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### ► To cite this version:

Bryan Maddox, Lucio Esposito. 'Sufficiency Re-examined: A Capabilities Perspective on the assessment of Functional Adult Literacy'. *The Journal of Development Studies*, 2011, pp.1. <10.1080/00220388.2010.509788>. <hal-00676992>

**HAL Id: hal-00676992**

**<https://hal.science/hal-00676992v1>**

Submitted on 7 Mar 2012

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Journal:	<i>Journal of Development Studies</i>
Manuscript ID:	FJDS-2009-Sep-0019.R1
Manuscript Type:	Original Manuscripts
Keywords:	Adult literacy < Education, Literacy < Education



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## ***‘Sufficiency Re-examined: A Capabilities Perspective on the assessment of Functional Adult Literacy’***

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There is a consensus that dichotomous measures of literacy based on the ‘literate and illiterate’ distinction should be replaced by more nuanced and accurate forms of literacy assessment. The dichotomy, it is argued, over-simplifies the analysis, does not capture the range and plurality of literacy practices or the continua of abilities, and is a source of prejudice (Street 1995). The desire to abandon dichotomous measures is supported from contrasting disciplinary and institutional perspectives (Street 1995, Boudard and Jones 2003), and has strong support from development policy institutions (UNESCO 2008).

The search for successor approaches has however been less consensual. There is now intense debate about what represents good practice in literacy assessment (see Tierney, 2000), particularly on the subject of quantified literacy assessment in functional adult literacy (what we shall call literacy *measurement*). This debate is illustrated in the differences between psychometric and ethnographically informed approaches, which reveal a heavily contested conceptual terrain, including: the politics of literacy assessment regimes (Darville 1999, Hamilton 2001); the importance of social context; and the robustness of procedures for quantification and comparison (Street 1997, Levine 1998, Hamilton and Barton 2000, Blum, Goldstein and Guerin-pace 2001, Boudard and Jones 2003, Hamilton and Hiller, 2007). There are also pragmatic concerns about the practical and financial demands of literacy assessment (Wagner 2003). We can identify a series of demands arising from these debates that might reasonably be considered as requirements of functional adult literacy assessment. These include: *flexibility* (to incorporate diversity of literacies, practices and conceptions of literacy); *rigour* (to enable sufficient basis for comparison and statistical aggregation); *autonomy* (of groups and individuals in defining literacy requirements and conceptions of sufficiency); and *transparency* (to enable informed public debate on functional literacy needs and inequalities).

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3 At the heart of the debates over functional literacy however, are the ways in which  
4 *concepts of sufficiency* (adequacy) are constructed and measured. *What does it mean*  
5 *to have 'enough' literacy? And Who decides?* The decision to abandon dichotomous  
6 measures changes the way in which we answer those questions. In this paper we re-  
7 examine the notion of *sufficiency* that is at the heart of most definitions of functional  
8 adult literacy. Is the concept of minimal levels (thresholds) of literacy sufficiently  
9 robust and viable within notions of a continua of literacy practices and abilities? The  
10 debate over dichotomous measures and their successor also raises pragmatic questions  
11 about the purpose of literacy measurement projects; how reliable and comparable are  
12 literacy statistics? What do we make of correlations between literacy and other  
13 indicators of wellbeing (Iversen and Palmer-Jones, 2008)? It is our view that  
14 measures of functional literacy are intended to tell us whether people have achieved a  
15 minimum level or threshold of functioning (enough, adequate, sufficient) that is  
16 necessary for their daily life. They provide particularly important insights into  
17 educational achievement and inequality and are integral to multi-dimensional  
18 measures of poverty and human development (Maddox 2008).  
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### 35 **Fond Illusions? The measurement of functional literacy**

