

STEM Further Education – from training for employment to education for freedom

Ralph Cassar

Institute of Applied Sciences,
Malta College of Arts, Science and Technology
ralph.cassar@mcast.edu.mt

Abstract

The dominant discourse used to justify the costs and need of state-funded Further Education (FE) in Malta mirrors that in European Union policy documents, which emphasise the development of human capital, the utility of FE to the individual and the assumed direct link between FE and economic growth. The emphasis, at least in policies, is on what employers want rather than what students want for themselves or what educators think is educationally desirable. In this paper, I propose using the *capabilities approach* as a framework for reimagining FE and post-compulsory technical education as a process of freedom and empowerment. Amartya Sen describes capabilities as freedoms which involve both the processes that allow the freedom of action and making decisions, and also the opportunities that are available. He envisions successful societies as those in which its members are able to participate effectively and influence the spheres effecting their lives – socially, economically and politically. Capabilities can be enhanced by public policy. The capabilities proposed to give students the freedom to make their own choices and participate more fully in society are: practical reasoning; affiliation; informed vision; resilience; social and collective struggle; emotional reflexivity; integrity; and knowledge and skills.

Keywords: freedom, capabilities approach, further education, STEM

Introduction

The dominant discourse used to justify the costs and need of state-funded Further Education (FE) in Malta mirrors that in European Union policy documents, which emphasise the development of human capital, the utility of FE to the individual and the supposed direct link between FE and economic growth (European Commission, 2002; European Commission, 2010; MCAST, 2015). The major concern in education, and maybe more so in post-compulsory vocational educational and training (VET) offered by Further Education (FE) colleges, is what employers want rather what students want for themselves or what educators think is educationally desirable (Powell, 2012; Walker, 2003).

In their critique of capitalism, Chang (2011) and Walker (2012) question the link between raising productivity and education. Chang (2011) proposes that education's main value is 'its ability to help us develop our potentials and live a more fulfilling and independent life' (p.189). Such a 'good life' for its citizens, I will argue, is a solid reason for a state which wants to expand its citizens' freedoms to invest in post-compulsory FE. The state which wants to offer citizens the opportunity to lead, what they themselves consider as a good life, will see investment in FE as worthwhile. While acknowledging the importance of individuals earning enough to live in dignity, education, particularly technical education need not be framed as a tool for propping up a neoliberal model of society with its unrestrained pursuit of profit, consumerism and a highly individualistic conception of the citizen (Walker, 2006), or what Baptiste (2001) calls a 'society' of 'lone wolves' - 'radically isolated hedonists, creatures of habit who temper their avarice with economic rationality' (p.197).

The framework offered by the *capability* or *capabilities approach* (Robeyns and Fibieger Byskov, 2021), will be used to imagine a future where vocational and technical FE is closer to the ideal of not only training for employability but also for expanding students' freedoms to aspire, contribute to society in a meaningful way and lead the life they have good reason to value.

The Capabilities Approach

The capabilities approach was developed first by Amartya Sen, followed, mainly, by Martha Nussbaum. The approach is used to evaluate or design policies towards achieving a good quality of life for individuals in a society and providing the environment in which individuals are able to develop and

flourish their potential and choose the kind of life they value. For Nussbaum (2011), the capabilities approach is also a theory of basic social justice.

The approach is based on the two central concepts of 'functionings' and 'capabilities'. Functionings are states of 'being and doing', from the very essential condition of being well-nourished and having shelter to other functionings such as being educated. Capabilities are sets of valuable functionings that a person has effective access to (IEP, nd). A person's capability represents the effective freedom of an individual to choose between different functioning combinations that the person has reason to value (IEP, nd).

