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## **Citizenship Education through an Ability Expectation and “Ableism” Lens: The Challenge of Science and Technology and Disabled People**

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**Abstract:** Citizenship education has been debated for some time and has faced various challenges over time. This paper introduces the lens of “ableism” and ability expectations to the citizenship education discourse. The author contends that the cultural dynamic of ability expectations and ableism (not only expecting certain abilities, but also perceiving certain abilities as essential) was one factor that has and will continue to shape citizenship and citizenship education. It focuses on three areas of citizenship education: (a) active citizenship; (b) citizenship education for a diverse population; and (c) global citizenship. It covers two ability-related challenges, namely: disabled people, who are often seen as lacking expected species-typical body abilities, and, advances of science and technology that generate new abilities. The author contends that the impact of ability expectations and ableism on citizenship and citizenship education, locally and in a globalized world, is an important and under-researched area.

**Keywords:** globalization; glocalization; ableism; ability expectations; citizenship education; disabled people

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## **1. Introduction**

Citizenship education has been debated for some time [1–5]. I submit that citizenship and citizenship education discourses exhibit an abundance of ability expectations and various forms of “ableism” (perceiving certain abilities as essential). However, citizenship and citizenship education discourses have not been analyzed through an ability expectation or ableism lens. Therefore, I introduce the lens of ableism and ability expectations.

Ability expectations and ableism are two stages of the same cultural dynamic. Ability expectation simply signifies that one desires or expects certain abilities. Ableism extends these desires and expectations to a different level where one’s actions and judgments are shaped according to the perception that certain abilities are essential. The term ableism was developed by the disabled people rights movement in the United States and Britain to question and highlight the sentiment that perceives species-typical bodily abilities as essential as well as to question the disablement, the prejudice and discrimination, against persons whose body structure and ability functions were labeled as “impaired” or sub species-typical. The framework of ableism is the analytical cornerstone of the disabled people rights discourse and scholars of the academic field of disability studies [6–15]. Ability expectations and forms of ableism are, however, evident far beyond the species-typical and sub species-typical dichotomy. Every person cherishes certain abilities and finds others non-essential. Some people cherish the ability to buy a car, some the ability to mountain climb, some the ability to perform academic work and others manual work [16]. Some societies are structured around GDP-ism (the ability to produce a GDP), efficiency, productivity and consumerism (the ability to consume) [17,18]. Others could be organized around harmony and global understanding. The list of abilities one could cherish is endless, with new and different abilities appearing all the time. The cherishing of abilities happens on an individual level, as well as at the level of households, communities, groups, sectors, regions, countries and cultures [19,20]. There is a frequent trade-off between numerous abilities [20]. In its general form, ableism leads to an ability-based and ability-justified understanding of oneself, one’s body and one’s relationship with others among one’s species, with other species and one’s environment [20,21]. However, ableism does not have to be viewed as negative (as it is within the disability discourse); for example, one could decide as a local or global social structure that the ability to live in harmony and co-exist is essential. This could perhaps be seen as a positive form of ableism by marginalized groups, including disabled people. However, ableism can be and has been used to support negative actions and “isms”, such as sexism and racism [17,18]. Which abilities become desirable and which move to the stage of ableism, where its perception as essential, forms the basis for judgments and actions, is one dynamic that influences and shapes citizenship and is subject to negotiation.

I will apply the ableism and ability expectation lens to three areas of citizenship education discussions, namely: (a) active citizenship; (b) citizenship for diverse populations; and (c) global citizenship. Two challenges will be posed to citizenship education, namely: (a) disabled people and (b) advances in science and technology.

## 2. Ability Expectation and Active Citizenship

Active Citizenship is defined as “Participation in civil society, community and/or political life, characterized by mutual respect and non-violence and in accordance with human rights and democracy” [22]. Active citizenship is one aspect of the citizenship education debate [23–26]. Certain abilities are expected from active citizens. As Hoskins and Crick write in the European Commission Joint Research Centre Scientific and Technical report series:

“The CRELL (Centre for Research on Lifelong Learning) Research Network on Active Citizenship for Democracy has proposed the following detailed list of knowledge, skills, attitudes and values to be necessary for active citizenship:

- Knowledge: human rights and responsibilities, political literacy, historical knowledge, current affairs, diversity, cultural heritage, legal matters and how to influence policy and society;
- Skills: conflict resolution, intercultural competence, informed decision making, creativity, ability to influence society and policy, research capability, advocacy, autonomy/agency, critical reflection, communication, debating skills, active listening, problem solving, coping with ambiguity, working with others, assessing risk;
- Attitudes: political trust, political interest, political efficacy, autonomy and independence, resilience, cultural appreciation, respect for other cultures, openness to change/difference of opinion, responsibility and openness to involvement as active citizens, influencing society and policy;
- Values: human rights, democracy, gender equality, sustainability, peace/non-violence, fairness and equity, valuing involvement as active citizens;
- Identity: sense of personal identity, sense of community identity, sense of national identity, sense of global identity.

What can be said from all the various lists is that civic competence is a complex mix of knowledge, skills, understanding, values and attitudes and dispositions and requires a sense of identity and agency” [27].