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39 In 1982, Kenneth Levine published an article entitled '*Functional Literacy: Fond*  
40 *Illusions and False Economies*'. Levine argued that the concept of functional literacy  
41 is vague, and characterised by '*an extreme elasticity of meaning*' (p. 249). His paper  
42 provides a historical overview of the concept of functional literacy and its  
43 institutionalisation by UNESCO. The ambiguity of the term, he argues, supports an  
44 '*illusory consensus*' about its content and benefits: '*In lieu of a comprehensive and*  
45 *coherent account of the role of literacy and illiteracy in society, we have nothing*  
46 *more than a jumble of ad hoc and largely mistaken assumptions about literacy's*  
47 *economic, social, and political dimensions*' (p. 249-250). This is now familiar terrain  
48 to scholars of functional literacy.  
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58 Writing from a sociocultural perspective, Levine attempted to systematically identify  
59 and analyse these problems. He stressed the importance of subjective dimensions  
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3 regarding literacy social identities and practice (p. 259). Further, as with Fisher's  
4 (1992) findings on income-based poverty lines, Levine notes the tendency for  
5 thresholds or minimum levels of adequacy to change over time (p. 260). He describes  
6 a threshold of functional literacy as: '*What is to count as survival, or adequate*  
7 *individual functioning within a community?*' (p. 260), and goes on to note that the  
8 identification of such thresholds goes beyond questions of competence: '*The notion of*  
9 *survival, or adequate functioning, which it involves is thus irremediably a political*  
10 *and moral abstraction, placing the concept beyond the reach of any strictly empirical*  
11 *operationalizing procedure*' (p. 260).  
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21 Levine had taken inspiration from Gray's (1956) classic definition of functional  
22 literacy, that a person is functionally literate '*when he has acquired the knowledge*  
23 *and skills in reading and writing which enable him to engage in all those activities in*  
24 *which literacy is normally assumed in his culture or group*' (p. 24). The theoretical  
25 and methodological problems Levine identified remain important today. For example,  
26 commenting on Gray's definition he highlights the importance of contextual  
27 flexibility: '*This definition was intentionally relativistic, allowing for different*  
28 *thresholds of literacy in various societies...*' (Levine, 1982, p. 253). Levine also  
29 offered some suggestions on how these problems might be resolved, including the  
30 idea of a '*basket of print mediated activities*' that might reflect the diversity of  
31 cultural practice (p. 260). An idea that we shall return to later in the paper.  
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43 Levine's paper did not entirely resolve the challenges he had identified. The reason  
44 for this is perhaps the Achilles heel of the functional literacy concept, namely the  
45 desire to produce a single, unambiguous definition of functional literacy, and  
46 correspondingly standardised concept of adequacy. The diversity of social context and  
47 practice, and the existence of a 'multiplicity of literacies' (p. 264), seemed to render  
48 such standardisation and calibration unfeasible and inappropriate.<sup>1</sup> Instead, he argued  
49 for a process of identification and setting of thresholds that is idiosyncratic to the  
50 individual; that '*each individual is an expert arbiter of his or her own literacy needs*'  
51 (p. 264). Levine's paper had attempted to formulate a theory of minimum thresholds  
52 that incorporated concepts of adequacy, and localised conceptions of practice.  
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Levine's scepticism about the feasibility of such an approach was followed by similar arguments in New Literacy Studies, which was founded on criticism of 'great divide' theories of literacy, illiteracy and orality. The ethnographically informed New Literacy Studies described multiple forms of literacy use and literacies, rather than a single literacy (Street, 1995) and argued that the significance of literacy practices should be understood in terms of the social, cultural and institutional contexts in which they are embedded (Gee 2000). The dichotomy between literacy and illiteracy is usually viewed within the New Literacy Studies as an arbitrary reification revealing ethnocentric prejudice, theoretical naiveté, and institutional violence that privilege dominant forms of literacy over minority literacies (Collins and Blot 2003). The concept of 'illiteracy' is questioned, appearing in parenthesis as if constantly under erasure. Street (1995) illustrates this point, arguing that: *'It is not only meaningless intellectually to talk of 'the illiterate', it is also socially and culturally damaging'* (p.19, see also Robinson-Pant, 2004).

A similar rejection of the dichotomous variable is evident in the quantitative assessment of functional adult literacy, though arguably, for quite different reasons (Boudard and Jones 2003). Many survey approaches consider the categories of literacy and illiteracy to be insufficiently nuanced to demarcate the range of competencies and practices that exist in most social contexts. The dichotomy is rejected, and replaced in most quantitative survey literature with the notion of multiple levels or 'thresholds'. This is illustrated by the OECD *'International Adult Literacy Survey'* (IALS):

*'The IALS no longer defines literacy in terms of an arbitrary standard of reading performance, distinguishing the few who completely fail the test (the "illiterates") from nearly all those growing up in OECD countries who reach a minimum threshold (those who are "literate")'* (OECD, 2000, p. X).

The UNESCO *'Literacy Assessment and Monitoring Programme'* (LAMP) suggests and even more explicit rejection of the dichotomy:

*'LAMP will provide a methodology to assess individual literacy levels over a range of competence to get away from the idea that one is either literate or illiterate'* (UNESCO, 2004, p. 1)

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3 It should be noted that identification of a ‘minimum threshold’ of functional literacy,  
4 and the notion of multiple ‘levels’ of functional literacy along a ‘continuum’ of  
5 proficiency promoted within psychometric approaches are open to a similar critique  
6 as the literate / illiterate dichotomy. Each must deal with questions of methodological  
7 rigour and arbitrariness in the specification of the cut-off point demarking sufficiency.  
8 Whether one is dealing with a dichotomous or polytomous measure, identical  
9 questions arise about how (and why) an individual can be thought to have ‘sufficient’  
10 literacy.  
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19 The intrinsic arbitrariness in setting thresholds has been discussed extensively in the  
20 poverty literature and there are obvious parallels. The arbitrary nature of any poverty  
21 line is an issue affecting both the use of a dichotomous index of poverty where an  
22 individual is simply classified as either ‘poor’ or ‘non-poor’, e.g. the headcount ratio,  
23 *and* the use of a polytomous index with different gradations of the ‘poor’. This  
24 however, does not render all such analysis inappropriate. In an influential paper on  
25 poverty, Atkinson (1987, p. 750) warns the reader against an excessive  
26 discouragement resulting from the acknowledgement of the inherent arbitrariness  
27 resulting from the choice of a poverty line. He recalls that Sen “*has stressed ‘the*  
28 *danger of falling pray to a kind of nihilism [which] takes the form of noting, quite*  
29 *legitimately, a difficulty of some sort, and then constructing from it a picture of total*  
30 *disaster* (1973, p. 78)”. Rather than abandoning notions of thresholds and sufficiency,  
31 we therefore argue that what is required is sufficient transparency and rigour in their  
32 identification. We will explore these ideas further in relation to the Capabilities  
33 Approach.<sup>ii</sup>  
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## 51 **Literacy and Illiteracy: A Capabilities Perspective**