Sen (2001) describes freedom as involving both the processes that allow the freedom of action and making decisions, and also the opportunities that are available. He envisions successful societies as those in which its members are able to participate effectively and influence the spheres affecting their lives – socially, economically and politically. Freedom is defined as the expansion of the 'abilities to achieve' or capabilities of persons to lead the kind of life they value and have reason to value. Capabilities can be enhanced by public policy and in turn influenced by effective use of participatory capabilities. These abilities to achieve are translated into actual 'beings and doings' or functionings. Sen (1979, 2001, 2010) focuses on capabilities, because people are different and the conversion of goods to capabilities varies from person to person. A just society would therefore give its citizens *real* opportunities to achieve what they value and have reason to value. The qualifier 'real' is very important. Wellbeing entails neither a lack of opportunities nor a pre-determined, paternalistically imposed set of 'opportunities'. Sen emphasises the participatory and deliberative aspect of coming to an agreement on what capabilities should be valued in a society and the different 'reasons to value' of each and every individual.

Sen (2001) calls our attention to the social, political and economic milieu in which people live their lives, and since, he argues, disadvantaged persons tend to accept their lot and lower their aspirations and expectations to what they consider reachable he lists five 'instrumental freedoms', which he deems essential to live the life one has reason to value: political freedoms, economic facilities, social opportunities, transparency guarantees and a social safety net, insisting that this list is not exhaustive. Sen's insistence on real opportunities is a recurring theme. In *The Idea of Justice*, Sen (2010) reiterates that 'adaptation of

expectations and perceptions tend to play a particularly major part in the perpetuation of social inequalities' (p.288). The difference from the neoliberal stance on freedom of 'each to his own' is clear – social support actually expands people's freedoms. Society should develop the capabilities of all of its members – that is guaranteeing the real and effective freedoms for them to convert resources and goods into real opportunities and achievements. Since children denied an education will be unable to do 'basic things', their functionings as adults will be severely impaired, and so it follows that an affordable education – a central concern of Sen's (2010) together with healthcare - is a substantive freedom which develops people's capabilities to live a 'good life' (p. 282).

Nussbaum's (2011) version of the capabilities approach also takes each person as an end, with the focus on the opportunities available to each person – 'what is each person able to do or be?' (p. 18). She focuses on social justice and adds the notions of human dignity, a threshold of capabilities and political liberalism to the approach. While Sen, with his aversion to definitive lists, mostly compares different capabilities available to people in different societies, Nussbaum does not hesitate listing the capabilities which she sees as necessary for social justice and a liberal democracy. The effects of the societies in which people live are also acknowledged by Nussbaum. For her, capabilities are not just abilities residing inside a person – *internal capabilities* - but also the freedoms created by personal abilities together with the political, social and economic environment (Nussbaum, 2011). What Sen calls substantive freedoms – the real opportunities to convert capabilities into valued functionings, Nussbaum labels *combined capabilities*. Education, together with social support for good physical and emotional health and for family care and love, supports the development of internal capabilities. A society might produce internal capabilities (through education, healthcare etc.), but deny people the opportunities to function in accordance with those capabilities – for example people are educated that they are capable of free speech but in practice freedom of speech is repressed, and as such Nussbaum emphasises the importance of real freedoms – or *combined capabilities*.

Nussbaum's (2011) version of the capabilities approach highlights 'the protection of areas of freedom so central that their removal makes a life not worthy of human dignity' (p.31). She lists ten central capabilities: life; bodily health; bodily integrity; senses, imagination, and thought; emotions; practical reason; affiliation; other species; play; control over one's political and material environment (pp. 33-34). Countering the charge of ignoring the process of

public reasoning in which people have the right to decide for themselves what they value and not have lists of capabilities imposed on them, she insists that her approach, while necessary to ensure a threshold of a good life will leave many matters optional and open to deliberation. She cites the nation as the political structure which 'is responsible for distributing to all citizens an adequate threshold amount of all entitlements' (pp. 63-64).

Despite differences, there are lots of similarities between the Sen and Nussbaum approaches. The most obvious difference is Sen's resistance to definite and fixed lists of central capabilities and Nussbaum's commitment to a threshold of capabilities for a dignified life. These differences are not irreconcilable. Both different flavours of the approach allow for considerable flexibility in choosing the important capabilities and functionings depending on the context in which the approach is being used. It is pertinent to point out that Sen (2004) is not against the listing of capabilities, but against a fixed and final list of capabilities.