The detailed list of knowledge, skills, attitudes and values seen as necessary for active citizenship is really a list of ability expectations that one has of citizens. This, I submit, places an onus on the ones that demand such abilities from their citizens, to enable their citizens to fulfill such ability expectations. Citizens have to be given the skills and tools to fulfill these expectations; they have to be able to generate the identity and attitudes expected. This list of ability expectations could morph into a form of ableism that perceives educating citizens to have these abilities as essential, and that a social environment must be generated to allow these abilities to flourish. This form of ableism could be seen as a positive form of ableism.

However, we must first understand which abilities are taught in citizenship education. A cursory search of Google Scholar generates citizen education articles covering many of the ability expectations seen as essential for active citizenship. However, no systematic review of abilities taught in citizenship education could be found. Furthermore, there are no existing systematic reviews that take into account

which social groups are taught these abilities and if they are taught, how the teaching of abilities may differ among social groups.

### **3. Ability Expectation, Active Citizenship and Diversity: The Challenge of Disabled People**

Nearly every ability expectation of active citizens on the list poses challenges for disabled people. As Helen Meekosha and Leanne Dowse stated: “It’s very hard for an oppressed group to take care of another oppressed group” [28]. I will focus here on the challenge of identity. So far, disabled people do not have self-identity security, meaning “that one is accepted with one’s set of abilities and that one should not be forced (physically or by circumstance) to accept a perception of oneself that one does not agree with (e.g., one is not expected to have the ability to walk or is seen as a “deficient product” if one cannot walk)” [19]. Indeed, the disability community coined the term ableism to highlight their experience of self-identity insecurity. Given that self-identity security does not exist, it comes as no surprise that many articles conclude that disabled people are not treated as full citizens because full citizenship comes with respect and disabled people cannot be respected if they are not accepted for who they are [28–39].

This lack of respect and self-identity security plays itself out around the duties and obligations that are seen to be linked to citizenship [40,41]. The discourse surrounding duties and obligations pose numerous challenges for disabled people. I will highlight here only the linkage of duty and obligation to self-identity insecurity and the form of ableism that disabled people have coined. Could the form of ableism that expects the adherence to species-typical body abilities be used to demand that disabled people have the duty to become and behave as species-typical and ability wise as possible, and that other citizens have only the duty to accommodate disabled people that cannot be “fixed”? The Supreme Court of the USA ruled on the “definition of disability” in *Sutton v. United Airlines* [42], *Albertsons Inc. v. Kirkingburg* [43], and *Murphy v. United Parcel*, stating that the Americans with Disabilities Act (ADA) does not cover those persons with correctable impairments. These decisions highlight the obligation of people with disabilities to fix themselves if such a fix is available. If they choose not to do so, they lose their protection under the American with Disability Act [44,45]. These rulings set the stage for a narrative that one has no obligation towards the ones who want to be the “others” (the non-normative), indicated by their refusal to become part of the “we”, (fixed to the norm).

If citizenship education for diverse populations teaches that disabled people should be accepted for who they are (no systematic review currently exists as to what imagery, if any, of disabled people, shows up in citizenship education curricula, and no systematic review exists as to whether the ableism of species-typical body ability expectation is prevalent in citizenship education), teaching a non-ableist imagery of disabled people is only one challenge. Another challenge faced is whether we teach only passive acceptance of body ability diversity (for example, you can be who you are but we do not take that into account in our behavior), or whether we actually teach that the accommodation of that difference, the prevention of disablism, is also important. This would fit with the active citizenship ability expectation of being an advocate for human rights. Then one could go even further with respect to how one could teach acceptance of body ability diversity. It could be taught that having certain

abilities is a privilege. Disablism could be rephrased within a conceptual framework of ability privilege where species-typical people are not willing to give up their ability privileges linked to their normative body abilities. In this sense, ability privilege mirrors male [46] and other privileges. Peggy McIntosh, for example, stated in 1989: "...to bring materials from Women's Studies into the rest of the curriculum, I have often noticed men's unwillingness to grant that they are over-privileged, even though they may grant that women are disadvantaged. They may say they will work to improve women's status, in the society, the university, or the curriculum, but they cannot or will not support the idea of lessening men's. Denials, which amount to taboos, surround the subject of advantages that men gain from women's disadvantages. These denials protect male privilege from being fully acknowledged, lessened or ended. Thinking through unacknowledged male privilege as a phenomenon, I realized that since hierarchies in our society are interlocking, there was most likely a phenomenon of white privilege which was similarly denied and protected" [46].

Citizenship education that would teach body ability diversity acceptance through the ability privilege lens would likely be the most complete counter narrative to the species-typical body ability-based ableism, which is currently the predominant narrative in social structures with regards to disabled people. Indeed, teaching the privilege angle in citizenship education is thematized. The concept of citizenship is linked to the institutionalization of male privilege [47], and citizenship itself is seen as a privilege [48,49]. However, not one article is obtained in Google or Google scholar with the keyword combination of "citizenship education" and "ability privilege".

#### **4. Ableism, Active Citizenship and New and Emerging Science and Technology**

Science and technology advancements have impacted societies throughout the ages. I give three examples in this section (impact on global citizenship is covered in the global citizenship section): the democratization of science and technology, the enhancement of body abilities and lastly, science and technology as an enabler of abilities seen as essential for active citizenship.