52 *‘illiteracy and innumeracy are forms of insecurity in themselves. Not to be able*  
53 *to read or write or count or communicate is itself a terrible deprivation. And if*  
54 *a person is thus reduced by illiteracy and innumeracy, we can not only see that*  
55 *the person is insecure to whom something terrible could happen, but more*  
56 *immediately, that to him or her, something terrible has actually happened’* (Sen,  
57 2003, p. 22).  
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3 The *Capabilities Approach* opens up new avenues for the assessment of human  
4 wellbeing (Sen 1999, see also Anand, Santos and Smith, 2008, Comim, Qizilbash and  
5 Alkire 2008, Krishnakumar and Ballon, 2008). Within this influential approach,  
6 literacy is described as a core capability and functioning necessary for human  
7 wellbeing and a good life (Sen 1999, Nussbaum 2006). Amartya Sen argues that  
8 illiteracy is a 'focal feature' of capability deprivation and human insecurity (Sen,  
9 1999). Illiteracy is viewed as a pervasive feature of capability deprivation and  
10 inequality, and literacy (particularly women's literacy) as a source of agency,  
11 autonomy and socio-economic mobility (Nussbaum, 1993, 2006, Sen, 1999, 2003,  
12 Maddox 2008).

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23 Describing illiteracy as 'capability deprivation', it is necessary to theorise the nature  
24 of such disadvantage. From a capabilities perspective, illiteracy can be viewed in  
25 terms of its negative impacts in reducing people's ability to function effectively and to  
26 lead the kind of life they choose to value. The construction of illiteracy as social  
27 disadvantage has been challenged in the ethnographic literature. Street (1995) for  
28 example, argues that the Western concept of 'illiteracy' creates stigma, and that  
29 literacy campaigns '*..have involved the construction of 'stigma' of illiteracy where*  
30 *many people had operated in the oral domain without feeling that it was a problem'*  
31 (ibid, p. 14). From a capabilities perspective, this seems an implausible and  
32 inadequate explanation for literacy inequalities.

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42 The Capabilities Approach however, provides theoretical insights that can inform new  
43 understandings of functional literacy. From a capabilities perspective, literacy can be  
44 understood not simply as cognitive abilities or competencies, but as a set of  
45 'functionings' (as beings and doings), or the potential to function (Maddox 2008).  
46 The concept of literacy functionings is similar to that of 'literacy practices' in the  
47 ethnographic literature (see Street, 1993). Literacy functionings draw our attention to  
48 the social uses of literacy, and the production and embodiment of social identities.  
49 This aspect of literacy is widely recognised in the ethnographic literature (Bartlett and  
50 Holland, 2002, Bartlett, 2007).

## 51 52 53 54 55 56 57 58 59 60 **Thresholds and functionings**

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5       *'..my approach uses the idea of a threshold level of each capability, beneath*  
6       *which it is held that truly human functioning is not available to citizens; the*  
7       *social goal should be understood in terms of getting citizens above this*  
8       *capability threshold. (That would not be the only important social goal: in that*  
9       *sense I aim only to provide a partial and minimal account of social justice)'*  
10       (Nussbaum, 2006, p. 71).  
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14       The 'threshold' operates as an important organising concept in the capabilities  
15       approach. This reflects the perceived importance of a core of 'basic' (Sen) or 'central'  
16       (Nussbaum) human capabilities that are required for wellbeing. It reflects a  
17       consequentialist concern with the achievement of functionings.  
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22       *'The capabilities approach uses the idea of a threshold: for each important*  
23       *entitlement, there is an appropriate level beneath which it seems right to say*  
24       *that the relevant entitlement has not been secured'* (Nussbaum, 2006, p. 291-  
25       292).  
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29       Nussbaum's (2006) approach to minimum thresholds and adequacy is grounded in the  
30       concepts of human flourishing and the Marxian idea of a "*truly human*" life (p. 74).  
31       Sen shares similar philosophical commitments, but has a slightly different orientation  
32       to thresholds and adequacy. This is clearly influenced by liberal philosophy (e.g.  
33       Hume, Mill, Smith), and has resonance with wider debates on hunger, destitution,  
34       poor law and the moral economy. Sen recognises the multi-dimensional nature of  
35       human wellbeing, and although he is reluctant to specify a list of capabilities, his  
36       work draws our attention to a core of relatively few 'basic capabilities', that are  
37       necessary to avoid the worst kinds of human deprivation. The emphasis on adequacy  
38       or 'minimality' implies a 'bottom line' as critical points of demarcation, below which  
39       one locates core poverty and capability failure (Clark and Qizilbash, 2008).  
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50       Whether the concept of minimum threshold is informed by ideas on human  
51       flourishing or concerns with poverty and destitution, it raises a number of theoretical  
52       and procedural questions that have been discussed in recent literature.<sup>iii</sup> One set of  
53       questions relates to the idea of 'arbitrariness', and the inherent (but necessary)  
54       'vagueness' of multi-dimensional poverty measures. These questions were raised by  
55       Sen (1981):  
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*'The exercise of describing the predicament of the poor in terms of the prevailing standards of 'necessities' does of course, involve ambiguities, which are inherent in the concept of poverty; but ambiguous description isn't the same thing as prescription. Instead, the arbitrariness that is inescapable in choosing between permissible procedures and possible interpretations of prevailing standards requires recognition and appropriate treatment' (p. 23).*

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Sen appears to make a virtue out of an insight that might lead others to altogether dismiss measures of poverty. Criticising the concept of minimum threshold in the capabilities approach, Arneson (2000a) argues:

*'One difficulty is how one nonarbitrarily sets the threshold level. Why here and not higher or lower? What we have is a smooth continuum of possible levels of overall capability for flourishing. Higher capability is always better than lower capability. But I do not see how any unique level (not even a broad thick line) can be picked out such that if a person has that level, she has enough' (p. 56).*