A vision of a future in which technical FE develops valuable capabilities, other than the overemphasis on productivism, such that FE graduates are equipped with the capabilities to lead a life they have good reason to value (Sen, 2010, p. 18), necessitates making a political choice of which capabilities should be developed. Claassen (2011) defends lists of capabilities as a political choice which like other choices are legitimate in a democratic society.

Further Education and the Choice of Capabilities

In Malta the state FE college, the Malta College of Arts, Science and Technology (MCAST), differs somewhat from the state university, the University of Malta, and its so-called 'Junior College' (formerly known as the 'sixth form'), in its access policies and types of courses it provides. It has developed into a hybrid FE and Higher Education (HE) college over the years, since it now also offers degree courses. Students can access MCAST at the end of five years of secondary education, at sixteen or close to sixteen years old. Others may access degree courses directly, depending on their prior achievement at a 2-year academic sixth form college or school. These students are usually at least eighteen years old. MCAST does not offer courses in the humanities. At MCAST, year cohorts are divided into relatively small classes, the curricula are highly structured, and students have more contact hours, or 'supported learning'. MCAST places more emphasis on teaching rather than lecturing. Minimum entry requirements are less onerous than for academic sixth forms

and university, with students channelled into different level certificate, diploma, higher diploma or first degree courses according to their prior qualifications. A clear path from the lower level courses till degree courses is offered. A similar scenario in the UK is described by Wheelahan (2009). A more supported learning environment is important to develop the capabilities of students who need more time to learn and need more scaffolding and guidance to construct their own knowledge. The FE sector can be instrumental in providing a space to get closer to achieving social justice, democracy, access and opportunity (Wheelahan, 2009).

Further Education colleges, even if they offer Higher Education courses too, are often seen as second-choice options and less prestigious than sixth form colleges offering A-level courses and universities (Thompson, 2009; Wheelahan, 2009). Thompson (2009) notes that in England and Wales, even if middle class and working class students are well represented in FE, middle class students often find themselves in FE because of lower prior achievement, while working class students enter FE instead of leaving education altogether. Even within an FE institution there may be a divide between classes and gender depending on the level and type of course (Thompson, 2009), with more working class students in lower level courses and more middle class students in higher level courses and Higher Education (HE) courses in FE colleges. In Malta, the gender divide is also obvious, with, for example, social care attracting overwhelmingly female students and technical courses in engineering and ICT attracting male students (NCFHE, 2018, pp.12-14.). The lower prestige of FE colleges may undermine efforts to use the sector as a vehicle for social inclusion, with the middle class perceiving what they consider as non-prestigious institutions as a last resort for its own children (McCulloch, 2018; Abrassart and Wolter, 2020). MCAST students sometimes perceive an attitude which indicates a lack of prestige of MCAST vis-à-vis the University of Malta and its sixth-form college when they are on a work-placement or apprenticeship (Cassar, 2020).

Nussbaum (2011) emphasises structural and systemic barriers to the development of 'combined capabilities' and the conversion of capabilities into functionings. In FE, structural issues may pigeon-hole vocational and technical students into a role of future docile workers, who need to be trained to fill the skill gap and serve the needs of the economy limits their freedoms and narrows the conception of the 'good life' to serving the short term interests of employers

(Sultana, 1995; Unwin, 2004). The capability approach points towards a need for structural changes in the institutional structures of FE education providers.