The call for the democratization of science and technology governance, meaning that stakeholders are heard right at the beginning in order to give guidance on how science and technology is to advance, has increased in recent times [50–53]. For the democratization of science and technology governance to work, we need active and knowledgeable citizens. This means active citizens have to learn new ability skills, namely to become techno-savvy. Therefore, it seems to make sense for science education and citizenship education to join forces [54] so that active citizens can involve themselves in science and technology governance.

Next, there is the linkage between science and technology products and changes in body ability expectations. With the ever-increasing ability of science and technology to modify the human body beyond species-typical boundaries, the open use of performance enhancement is increasingly debated [55–72]. Some talk about the obligation to enhance oneself [73–78]. Within the enhancement debate, we see the establishment of an enhancement form of ableism that expects beyond species-typical body abilities of humans [17,79–82]. Beyond species-typical bodily abilities will generate new dynamics of ability judgments between people, communities, groups, sectors, regions

and countries. I submit that the ableism that sees species-typical abilities as essential plays itself out today locally and globally in the writing on the wall for how the beyond species-typical ability form of ableism might play itself out. Given how disabled people are treated by people who adhere to species-typical ableism, one can expect that certain powerful people, communities, groups, sectors, regions and countries will generate a new “we”, that makes belonging and full citizenship dependent on having obtained certain “upgrades” to their bodies. Keeping in mind the disablement that people who are labeled as sub-normative face today [83], it is reasonable to expect that those who cannot afford or do not want certain enhancements will be perceived as impaired (techno-poor-impaired) and will experience disablement (techno-poor-disabled), in tune with how the “impaired labeled people” are treated today [84]. They will be the “others”; not belonging and without full citizenship, leading to a decrease in social cohesion and sense of belonging for them. The non-enhanced will feel disenfranchised, develop lower self-esteem, and could be a pool of people easily recruited for actions undermining the structure they feel that they do not belong to [85]. This form of ableism very likely will prevent many from developing a positive self-identity. Given that enhancements will be unevenly distributed between countries globally, it seems reasonable to expect that national and global identities are also hindered, given the history of how we judge people based on their body abilities (see for example, the history of how disabled people are treated). Given this future dynamic, it would seem prudent to really focus on citizenship education in the area of body ability expectations, to be educated on how to prevent negative forms of body ability-related ableism, and to increase the scope of diversity covered.

Finally, another aspect of science and technology advances for citizenship education is how it furthers or hinders active citizenship. We do not develop science and technology products with the explicit intent to further democracy, trust, or most of the abilities seen as important for active citizenship. Some products might help to further certain ability expectations, such as participating in social media, which has been seen to make it easier for certain people to organize. Other products such as surveillance technologies might decrease the ability to trust. I submit that the impact of science and technology on abilities seen as essential for active citizenship are under-researched, and it might be a task for citizenship education to teach the relationship between science and technology advancements and the success of active citizenship.

## 5. Global Citizenship

Global citizenship is the ultimate endpoint, distance-wise (the whole earth), of how citizens can relate to each other. The issue of global citizenship becomes increasingly prevalent, mainly due to scientific and technological advancements. Through numerous scientific and technological advancement over the years (e.g., refrigeration, telephone, planes, cars, trains, ships, fax), people can relate to and impact each other over an ever-increasing distance. We see the increasing emergence of globalization [86–91] and glocalization [92–99] dynamics, where one’s local world becomes increasingly impacted by global events and *vice versa*. The economic turmoil we have experienced in the last 5 years highlights the increasing global interconnectivity. Although we are increasingly

globally connected and influence each other, it does not lead to a global identity; it does not mean that we adhere to the same ability expectations and forms of ableism. The discourse around global ethics [100–106], and the lack of agreement to one, showcases that we are not there yet to see the world with the same eyes and with the same ability expectations and form of ableism.

Then, more and more immersive online environments as well as the increasing reach of the internet make it possible to relate to each other within virtual communities and other internet communities; one identifies with virtual space one shares and not with the physical space one shares with others. Indeed, some disabled people might be more engaged online than in their local community, due to local barriers. Sometimes, the engagement online is to find others like oneself and facilitate an identity based on commonalities that transgress countries or other boundaries. This, however, does not equate to a global citizenship, as the real problem of acceptance by the “other” is not tackled. Rather, one simply circumvents the problem being labeled the “other” by not engaging with the people that labeled the individual as the “other”.

Global citizenship is discussed in citizenship education circles. Zhao (2010) [107] discusses the “challenge for education [is what is needed] to help our children adopt a global view in their thinking and develop a sense of global citizenship”. He continues, “As citizens of the globe, they need to be aware of the global nature of societal issues, to care about people in distant places, to understand the nature of global economic integration, to appreciate the interconnectedness and interdependence of peoples, to respect and protect cultural diversity, to fight for social justice for all, and to protect planet earth—home for all human beings”. According to Banks (2007) [108], “teachers should help students to develop a delicate balance of cultural, national, and global identifications”. But, how do we achieve the balance of cultural, national, and global identifications? Can there be a balance, or is it global *versus* not global?