The question of arbitrariness is central to Arneson's critique of thresholds. He is sceptical about the empirical basis of thresholds, and rejects their use as a basis for an ethics of social justice (Arneson 200a, b, 2006). Arneson (2000b) describes the capabilities approach to minimum thresholds as one of 'satisficing':

*'The principle of justice that Nussbaum espouses asserts that the first priority of justice is to bring it about that every person gets a decent level of capability for each of the functionings that are needed for a genuinely good quality of life. For each person, what justice requires is not maximising any aspect of her condition, but satisficing: making sure that she has a sufficient level of capability' (p. 47)*

Nussbaum's has criticised Arneson's representation of the capabilities approach as partial and inaccurate (Nussbaum, 2000b). Arneson's 'prioritarian' argument nevertheless provides a useful contrast to the focus of thresholds in the capabilities approach: *'The root idea of prioritarianism is that one ought as a matter of justice to aid the unfortunate, and the more badly off someone is, the more urgent is the moral imperative to aid' (2000a, p. 343).* It is worthwhile to note that this prioritarian view can be still implemented should thresholds be identified: people below any chosen threshold would receive priority over people above it.

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3 The idea of thresholds rather than ‘smooth continuum’ allows for the possibility of  
4 points of transformation in people’s functionings and quality of life, below which  
5 people’s wellbeing becomes untenable. This view appears appealing once we move  
6 our focus from resources or cognitive skills to capabilities and functionings. A well  
7 known illustration can be seen in Adam Smith’s (1776) ‘linen shirt argument’ often  
8 invoked by Amartya Sen. In Eighteenth Century England a peasant would need to  
9 wear a linen shirt to be able to appear in a public without shame. As Bourguignon and  
10 Fields (1997) argue, in this case there is no middle ground in the achievement of the  
11 capability, which is either achieved or not. As they argue, *‘the shame he suffers is*  
12 *discrete – he suffers a full amount of shame even if he is only epsilon short of being*  
13 *able to buy the shirt’* (ibid, p. 157). In a similar fashion, the shame associated with  
14 the inability to sign ones’ name in public is discrete, and applies whether a person is  
15 entirely unable to write her name or can write only part of it. In both cases the thumb  
16 print will have to do.  
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### 30 **Arbitrariness and Identification**

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33 As we have seen, one of the major challenges to the notion of a threshold between  
34 illiteracy and literacy is the question of arbitrariness (Sen, 1981). There is not a single  
35 literacy, but a plurality – multiple forms of literacy, literacy practices and  
36 functionings. This presents a challenge in terms of ‘identification’ (what counts as  
37 literacy). There is also the question of conceptualising and identifying literacy  
38 thresholds. Literacy and illiteracy, are not simply different amounts of the same thing,  
39 but distinct (if perhaps overlapping) social phenomena with their own characteristics.  
40 Rather than the smooth continuum, this requires us to identify points of  
41 transformation at which people’s literacy functionings are adequate to enable  
42 flourishing and dignity, and avoid the forms of disadvantage associated with  
43 illiteracy.  
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54 In his paper *‘On the arbitrariness and robustness of multi-dimensional poverty*  
55 *rankings’*, Qizilbash (2004) clarifies the conceptual distinction between ‘horizontal’  
56 and ‘vertical’ vagueness, and their application in identification of the poor (ibid. p.  
57 357). Horizontal vagueness indicates ‘width’, and the range of dimensions to be  
58 included, while vertical vagueness indicates depth, or the intensity of poverty (ibid. p.  
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357). This clearly has relevance for literacy assessment. There is often insufficient discussion about the (horizontal) dimensions of literacy that are included in measures (i.e. which literacies and functionings) and the rational and procedures for their inclusion.<sup>iv</sup> Literacy statistics based on conventional literacy rates have similar limitations to the ‘headcount’ measure in poverty measurement in that they fail to capture the vertical component and the severity of their poverty – *‘It matters not at all [in the headcount measure] whether someone is just below the poverty line or very far from it, in acute misery and hunger’* (Sen, 1981, p. 33). Even the more nuanced measure of ‘effective literacy’ popularised by the economists Basu and Foster (1998) neglect these horizontal and vertical dimensions. As the authors remark, the consideration of literacy as a dichotomous variable is a simplifying assumption enabling them to reduce the complexity of their model; in their own words, *“This makes the usual assumption that individual literacy is a 0 – 1 variable. Of course, the underlying literacy variable is likely to be continuous and even multivariate... We abstract from these potentially important considerations”* (p. 1735).

The lack of access to vertical dimensions on the severity of illiteracy, or strength of literacy capabilities has limited the ability of literacy measures to account adequately for the size of literacy poverty gaps, the nature of inequality, and their distribution between different social groups. There is no equivalent measure of literacy that is able to tackle those challenges as the ‘Foster, Greer and Thorbecke’ (Foster *et al.*, 1984) index does in poverty analysis. A ‘vertical’ dimension of literacy provides insights into the way that levels of literacy ability impact on people’s capabilities. It might also support the identification of ‘minimum thresholds’. As Qizilbash argues:

*‘In most exercises, where vertical vagueness is allowed for, there is some level of well-being above which, a person is definitely not poor, and another, below which a person is definitely poor’* (Qizilbash, 2004, p. 357).