Sen (2010), Nussbaum (2011) and Walker (2003), while asserting that education can be an instrument for achieving more social justice and freedom, through the development of each person's capabilities and the freedom to choose which capabilities to convert into functionings, point to the necessity of taking into consideration both individual agency and institutional structures in the struggle to achieve those aims. The social, cultural and economic environment affects the aspirations of people, with disadvantaged people accepting their lot and reducing their aspirations to levels which they think are achievable. Paolo Freire (2000) in *Pedagogy of the Oppressed* warns of the oppressed yearning to become like the oppressor, because the oppressor personifies the only model of 'beings and doings' they aspire to. Focusing on the individual is not conducive to a more socially just education system, social justice demands removing barriers for the development of student capabilities. Education in formal settings shapes lives, expanding freedoms or reducing them, a glaring example being Bantu education in South Africa where students were 'taught' to see themselves as unskilled labourers (Walker, 2003).

Resources are important, however the capabilities approach goes further. It not only focuses on income and other resources available in educational institutions, such as computers, libraries, buildings and infrastructure but in the ability or freedom of students to convert resources into actual achievements; an education which allows a functioning to be exercised.

I propose that for a FE which expands students' freedoms, a list of capabilities is necessary. A continued focus on resources only risks continued social reproduction of inequalities and unfreedoms. A list of both internal and combined capabilities, dealing with each individual's agency and the changes to social, economic and cultural structures necessary for breaking down the barriers to the conversion of capabilities into functionings, focuses our attention on transforming FE to a contributor to enabling human flourishing for each and every person.

The list of capabilities that I am proposing that FE should develop are drawn from the works of Nussbaum (2006, 2011), Walker (2015), McGrath (2012) and Powell (2012). While Walker's and Nussbaum's capability lists are intended for HE students, I share White's (2009) view that the FE/HE divide is an artificial

construct, that higher-order thinking is not peculiar to HE and that genuine educational justice calls for all students to be provided with opportunities that can enable everyone to attain similar outcomes (Mutanga, 2014). Decisions regarding education for children, according to Nussbaum (2011, p.156) can justifiably be made by governments since children are immature and may face pressures to work rather than study. Students in FE are however not children and so the capabilities discussed here should not be taken as final. Young adults past the post-compulsory school age should be persuaded rather than forced to further their education. There is scope for processes of public reasoning and public choice where students, educators and society deliberate and agree on which capabilities and corresponding functionings should be developed (Sen, 2001; Sen, 2010; Walker, 2015). Walker (2012) proffers a process through which curricula are designed by both staff and students, and more radically an 'open' curriculum allowing students to create their own knowledge fields.

My list of capabilities apart from the one most emphasised in FE policies, the capability to work (Nussbaum, 2011; Powell, 2012; Walker, 2015) is: practical reasoning; affiliation; informed vision; resilience; social and collective struggle; emotional reflexivity; integrity; and knowledge and skills.

The first two capabilities are drawn from Nussbaum's (2011) ten central capabilities which Walker (2003) deems as particularly important for social justice. The other capabilities (including 'affiliation') are drawn from Walker's (2015) list of professional capabilities, and from the capabilities discussed in the context of VET in FE colleges by McGrath (2012) and Powell (2012). The reason for choosing these capabilities is that since most of the vocational courses offered by the Maltese FE college are science, technology and engineering related, the list lends itself well to imagining a future where the emphasis is on the development of the FE student as an end in itself.

While Nussbaum (2010) promotes US style college liberal arts programmes as best-placed to develop capabilities such as 'an ability to see oneself as not simply a citizen of country but above all as a human being bound to all other human beings by ties of recognition and concern', I propose that even vocation FE programmes can help develop important capabilities for living the life one has good reason to value. Walker's (2015) suggested professional capabilities list are worth considering because they can help focus efforts to develop

capabilities in students from which they could choose functionings for public service as ‘public-good professionals’.

The Capabilities

Practical reason means being able to form a conception of the good and to engage in critical reflection about the planning of one’s life (Nussbaum, 2011, p.34). A pedagogic strategy suggested by Walker (2012) is the deployment of ‘Socratic methods’ by lecturers. Vocational education with its focus on ‘doing’ or applying theory to practical situations is well positioned to develop this capability. Nussbaum (2010) describes Dewey’s Socratism as

...the fact that in a good school pupils learn skills of citizenship by undertaking common projects and solving them together... in the pursuit of an understanding of real-world issues and immediate practical projects (p. 66).

