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AMEE Guides in Medical Education

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The Capability Approach for Medical Education

Research series

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Abstract

The capability approach, with its origins in economic and human development work, has a focus on the freedom of persons to make choices about how they wish to lead a valued life.

There has been increasing recognition within general education that the capability approach offers a theoretical and practical framework to both implement and evaluate educational interventions that are designed to increase social justice, such as widening participation.

There is great potential for the capability approach to also offer medical education a creative way for changing and evaluating curricula, with an emphasis on the teacher facilitating students to achieve their potential by recognising their aspirations and challenging the constraining factors to achieving their aspirations.

Take Home Messages

- The capability approach has its origins in economic and human development work.
- The capability approach has a focus on the freedom of persons to make choices about how they wish to lead a valued life.
- There has been increasing recognition within general education that the capability approach offers a theoretical and practical framework to both implement and evaluate educational interventions that are designed to increase social justice
- There is great potential for the capability approach to also offer medical education a creative way for changing and evaluating curricula
- The capability approach in education emphasises the teacher facilitating students to achieve their potential by recognising their aspirations and challenging the constraining factors to achieving their aspirations.

Introduction

The capability approach has its origins in economic and human development theories. It has a focus on social justice, in which all persons are offered the opportunity to lead a fulfilling life and also be active contributors to their community (Rawls 2009). Over the last decade, there has been increasing use of the capability approach as a conceptual framework to inform policy and practice in education, with the intention of enabling all learners to achieve their potential (Hart 2012). Examples of how the capability approach has been applied to education include development of the capabilities of young women learners in higher education (Walker 2006), and making decisions about transitions from formal education into higher education (Hart 2012).

In this Guide, we present the capability approach as a useful theoretical and practical framework for medical education. The capability approach can be used to broaden thinking about the development of medical professionals as persons, with the knowledge, skills and dispositions to lead a personally and professionally rewarding life, but also it is hoped that their experience of the approach can empower also their patients and peers to do likewise. The capability approach also offers a set of tools that can be applied by medical educators for the design, implementation and evaluation of educational interventions (Hart 2007).

The Guide begins with a discussion of the theoretical background of the capability approach for human development and its practical application in the context of education, along with illustrative examples. Finally, the potential use of the capability approach in medical education will be discussed.

Human development and the capability approach

Human development, with its focus on enabling individual and community well-being and quality of life, has been considered as a central objective for all human activity (Estes 2014). Classical and neo-classical economic theory emphasise the importance of increased financial and material resources for human development and quality of life (Gillis et al., 1992), but research has increasingly highlighted that the lack of association between wealth and quality of life (Easterlin & Angelescu 2012). Alternative economic and human development theories to understand these differences have been proposed, with the capability approach widely considered to be the leading alternative (Clark 2005).

Amartya Sen, the 1998 recipient of the Nobel Memorial Prize in Economic Sciences, is widely acknowledged as the first to advance the use of the capability approach for human development and the United Nations Development Programme for human development has been widely influenced by this approach (Estes 2014). Sen (1999) challenged the usual importance that was given to subjective measures (such as happiness) and material outcomes (such as the acquisition of wealth and material goods) in the development and assessment of a person's well-being and quality of life. His research in the poor rural communities of India highlighted that the well-being and quality of life of a person depends on the actual opportunities he/she had to convert their resources into valued ways of living, as well as the access to the resources.

In the capability approach, it is proposed that the well-being and quality of life of a person is related to the extent to which he/she has the opportunity to lead the kind of life that they value, including to do what he/she wants to do and be the person that he/she wants to be (Sen 1999). As an illustrative example, a person may value the opportunity to have access to fresh food. The person has a range of available resources to grow their own vegetables, such

as land and water, and his/her well-being and quality of life is enhanced if he/she has the ability to grow these vegetables.

Recognition of the opportunity to make individual choices is a fundamental feature of social justice (Sen 1992; Rawls 2009). The distinctiveness of the capability approach to human development relates to the focus on a persons' agency, or freedom, to not only make the choice but to be able to put his/her choice into action. For example, the person who has access to fresh food has enhanced well-being and quality of life if he/she has the freedom to make the choice of growing his/her own vegetables but is also able to implement this choice to grow vegetables. The capability approach regards the empowerment of the person, and also the wider community, as key in allowing his/her to take control over their own life. This approach is in marked contrast to other development approaches in which there is external control over what the person can achieve, thereby disempowering individuals and communities.