The literature on horizontal and vertical vagueness offers new possibilities for the measurement of literacy, and for the identification and analysis of minimum literacy thresholds. These developments involve methods for i) the identification of appropriate dimensions, and ii) appropriate procedures for setting minimum thresholds. A number of scholars made recourse to methodologies based on Fuzzy Set Theory to manage difficulties of arbitrariness and identification of poverty in

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3 situations of uni- and multi-dimensionality, inexactness, and contextual complexity  
4 (see Chiappero-Martinetti, 1994, Lelli, 2001, Qizilbash, 2004, and Clark and  
5 Qizilbash, 2008). This approach seems promising as there is no obvious cut-off point  
6 between illiteracy and literacy. Lelli (2001) notes that fuzzy sets allow for '*an element*  
7 *to partially to belong to a set*', where.. '*the transition from membership to non-*  
8 *membership takes place gradually rather than suddenly*' (ibid. p. 6). Literacy and  
9 illiteracy can be viewed as overlapping 'fuzzy sets', where there are degrees of  
10 literacy and illiteracy around the threshold, and where each these sets have distinctive  
11 characteristics. People who fall below an agreed minimum threshold may still benefit  
12 from some lower level of literacy (Maddox, 2007). Others who are marginally above  
13 the threshold may still face some difficulties in functioning.

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16 In theorising the concept of literacy thresholds, there are a number of alternative  
17 models that we can consider. The first argues that the concept is entirely arbitrary.  
18 This is what is suggested by Arneson's (2000a) idea of a smooth continuum, and by  
19 many ethnographic researchers who reject the concept of illiteracy, and view the term  
20 as an unwelcome imposition. As Street (1993) argues, drawing on the work of Besnier  
21 (1988), the notion of a continuum of literacy is problematic '*..the concept of a*  
22 *'continuum' is inadequate because spoken and written activities do not in fact line up*  
23 *along a continuum but differ from each other in a complex and multidimensional way*'  
24 (Street, 1993, p. 4). Even if we impose a scale based on ideas of 'competence', this  
25 cannot fully predict people's literacy functionings, as they will be dependent on wider  
26 contextual factors. As Besnier (1988) argues, genre types such as a 'letter', vary  
27 considerably within social contexts, and have multiple sub-genres and registers (p.  
28 731).

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31 A second approach is to view the threshold as a point (a thick or thin line) that reflects  
32 qualitative transformations in people's ability to function. As Qizilbash (2004)  
33 suggests, even a thick line can be viewed as arbitrary. However, rather than  
34 suggesting a 'smooth continuum', it is compatible with the idea of the threshold  
35 representing points of discontinuity and change. The question that one must inevitably  
36 ask is - what type of literacy functioning one wishes to identify or promote?  
37 Qizilbash (2004), and Clark and Qizilbash (2008), for example, focus on the  
38 identification of an unambiguous 'bottom line', a 'critical minimal threshold' of core

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3 poverty. Nussbaum's threshold relates to human flourishing, while Gutmann's (1999)  
4 'democratic threshold principle' argues that the appropriate threshold for literacy is  
5 not the economic orientation of many functional literacy programmes, but a higher  
6 threshold required for democratic citizenship: '*the democratic standard is consistent*  
7 *with the view that there is some absolute minimum of literacy below which no*  
8 *democratic society could be said to promote an adequate education to its citizens'* (p.  
9 139). Our attention is drawn then, not to some 'natural' point of demarcation, but for  
10 evidence of transitions in functioning related to particular social goals.  
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19 A somewhat different approach to thresholds is provided by the anthropologist Victor  
20 Turner (1969) in his work on liminality. The concept, based on the Latin, *limen*,  
21 (threshold), draws Van Gennep's work on rites of passage (Barnard and Spencer,  
22 1996, p. 490). Turner's theory described ritual processes which involved processes of  
23 *separation, liminality, and reaggregation* into the social order. The *liminal* phase, he  
24 argued involved marginality and ambiguity, and a symbolic 'anti-structure in which  
25 normal social conventions seemed to be turned upside down:  
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34 *'The attributes of liminality or liminal personae ("threshold people") are*  
35 *necessarily ambiguous, since this condition and these persons elude or slip*  
36 *through the network of classifications that normally locates states and positions*  
37 *in cultural space'* (Turner, 1969, p. 95).  
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40 This is clearly a quite different understanding of threshold to those discussed above. It  
41 draws our attention to a social space of liminality (a threshold space), in which  
42 transitions from illiteracy to literacy take place.  
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47 Turner's theory of thresholds draws our attention to the inherent ambiguity of literacy  
48 and illiteracy as social categories, and highlights their inter-subjective character.<sup>v</sup> His  
49 theoretical insights also help us to analyse the collective and individual processes of  
50 transition associated with literacy acquisition. Adult literacy classes can be viewed as  
51 ritual spaces, where normal social conventions do not apply (women are centre stage,  
52 people make grand pronouncements about social commitments and development).  
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54 This ritual process is particularly strong in national literacy campaigns, which often  
55 appear somewhat surreal in their portrayal of the social order. While this does provide  
56 opportunities for learning and change, the subsequent process of 'reaggregation' often  
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3 results in people (particularly women) being unable to actually use literacy in their  
4 daily life (Puchner, 2003). The concept of ‘literacy relapse’ may therefore be more to  
5 do with social opportunities, than cognitive abilities.  
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## 10 **Subjective Measures and Hard Facts**