One issue that global citizenship has to deal with is that the “we *versus* the other” mindset plays itself out between regions, countries and cultures. If the ability to forge an identity within a country is already a problem, how much more of a problem might it be to forge a global identity? Different ability expectations between actors are one barrier to forging a global identity. One could make an argument that an agreement in negotiations (such as the climate summits) is impossible as long as the ability expectations of different players such as countries or strong social groups within a given country are irreconcilable [21]. Given that ableism can be positive and negative, which form of ableism and which ability expectations will facilitate a global identity and global citizenship, and which are detrimental to the notion of one believing in a global identity and global citizenship? No systematic research has been done on this question yet; however, various ability expectations could be seen as problematic. The ability expectation and ableism of competitiveness is quite evident within the education for global citizenship. It is seen as important in global citizenship education and as a barrier [109–111]. Indeed, ability expectations influence the very meaning of citizenship. As Schattle wrote, “notions of “global citizenship”, as communicated beyond academic debates in political theory and sociology, can be situated within two overarching discourses: a civic republican discourse that emphasizes concepts such as awareness, responsibility, participation and cross-cultural empathy,

and a libertarian discourse that emphasizes international mobility and competitiveness” [112]. In order to fulfill the ability expectation of identity from self to global, a retooling of other ability expectations has to happen.

If the ability expectation of moving from a local to a global identity is elevated to an ableism, how do we forge a global identity if dominant ableisms, such as competitiveness, pit social entities against each other? When USA presidential candidate Barack Obama proclaimed himself as a citizen of the world [113], the negative reaction was swift [114], calling it an expression of naiveté [115] and using other negative terms [116]. I submit that the negative reactions came from circles that see the US as being in an identity fight against many others, based on competing political, social and self-understanding. It is noteworthy that competitiveness is not on the list of indicators seen as essential or desirable for active citizenship. The problem is the ableism that adheres to competitiveness as a frame of action and thinking is widespread. How do we forge a global identity in which everyone’s self-identity has a place? Does every form of self-identity have a place within a global identity? How do we end up with a global identity that cherishes diversity? The Star Trek TV series could not come up with an earth-based dynamic that would lead to that (although this was essential for the show’s premise that everything was harmonious on earth when they explored space). They only came up with an external species (Vulcan) to lead to this global understanding. I do think we have to have some serious discussions as to which ability expectations and forms of ableism are detrimental to many ability expectations for active citizenship.

## 6. Conclusions

I submit that the impact of the cultural dynamic of ableism and ability expectation on various aspects of citizenship and citizenship education have thus far been underappreciated and under researched. I submit that citizenship education, particularly with a global outlook, must identify and question forms of ableism that limit one’s self-worth, identity and ability to partake as an active citizen. It has to identify forms of ableisms and ability expectations that decrease or increase the “we” “other” dynamic at the individual level as well as at the level of countries, regions and cultures as I submit the “we *versus* other” is one of the biggest hurdles for a global citizenship.

## References

1. Biddle, W.W. Who is qualified to teach citizenship? *J. Teach. Educ.* **1951**, *2*, 219–222.
2. Pike, M.A. The state and citizenship education in England: A curriculum for subjects or citizens? *J. Curric. Stud.* **2007**, *39*, 471–489.
3. Rich, J.M. Is citizenship education possible? *J. Teach. Educ.* **1983**, *34*, 60–61.
4. Schwarzer, S.; Zeglovits, E. Citizenship education in-between learning and experience. *Osterreichische Z. Polit.* **2009**, *38*, 325–340.
5. Purta, J.T.; Lehmann, R.; Oswald, H.; Schulz, W. *Citizenship and Education in Twenty Eight Countries: Civic Knowledge and Engagement at Age Fourteen*; IEA Secretariat: Amsterdam, The Netherlands, 2001.