Core concepts of the capability approach

The terms that Sen uses to describe the core concepts of his capability approach, such as "capability" and "functionings", have specific meanings and it is essential that there is no confusion with other uses of the same words:

Capability – this “represents a person's freedom to achieve well-being” (Sen 1992:48) and is the opportunity, or freedom, of a person to convert their available resources into aspirations and into valued doings and beings (functionings). An essential feature of capability is the agency of the person to have the freedom to make choices about what is of value to his/her life. Sen (1992) makes a useful distinction between agency freedom (to make

a choice) and agency achievement (to convert the choice into action. For example, a person may have the resources and aspirations for a valued doing and being, such as growing his/her own vegetables, but may not have the freedom to make a choice or has an imposed restriction to achieving his/her aspirations, such as lack of access to a supply of water for irrigation or legal barriers to land ownership. However, there may be freedom of choice and achievement with access to water and this creates a capability to grow their own vegetables. The collection of the different capabilities that a person has reason to value is called his/her capability set.

Functionings - this “represents parts of the state of a person—in particular the various things that he or she manages to do or be in leading a life. The capability of a person reflects the alternative combinations of functionings the person can achieve, and from which he or she can choose. The approach is based on a view of living as a combination of various ‘doings and beings’, with quality of life to be assessed in terms of the capability to achieve valuable functionings.” (Sen 1993 p. 31). “Achieved functionings” are what a person actually does or who they are, and they are dependent on the conversion of the capability set. For example, the aspiration and capability to grow their own vegetables may not be achieved due to other choices that a person makes to pursue other valued ways of doing and being, such as the choice to have children and a family. It is important to note that not all capabilities will be converted into functionings.

The process of converting resources and aspirations into capabilities and functionings will now be discussed in greater detail with reference to Figure 1.

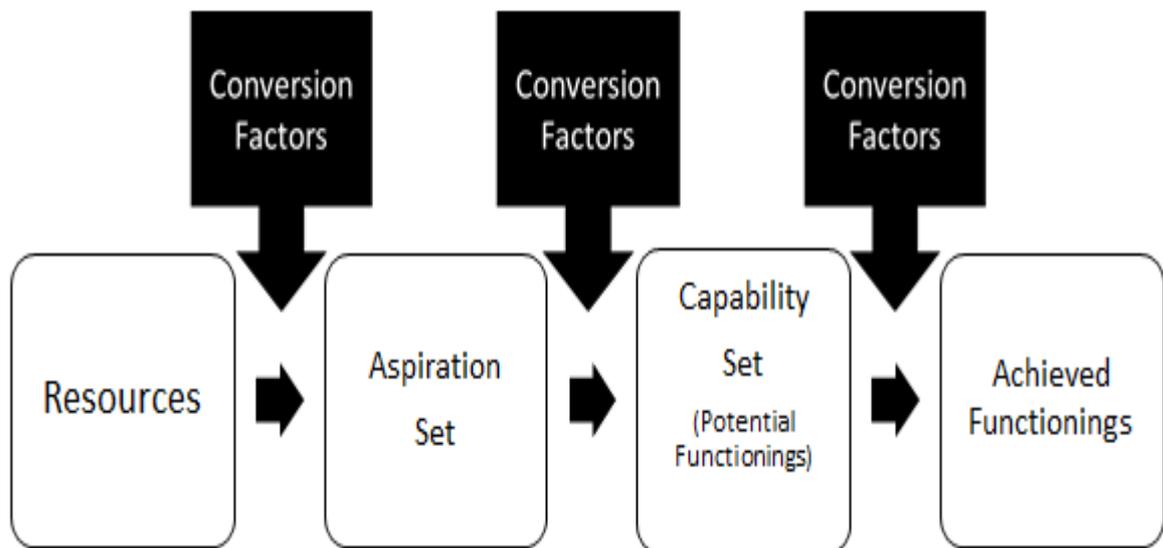


Figure 1: The process and core concepts of the capability approach (modified after Hart 2012)

Resources

Each person has access to a wide range of different resources that can be converted into capabilities and functionings. These resources can be considered within three broad dimensions : personal, social and environmental.

Personal resources – these include psychological (self-efficacy, tenacity, optimism, creativity and resilience), spiritual or religious beliefs , educational (knowledge and skills acquired through formal and informal approaches), financial (wealth or access

to wealth), health (good health and absence from ill-health or disability), material goods (equipment or tools) and access to information sources.

Social resources – these include cultural and social resources, such as availability and access to social networks and established cultural resources, such as professional recognition.

Environmental resources – these include natural and geographical resources, such as location and climate.

Aspiration set

“Individual aspiration is both goal orientated and concerns the future of the self or the agency of the self in relation to goals concerning others” (Hart 2012:79). Through abstract thinking about a future self, aspirations can provide personal goals for well-being and quality of life. For example, a person may have the aspiration of being a farmer with many fields to grow a large variety of vegetables. However, the aspiration set is also dependent on the impact of conversion factors, which enable or constrain the use of the available resources. For example, the aspirations may be constrained by the lack of access to financial resources or geographical isolation.