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14 *‘For the person studying and measuring poverty, the conventions of society are*  
15 *matters of fact’* (Sen, 1981, p. 17)  
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18 The process of identification of literacy functionings and thresholds involves  
19 important theoretical and procedural choices involving the status of local cultural  
20 perspectives. The principle of *autonomy* referred to above grants individuals and  
21 communities the agency to identify the dimensions of wellbeing. Indeed, in Sen’s  
22 discussion of ‘capability lists’, he stresses the importance of *‘public participation in*  
23 *what should be included and why’* in order to avoid evaluation exercises *‘completely*  
24 *divorced from the particular social reality that any particular society faces’* (Sen,  
25 2004, p. 77-78). Even Nussbaum, despite her criticism of relativism, gives  
26 considerable attention to the local interpretation of capabilities. This is illustrated in  
27 her discussion of Chen’s work on adult literacy in Bangladesh, where processes of  
28 localisation are central to her argument (Nussbaum, 1993). While the capabilities  
29 approach entails strong normative themes (e.g. of universality), this recognition of the  
30 local, and cultural pluralism is a salient feature in the capabilities approach (Sen,  
31 1999, Nussbaum, 2006 and Crocker, 2006).  
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45 The issue of the subjective and local is illustrated by Clark and Qizilbash (2008) in  
46 their paper on poverty evaluation in South Africa. They use participatory ranking to  
47 respond to problems of arbitrariness and in the identification of ‘core poverty’.  
48 Similar participatory approaches have been developed in subjective studies of  
49 wellbeing (Gough and McGregor, 2007). Graff (1991) argued that the subjective  
50 nature of census measures does not undermine their reliability. This may in part relate  
51 to their vagueness of census specification. Even where subjective measures specify  
52 particular definitions of literacy, it is likely that people will apply their own  
53 interpretations based on local conventions.  
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3 A number of recent papers have been critical of subjective measures of literacy, and  
4 question their use in literacy measurement (e.g. Schaffner 2005, Nath 2007).  
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6 Schaffner (2005) uses demographic and health survey data (from Ethiopia and  
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8 Nicaragua) to argue that subjective measures of literacy overestimate literacy rates.  
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10 She creates a category of '*false rates*' to indicate the difference between subjective  
11 rates, and the 'objective', test based measures: '*False rates are calculated as the*  
12 *percent of individuals with positive subjective literacy supports who failed the*  
13 *objective literacy test*' (Schaffner, 2005, p. 655). However, Schaffner implies that the  
14 subjective rates are the source of error. The test based measures are viewed as being  
15 more accurate. This does not take into account the possibilities of error from  
16 normative judgements or procedural difficulties involved in a standardised literacy in  
17 diverse cultural contexts (see Blum, Goldstein and Guerin Pace 2001). Nor does it  
18 adequately recognise the value of subjective measures in providing localised  
19 understandings of literacy.  
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30 Nath (2007) also discusses differences between self-reported and test-based literacy  
31 survey data in Bangladesh. He views such 'discrepancies' as illustrating 'under-  
32 reporting' or more frequently 'over-reporting' in the self-assessment processes.  
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34 '*..people in general have a tendency to inflate the literacy data when they report it in*  
35 *the household survey*' (Nath 2007, p. 130). His paper does not consider the possibility  
36 that the test itself, or the setting of *their* threshold may be the source of such  
37 discrepancy. Nath's data seem to show something else, which his paper does not  
38 recognise. In the analysis the percentage of 'under-reported' cases was highest within  
39 groups who had between 4-5 years of schooling, and was almost negligible with those  
40 who had either no schooling, or 11+ years of schooling; '*An inverse U shape*  
41 *relationship was analysed against schooling of the respondents*' (Nath, 2007, p. 127).  
42  
43 A threshold theory of literacy helps to explain this finding and illustrates its inter-  
44 subjective character. It appears that in Nath's Bangladesh data, 4-5 years of schooling  
45 locates an ambiguous threshold of literacy where many (24.8%) of the respondents  
46 considered their functioning as adequate while the researchers begged to differ.  
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58 The International Adult Literacy Survey (2000) also discusses the 'problems'  
59 associated with subjective (self-reported) measures:  
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*'Many adults who score poorly in the literacy test do not themselves consider this to be a problem.. Nonetheless, the data.. point to the real limitation low levels of skills bring – regardless of whether these limits are acknowledged by those with low skills' (OECD, 2000, p. 53)*

The stance of IALS and Schaffner (2005) on pluralism and subjectivity seems to be incompatible with the principles of the capabilities approach, as they privilege normative measures and standardisation as the basis of 'hard' facts, rather than understanding local meanings and practice. The relegation of subjective perspectives to 'soft' facts is a reflection of the institutional and epistemological politics involved.

*'..hardness' is not located in the facts themselves, but in the community that agrees upon it, that is the community governing the politics of explanation.. The hardness of facts is an expression of social agreement rather than the quality of the facts themselves' (Hastrup, 1993, p. 734).*

The preoccupation with objective 'hard facts' and standardisation as the foundation of comparative validity has been the source of much criticism (Hamilton and Barton, 2000 and Hamilton, 2001). Kanbur and Shaffer (2007) note the tendency for quantitative data to privilege 'brute data' and exclude 'private sensations' and 'intersubjective knowledge claims' (p. 186), and a bias toward 'standardisation, as a means of ensuring validity' (p. 192).

Hamilton (2001) argues the IALS approach neglects local and vernacular literacy practices (those informal practices most connected with every-day life) and is partial in its account of literacy:

*'Testees can only respond in tightly scripted ways (or transgress by not responding) and they have no agency to define what literacy might mean to them. Adults' self assessments, although recorded are down graded in relation to the objectivity of the test' (p. 187).*

As these arguments highlight, the imposition of technically derived assessment criteria is an unsatisfactory way to identify literacy thresholds. It privileges 'competence' over functioning, neglects the local and subjective, and constrains the scope of public deliberation.

