Is the digital divide closing sociology essay

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There has been much literature produced over the last 25 years assessing whether or not there is in fact a divide and if there is one, is it closing or widening. With several definitions of ‘ digital divide’ a simplistic one is provided ‘ The digital divide is the inequality of access to computers and the internet’ (Middleton and Chambers, 2010, pp. 5). However, the term ‘ digital divide’ fosters several facets with the actual physical aspect to the divide; can all countries across the world actually afford to purchase the hardware and software required to be members of the information society and with the psychological aspects-once the physical aspect is attained, can individuals in fact use the computers, recognise their advantages and be offered support in order to sustainably use them in their lifetime? Many researchers have investigated reasons for the divide accounting for them with several differing viewpoints; socio-economic (Pick and Azari, 2008), social cognitive (Eastin and LaRose, 2000) and communication theory (Mason and Hacker, 2003), all of which present valid and insightful reasons. Once more, much research has exposed the use of systems such as Computer Technology Centres (Servon and Nelson, 2001), The World Links Programme (Kozma et al, 2004), the rise of Wifi (Middleton and Chambers, 2010) and The Open Access Movement (Ahmed, 2007) as methods that are denting the divide and creating a shift. Although the research identified above has reported some positive impacts, much states that more research into the success of the initiatives is required to make a conclusive decision as to how effective they have been in tackling and ultimately closing the digital divide. This review assesses literature specifically on socio-economic, education and gender factors that affect the divide in an effort to see whether or not the gap is in fact closing.

Socio-economic factors and the Digital Divide

As stated above, the DD is ‘ inequality of access to computers and the Internet’ (Middleton and Chambers, 2010, pp. 5). Many theorists have put this down to socio-economic factors such as government support and investment. In a research paper by Ahmed (2007) ‘ physical access’ and ‘ effective access’ is identified as part of the issue regarding the notorious ‘ digital divide’. This theory articulates the notion that although many initiatives have been put in place to reach remote and socially marginalised areas of the world to address the physical aspects of the divide, how many of these initiatives are actually accessible on a skill based level, in a language the community understands? It would appear from the results of Kojo et al, (2003) research, efforts still need to be put in place to ensure that people in remote areas can actually be part of the information society suggesting a gap is still evident. With many of these countries being restricted from accessing the information due to language barriers and constraints it makes one wonder just how advanced society is if multi-lingual channels cannot be created? Ahmed (2007) conquered with this notion stating that until the internet is universalised in terms of language access, the internet is irrelevant. In a study done several years earlier, Madon (2000) stated the need for governments to ‘ delink’ from national actions with regards to I. C. T and localise knowledge, recognising that it is malleable in order to meet the needs of those specific to that community. It would appear from later literature that there is still an omission from policy in LEDC countries and the need to change perceptions and raise awareness about I. C. T is a must in order to close the gap (Kojo et al, 2011). Servon and Nelson (2001) reported on the use of Community Technology Centres recognising them as a solution

to addressing physical aspects of the divide. However, little was stated in this literature as to whether this initiative has translated successfully into the community it was introduced to shedding little light as to whether the gap is closing or not. Furthermore, the writer stated that more research was required to achieve a more insightful view. In Middleton and Chamber's (2010) research into Wifi being the ' new leveller' in narrowing the digital divide, they found that the marginalisation with regards to I. C. T did not only occur in LEDCs but in MEDCs too, inferring that the digital divide is not purely geographically localised to developing countries but spans all. However, they did find that when I. C. T was deployed, productivity and profitability increased especially when internet and e-communication tools were utilised suggesting that with the uptake of I. C. T, better opportunities for economic development was available and with this a narrowing of the digital divide as both social and societal well-being improved. The Open Access Movement has also been investigated as a method to enhance socio-economic status. Although OA has improved access to the internet, Ahmed (2007) found that distribution was uneven fostering the ' Haves and Have nots' culture. A need for global multi-stakeholders is called upon to help those in areas who cannot help themselves. This could easily be facilitated by the internet and takes the angle of the Knowledge Gap Hypothesis as researched by Mason and Hacker (2003). This states that those in a position to attain information can then disseminate it to those in a less privileged situation (Mason and Hacker, 2003). This philosophy is obviously evident in movements such as The Open Access Movement mentioned above. However, the success of OA is still under scrutiny, linking back to what Ahmed (2007) previously stated; although physical access may be achieved effective access may not be.