Capability set

This is the collection of different capabilities and represent the real opportunities, instead of aspirations, that are the valued ways that a person can actually do or be. These capabilities are a limited collection of the aspiration set since some aspirations may not be achievable

because they are the consequence of the impact of the various conversion factors combined with individual choice. The capability set is the collection of the different capabilities that are held by the person and are expressed as the “potential functionings”.

Functionings

The “achieved functionings” are the valued achievements of the individual and reflect their actual achieved well-being and quality of life. The achieved functionings are derived from potential functionings (capabilities) as a result of the impact of conversion factors combined with individual choice.

Conversion Factors

Conversion factors are an essential aspect of the capability approach since they may enable, or constrain, a person’s agency, or freedom, to live in ways they have reason to value. These factors impact on the conversion of resources into aspirations, aspirations into potential functionings (capabilities) and potential functionings into achieved functionings.

There are several types of conversion factors. These include personal attributes (such as aptitude and talents and educational background) but a very important aspect is the various social structures within which individuals are living. Examples of these structures are the access and availability of resources in institutions and organisations, the policies and programmes that direct institutions and organisations, and the various formal and informal laws that operate, including cultural patterns of behaviours.

Conversion factors may lead to “adaptive preferences”, which refers to the way in which different constraints become internalised and accepted by the person, with the consequence that they influence his/her preferences (Bridges 2006). Constraints on freedoms are often not recognised by the person but they shape the preferences, and subsequently the choices, that the person perceives that he/she can make. Some of the adaptive preferences are related to natural constraints on the person, such as the extent of achieved athletic prowess limiting personal aspiration to participate in the Olympic Games. However, others are related to social justice issues, such as the social and economic distribution of opportunity or socially embedded expectations. These expectations become so accepted by a person and integrated into their own perception of their identity, also often the community in which the person belongs, that they do not question whether the constrained choices can be changed (Elster 1985). An example is the aspiration and capability set of female students for entry into higher education. These sets are often constrained in many countries in the developing world, but are accepted as the norm by these students, with the consequence that they do not enter higher education, even though they have the required intellectual ability (Nussbaum 2000).

Decision-making as an essential aspect of the capability approach

Choice and decision-making processes play essential roles in the capability approach and there are key decision points in the process (see Figure 1), such as the consideration of conversion factors on the creation of aspirations and capabilities, the selection and combination of capabilities for the capability set, and finally choices about which capabilities are to be converted into actual achieved functionings. For example, there will often be conflicting demands and trade-offs between personal, professional and educational

aspirations. These will influence the aspiration set, capability set and the actual achieved functionings that will be enacted.

The main criticisms of Sen's capability approach relate to how the decision-making process should happen, especially the lack of a definitive list of capabilities or potential functionings (Nussbaum 2011), and the individualistic nature of the process (Robeyns 2005). Both of these criticisms will now be discussed in greater detail, with an emphasis on informing the practical application of the capability approach for education.

Nussbaum (2011) proposes that there is an essential capability set, or list of "central human capabilities", that constitute well-being and quality of life, such as being able to live to the end of a human life that is of normal length or being able to recognize and show concern for other human beings. She considers that this capability set of potential functionings represent fundamental entitlements for all persons and her stance is that policies and practices are required to be in place to enable them to become achieved functionings. This stance has influenced Nussbaum's application of the capability approach for education (Nussbaum 2011), and also that of other educators (Walker 2006; Walker & Unterhalter 2007). In contrast, Sen (1999) considers that individuals and their communities should have the freedom to decide for themselves about the capabilities that they value since there is the important question of "who decides what is on the list?". Sen also places great emphasis on the options that the person has the freedom to choose from – "*In this view, the good life is partly a life of genuine choice, and not one in which the person is forced into a particular life*" (Sen 1999 p45). This stance has influenced the application of the capability approach by other educators (Hart 2012; Hart, Biggeri & Babic 2014).

Considers decision making for the capability approach, Sen (1999) notes that "informed and unregimented formation of our values requires openness of communication and arguments"

p152. He does not specify exactly how this should be done but recognises the importance of collective deliberation in determining choice and action (Evans 2002). Allen (2012) provides a useful discussion of how individual decision making and judgment to make valued choices is always collective, to the extent that it is dependent on the wider socio-cultural context within which the person lives since the formal and informal structures, rules and norms of the community, including moral codes and values, are internalised. An important aspect of the internalisation of community norms are adaptive preferences, which can constrain the person's choice at each of the key decision points in the capability approach (Allen 2012). A person can understand the influence of the wider socio-cultural context by critically reflecting on his/her decision making, with the intention of overcoming these constraints (Allen 2012). However, this reflection can also help the person understand the limitations of his/her choices and allow a more realistic, instead of idealistic, appreciation of his/her circumstances and what they can achieve within his/her socio-cultural context (Teschl & Comim 2005).