The example she makes can be applied to the whole gamut of vocational courses at FE colleges:

Typically, students would begin with a specific and immediate practical task: to cook something, or weave something, or maintain a garden. In the course of solving these immediate problems, they would be led to many questions: Where do these materials come from? Who made them? By what forms of labor did they reach me?... (p. 66).

Affiliation or solidarity is the capability of accepting obligations to others, respecting and caring for people who are different from you, forming cross-community and social group relationships and communicating professional knowledge in an understandable manner (McGrath, 2012; Nussbaum, 2011; Walker, 2015). Pedagogical strategies to develop this capability could include community projects and involvement with community organisations. For example, Building and Construction students could help refurbish a homeless shelter, or research how limited resources such as building materials can be used more efficiently and reused. Helping restore a community landmark by masonry restoration students helps build connections with the community and offers opportunities for appreciating the social histories of their communities. Student laboratory analysts and environmental technology students could analyse the air quality in deprived neighbourhoods and discuss the state of the neighbourhood environment as an indicator of the lack of effective political power or social capital of the people living there, as contrasted for example to

the cleaner air in a more affluent area. I am aware that indeed some FE lecturers already provide opportunities for students to apply their knowledge for the public good.

The informed vision capability is described as an understanding of how students' vocation or profession has developed over time in a national and global socioeconomic context, together with an ability to imagine alternative futures and social progress (McGrath, 2012; Walker, 2015). Learning is envisaged as a social good, not simply as the individualistic pursuit of learning for private gain. This capability could again be developed by embedding community involvement in the FE curriculum, where students can apply their skills to improve the lives of people in their communities. The history of the profession, its development, and the positive and negative aspects of the use of professionals' power in society can be critically appraised and discussed. Anchoring the particular profession students are studying to practice in a local and indeed global context counters the notion of competitive individualism emphasised by the productivist focus of VET (Walker, 2003).

Resilience is the capability for perseverance in difficult circumstances, recognising the need for professional boundaries, fostering hope and having a sense of career security (McGrath, 2012; Walker, 2015). The system of paid apprenticeships in place at the Maltese FE college provides a path to employment and also income during students' studies. This is especially important for students from disadvantaged socioeconomic backgrounds who do not have the social capital and networks of middle class students. A student engineer from a middle class family may use their parents' networks to secure an internship, and maybe can even afford an unpaid internship. The continuation and strengthening of the apprenticeship scheme is important for a more socially just FE future in Malta. Pedagogical strategies to develop this capability could include the use of case studies and role play highlighting the difficulties students face or may face in life and ways to cope, and individual counselling services.

The social and collective struggle capability involves listening to all points of view, working to reduce injustice and contributing to policy formulation and changes (McGrath, 2012; Walker, 2015). Practicing the functionings resulting from this capability may involve public and open debate about the values and principles embedded in the curriculum. Debate is central in human life and is in itself an educative process (Walker, 2013).

The capability to be emotionally reflexive, or what Nussbaum (2011) terms narrative imagination, could be developed by curricula which foster a culture of respect for the diverse lives of different people and by providing a safe learning environment in which students' are allowed to take risks with their learning. As with the other capabilities discussed above social engagement through experiential and service learning, could also be fruitful.

The integrity capability includes the capacity to act ethically and to be responsible and accountable to communities and colleagues (McGrath, 2012; Walker, 2015). A curriculum which includes the critical scrutiny of inequalities and participatory action research has been suggested to help develop this capability (Walker, 2012). It is pertinent to point out that the sharp divide between technical and humanistic education in Malta, with FE lecturers experienced and educated in strictly technical subjects, may make including sociotechnical and socioscientific issues in their courses challenging.

