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WHERE THE WORLDS OF E-INCLUSION AND EVIDENCE-BASED PRACTICE MEET

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ABSTRACT

Where the worlds of e-inclusion and evidence-based practice meet
Within the context of the information society, access to computers and the internet has been
considered to be a new fault line in social exclusion. This has resulted in numerous initiatives on
e-inclusion. There is however a second development, that of evidence-based practice, the
approach that wants results of effectiveness studies to be an important inspiration for practice.
Where these developments intersect, we find the issue of whether e-inclusion interventions are
effective, of whether they reach their aim. It is common to label projects as "good practice", but
do we have an assessment framework to justify using labels such as "good" or "best"? Does
providing excluded citizens with access to computers and internet indeed help them to become
socially included? And can we distinguish different types of initiatives and assess them according
to their effectiveness?

Keywords

E-inclusion, evidence-based practice, best practices

SAMENVATTING

Waar digitale inclusie en evidence-based practice samenkomen
De beschikbaarheid van computers en internet wordt in de hedendaagse kennissamenleving
gezien als een van de factoren die sociale inclusie (of exclusie) kunnen versterken. Bijgevolg zijn
er diverse initiatieven in het leven geroepen om digitale inclusie te stimuleren. Daarnaast is er
sprake van een toenemende roep tot het toepassen van effectief bewezen interventies in sociale
interventiepraktijken (evidence-based practice). Deze twee tendensen, samengevoegd, roepen de
vraag op of interventies gericht op het stimuleren van digitale inclusie ook daadwerkelijk effectief
zijn en digitale inclusie daadwerkelijk versterken. Het is een gewoonte om bewezen interventies
als "goede praktijken" te beschouwen, maar de vraag is of er een beoordelingskader is waarmee
classificaties als "goed" toegekend kunnen worden. Levert het een bijdrage aan sociale inclusie om
burgers toegang tot computers en internet te verschaffen? Kunnen we verschillende interventies
die hierop gericht zijn categoriseren en beoordelen op basis van hun effectiviteit? In dit artikel
wordt antwoord gezocht op deze vragen.

Trefwoorden

Digitale inclusie, goede praktijken

INTRODUCTION

A survey for the BBC early in 2010 showed that across the world 79% of adults considered
internet access to be "a human right". The secretary-general of the International
Telecommunication Union (ITU) commented that "The right to communicate cannot be ignored.
The internet is the most powerful potential source of enlightenment ever created. Governments
must regard the internet as basic infrastructure – just like roads, waste and water" (BBC News, 8th
March 2010, see http://news.bbc.co.uk/2/hi/8548190.stm).
The advances of information technology and the equally fast moving developments of
communication technology resulted in society's housing infrastructure not only being served by a
network of water, gas and electricity supply, but also by a similar network of information supply.

"The 'information grid' is seen as analogous to the electrical supply. As the electricity grid links every home, office, factory and shop to provide energy, so the information grid offers information wherever it is needed. This is, of course, an evolutionary process, but with the spread of ISDN we have the foundational elements of an 'information society'" (Webster, 1995, p. 7). Of course, since those thoughts were published we have seen the emergence and diffusion of always-on (ADSL and the like) and wireless connections, so that today's reality far surpasses yesterday's dreams.

Within this context, it should not come as a surprise that access to computers and the internet have been considered to be a new faultline in social exclusion: those who don't have access are the information have-nots, the informational excluded part of the population (Steyaert & Gould, 2009). The reverse of this perspective is that providing socially excluded citizens with computers and internet access helps them to overcome their social exclusion. Examples include the UK's March 2010 national plan for digital participation, aiming to reduce the 12.5 million citizens currently not online to 5 million. The aim is "to ensure that everyone who wants to be online can get online, do more online and benefit from the advantages of being online" (UK's National Plan for Digital Participation, March 2010, p. 5). Most Western countries have seen numerous similar policy initiatives over the past decade, all aiming to bring more citizens online, to avoid a digital divide. New media become not only a technological innovation but also a social medicine, the healing powers of which are comparable to the effects and popularity once associated with Prozac or Viagra. The power of technological progress has led many to believe and/or hope that this energy could be channelled so as to invoke social progress. This hope is only the latest in a long history of technology based utopias[1], of which Francis Bacon's New Atlantis was probably the first one (Bacon, 2010 (original 1626)). One could argue that Howard Rheingold's virtual community is the first utopia of the current wave of new media (Rheingold, 1993).