Hinchcliffe (2009) emphasises that critical reflection for the capability approach requires a "strong evaluator". The notion of the "strong evaluator" is that a person achieves well-being if he/she has the opportunity, or agency, to critically reflect and deliberate about their valued options when making a choice (Taylor 1985). Of interest to educators, is the proposal by Archer (2003) of three predominant reflective styles for the deliberation of the interaction between individual agency and the enabling, and constraining, social structures within which they live. Archer (2003) identified that some people predominantly made their decisions on how they wished to behave by little discussion with others, whereas others had extensive discussion with others. However, irrespective of whether critical reflection was individual or collective, Archer (2003) identified that "strong evaluators" were those who made decisions

that were congruent with their values but were also aware of the various conversion factors that were enhancing, or constraining, their options.

Capability approach as a framework for education

Sen's capability approach has been increasingly recognised as a useful perspective for understanding and developing policy and practice in various educational contexts (Hart 2007, 2009). There have been international conferences and themed issues of the Cambridge Journal of Education, Studies in the Philosophy of Education and The Journal of Human Development, as well as several books (Walker 2006; Walker & Unterhalter 2007; Hart 2012; Boni & Walker 2013; Hart et al 2014).

The main focus of the capability approach for education has been to inform the debate about the purpose and nature of education, especially how to democratise education to ensure social justice, with equal opportunity for each learner (DeCeaere 2014). The contexts range from children with special needs (Warnock et al., 2010) to the education of young women (Unterhalter 2003), the post-16 year transition from formal education (Hart 2012) and the transition into higher education (Boni & Walker 2013)..

There has also been an increasing emphasis of the use of the capability approach to facilitate the process of human growth and development, enabling each learner to achieve his/her potential in an increasingly complex world (Walker 2006). For example, the capabilities to manage uncertainty and form collaborative relationships are essential for flourishing in a world of "supercomplexity" (Barnett 2000). Similarly, Nussbaum (2012) has made a case for arts and humanities education to develop the key capabilities to actively participate in, and perpetuate, a democratic society.

The underpinning philosophy of Sen clearly resonates with the philosophy of education that has been proposed by some of the most influential educational philosophers. For example Dewey and Rogers were concerned with the progressive growth and development of the person, enabling meaning-making of the complex situations which persons encounter and to use their new understandings to inform future actions, both an individual person but also as an active member that contributes to the wider society in which they live (Dewey 2001; Rogers & Frieberg 1994) . An important aspect of this process for the teacher is to facilitate the agency of a person to make choices that are appropriate for themselves and society. This meaning- making process is an individual growth and development process, with meaning-making about how a person should be and act in life.

The capability approach is reflective, encouraging thoughtful consideration of the options before making a judgment to choose to develop appropriate capabilities and functionings (Sen 1992) . Similarly, Dewey (1933) considered that reflective thought was an “*active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends*”p 116. This reflective process is fundamental to the meaning -making of situations and is essential for personal growth and development.

Central role of education in the expansion of capabilities

Saito (2003) highlights the important central role of education in the expansion and exercise of capabilities. There are two aspects to this expansion : expansion of capacity or ability and expansion in opportunity. The expansion of a person’s capacity or ability, such as being able to read, enables the person to expand their capability to contribute to debates on environmental issues. The expansion in opportunities describes the new and unexpected

capabilities that education can offer and that become part of a person's capability set , For example, learning mathematics may unexpectedly widens a person's career opportunities. Saito also discusses the role of education in teaching values in exercising capabilities. Education can empower a person to expand their capabilities but the use of these capabilities requires decision -making that is value-based (Alkire 2005).

An essential aspect of education is its mediating role as a conversion factor that can enable, or constrain, a person's freedom and choice. Hoveid and Hoveid (2009) consider that the teacher has an essential role in education for the development of capabilities, with both an interpersonal (the direct interaction with learners) and institutional (the institutional context for education) aspect. Both Dewey and Rogers highlight the importance of the educator in facilitating the growth and development of the person (Dewey 2001; Rogers & Frieberg 1994). The facilitation requires a person-centred approach, in which the freedom of individuals to make personal choices is respected, but also to provide appropriate challenges for the individual's reflection, in which they have to deliberate on possibilities and make choices about future functionings. The role of the educator for a capability approach moves from being a prescriptive "*sage on the stage*" to a "*guide on the side*" (King 1993).

Examples of the use of the capability approach in education

Although most discussions of the capability approach for education have been theoretical, there have been an increasing number of studies that show its practical application (Walker 2006; Walker & Unterhalter 2007; Hart 2012; Boni & Walker 2013 ;Hart et al 2014) . Two illustrative studies are presented; the first considers the impact of conversion factors in the educational context on the development of the capabilities of young women learners in higher education and the second considers the conversion factors that enable and constrain

capabilities in making decisions about transitions from formal education into higher education.