## Capabilities and Functional Literacy Assessment

In this final section we illustrate a methodological application of the Capabilities Approach in the assessment of functional literacy. In accordance with the principles informing the Capability Approach discussed above, we view people's literacy capabilities as a set of achieved literacy functionings among those that are valued by individuals or groups living in a certain social context.

The following process of quantification involves a series of steps. Initially, a set of valued literacy functionings has to be identified. The list can be derived in a number of ways, including participatory processes, public deliberation, and individual preferences. Then the quantification of literacy capabilities for an individual or group can be undertaken through the assessment of achieved and valued functionings.<sup>vi</sup>

In the example below, suppose that the valued literacy functionings  $f_1, f_2, f_3, f_4$  and  $f_5$  have been identified. Anne has a literacy capability set that includes four achieved functionings  $(\check{f}_1, \check{f}_2, \check{f}_3 \text{ and } \check{f}_5)$ , and one valued functioning that is not achieved  $(\times f_4)$ . In the case of Joe, two of the valued functionings are achieved  $(\check{f}_1 \text{ and } \check{f}_3)$  and the literacy capability set is more restricted. We can attach, respectively, 1 or 0 to indicate whether the valued functioning is achieved or not:

$$\begin{array}{cccccc}
 \check{f}_1 & \check{f}_2 & \check{f}_3 & \times f_4 & \check{f}_5 & & \check{f}_1 & \times f_2 & \check{f}_3 & \times f_4 & \times f_5 \\
 Anne: \{1 & 1 & 1 & 0 & 1\} & & Joe: \{1 & 0 & 0 & 1 & 0\}
 \end{array}$$

An additive approach is then able to offer the number (or proportion) of achieved valued functionings for each individual. More formally, let the vector  $f_i = (f_{i,1}, f_{i,2}, \dots, f_{i,m})$  represent the state of achievement/failure for  $m$  selected literacy functionings of individual  $i$ , with  $f_{i,j} = 1$  if individual  $i$  achieves functioning  $j$  and  $f_{i,j} = 0$  otherwise. The index  $L_i = \frac{1}{m} \sum_{j=1}^m f_{i,j}$  would evaluate individual  $i$ 's functional literacy as the proportion of achievements among a set of valued functionings – Anne

would then score 0.8 and Joe 0.4. This methodology reflects the conceptualisation of literacy functionings discussed above, and can be easily operationalised.

In our approach, whether a certain functioning belongs to the literacy capability set or not depends on the value attached to the practice and is independent of its complexity. The identified valued literacy functionings are not ranked in terms of their difficulty. It would be misleading to assume *a priori* that apparently 'easier' functionings are always achieved before those that are more complex.<sup>vii</sup> While functionings may be characterised by different levels of complexity, there may not be an obvious hierarchy of practice. The achievement of literacy functionings is not only dependent on their apparent complexity, but on a range of wider factors relating to social context, practices and their value. Furthermore, the recognition of interpersonal heterogeneity is a salient feature of the Capability Approach. The same literacy functioning can be straightforward to some and arduous for others. These considerations help to recognise the potential of people to develop diverse literacy capability sets at a similar level of 'competency'.

In contrast with the notion of difficulty, the Capability Approach suggests a hierarchy of functionings based on values attached to them (Sen, 2004). In our approach this can be accommodated by attributing weights  $\alpha_j$  to each functioning, so that the researcher can give more importance to some of them – for example, to those that are highly valued by an individual or community. The index would now be a weighted

sum  $L_i^\alpha = \frac{1}{m} \sum_{j=1}^m \alpha_j f_{i,j}$ , which for Anne and Joe would become, respectively,

$$L_{Anne}^\alpha = \frac{(\alpha_1 + \alpha_2 + \alpha_3 + 0 + \alpha_5)}{5} \text{ and } L_{Joe}^\alpha = \frac{(\alpha_1 + 0 + 0 + \alpha_4 + 0)}{5}. \text{ Note that the use of}$$

weights may result in Joe scoring higher than Anne if functioning  $f_4$  is particularly highly valued.

At the aggregate level, a matrix can be used to depict the overall distribution of achievements/failures of functionings across individuals:

$$\begin{array}{cccc}
 & \text{\textit{n individuals}} & & \\
 & f_{1,1} & f_{1,2} & \cdots & f_{1,m} \\
 \mathbf{X} = & f_{2,1} & f_{2,2} & \cdots & f_{2,m} \\
 & \cdots & \cdots & \cdots & \cdots \\
 & f_{n,1} & f_{n,2} & \cdots & f_{n,m} \\
 & & & & \text{\textit{m dimensions}}
 \end{array}$$

Each row represents the literacy situation of an individual, while each column shows the achievement or failure of a specific functioning across individuals. The quantification of the overall literacy capabilities of a group or society of  $n$  individuals requires to aggregate across functionings and across individuals through the doubly additive index  $L = \frac{1}{m} \sum_{i=1}^n \sum_{j=1}^m f_{i,j}$  – or  $L^\alpha = \frac{1}{m} \sum_{i=1}^n \sum_{j=1}^m \alpha_j f_{i,j}$  if weights are taken into account. When social groups of different size are compared it may be useful to look at those figures normalised by  $n$ .