There is however a second development, that of evidence-based practice, the approach that wants results of effectiveness studies to be an important inspiration for practice. Doing something with good intentions and hard work is no guarantee that the hoped for results are achieved. Actions and professional interventions can have surprisingly perverse effects. Numerous examples exist where results were significantly different from the original goals.
The evidence-based practice movement emerged in medicine soon after World War II and has since changed that profession profoundly, and to our great benefit! The use of random controlled trials (RCTs) and meta-reviews has greatly enhanced the knowledge base of the medical profession. Given this success it is no surprise that over the past decades, evidence-based practice started oozing into other professions such as nursing, physiotherapy, psychiatry, social work and

social policy. Within social work, doubt about the effects of social interventions was explicitly voiced by Joel Fischer in 1973 with a number of articles with telling titles such as "Is casework effective?" or "Does anything work?" (Fischer, 1973, 1978). Fischer can rightly be described as "the father of professional doubt" (see www.historyofsocialwork.org). Many have followed in his footsteps and evidence-based practice is now a core element of social work's agenda.

At the intersection of these developments lies the issue of whether e-inclusion interventions are effective, of whether they reach their aim. It is common to label projects as "good practice", but do we have an assessment framework to justify using labels such as "good"? Does providing excluded citizens with access to computers and the internet indeed help them to become socially included? And can we distinguish different types of initiative and assess them according to their effectiveness?

Not that we do not want new media to be helpful in fighting social exclusion! It is clear that over the past three decades, social exclusion has increased. The welfare state, as it emerged after the Second World War, was good at providing a caring infrastructure and reducing social inequality during the fifties and sixties. From the eighties onwards, social inequality increased again. This can be seen from statistics on income inequalities and the long term development of the Gini coefficient (Wilkinson & Pickett, 2009). But it can also be seen from differential life expectancy. Although we all tend to live longer than our ancestors, well-off citizens live on average three years longer than their poor neighbours. When it comes to the number of years lived in good health, rather than absolute number of years lived, the difference goes up to twelve years. It is a matter of concern that since inequality in health was identified by the Black report in the UK in 1980, and despite numerous health policies designed to decrease these differences, they actually have increased rather than decreased in Western countries.

So the need to reduce social inequality is obvious, and if new technology can help to do so, it is very much to be welcomed. We first however need to answer the question of effectiveness, given the "professional doubt" that evidence-based practice rightly introduced. And that implies constructing an assessment framework for e-inclusion initiatives. We propose to do so by using a number of building blocks.

BUILDING BLOCKS FOR AN ASSESSMENT FRAMEWORK

The first building block is access. If people do not have access to computers and internet, all subsequent issues become irrelevant. One important observation here is that while initial surveys

on the digital divide showed about seven faultlines (education, income, gender, city/rural …), these seem to have collapsed to one dominant faultline (age). The older somebody is, the less likely it is that they have access to and make use of new technology. This is likely to imply that initiatives focusing on increased access are mostly relevant for age groups 75 and over.

Closely related to access is the need for skills. Although there have been significant improvements in user-friendliness and reliability of software, using computers and the internet still calls for a robust set of digital skills. These are not a given but need to be acquired. Within the context of Western societies with high levels of internet availability, differences in skills become more important:

> Differences in digital skills lie at the heart of social inequality in advanced knowledge societies. The Internet access 'markets' in these societies are close to reaching saturation point, giving almost everyone access to the Net. By contrast, differences in digital skills appear to be widening over time. (De Haan, 2010, p. 292)

The second building block for an assessment framework is what access to computers and the internet is used for, the content preferences of users. While at the time of the advent of the information society the new applications were predominantly work-related, technology is now much more multi-purpose and strong on entertainment and leisure. HP advertises their laptops as "entertainment centres".