Understanding the process of education to develop capabilities

Walker (2006) studied the capabilities developed by university students on a “cross-cultural marketing” module. The group of students came from a diverse global backgrounds and cultures. Their valued learning was not only critical knowledge of the subject matter but also reflective self-knowledge, with value being placed on the opportunity to explore and make changes to their perceptions and relationships with other students on the same module. The researcher concluded that the students had developed their capabilities (with achieved functionings) in critical evaluation of new knowledge (new “doings”) and valuing diversity, with respect for cultural differences between peers (new “beings”). The personal growth and development of the students had been facilitated by the teacher, who had respected the student’s freedom and agency to make choices and achievements which were of value to them.

Understanding the impact of educational policy

Despite national schemes in the UK to increase access to higher education, there remains a differential between students from higher and lower socio-economic backgrounds. Hart (2012) studied young person’s aspirations of entering higher education and used the capability approach as a conceptual framework and blended it with Bourdieu’s concept of field to understand the various conversion factors (such as previous educational experiences, family and home circumstances, and leisure and social involvement) that enabled and

constrained both the freedom to choose their valued beings and doings (their capabilities or aspirations) and to achieve their potential functionings. The findings highlighted the importance of adaptive preferences, and the way in which young people's agency to choose and achieve was constrained. These constraints included expected financial pressures, difficulties in finding a quiet place to study in poor housing, ineffective parental support, awareness of the value of higher education, family expectations to look after younger siblings and difficulties in the voicing their aspirations to their peer group.

Using the capability approach for the development and evaluation in education

Sen (1999) advocates that there are no key lists of capabilities and that each person should have the opportunity to develop his/her capability set. This is a major challenge for educators who wish to develop an educational intervention with expected learning outcomes and for the evaluation of whether a learner has achieved a sufficient range and depth of capabilities. In response to this challenge, several methods have been proposed by different authors for the selection of relevant capabilities to inform the development and implementation of an educational intervention, and also for the evaluation of the extent to which capabilities have been developed by an educational intervention, especially the essential aspect of a person's agency.

Nussbaum's method

Nussbaum (2001) has proposed a list of ten key capabilities that she considers should be universal potential functionings and that all of these capabilities are required to improve social justice and gender equality. Nussbaum (2001) considers that these capabilities should

be supported by all democracies and that education has an essential role in enabling people to achieve these capabilities. The potential usefulness of this method is that it provides educators with an overall vision as to the complexity of capabilities required for a capability set for a fully human life and the role of education in developing this set. See Box 1

Box 1 : Core universal capabilities that should be supported by all democracies (Nussbaum 2001)

1. Life. Being able to live to the end of a human life of normal length.
2. Bodily health. Being able to have good health, including reproductive health; to be adequately nourished; to have adequate shelter.
3. Bodily integrity. Being able to move freely from place to place; to be secure against violent assault, including sexual assault and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction.
4. Senses, Imagination, and Thought. Being able to use the senses, to imagine, think, and reason—and to do these things in a "truly human" way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind requires guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise.

5.Emotions. Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence. Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.

6.Practical reason. Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. This entails protection for the liberty of conscience and religious observance.

7.Affiliation.

(a) Being able to live with and toward others, to recognize and show concern for other humans, to engage in various forms of social interaction; to be able to imagine the situation of another. Protecting this capability means supportive institutions, that also protect the freedom of assembly and political speech.

(b) Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This requires non-discrimination on the basis of race, sex, sexual orientation, ethnicity, caste, religion, and national origin.

8.Other species. Being able to live with concern for and in relation to animals, plants, and the world of nature.

9.Play. Being able to laugh, to play, to enjoy recreational activities.

10.Control over one's Environment.

(a)Political. Being able to participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association.

(b) Material. Being able to hold property (both land and movable goods), and having property rights on an equal basis with others; having the right to seek employment on an equal basis

with others; having the freedom from unwarranted search and seizure. In work, being able to work as a human, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers.

Alkire (2002) has criticised the use of a highly prescriptive list since she considers that a person needs a wide range of capabilities in his/her capability set, allowing adaptation to different contexts. Robeyns (2005) has argued that there is no recognition in Nussbaum's list of the importance of agency and the freedom to make a choice from valued options, and Walby (2012) observes an absence of the identification of constraining conversion factors.

Walker's method

Walker (2008) identified eleven capabilities through qualitative open-ended individual interviews and focus groups with students. See Box 2. She asked students about what they considered to be valuable and important for their learning within their own learning context.

This method identified both the capability (the freedom and opportunity to make choices) and the achieved functionings. For each achieved capability dimension she provided a local and context relevant "thick" description with illustrative comments. Most of the dimensions are similar to Nussbaum's (2001) prescriptive list, such as critical thinking and global citizenship, but the importance of this method is that it is grounded in the needs of the students within their own specific local context.