Mason and Hacker’s (2003) research failed to state real active examples of knowledge gap theory being put into place and while it can be recognised as a valid idea, there was no evidentiary support to further cement and reinforce the theory. Perhaps more working examples should be produced to more adequately shed light on whether open access is actually living up to its ‘ ubuntu’ philosophy and helping in closing the gap.

Education and the Digital Divide

Researcher Eckholm (2008) recently found that there was an increasing gap between ‘ Whites’ and other ethnicities in pursuing higher education. Several studies have shown that those with higher levels of education are more likely to be using and be comfortable with computers (Madden, 2006). Middleton and Chambers (2010) stated that disparities in education internationally could be directly correlated with digital literacy, they also stated however that Wifi could be a critical factor in reducing the divide. Despite this, they do not state in depth how and why those in minority areas gain access. Communication theorists Mason and Hacker (2003) offer many solutions to the digital divide, one being the ‘ Diffusion of Innovations Theory’. This states that the closure of digital gaps is inevitable. This is reinforced by Compaine (2001) who stated that technology that is adopted by richer countries with surplus resources, ultimately drives down the cost for poorer countries so they eventually gain access to the technology. However, this research does not comment on whether or not these countries can in fact understand the technology and recognise their importance. Once more, there is the assumption that these countries are aware of the technology and on a basic level even have the facilities or use for the systems (Kojo et al, 2003). A

serious limitation of the above research is that it is based on much less complex technologies such as telephone, radio and TV and therefore it could be stated it is not applicable to the complex entity that is the internet. However, Smith (2003) comments that after researching the digital divide in Africa from 2000-2003 there was an increase of medical journals available and in fact more than in developed cities such as London, New York and Paris perhaps suggesting closure of the gap? This ideology is reinforced by Pick and Azari's (2008) research which stated that an increase in access to science and technical journal publications meant that there would be more technology use, infrastructure and expenditure. However, the relevance of this is only applicable to the educated in Africa, no comment is made about the socially excluded in remote areas of Africa. How do they gain access and exercise their right as an e-citizen? (Cheung Wong et al, 2009). This appears to be a real gap in the literature to date. Once more, in addition to the most poverty stricken, there are older individuals and the disabled who are too severely marginalised and excluded by the digital divide. These minorities have not been adequately reported on, therefore a conclusive answer as to whether the divide is narrowing is difficult to attain. More research therefore is needed and in addition to that governments need to think of ways to relevantly raise awareness to sub-groups in their country. Although the internet is universal, its uses can be customised to meet specific needs of individuals to cater to their skill level and situation to ultimately close the gap. Little has been reported on how governments choose to raise awareness. Research on this is vital as not all consumer touch points will be relevant to everybody-how are governments going to reach the ' untouchables' and convince them to take part in the Information society? It

would seem that education could be the answer. In Pick and Azari's (2008) study into developing countries and the DD, they recognise the synergistic relationship between education and I. C. T stating the importance of government prioritization of I. C. T. in policy. In a newsletter by the Information Technology Teacher Education newsletter (2011), even in developed countries such as the U. K governments are not supporting the use of I. C. T in education ' The disappearance of the online I. C. T skill test, is another signal that the current government does not value the contribution that technology can make to education if used thoughtfully and creatively' (ITTE, 2011, pp. 2). In a study carried out by Kozma et al (2004) into the World Links Programme the recognition of I. C. T to be developed during primary education was evident with access to the internet being only a stepping stone and not an achievement in its entirety. In addition, although the World Links programme ensured access and training for schools and teachers, the main issue reported by employees was not poor quality equipment but the lack of time to implement I. C. T as effectively as they would have liked. This further suggests lack of government support for I. C. T in all countries not just LEDCs. An apparent omission in the literature is what exactly are governments doing to address I. C. T issues and in fact what their expectations are of society? Is it expected that I. C. T is used to a high level in order to fuel the economy without any proper investment in primarily education and secondly training? Bandura (1997) researched from a social cognitive viewpoint, identifying self-efficacy as a contributing factor to either narrowing or widening the digital divide. Self-efficacy is defined as ' the belief in one's capabilities to organize and execute the courses of action required to produce given attainments' (Bandura, 1997, pp. 3). However, in