6. Taylor, S.; Shoultz, B.; Walker, P. *Disability Studies: Information and Resources*; National Resource Center on Supported Living and Choice, Center on Human Policy, School of Education, Syracuse University: Syracuse, NY, USA, 2003. Available online: [http://thechp.syr.edu/Disability\\_studies\\_2003\\_current.html](http://thechp.syr.edu/Disability_studies_2003_current.html) (accessed on 30 July 2012).
7. Carlson, L. Cognitive ableism and disability studies: Feminist reflections on the history of mental retardation. *Hypatia* **2001**, *16*, 124–146.
8. Finkelstein, V. *Modelling Disability*; Disability Studies Program, Leeds University: Leeds, UK, 1996. Available online: <http://www.leeds.ac.uk/disability-studies/archiveuk/finkelstein/models/models.htm> (accessed on 30 July 2012).
9. Mitchell, D.T.; Snyder, S.L. *The Body and Physical Difference: Discourses of Disability (The Body, In Theory: Histories of Cultural Materialism)*; University of Michigan Press: Ann Arbor, MI, USA, 1997.
10. Olyan, S.M. The ascription of physical disability as a stigmatizing strategy in biblical iconic polemics. *J. Hebr. Scr.* **2009**, *9*, 2–15.
11. Rose, M. *The Staff of Oedipus: Transforming Disability in Ancient Greece*; University of Michigan Press: Ann Arbor, MI, USA, 2003.
12. Schipper, J. *Disability Studies and the Hebrew Bible: Figuring Mephibosheth in the David Story*; Continuum: New York, NY, USA, 2006.
13. Overboe, J. Vitalism: Subjectivity exceeding racism, sexism, and (psychiatric) ableism. *A J. Transnational Women's Gend. Stud.* **2007**, *4*, 23–34.
14. Campbell, F.A.K. Exploring internalized ableism using critical race theory. *Disabil. Soc.* **2008**, *23*, 151–162.
15. Campbell, F.K. Refusing able (ness): A preliminary conversation about ableism. *J. Media Cult.* **2008**, *11*, Article 46; Available online: <http://journal.media-culture.org.au/index.php/mcjournal/article/viewArticle/46/> (accessed on 30 July 2012).
16. Wolbring, G. *Ableism, Disability Studies and the Academy*; University of Calgary: Calgary, AB, Canada, 2011. Available online: <http://cfhss-dev.cyansolutions.com/en/blog/ableism-disability-studies-and-academy> (accessed on 30 July 2012).
17. Wolbring, G. Why NBIC? Why human performance enhancement? *Innov. Eur. J. Soc. Sci. Res.* **2008**, *21*, 25–40.
18. Wolbring, G. The politics of Ableism. *Development* **2008**, *51*, 252–258.
19. Wolbring, G. Ableism and favoritism for abilities governance, ethics and studies: New tools for nanoscale and nanoscale enabled science and technology governance. In *The Yearbook of Nanotechnology in Society, Volume II: The Challenges of Equity and Equality*; Cozzens, S., Wetmore, J.M., Eds.; Springer: New York, NY, USA, 2010.
20. Wolbring, G. Expanding ableism: Taking down the ghettoization of impact of disability studies scholar. *Societies* **2012**, *2*, 75–83.
21. Wolbring, G. Ableism and energy security and insecurity. *Stud. Ethics Law Technol.* **2011**, *5*, doi:10.2202/1941-6008.1113.

22. Hoskins, B.; Jesinghaus, J.; Mascherini, M.; Munda, G.; Nardo, M.; Saisana, M.; van Nijlen, D.; Vidoni, D.; Villalba, E. *Measuring Active Citizenship in Europe*; European Commission, Institute for the Protection and Security of the Citizen: Ispra, Italy, 2006.
23. Alevriadou, A.; Lang, L. Active Citizenship and Contexts of Special Education. 2011. Available online: <http://www.londonmet.ac.uk/fms/MRSite/Research/cice/pubs/guidelines/guidelines-12.pdf> (accessed on 30 July 2012).
24. Hoskins, B. Monitoring active citizenship in the european union: The process, the results and initial explanations. *Cadmo* **2009**, *17*, 55–71.
25. Hoskins, B.; d’Hombres, B.; Campbell, J. *Does Formal Education Have an Impact on Active Citizenship Behaviour*; European Commission Joint Research Centre: Ispra, Italy, 2008.
26. Plichtova, J. Active citizenship in social and psychological contexts. *Ceskoslovenska Psychol.* **2004**, *48*, 52–68.
27. Hoskins, B.; Crick, R.D. Competences for learning to learn and active citizenship: Different currencies or two sides of the same coin? *Eur. J. Educ.* **2010**, *45*, 121–137.
28. Meekosha, H.; Dowse, L. Enabling citizenship: Gender, disability and citizenship in Australia. *Fem. Rev.* **1997**, *57*, 49–72.
29. Massie, B. *Finding the Wormhole Achieving Equal Citizenship for Ddisabled People*; Leeds University: West Yorkshire, UK, 2006.
30. Jayasooria, D. Disabled people: Active or passive citizens-reflections from the Malaysian experience. *Disabil. Soc.* **1999**, *14*, 341–352.
31. Morris, J. *Citizenship and Disabled People: A Scoping Paper Prepared for the Disability Rights Commission*; Disaability Studies program University of Leeds: Leeds, UK, 2005. Available online: <http://disability-studies.leeds.ac.uk/files/archiveuk/morris-Citizenship-and-disabled-people.pdf> (accessed on 30 July 2012).
32. Edwards, C.; Imrie, R. Disability and the implications of the wellbeing agenda: Some reflections from the United Kingdom. *J. Soc. Policy* **2008**, *37*, 267–277.
33. Rapp, R.; Ginsburg, F. Enabling disability: Rewriting kinship, reimagining citizenship. *Public Cult.* **2001**, *13*, 533–556.
34. Das, V.; Addlakha, R. Disability and domestic citizenship: Voice, gender, and the making of the subject. *Public Cult.* **2001**, *13*, 511–325.
35. Barton, L. The struggle for citizenship: The case of disabled people. *Disabil. Soc.* **1993**, *8*, 235–248.
36. Connors, J.L.; Donnellan, A.M. Citizenship and culture: The role of disabled people in Navajo society. *Disabil. Soc.* **1993**, *8*, 265–280.
37. Craig, G. Citizenship, exclusion and older people. *J. Soc. Policy* **2004**, *33*, 95–114.
38. Keyt, D. The good man and the upright citizenin Aristotle’s ethics and politics. *Soc. Philos. Policy* **2007**, *24*, 220–240.
39. Wallerstein, I. Citizens All? Citizens some! The making of the citizen. *Comp. Stud. Soc. Hist.* **2003**, *45*, 650–679.