Box 2: List of capabilities to be achieved and implemented through Higher Education

(Walker 2008)

1. Knowledge
2. Social relations
3. Critical thinking
4. Imagination and empathy
5. Recognition and respect
6. Active and experiential learning
7. Autonomy
8. Confidence
9. Active citizenship
10. Deliberative dialogues with others
11. Having economic opportunities

Robeyn's method

Robeyns (2005) suggested that five criteria should be met when drawing up a list of capabilities. These include :

- The list should be explicit, discussed with others and defended.
- The method used for drawing up the list should be explicit and defended. For example, a focus group of key stakeholders could brainstorm a list, then the list can be

compared with previous lists (such as Nussbaum or Walker), then the list can be checked with the learners to ensure that it is rooted in their experience and finally, the list is discussed with all stakeholders.

- The list should be sensitive to the local context.
- The list should consider what is “ideal” and what is more pragmatic, taking into account the local socio-cultural constraints.
- The list should avoid overlap in the dimensions, thereby ensuring that each capability is separate.
- The list should contain all appropriate dimensions of the capabilities.

This procedural method considers a specific local context and is a clearly justified process but its focus is on potential and achieved functionings, with little awareness of the important agency aspects of the person.

Hart's method

The method proposed by Hart (2012) is closely aligned to that of Sen, which highlights the importance of a person's freedom of choice for their well-being and quality of life. The process is relevant and situated in the local context and clearly justified:

1. What is the unit of evaluation? It is important to state the unit of evaluation, which may be individual or a group.
2. What is going to be measured? It is important to remember that measures of aspirations, potential functionings and achieved functionings can be easily performed, such as by questioning through interviews or focus group, but do not fully represent a person's capability set. An essential aspect of the capability set is freedom and agency, and measures

of the capability to aspire (or make valued choices) and capability to realise (or achieve) are required. Specific questions that need to be asked are:

Capability to aspire – “what would you like to do in the future?” and “what would you like to be in the future?”

Capability to achieve – “what would make it easier for me to achieve my aspirations or ambitions?” and “what would make it harder for me to achieve my aspirations or ambitions?”

These questions also identify the important conversion factors that constrain or enable capabilities to be chosen and achieved.

3. Are the identified capabilities going to be ranked in importance? If so, an opportunity for the individual or group to rank the identified capabilities has to be offered.

An important aspect of this method is the personal empowerment of the learners by becoming active participants in the process, which offers them the opportunity to obtain greater insights and self-understanding of how they developed their capabilities and the constraining factors that enabled or constrained them to aspire or achieve (Fetterman 1994). The use of mind mapping can help both the researcher (to graphically obtain data whilst asking the questions) (Hart 2012), but also the thinking aloud can help the interviewee develop increased insights and understanding (Ritchhart, Church & Morrison 2011).

Challenge of medical education in the 21st century

There has been increasing interest in transforming medical education to ensure that it is appropriate to meet the healthcare needs of the 21st century (Bhuta et al 2010; Cooke et al, 2010; Frenk et al 2010). The influential Lancet Commission Report on the future of health

professional education clearly highlights the urgent need to move from a curriculum that is predominantly information- driven to one that is more values-driven, with the recognition that future graduates need more than bio-medical knowledge and skills to respond to the national and global challenges of healthcare in the 21st century (Frenk et al 2010). Essential aspects of both future curricula and practice include being patient-centred, team-based and inter-professional (Horton 2010).

Current competency-based curricula have also been criticised, especially in relation to the coverage of topics with social relevance, such as professionalism, medical ethics and social justice (Kumagai 2014). The competency approach is often reductionist, with “training to the test”, and with little attention to the essential intrinsic value of the learner’s education (Frank et al 2010). The intrinsic value of education has a focus on a holistic process that incorporates not only intellectual growth, but also has an emphasis on the emotional, cultural and social development of all learners (Saito 2003).

An important aspect of medical education is to provide opportunities for “professional formation”. This concept embraces the essential moral personal growth and professional development of learners so that they can “stay true to values which are both personal and core values of the profession” (Rabow et al., -(2010) p311). The concept of personal growth and development is ill-defined but can be considered to be the journey to become a “fully functioning person”(Rogers & Frieberg 1994). The characteristics of the fully functioning person is an individual who has an overall self-awareness and a well-developed self-understanding of his/her own values and beliefs so that they can make decisions that are congruent with their values. This meaning –making process is an essential aspect of well-being and quality of life (Wong 2013).

The Lancet Commission Report also highlighted the importance of social justice in medical education, with the need to attract a wider cultural and social diversity of students (Frenk et al 2010). However, the challenge for medical educators is that some of these students struggle in medical school and do not achieve their potential (Woolf et al., 2011).