This approach enables comparisons across diverse locations and over time based on people's capacity to achieve their valued functionings, rather than the actual content of the functionings. I.e. like the 'basket of goods' used to estimate poverty lines, the inclusion of different items across contexts does not invalidate comparison. An alternative perspective is therefore offered to psychometric literacy assessment methodologies (such as IALS), where international comparisons rely on the standardisation of test items and notions of 'universal competencies' (see Boudard and Jones 2003). This standardisation has been the subject of much criticism because of its neglect of cultural differences in literacy practice (Blum et al. 2001, Hamilton 2001).

Finally we come to the issue of sufficiency thresholds. We see two intriguing options within our approach. The threshold may be seen as the achievement either of a minimum number of valued functionings or of a set of 'core' functionings that are deemed indispensable in a certain social context. The severity of the inadequacy of a person's capability set would correspond directly to the number of 'missing' functionings for the reaching of the threshold. Consider the exemplification presented above. If the minimum literacy threshold is conceptualised as the achievement of at

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3 least two of  $f_1$ - $f_5$  then Joe's literacy capability would satisfy such a requirement. In  
4 case that, instead, the threshold is thought of as the achievement of both specific  
5 functionings  $f_1$  and  $f_2$  then Joe's literacy capability set would be insufficient. The  
6 severity of this failure would be larger if Joe were to achieve functionings  $f_3$  and  $f_4$   
7 rather than functionings  $f_1$  and  $f_4$ . Following both specifications Anne would reach the  
8 literacy threshold.  
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## 14 15 16 **Conclusions**

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20 There is a broad consensus on the need to replace the conventional dichotomous  
21 measure of functional literacy. The search for an acceptable successor raises  
22 conceptual and methodological debates and difficulties that are not yet adequately  
23 resolved. The characteristics of a successor approach include multiple, and at times  
24 competing demands (e.g. flexibility, rigour, autonomy and transparency). These  
25 characteristics are shaped by the contrasting politics and objectives of 'measurement  
26 regimes' (Hamilton 2001). This paper has argued that functional literacy assessment  
27 is guided by two questions - What does it mean to have 'enough' literacy? And who  
28 decides? Our answer to both questions is informed by the Capabilities Approach. We  
29 have argued that the projects and procedures of measuring functional adult literacy  
30 should determine whether people have ability to achieve the literacy functionings that  
31 they (or the society they live in) value. As such, statistics on functional literacy play  
32 an important role in the measurement of human development and inequality.  
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45 Functional literacy assessment is concerned with questions of sufficiency. This  
46 remains the case whether one uses self-reported measures or those of 'direct  
47 assessment', whether one conceptualises literacy as a dichotomous or polytomous  
48 phenomenon. To entirely reject the notion of sufficiency and minimum thresholds  
49 can be described following Sen (1981) as a '*robust example of misplaced*  
50 *sophistication*' (p14). The ways that they are measured, the location and content of  
51 minimum thresholds, and the significance of adult literacy statistics produced should  
52 be the subject of transparent public debate and deliberation.  
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3 While distinctions between literacy and illiteracy might be considered to be arbitrary,  
4 in that they are based on value judgements, they can, as the paper has demonstrated,  
5 be rigorously identified and produced. Nevertheless, the significance of attaining a  
6 'minimum threshold' may be over-stated. Arneson's critique of 'satisficing' suggests  
7 that while a threshold of *adequate* literacy can be identified, 'more literacy' (as levels  
8 or the number of achieved functionings) continues to improve people's chances of  
9 human flourishing and a dignified life. Similarly, improvements of people's literacy  
10 capabilities *below* an agreed threshold may also contribute to their quality of life.  
11 This has implications for policies of primary schooling, adult literacy and non-formal  
12 education, which may for various reasons fail to help people to reach desired  
13 thresholds, but make valuable contributions to human development.  
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## 31 NOTES

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34 <sup>i</sup> Levine's (1982) rejection of 'lists' of texts and functions to identify a threshold of functional literacy  
35 has clear parallels with the debate over selection of definitive lists of functionings and capabilities in  
36 the work of Sen (2004).

37  
38 <sup>ii</sup> In this paper we use the term Capabilities Approach (i.e. plural capabilities). This has become the  
39 established term in the literature (e.g. Nussbaum 2006). When referring to Sen's work (Sen 1985,  
40 1999) we use the term Capability Approach, reflecting his terminology.

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42 <sup>iii</sup> These distinctions between underlying principles that inform concepts of minimality can be over-  
43 stated. Qizilbash (2002), notes 'shared values' in the literature on capabilities, prudential values and  
44 basic goods, and some convergence of approaches.

45  
46 <sup>iv</sup> The selection of dimensions of literacy, and the levels at which thresholds are set rarely involve  
47 transparent and democratic processes. This reflects the historical and institutional politics involved.  
48 The capabilities approach offers an important opportunity to democratise such procedures, as it  
49 suggests that such questions are a legitimate and necessary topic for public deliberation, rather than the  
50 realm of technocratic and 'expert' decisions.

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52 <sup>v</sup> The concept of threshold space might usefully be applied in analysis of distribution of literacy in  
53 developing countries, and shape educational policy. Mapping the vertical dimension of literacy would  
54 help us to profile the number of people who operate in this threshold area, and those who are either  
55 unambiguously literate or illiterate.

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57 <sup>vi</sup> It is worth noting that under this approach it is possible to identify and assess both sets of valued  
58 functionings deriving from consensual processes and idiosyncratic sets deriving from individual  
59 preferences.

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<sup>vii</sup> The issue of difficulty is more complex than one might initially expect. It is the subject of much  
debate and certainly merits further investigation (e.g. Blum et al. 2001).

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