Strategies to develop the knowledge and skills capability are perhaps perceived as the most straightforward to implement. The capability includes students developing a firm, critical grounding in disciplinary and academic knowledge, valuing community knowledges, having a multi-disciplinary perspective, integrating theory and practice (McGrath, 2012; Walker, 2015). In vocational FE, however, the emphasis on competencies or outcomes rather than the input or content of the learning process risks reducing teaching to a tick-box exercise, and narrowing FE to training in a specific set of skills. 'Teaching to the skill' in my opinion is just as reductionist as 'teaching to the test'. Nussbaum (2006) warns that rote learning does not develop valuable capabilities. What holds for primary and secondary education should hold for FE students as well, as although no longer children the attitudes towards others, how they perceive themselves and the capabilities developed or not during their studies will probably stay with them all through their lives. The pedagogies used will affect whether:

they learn to ask questions or not to ask them; to take what they hear at face value or to probe more deeply; to imagine the situation of a person different from themselves or to see a new person as a mere threat to the success of their own projects (Nussbaum, 2006, p.387).

Strategies could include collective problem solving through critical dialogue, the inclusion of diverse perspectives, and an atmosphere which encourages

students to listen to others whose views, histories, and experiences differ from their own. FE pedagogy should recognise and value more the variety of difference and the cultural resources students bring to learning and offer opportunities for the practice of the functionings which show that they have developed valued capabilities.

Boni-Aristizábal and Calabuig-Tormo (2016), insisting on the promotion of capability expansion of university STEM students, purport that through experiential learning and reflection students can envision 'what society should be', rather than just 'what society is'. While being employable is important, in that it opens doors and opportunities, and may provide the security to live a good life, the capabilities approach requires us to go beyond employability as the goal of HE. Graduates' involvement in social and political initiatives, and their personal development is a valued goal of education in the capabilities approach.

Structural and systemic challenges

Apart from a list of capabilities reported in literature, on which there is some agreement that FE should focus, it is imperative that structural and systemic issues which either prevent students from accessing vocational and technical FE colleges or put them at a disadvantage – depriving them of capabilities – when compared to other students at academic sixth forms and university are tackled. Sultana (1995) speaks of the failure of vocational secondary schools in Malta, which have since been abolished. According to Sultana (1995) these schools failed because the students were overwhelmingly populated by students from a manual working class background, with no opportunity offered for students to transfer to another type of school. Although at post-compulsory level the separation between vocational college and more academic sixth forms still exists, there is a clear path of progression to degree level study at the FE college. However, since the FE college focuses on vocational courses, a student who wishes to study, for example, French, Maltese, archaeology, or history after compulsory education cannot do so unless she achieves the qualifications to enter a sixth form college, whereas a student who wants to study science or engineering can do so at the FE college and be supported to make up for the gaps in her prior-education. The system means that some people are given the opportunity to develop their capabilities, through a more supportive college environment, and others are not. The latter students may have to adapt their preferences to that of being an FE student, in subjects they do not really wish to study, when they may have chosen other

paths had there been no structural limitations to their possible choices (Powell, 2012). It can also work the other way round with students preferring more hands-on approaches to learning and the combination of theory and practice offered at FE colleges, pressured into choosing what may be perceived as the more middle class and prestigious sixth form colleges.

My preferred future of FE would include a college which offers access to a much wider range of subjects, not just the traditional vocational and technical subjects. Even considering the FE college as providing second chance education, this 'second chance' is focused on a narrow range of subjects when compared to sixth form colleges and the University of Malta. The FE college offers an alternative access route to HE (Powell, 2012) but only in vocational and technical subjects – although recent additions to course offerings in drama, music and dance are a step in developing the capabilities of a wider range of students. The conversion of the FE college into an 'open' college or university, unifying theoretical and practical learning – maintaining its path from lower level courses to degree courses, while adding to its subject offering might also go some way in getting closer to the aim of social justice and achieving a healthier social mix at the college. However dubious the vocational/academic dichotomy, a unified system 'could give less emphasis to separating groups of learners according to whether they are seen as capable of theoretical or practical learning ... a dominant and damaging feature of divided systems of post-compulsory education' (Young *et al.*, 1997).

