (Morson & Emerson, 1990, p. 239).

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