40. Marshall, T.H. *Citizenship and Social Class*; Cambridge University Press: Cambridge, UK, 1950.
41. Roulstone, A. Disability, dependency and the new deal for disabled people. *Disabil. Soc.* **2000**, *15*, 427–443.
42. United Airlines, Inc. 1999. certiorari to the united states court of appeals for the tenth circuit No. 97-1943. Argued April 28, 1999–Decided June 22, 1999. Available online: <http://www.law.cornell.edu/supct/html/97-1943.ZS.html> (accessed on 30 July 2012)
43. United Parcel Service, Inc. 1999. certiorari to the united states court of appeals for the tenth circuit No. 97-1992. Argued April 27, 1999–Decided June 22, 1999. Available online: <http://biotech.law.lsu.edu/cases/ADA/Murphy.htm> (accessed on 30 July 2012)
44. National Council on Disability. *National Disability Policy: A Progress Report*; Available online: [http://www.ncd.gov/rawmedia\\_repository/738e9cc9\\_2704\\_4932\\_83eb\\_0db96b6f2341?document.pdf](http://www.ncd.gov/rawmedia_repository/738e9cc9_2704_4932_83eb_0db96b6f2341?document.pdf) (accessed on 30 July 2012).
45. National Council on Disability Righting the Americans with Disabilities Act. 2004. Available online: <http://www.ncd.gov/publications/2004/Dec12004#IIA> (accessed on 30 July 2012).
46. McIntosh, P. White privilege: Unpacking the invisible knapsack. *Peace Freedom* **1989**, *49*, 10–12.
47. Lees, S. Sexuality and citizenship education. In *Challenging Democracy: International Perspectives on Gender, Education and Citizenship*; Taylor & Francis Group: London, UK, 2001.
48. Choules, K. Globally privileged citizenship. *Race Ethn. Educ.* **2006**, *9*, 275–293.
49. Choules, K.; Down, B. *Citizenship Education and the Globally Engaged Curriculum*; Technical Report for the Senate Committee into Active Citizenship: Washington, DC, USA, 2006.
50. Kleinman, D.L. Beyond the science wars: Contemplating the democratization of science. *Polit. Life Sci.* **1998**, *17*, 133–145.
51. Carolan, M.S. Science, expertise, and the democratization of the decision-making process. *Soc. Nat. Resour.* **2006**, *19*, 661–668.
52. Guston, D.H. Forget politicizing science. Let's democratize science! *Issues Sci. Technol.* **2004**, *21*, 25–28.
53. Toumey, C. Democratizing nanotech, then and now. *Nat. Nano* **2011**, *6*, 605–606.
54. Davies, I. Science and citizenship education. *Int. J. Sci. Educ.* **2004**, *26*, 1751–1763.
55. Lewens, T. The risks of progress: Precaution and the case of human enhancement. *J. Risk Res.* **2010**, *13*, 207–216.
56. Coenen, C.; Schuijff, M.; Smits, M.; Klaassen, P.; Hennen, L.; Rader, M.; Wolbring, G. *Human Enhancement Study*; (IP/A/STOA/FWC/2005-28/SC35, 41 & 45) PE 417.483; European Parliament: 09. Available online: [http://www.europarl.europa.eu/RegData/etudes/etudes/join/2009/417483/IPOL-JOIN\\_ET\(2009\)417483\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2009/417483/IPOL-JOIN_ET(2009)417483_EN.pdf) (accessed on 30 July 2012).
57. Gunson, D. Cognitive enhancement, analogical reasoning and social justice. *J. Int. Biotechnol. Law* **2009**, *6*, 133–149.
58. Buchanan, A. Moral status and human enhancement. *Philos. Public Aff.* **2009**, *37*, 346–381.