There are some indications that content preferences of users are a strong mediating variable in the effect of new media on social exclusion. A UK study on the effects of home internet access on school results indicated there was a positive correlation between both. But only for girls. Boys used their internet access predominantly for leisure purposes, and did not achieve better school results:

> There was a statistically significant positive association between pupils' use of ICT out of school for leisure purposes and decreases in attainment. This effect was over twice as large an effect as the positive association of using ICT for educational purposes. In other words, it is not access or general use of ICT per se that could raise attainment, but rather how the technology is used that matters. (Valentine, Marsh & Pattie, 2005, p. 8)

The third building block for an assessment framework is a lesson from Sesame Street: differential consequences of usage. Over the past decades, few children have grown up without seeing Sesame Street. The former popularity of this children's TV-program makes it easy to forget that it was initially developed as a social intervention to reduce social exclusion by enhancing literacy and

numeracy: it had a curriculum. And although most research indicates the latter goal was reached, some suggest that the main goal of reducing social exclusion has not been attained. Sesame Street would enhance the literacy and numeracy of children of well-off households more than that of children in poor households, and consequently contribute to more social exclusion (Cook, Appelton, Conner, Shaffer, Tamkin & Weber, 1975).

This phenomenon is known as the Matthew effect and can be seen in different areas of social policy. Work from Jo Blanden in the UK on social mobility strongly indicated the democratization of higher education during the last decades of the 20th century has had a similar effect: more students participated in higher education but on average they came from better-off households (Blanden & Machin, 2004). As a consequence, social exclusion (in relative terms) increased and social mobility decreased: these were precisely the effects the democratization of higher education sought to overcome.

THE "EFFECTIVENESS LADDER"

These three building blocks for an assessment framework are more specific to social inequality and e-inclusion initiatives. They need to be matched with the more general framework of evidence-based practice, as developed within medical care but later expanded to other caring professions. As an assessment framework, evidence-based practice is very democratic in the sense that it provides room for every intervention to prove its effectiveness, even if the underlying theoretical assumptions are contested. However, that same approach of evidence-based practice is very undemocratic when it comes to the ways in which effectiveness can be demonstrated. Not every claim about what works and what doesn't work is treated equally. The methodology used to support such claim is severely scrutinized and appraised. The central concept to do so is the so-called effectiveness ladder (see e.g. Thyer, 2006). Although it is available in many varieties, the core idea is common to all. The effectiveness ladder classifies and orders methodologies according to their strength and trustworthiness. Each higher level implies a more elaborate and rigorous methodology, resulting in increased strength of the claims made.

The first level on this effectiveness ladder consists of expert opinions, descriptive studies or case studies. These can contain rich information, but can also be very subjective. Another expert or another researcher looking at the same case could draw very different conclusions. The claims made on the basis of only this kind of study are therefore weak.

It is not common, but one could introduce a zero level on the effectiveness ladder to highlight that the first level has some advantages compared to other evidence. This zero level would consist of

highly subjective marketing information about some specific intervention. Although within the social sector very few people make money out of marketing social interventions, there is a lot of marketing, a lot of spreading good news about how things are done. The aim is probably more to gain recognition and fame and spread enthusiasm about a certain approach more than for financial gain. Also, a lot of the generally available information is aimed at funders and is part of accounting for project funding. As such information is mostly generated and made available by those having a strong interest in the social intervention (or by people paid by them, e.g. freelance journalists producing flashy leaflets), the claims based on this type of information should be treated with caution.