order to achieve ‘ belief’ in one’s ability consistent and continuous teaching and more importantly positive reinforcement is required to ensure that individuals can cope when working remotely. Only then can perceptions of I. C. T change for the better and transform dangerous stereotypes that are attached to the digital divide, some of which being that it only affects low income, poorly educated parts of society. The most dangerous aspect of this generalisation is that those in these deprived positions believe the stereotype, further feeding the digital divide (Eastin and LaRose, 2000).

Gender and The Digital Divide

Research carried out by the Center for Digital Future (2007) stated that the gender digital divide was transforming with more women reportedly using the internet than men. Martin and Robinson (2007) further conquered these results stating that women have exceeded men in online usage. Moreover, studies have also reported that women are using the internet as a method of expression; writing blogs, creating web pages for e-commerce and accessing information to further education. Many have speculated (Dholakia, 2006) that systems such as Wifi and open source software have been major players in contributing to this. Research from the World Internet Project (2009) however, found that women were less likely to use the internet than men suggesting that a digital divide does in fact exist. It would appear that the literature is inconclusive and this perhaps alludes to the need for more research to identify the true nature of the digital divide on the basis of gender in particular. In a study carried out by Hilbert (2011) into a heterogeneous sample of countries ranging from Chile to Mozambique it was found that women showed a greater propensity to embrace digital

technology. Perhaps this is due to women typically being better communicators however solid facts are unavailable to state why women when given the opportunity, use I. C. T more than men. Perhaps more attitudinal research is required to identify perceptions of I. C. T between men and women. Hilbert (2011) also stated in his research that society needed to rethink and alter their perceptions of women and I. C. T usage. He went on to state that unfortunately due to ‘ superficial and unsustainable’ arguments that state women are technophobic could be a culprit for inadequate policy making by governments. It would seem therefore that due to this gender discourse developed via social constructionism the digital gender divide is simply a reflection of gender inequalities in society today. Perhaps it is safe to say that the digital divide is a manifestation of a much wider problem that unfortunately cannot be solved quickly.

Conclusion

From looking at the current literature available it would appear that more research is required to unveil the masks that hide the nature of the divide but also what is being done to close them? It would seem after close evaluation that the key to aiding I. C. T literacy is through education, particularly at early levels in an effort to counteract and prevent illiteracy in later life and alter perceptions of harmful stereotypes. In a perfect world, this idea would solve many issues relating to the divide however variables such as governments inhibit this from occurring. As discussed earlier, even governments in MEDCs are cutting spending in I. C. T potentially worsening and aggravating the digital divide further. Once more, it is important to acknowledge that although this division is occurring between LEDCs and

MEDCs it also occurs within MEDCs as a result of the rise of the information society. It could be said that due to the exponential growth of I. C. T it has marginalised vulnerable groups in developed countries that struggle to access daily life. The recognition that I. C. T is a major aspect of daily life needs to occur by governments and consequently initiatives need to be put in place to further target, focus and support these groups so they can exercise their right as members of the information society. Therefore, it would be appropriate that more research is carried out to find out just;

What is being done to support truly vulnerable members of society (old age pensioners and the disabled) to help them in accessing the information society?

What exactly do developed governments have in mind for I. C. T education?

In addressing these, more light may be shed on whether the digital divide can be closed with education initiatives-be it at an early stage or later on in life. This type of research could perhaps be a step in the right direction in preventing marginalisation of vulnerable groups breaking stereotypes and aiding progression.