59. Pound, R.W. Human enhancement. *Issues Sci. Technol.* **2009**, *25*, No.4. Available online: [http://uga.worldcat.org/title/human-enhancement/oclc/429125363?referer=tag\\_list\\_view](http://uga.worldcat.org/title/human-enhancement/oclc/429125363?referer=tag_list_view) (accessed on 30 July 2012)
60. Riis, J.; Simmons, J.P.; Goodwin, G.P. Preferences for enhancement pharmaceuticals: The reluctance to enhance fundamental traits. *J. Consum. Res.* **2008**, *35*, 495–508.
61. Beck, S. Enhancement as a legal challenge. *J. Int. Biotechnol. Law* **2007**, *4*, 75–81.
62. Irish Council for Bioethics Human Enhancement: Making People Better or Making Better People? In *Irish Council for Bioethics 2007*; Available online: <http://www.bioethics.ie/uploads/docs/Humanenh.pdf> (accessed on 30 July 2012).
63. Williams, A.E. *Good, Better, Best: The Human Quest for Enhancement Summary Report of an Invitational Workshop Convened by the Scientific Freedom, Responsibility and Law Program American Association for the Advancement of Science 1–2 June 2006*; American Association for the Advancement of Science (AAAS): Washington, DC, USA, 2006. Available online: [http://www.aaas.org/spp/sftrl/projects/human\\_enhancement/pdfs/HESummaryReport.pdf](http://www.aaas.org/spp/sftrl/projects/human_enhancement/pdfs/HESummaryReport.pdf) (accessed on 30 July 2012).
64. Caplan, A.; Elliott, C. Is it ethical to use enhancement technologies to make us better than well? *PLoS Med.* **2004**, *1*, e52.
65. Farah, M.J.; Illes, J.; Cook-Deegan, R.; Gardner, H.; Kandel, E.; King, P.; Parens, E.; Sahakian, B.; Wolpe, P.R. Neurocognitive enhancement: What can we do and what should we do? *Nat. Rev. Neurosci.* **2004**, *5*, 421–425.
66. Brodey, W.M.; Lindgren, N. Human enhancement-beyond machine age. *IEEE Spectr.* **1968**, *5*, 79–93.
67. President's Council on Bioethics. *Beyond Therapy: Biotechnology and the Pursuit of Happiness*; Available online: <http://bioethics.georgetown.edu/pcbe/reports/beyondtherapy/> (accessed on 30 July 2012).
68. Fan, R. A confucian reflection on genetic enhancement. *Am. J. Bioeth.* **2010**, *10*, 62–70.
69. Froeding, B.E.E. Cognitive enhancement, virtue ethics and the good life. *Neuroethics* **2011**, *4*, 223–234.
70. Farrelly, C. Virtue ethics and prenatal genetic enhancement. *Stud. Ethics Law Technol.* **2008**, *1*, 1–13.
71. Sparrow, R. A not-so-new eugenics: Harris and Savulescu on human enhancement. *Asian Bioeth. Rev.* **2010**, *2*, 32–42.
72. Sparrow, R. Fear of a female planet: How John Harris came to endorse eugenic social engineering. *J. Med. Ethics* **2012**, *38*, 4–7.
73. Savulescu, J. New breeds of humans: The moral obligation to enhance. *Reprod. Biomed. Online* **2005**, *10*, 36–39.
74. Savulescu, J.; Kahane, G. The moral obligation to create children with the best chance of the best life. *Bioethics* **2009**, *23*, 274–290.

75. Harris, J. *Enhancing Evolution The Ethical Case for Making Better People*; Princeton University Press: Princeton, NJ, USA, 2007.
76. Harris, J. *Enhancing Evolution*; Princeton University Press: Princeton, NJ, USA, 2010.
77. Harris, J. Taking the ôHumanö Out of Human Rights. *Camb. Q. Healthc. Ethics* **2011**, *20*, 9–20.
78. Harris, J. Sparrows, hedgehogs and castrati: Reflections on gender and enhancement. *J. Med. Ethics* **2011**, *37*, 262–266.
79. Wolbring, G. *HTA Initiative #23 The Triangle of Enhancement Medicine, Disabled People, and the Concept of Health: A New Challenge for HTA, Health Research, and Health Policy*; Alberta Heritage Foundation for Medical Research, Health Technology Assessment Unit: Edmonton, AB, Canada, 2005. Available online: <http://www.ihe.ca/documents/HTA-FR23.pdf> (accessed on 30 July 2012).
80. Wolbring, G. The unenhanced underclass. In *Better Humans? The Politics of Human Enhancement*; Wilsdon, J.M.P., Ed.; Demos Institute: London, UK, 2006; pp. 122–129. Available online: [http://www.nanopodium.nl/CieMDN/content/Demos\\_Better\\_humans.pdf](http://www.nanopodium.nl/CieMDN/content/Demos_Better_humans.pdf) (accessed on 30 July 2012).
81. Wolbring, G. Ableism, enhancement medicine and the techno poor disabled. In *Unnatural Selection: The Challenges of Engineering Tomorrow's People*; Healey, P., Rayner, S., Eds.; Earthscan: London, UK, 2008; pp. 196–209.
82. Wolbring, G. *Nanotechnology and the Transhumanization of Health, Medicine, and Rehabilitation*; Lee, K.D., Delborne, J., Cloud-Hansen, K., Handelsman, J., Eds.; Mary Ann Liebert: New Rochelle, NY, USA, 2010; pp. 290–303.
83. Wolbring, G. Why NBIC? Why human performance enhancement? *Innov. Eur. J. Soc. Sci. Res.* **2008**, *21*, 25–40.
84. Wolbring, G. Is there an end to out-able? Is there an end to the rat race for abilities?. *J. Media Cult.* **2008**, *11*, Article 57; Available online: <http://journal.media-culture.org.au/index.php/mcjournal/article/viewArticle/57> (accessed on 30 July 2012).
85. Wolbring, G. Nanotechnology and social cohesion. *Int. J. Nanotechnol.* **2010**, *7*, 155–173.
86. Robertson, R. *Globalization: Social Theory and Global Culture*, 16th ed.; Sage Publications Ltd: London, UK, 1992.
87. Krugman, P.; Venables, A.J. *Globalization and the Inequality of Nations*; National Bureau of Economic Research: New York, NY, USA, 1995.
88. Robertson, R.; Nobutaka, I. *Globalization and Indigenous Culture*; Kokugakuin University: Tokyo, Japan, 1997. Available online: <http://www2.kokugakuin.ac.jp/ijcc/wp/global/index.html> (accessed on 30 July 2012).
89. Gorg, C.; Hirsch, J. Is international democracy possible? *Rev. Int. Polit. Econ.* **1998**, *5*, 585–615.
90. Tomlinson, J. *Globalization and Culture*; Chicago University Press: Chicago, IL, USA, 1999.
91. Inglehart, R. Globalization and postmodern values. *Wash. Q.* **2000**, *23*, 215–228.
92. Robertson, R. Glocalization: Time-space and homogeneity-heterogeneity. In *Global Modernities*; Sage Publications Ltd: Thousand Oaks, CA, USA, 1995; pp. 25–44.