One step higher on the second level of the effectiveness ladder are the cohort studies and non-experimental studies. They allow us to identify correlations, e.g. wherever we see high levels of access to the internet we see higher school results. Given such information, one might develop a policy to increase internet access for school children. However, a correlation is far from proof of causality and basically says nothing about a possible relation of that causality. As can be seen in the example given earlier, it is not high levels of internet access that have an impact but what one does with the new opportunities.

The evidence gets stronger on the third level of the effectiveness ladder where we encounter experimental studies. In these, the desired outcomes can be measured in groups, some of which have been subject to the social intervention whose effectiveness we wish to assess, and some have not been subject to such intervention.

The holy grail of evidence based practice, the strongest available methodology to demonstrate effectiveness of an intervention, are the random controlled trials (RCTs) and this forms the fourth level of the effectiveness ladder. A sample of the target population is randomly assigned to either receive the intervention or have some other kind of treatment or placebo. When possible, the setting is "double blind" so that neither the participants nor the professionals know which person belongs in the experimental group and which in the control group. Resulting differences can strongly be attributed to the intervention, hence demonstrating its effectiveness (or lack thereof).

There is some discussion as to whether the strength of claims based on random controlled trials can be increased by combining the results of a series of such effectiveness studies through systematic reviews (Littell, Corcoran & Pillai, 2008). On the one hand, this results in stronger evidence as it combines the power of the underlying individual studies. The disadvantage however is that all of these can have used slightly different methodologies, slightly different interventions, slightly different questionnaires, making it difficult to combine their results objectively into one systematic review.

The approach of evidence-based practice started off in medicine but has now expanded to other caring professions, including social work and social policy. Results from effectiveness studies are assembled by initiatives such as the Cochrane collaboration (health care) or the Campbell collaboration (education, crime and justice, and social welfare). Additional to these international initiatives, many countries have their own national clearinghouse for evidence-based practice. These include the Research Register for Social Care at SCIE (Social Care Institute for Excellence, UK) and the database "effectieve interventies" [translation: effective interventions] at MOVISIE (the Netherlands).

THE NEARSIGHTEDNESS OF EVIDENCE BASED PRACTICE

The effectiveness ladder as commonly used within the evidence based practice approach is an essential component of any assessment framework, and very useful in assessing e-inclusion initiatives. It allows us to move beyond the all-too-easy democratic labelling of every project as "good practice". However, there is also the danger of becoming entrapped in nearsightedness, as demonstrated by several evidence-based practice initiatives. The nearsightedness results from a very strong focus on the quality of the research methodology and positioning (effectiveness research on) interventions on the effectiveness ladder while paying no or far less attention to other quality parameters.

One such parameter is the effect size. Imagine two social interventions being used to address a specific problematic situation (say vulnerable young people not having access to and not using the internet). For the sake of the argument, let us imagine intervention A implies provision of internet access at the local library, and intervention B providing low cost computers and access for home usage. Both might be the subject of effectiveness research, resulting in e.g. intervention A being described as a case study, and intervention B being subject to a random controlled trial. A nearsighted application of evidence-based practice might result in intervention B being favoured above intervention A, as it has been subject to much more rigorous research. But how about effect size? After all, we know that statistical relevance is not necessary the same as clinical relevance. Intervention B might have a stronger evidence base and be statistically significant, but possibly also have a much smaller effect than intervention A (and consequently clinically be less relevant).

It is consequently necessary to not only use an effectiveness ladder, but expand any assessment framework with a second dimension on effect size. There are some statistical measures to quantify effect, such as Cohen's d which can vary between -2 (strong negative effect) and +2 (strong positive effect) (see Cohen, 1988).

Given the numerous complications with measurement outcomes of social interventions and going back to the remarks made earlier in this article, we could also look for an ordinal effect size variable rather than interval variables such as Cohen's d. This would take the form of a continuum along which different social interventions can be placed. The continuum has five "positions":

-1: technology applications and initiatives that are detrimental for social inclusion, resulting in increased exclusion.

0: technology applications and initiatives that are neutral towards social exclusion, having no effect.