Conclusion

I have attempted to show how students studying vocational subjects in FE colleges, such as science, technology and engineering, can through a capabilities approach inspired institutional setup, policy focus, curriculum and pedagogy be helped to develop capabilities to lead rich human lives, rather than simply be 'technically trained people who do not know how to criticize authority, useful profit-makers with obtuse imaginations' (Nussbaum, 2010, p. 142), or 'obtuse but technically proficient and knowledgeable technical professionals with limited affiliations to the lives of others or concerns for building an inclusive society' (Walker, 2015, p.422). I attempted to show how vocational and technical curricula, inspired by the capabilities approach need not be so narrow so as to diminish the role of education to preparation for work and can be aimed at learning as an enrichment of life (Walker, 2006). Given the narrow course offerings, converting the vocational and technical FE college into an 'open' college or university is also another possibility to get closer to

the ideals of social justice by offering opportunities for further study for all students, with different preferences and inclinations.

This is not to say that schools, including post-compulsory schooling can provide completely for human development. Schools and colleges are but a part of a whole - the national, local and global communities of human beings. I have written from the perspective of a FE lecturer at a Maltese state FE college and have assumed that the basic entitlements offered by the Maltese state are available to students - a national health service, free tuition and student maintenance grants, and, with all its defects and room for improvement a social safety net and welfare provision. However, even with these entitlements, young adults from the most disadvantaged socioeconomic backgrounds might prefer to enter the job market rather than pursue post-compulsory education. The conversion of capabilities into functionings - even if the capabilities are developed through a well-functioning education system can be problematic if the society or the community and family environment in which students live do not support such conversions and offer obstacles to substantive freedoms. Similarly, it will be difficult for schools and colleges to develop students' capabilities if fundamental human entitlements are not provided by the state. Undernourished, unhealthy and poor students - or rather, the lack of what Nussbaum (2011) terms basic justice, is a huge obstacle in the way of expanding the freedoms of students. As Flores-Crespo (2007, p.60) asserts: 'education needs friendly conditions in order to expand human capabilities, and public policies can work substantially in creating such conditions'. The 'friendly conditions' mean a shift from the current neoliberal hegemony, in which education is framed in its ability to develop human capital and produce workers who fit into the system. The capabilities approach is a useful tool for reimagining STEM Further Education from the lens of wellbeing and social justice.

References

- Abrassart, A., & Wolter, S. C. (2020). Investigating the image deficit of vocational education and training: Occupational prestige ranking depending on the educational requirements and the skill content of occupations. *Journal of European Social Policy*, 30(2), 225-240.
- Baptiste, I. (2014). Educating lone wolves: pedagogical implications of human capital theory. *Adult Education Quarterly*, 51(3), 184-201.
- Boni-Aristizábal, A., & Calabuig-Tormo, C. (2016). Enhancing pro-public-good professionalism in technical studies. *Higher Education*, 71(6), 791-804.