Capability approach as a framework for medical education

We consider that Sen's capability approach offers a useful organising framework for medical educators to respond to some of the challenges that are currently of concern, including developing learners to achieve their potential. We will illustrate the potential and highly practical use of the capability approach in medical education with two hypothetical scenarios. First, we discuss how the capability approach could be used to inform the design and implementation of an early years longitudinal community attachment. Second, we discuss how the capability approach could be used to inform the evaluation of educational policy and programmes, with an example of widening participation.

Scenario 1: The capability approach in medical education - Early years longitudinal community attachment

Our illustrative example is the design and implementation of a longitudinal attachment in the community for first year undergraduate medical students (Norris et al, 2009). The expected benefits of this type of early clinical experience are similar to the intended outcomes for training 21st century health professionals (Frenk et al 2010), with greater awareness of preventative and chronic disease management in a complex social system but also offering an opportunity for personal growth and development, with greater self-awareness and self-

confidence, and professional identity development, associated with new career intentions to work in primary care and finding greater relevance of the bio-medical aspects of the curriculum (Dornan et al 2006; Yardley et al 2010).

(a) Key design principles

The capability approach respects that each person has their own valued capabilities and potential functionings (Sen 1999). We consider that the capability approach for education is not only an essential aspect for personal self-growth and development but is also an opportunity for life-long learning. The core of the process of life-long learning is transformative learning, in which learners change their perspective on situations through varied experiences (Cranton 1996; Dewey 1933; Dirkx 1998). This overall capability approach and transformative learning can be facilitated by providing the opportunity and freedom for students to identify the capability set that they wish to develop during the attachment and for tutors to facilitate reflection by the students on the various factors that enable and constrain the achievement of their potential functionings.

The intention of reflection is meaning-making out of situations that are experienced by persons (Sandars 2009). During reflection, current understanding of the situation is challenged and new insights are created, and then the revised understanding can be used when faced with further situations. An essential aspect is that there are times when the person becomes aware that their worldview is being challenged. This is described in transformative learning as a “disorientating dilemma” (Mezirow 1997). A facilitative approach respects the individual agency of the learner to make choices that he/she values and not imposed by others (Brockbank et al.,2002). We consider that an essential aspect of the capability approach for medical education is also reflection, enabling the student to have the freedom to make his/her own choices for valued functionings (Sen 1999). Reflection can be

a powerful stimulus for learning and personal growth and development at the times when conversion factors are used in the capability approach.

(b) Key aspects of the method of implementation

Prior to the attachment, all students can be asked to produce their own list of up to twenty aspirations that integrate those specific to the attachment with broader professional and personal aspirations. The prompt can be open ended, such as “what would you like to do in the future?” and “what would you like to be in the future?” The list can be discussed with their tutor and peer group at the first session of the attachment. This discussion is a facilitated reflection that can help the student to refine the list of aspirations (aspiration set) to be developed into a much shorter list of potential functionings or capabilities (capability set) to be developed at their current career stage. Other aspirations may be recoded for future reflection and development. An important aspect of this reflective discussion is to empower the student to have the freedom to choose and make a decision about their potential functionings based on their own valued ways of doing and being. For example, students may reflect on their personal attributes and their reasons for their choice, as well as becoming aware of the realistic and collective constraining conversion factors, such as personal attributes and professional codes of practice. This aspect of the process of decision-making is essential if the capability set is to be moral. Illustrative examples of “doings” include to understand the importance of primary care or to apply basic science to clinical patients, and illustrative examples of “beings” include to be more self-directed in learning or to be more aware of the different perspectives held by people from different cultural backgrounds. These doings and beings are the aspirations and potential functionings that represent the growth and development goals for the student during the attachment.

Goal-attainment scaling can be used to assign a current score to each of the categories, or goals, that have been stated by the student (Kiresuk et al, 2014). For example, the student may give a score of two for his/her current level of understanding the different cultural perspectives of people. The goal-attainment scores can be completed prior to the last session, with students scoring the extent to which individual goals are achieved in the course of the attachment. For example, the student may have increased their score to five. The use of goal-attainment scoring allows the student to identify their own capability set of potential functionings and the extent to which they have had the opportunity to convert them into achieved functionings. Tutors can also facilitate reflection at this final session as to why the student may, or may not, achieve their potential functionings. This is an ideal opportunity for critical reflection to make sense of how their agency is enabled or constrained by the wider sociological structures, such as the curriculum with restrictive assessments that only require recall of facts or insufficient opportunities to meet a wide variety of cultural backgrounds, that do not than can enable and constrain achieving their choice. This aspect of “deeper” reflection, that tries to identify the “real reasons”, is essential for learning and personal growth and development but also to enable the learner to make changes to the current social structures. A useful concept for education is single and double loop learning (Argyris & Schon 1974). In single loop learning, there is a simple, and almost knee-jerk, response to the initial experience. For example, not being able to achieve a valued functioning due to the assessments being too restrictive may empower the student to ask questions in a student-staff forum. However, double-loop learning requires a more penetrating inquiry into possible reasons for students not being consulted in terms of matters related to the choice of assessment methods in the medical school. Archer (2003) describes a process of inner dialogue that forms the reflective process. The extent of sharing these reflections with others will vary between individuals but there is usually a “meta-reflection”

in which an individual makes an overall reflection on their achievements and whether new actions need to be made.