93. CERFE. *Glocalization: Research Study and Policy Recommendations*; CERFE: Roma, Italy, 2003.
94. Kraidy, M.M. The global, the local, and the hybrid: A native ethnography of glocalization. *Crit. Stud. Media Commun.* **1999**, *16*, 456–476.
95. Kjeldgaard, D.; Askegaard, S. The glocalization of youth culture: The global youth segment as structures of common difference. *J. Consum. Res.* **2006**, *33*, 231–247.
96. Willems, J.; Bossu, C. Equity considerations for open educational resources in the glocalization of education. *Distance Educ.* **2012**, *33*, 185–199.
97. Yang, B. Beyond privileges: New media and the issues of glocalization in China. *New Connect. China* **2012**, *4*, 133–147.
98. Joseph, M.; Ramani, E. Glocalization: Going beyond the dichotomy of global versus local through additive multilingualism. *Int. Multiling. Res. J.* **2012**, *6*, 22–34.
99. Roudometof, V. Transnationalism, cosmopolitanism and glocalization. *Curr. Sociol.* **2005**, *53*, 113–135.
100. Buller, P.F.; Kohls, J.J.; Anderson, K.S. The challenge of global ethics. *J. Bus. Ethics* **1991**, *10*, 767–775.
101. Gorniak-Kocikowska, K. The computer revolution and the problem of global ethics. *Sci. Eng. Ethics* **1996**, *2*, 177–190.
102. Ten, H. The activities of UNESCO in the area of ethics. *Kennedy Inst. Ethics J.* **2006**, *16*, 333–351.
103. Ten, H.; Ang, T.W. Unesco's global ethics observatory. *J. Med. Ethics* **2007**, *33*, 15–16.
104. Pogge, T.W.M.; Moellendorf, D.; Horton, K. *Global Responsibilities: Global Ethics: Seminal Essays*; Paragon House: Saint Paul, MN, USA, 2008.
105. Sass, H.M.; Xiao, M.Z. Global bioethics: Eastern or western principles? *Asian Bioeth. Rev.* **2011**, *3*, 1–2.
106. Ryan, C. The dialogue of global ethics. *Ethics Int. Aff.* **2012**, *26*, 43–47.
107. Zhao, Y. Preparing globally competent teachers: A new imperative for teacher education. *J. Teach. Educ.* **2010**, *61*, 422–431.
108. Banks, J.A. *Diversity and Citizenship Education: Global Perspectives*; John Wiley & Sons: Hoboken, NJ, USA, 2007.
109. Hamdon, E.; Jorgenson, S. *Global Citizenship Education Policy Issues*; University of Alberta International and Faculty of Education (International Office and Global Education Network): Edmonton, AB, Canada, 2009. Available online: [http://www.gccd.ualberta.ca/en/~media/gccd/Documents/Global\\_Citizenship\\_Education\\_Policy\\_Issues.pdf](http://www.gccd.ualberta.ca/en/~media/gccd/Documents/Global_Citizenship_Education_Policy_Issues.pdf) (accessed on 30 July 2012).
110. Trousdell, E.G. Citizenship-based competitiveness policy in a new economic world. *Int. J. Public Adm.* **1994**, *17*, 1767–1788.
111. Tedesco, J.C. *The New Educational Pact: Education, Competitiveness and Citizenship in Modern Society*; Unesco, International Bureau of Education: Geneva, Switzerland, 1997.
112. Schattle, H. Communicating global citizenship: Multiple discourses beyond the academy. *Citizensh. Stud.* **2005**, *9*, 119–133.

113. Fox News Obama Casts Self as World Citizen, But Will It Play in America? *Fox News* 2008. Available online: <http://elections.foxnews.com/2008/07/24/obama-casts-self-as-world-citizen/> (accessed on 30 July 2012).
114. Limbaugh, R. Citizen of the World Rips America. *Rush Limbaugh show* 2008. Available online: [http://www.rushlimbaugh.com/daily/2008/07/24/citizen\\_of\\_the\\_world\\_rips\\_america](http://www.rushlimbaugh.com/daily/2008/07/24/citizen_of_the_world_rips_america) (accessed on 30 July 2012).
115. Bolton, J. One world? Obama's on a different planet. *L. A. Times* 2008. Available online: <http://www.latimes.com/news/opinion/la-oe-bolton26-2008jul26,0,4549608.story> (accessed on 30 July 2012).
116. Yglesias, M. Citizens of the World. *the Atlantic. com* 2008. Available online: [http://matthewyglesias.theatlantic.com/archives/2008/07/citizens\\_of\\_the\\_world.php](http://matthewyglesias.theatlantic.com/archives/2008/07/citizens_of_the_world.php) (accessed on 30 July 2012).

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