- Cassar, R. (2020). *Prepared for the 'good life'? Higher Education 'Applied Sciences' students in a vocational college*. Ed.D. thesis, University of Glasgow.
- Chang, H.J. (2011). *23 Things They Don't Tell You About Capitalism*. Penguin Books.
- Claassen, R. (2011). Making capability lists: philosophy versus democracy. *Political Studies*, 59(3), 491-508.
- European Commission (2002). *The Copenhagen Declaration - Declaration of the European Ministers of Vocational Education and Training, and the European Commission*. European Commission.
- European Commission (2010). *The Bruges Communiqué on enhanced European cooperation in vocational education and training*. European Commission.
- Flores-Crespo, P. (2007). Situating education in the human capabilities approach. In M. Walker & E. Unterhalter (Eds.), *Amartya Sen's capability approach and social justice in education* (pp.45-65). Palgrave Macmillan.
- Freire, P. (2000). *Pedagogy of the Oppressed*. 30th Anniversary Edition. Continuum.
- IEP (nd). Sen's capability approach, *The Internet Encyclopedia of Philosophy*, <http://www.iep.utm.edu/sen-cap/>.
- MCAST (2015). *National Vocational Education and Training Policy*. Malta College of Arts, Science and Technology/Ministry for Education and Employment.
- McCulloch, G. (2008). Parity and prestige in English secondary education revisited. *British Journal of Sociology of Education*, 29(4), 381-389.
- McGrath, S. (2012). Vocational education and training for development: a policy in need of a theory?. *International Journal of Education Development*, 32(5), 623-631.
- Mutanga, O. (2014). The role of basic education, higher education and capability lists. *Journal of Human Development and Capabilities*, 15(4), 448-451.
- NCFHE (2018). *Further and Higher Education Statistics 2015-2016*. Malta National Commission for Further and Higher Education.
- Nussbaum, M.C. (2006). Education and democratic citizenship: capabilities and quality education. *Journal of Human Development*, 7(3), 385-395.
- Nussbaum, M.C. (2010). *Not for Profit: Why Democracy Needs the Humanities*. Princeton University Press.
- Nussbaum, M.C. (2011). *Creating Capabilities*. The Belknap Press of Harvard University Press.
- Powell, L. (2012). Reimagining the purpose of VET – Expanding the capability to aspire in South African Further Education and Training students. *International Journal of Educational Development*, 32(5), 643-653.
- Robeyns, I., & Fibieger Byskov, M. (2021). The Capability Approach, *The Stanford Encyclopedia of Philosophy*. Edward N. Zalta (Ed.), URL = <<https://plato.stanford.edu/archives/win2021/entries/capability-approach/>>.
- Sen, A. (1979, May 22). Equality of What?, *The Tanner Lecture on Human Values*, Stanford University.
- Sen, A. (2001). *Development As Freedom*. Oxford University Press.

- Sen, A. (2004). Capabilities, lists and public reason: continuing the conversation, *Feminist Economics*, 10(3), 77-80.
- Sen, A. (2010). *The Idea of Justice*. Penguin Books.
- Sultana, R.G. (1995). Vocationalism, ideology and the problems of development. *International Review of Education*, 41(3/4), 199-221.
- Thompson, R. (2009). Social class and participation in further education: evidence from the Youth Cohort Study of England and Wales. *British Journal of Sociology of Education*, 30(1), 29-42.
- Unwin, L. (2004). Twenty-first century vocational education in the United Kingdom: what would Dickens think?. *Pedagogy, Culture and Society*, 12(2), 175-200.
- Walker, M. (2003). Framing social justice in education: what does the capabilities approach offer?. *British Journal of Educational Studies*, 51(2), 168-187.
- Walker, M. (2006). *Higher Education Pedagogies*. Open University Press.
- Walker, M. (2012). Universities and a human development ethics: a capabilities approach to curriculum. *European Journal of Education*, 47(3), 448-461.
- Walker, M. (2013, April 24-26). Universities, development and social justice: a human capabilities perspective. *VI Congreso Universidad y Cooperación al Desarrollo*. Universitat Politècnica de València, Valencia, Spain.
- Walker, M. (2015). Imagining STEM higher education futures: advancing human well-being. *Higher Education*, 70(3), 417-425.
- Wheelahan, L. (2009). Post-secondary education and social justice. In N. Garrod and B. Macfarlane (Eds.), *Challenging Boundaries – Managing the Integration of Post-Secondary Education* (pp.29-44). Routledge.
- White, J. (2009). Further and Higher: a philosophical divide?. In N. Garrod and B. Macfarlane (Eds.), *Challenging Boundaries – Managing the Integration of Post-Secondary Education* (pp.13-27). Routledge.
- Young, M., Spours, K., Howieson, C., Raffae, D. (1997). Unifying academic and vocational learning and the idea of a learning society. *Journal of Education Policy*, 12(6), pp. 527-537.