Using the capability approach to evaluate educational interventions in medical education

Our illustrative example is the evaluation of a widening participation policy for undergraduate medical students, although a similar evaluation could be used for other educational interventions. Most medical schools have implemented widening participation ventures to increase the demographic diversity among medical students (Mathers et al., 2011), but there are concerns that many of these students have lowered attainment, both academic and clinical (Woolf et al., 2013).

(a) Key design principles

There has been increasing experience of the use of the capability approach to understand the complexity of possible reasons for low academic attainment of diverse groups of students in school (Walker 2004) and higher education (Walker 2006), and also low access to higher education by students from lower socio-economic groups (Hart 2012, Lessmann 2011).

These studies have a strong social justice focus on equity, with an important need to identify the extent to which a person's agency, both to choose their valued capability set and to fully realise their achievement as functionings, is highly dependent on the complex interplay of the social structures within which each student is a member. These social structures can be at various levels (Deneulin et al 2006). For example, at a micro-level there are the interactions with peers and tutors, at the micro-level there is the arrangements for teaching, assessments and support, and at a macro-level are the influences of institutional access and admissions policies and practices. An interesting and useful perspective informed by Bourdieu has been

proposed by Hart (2012) that considers the various fields that influence capabilities, including family, social , learning and peers.

An important aspect of developing the capability of students to become “strong evaluators”, so that they can make reflective choices about what makes a valued personal and future professional life for each of them as a unique person, is to encourage each student to become more participatory in any evaluation by encouraging him/her to reflect whilst providing answers to the evaluation questions. (Walker 2008).

(a) Key aspects of the evaluation

The key issues for the evaluation of the capability approach that have been proposed by Hart (2012) provide a useful evaluation framework that can be practically applied by using semi-structured interviews. Reference to Figure1 on page 10 will also help the reader to appreciate this evaluation framework in greater detail.

1. What is the unit of evaluation? We recommend that the focus is always on the individual student since each student will have their own unique features that offer an insight into their attainment.
2. What is going to be measured? We recommend that aspirations, the capability set of potential functionings, and the actual achieved functionings are measured. It is also important to measure the agency of the student’s freedom to choose and achieve, since thwarted agency can quickly lead to lack of motivation to learn (Walls & Little 2005).
3. Conversion Factors. Identifying the conversion factors that a person believes have constrained or enabled the capabilities to be chosen and achieved is important. The main

areas to obtain more detailed data can include previous and current family, cultural and educational experiences and social networks with peers.

Introducing the capability approach in medical education curricula

The curriculum provides an overall vision for the education approach being provided by a medical school and includes the planned interaction of the learner with content, methods of instruction and methods of assessment to ensure that intended learning objectives have been attained (Kelly 2009). All of these aspects of the curriculum have an essential role in the application of a capability approach for medical education. Overall, the capability approach has the vision of supporting students to identify their own aspirations and to explicitly consider how these aspirations can be realised, thereby achieving their individual potential, and to understand the various factors that enable and constrain this essential process in personal growth and development.

We are not advocating dramatic changes to the medical school curriculum and certainly we are not proposing that future patient safety is compromised by less attention to the essential competences required for effective clinical practice. However, we are recommending that the capability approach is infused through all areas of the curriculum and that there is the avoidance of a separate “capability course”. The first step is to ensure that the vision of the capability approach for medical education, with its focus on personal growth and development, promotion of agency and social justice is in the mission statement for the medical school. We consider that the capability approach can be easily blended with existing teaching, whether in basic sciences or clinical domains. The use of reflective practice

is almost ubiquitous in medical schools and these opportunities can be enhanced by the capability approach, especially since the purpose of the reflection is often unclear to both the students and the teachers (Sandars 2009). Many medical schools have implemented formal mentoring or appraisal systems and these also offer ideal opportunities for implementing the capability approach (Frei & Buddeberg-Fischer 2010; Murdoch-Eaton & Levene 2004).

Conclusion

The capability approach has a focus on the freedom of persons to make choices about how they wish to lead a valued life. There has been increasing recognition within general education that the capability approach offers a theoretical and practical framework to both implement and evaluate educational interventions that are designed to increase social justice, such as widening participation. There is great potential for the capability approach to also offer medical education a creative and critical way for changing and evaluating curricula, with an emphasis on the teacher facilitating students to achieve their potential by recognising their aspirations and challenging the constraining factors to achieving their aspirations.

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