+1: technology applications and initiatives that are good for social exclusion, that result in social gains for everybody.

+2: technology applications and initiatives that are good for social exclusion, that result in social gains for everybody and very strong gains for those at the bottom of the social ladder.

+3: technology applications and initiatives that have people at the bottom of the social ladder as their exclusive target group.

Technology applications/initiatives in category -1 to +2 are mainstream and could be based on what you can buy at MediaMarkt or PCWorld. Those in category +3 are not mainstream but "niche market" and consequently call for plenty of resources (e.g. a website for a specific group but relying on a community worker being involved). One could argue that applications/initiatives of category +2 are "the holy grail" when it comes to using technology to decrease social exclusion.

Different applications and initiatives can be positioned along this continuum. Where, e.g. would facebook.com be? Would spending time on it expanding your virtual social network and sharing information with "friends" help to combat social exclusion, or would the time displacement associated with it reduce your chances on the labour market? After all, an hour spent on facebook is an hour not used for other activities. But then, do you position facebook.com as a general application within this assessment framework, or specific usages of facebook.com? It is easy to see it makes a difference whether you use facebook to maintain social networks or whether it is a platform for idle chat and farm maintenance (how many friends do you see on facebook playing Farmville?).

The same questions apply to less general applications of new media such as targeted initiatives in the area of e-inclusion. There are numerous initiatives in this area. The ongoing SHARE-IT European project provides an example. In this initiative, the Polish organization U Siemachy

(see www.siemacha.org.pl) and the Romanian organization DGASPC Timis (see www.dgaspctm.ro) are trying to use new technology to address the problems faced by euro-orphans. Because many Polish and Romanian people work elsewhere in the European Union, their children grow up without much contact with their parents. This and similar initiatives are exploring e-inclusion opportunities. For them to move beyond the experimental stage, a proper assessment is a necessary condition.

Effect size is just one quality parameter that is often not taken into account when evaluating effectiveness research, thus resulting in nearsightedness. Another parameter seldom explored is costs. Imagine the same two social interventions being used to address a specific problematic situation (again vulnerable young people not having access to and not using the internet). Both might be the subject of effectiveness research, resulting in e.g. intervention A being positioned higher on the effectiveness ladder and having a higher effect size than intervention B. But what if intervention A costs ten times more to apply than intervention B? Maybe despite intervention B being weaker in evidence and effect, it is still wise to invest public funds in it because it is so much cheaper and can be organized ten times more than intervention A within the same available budget. So any assessment framework must also include data on the costs and replicability of interventions.

CONCLUSION

We did not aim to build an overall and comprehensive assessment framework for e-inclusion initiatives in this paper. Rather we wished to problematize the overly democratic descriptions often given to such initiatives. The abundant application of the label "good practice" without much underlying effectiveness research is a strong indicator for this situation. It is strange to observe that most e-inclusion initiatives have not been evaluated beyond a project description to satisfy the funder's information needs. As a consequence, the absence of evaluation data implies little assessment of quality of e-inclusion initiatives is possible, whether in the assessment framework described in this paper or another one. As such, the analysis provided in this article should be perceived as a challenge to the myriad of e-inclusion initiatives to make evaluation a critical ingredient of their work, and not just an element in the reporting requirements of the funders.
Many of the ideas in Bacon's technology utopia have become reality. Bacon's utopia overall became a realized utopia (Achterhuis, 1998). For the utopia of e-inclusion to become a realized utopia, a higher level of scrutinizing initiatives in terms of effectiveness is needed. If so many are

"fellow travelers" in technology based utopias and believe technology based projects can help in addressing current social problems, there is an urgent need to start evaluating the myriad of initiatives and learn about what works when and for whom.

NOTE

1   Although there often is, there need not be a negative connotation to the term *utopia*. It can refer equally to a hopelessly naive dream about what the future will or should look like, as to a dream that provides the seeds for progress: a dream that articulates the unachievable in order to accomplish the achievable.

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