

Inclusive Education and Children with Disabilities: Quality Education for All in Low and Middle Income Countries

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A systematic literature review of education systems in low-and middle income countries commissioned by CBM



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Executive summary

Disability is a leading cause of marginalization in education, with enrollment, primary school completion and literacy rates consistently falling below those of non-disabled children (Groce and Bakhshi, 2011; UNESCO, 2010). Assessing education systems in low and middle income countries (LMICs) for quality education for children with disabilities is a complex research issue and one for which there is still relatively little in the way of formal research. Whilst the evidence base is expanding, much of it still focuses on access and attendance, with less attention paid to what happens within classrooms, or to what type of education systems produce the most effective outcomes for children with disabilities (Bakhshi et al., 2013).

Emerging data however suggests that children with disabilities are less likely to attend or remain in school, have lower transition and completion rates and do not achieve the levels of results of their peers (WHO, 2011). Many factors compound to make the situation difficult for children with disabilities to succeed in formal education. Being a girl, having a particular impairment or condition, or coming from an ultra-poor household are all additional risk factors for poor educational attainment (Le Fanu, 2014).

The aim of this study was to bring together the most current research available on strategies for educational effectiveness for children with disabilities to produce a synthesis of the most effective approaches for quality outcomes. This multifaceted area of investigation involved drawing on elements from policy analysis (including the influence of the international development sector), teacher education, classroom practices and pedagogy, attitudes and cultural expectations, impairment identification and assessment and infrastructure.

In total, 131 articles were analysed but surprisingly only one presented evidence in terms of academic performance. That created a significant limitation in terms of putting forward learning and recommendations in regard to effective approaches. There were also very few articles that covered the important issues of early childhood education for children with disabilities and the impact of community based rehabilitation programmes on school inclusion. Of particular concern was the fact that gender was not analysed as a factor in education for children with disabilities to any great extent.

Overall, much of the literature focused on the extent to which inclusive education policies were being effectively resourced and implemented for children with disabilities, both by the governments of LMICs and by the international development sector. Concerns were raised around the lack of clarity over the meaning of inclusive education, over the preparedness of teachers to include

children with disabilities and over the availability and supply of specialist support and technology.

Despite the challenges it is also clear that there is an increase in general understanding and acceptance of education as a right for children with disabilities. Teachers are more open to including children with disabilities in their classrooms and when supported, can come up with innovative ways to accommodate their needs. For inclusive education to become effective as a system however, much closer scrutiny is needed over how it is being implemented in relation to children with disabilities and what this is doing to improve their overall outcomes.

1. Introduction

Over the past 20 years education has become a significant issue within the international development sector and likewise the term *inclusive education* has grown to become a familiar term (Urwick and Elliott, 2010). Increasingly the discourse around Special Education Needs (SEN) has become synonymous with inclusive education and the elimination of barriers for all children. More broadly, it has stimulated debate around the role of education in the promotion of rights and social justice (Miles and Singal, 2009). Despite the apparent familiarity with the concepts however, this study reveals that there is far from consistency in understanding of inclusive education at the level of policy development and implementation. This in turn is likely to be having a significant impact on the effectiveness of education provisioning for girls and boys with disabilities.

The emergence of inclusive education and its impact on special education

It was the Salamanca Framework for Action (1994) that first articulated the idea that education had an important role in eliminating discrimination and improving social justice. The Framework encouraged governments to stop segregating educational provision for children with special educational needs (including children with disabilities) and to ensure schools ‘...accommodate **all children** regardless of their physical, intellectual, social, emotional, linguistic or other condition.’ (p.6, 1994). It challenged the idea that special educational needs related only to children with disabilities. Instead it highlighted the fact that a range of vulnerabilities, such as poverty, ethnicity or language skills could affect any child’s ability to learn. Hence inclusive education was conceived as a way to ensure that the needs of all children were being properly accommodated (Kiuppis, 2014).

The agenda that emerged from the Framework discussions called for all education to become child-focused and to acknowledge the heterogeneity of

children. It also promoted the idea that impairments do not automatically result in special educational needs and that children with disabilities are just as diverse in their learning needs as non-disabled children. Even children with the same impairments need not necessarily have the same educational requirements thereby bringing into question the labelling of all children with disabilities as having special educational needs and unnecessarily separating them into specialist schools.

The whole debate around education was broadened so that it was no longer just concerned with educating the child but became more about how the system itself was constructed and what barriers could prevent a child from accessing learning. In this sense inclusive education, as it emerged from Salamanca, took on two meanings - how to move away from assumptions about the needs of children with disabilities being entirely impairment based (and thereby placing them into special education based largely on medical reasoning); and about how to transform mainstream education systems to become aware of the learning needs of all children so as to help establish education systems that are barrier free (Kiuppis, 2014).

Perhaps somewhat unfortunately, at the same time that special education was being challenged and reconceptualised as *inclusive education* (IE) the concept of *education for all* (EFA) was emerging. This followed from the World Conference on Education for All (1990) culminating in the World Education Forum statement (eventually to be adopted by the Millennium Development Goals) on achieving *Education for All* by 2015 (Kalyanpur, 2011; UNESCO, 2000).

Despite both agenda's being promoted by UNESCO they were not actually aligned from the beginning leading to the development of two education agenda's that whilst on the surface appeared synonymous were in fact crafted from very different starting points (Kiuppis, 2014). This is evidenced by the fact that EFA and IE have continued to run in parallel, with much of the EFA programming failing to take into account the needs of vulnerable children, including children with disabilities (Miles and Singal, 2009).

Inclusive education therefore has had something of a mixed beginning. As illustrated above, it was not part of the original EFA agenda but rather emerged from debates within the special education sector. It is in this sense that inclusive education has continued to retain its focus on the education of disabled children, despite the original desire to move beyond this, and in turn the education of disabled children continues to be regarded as something different to EFA.

Unfortunately one of the consequences of the adoption of inclusive education has been a decreasing focus by UNESCO on the education of children with disabilities. Disability features far less now that they promote inclusive education

than it did when UNESCO focused on Special Education (Kiuppis, 2014). Given the influence that UNESCO has over the global education agenda, perhaps this has contributed to the current situation in which neither the EFA nor the inclusive education movement pays particular attention to children with disabilities (Kiuppis, 2014).

This is a serious gap in education provisioning in LMICs. Whilst EFA has undoubtedly brought many benefits, its lack of inclusion of children with disabilities may well have had a negative impact on their overall access to education. This alongside the promotion of a broad concept of inclusive education (encompassing barriers to education experienced by children from a wide range of circumstances) has made it challenging to focus on the specific needs of children with disabilities. The results, as this study will highlight, are that overall educational provisioning for children with disabilities is inconsistently implemented with little in the way of quality assurance or monitoring over academic outcomes.

2. Methodology

The original scope of this research was very broad – to systematically review existing evidence regarding education systems that allow for quality education for children with disabilities in LMICs. In commissioning this research CBM were most interested in understanding more about:

- What are the requirements for transition of education systems from special education to inclusion?
- What is the influence of Universal Primary Education (UPE) on the quality and availability/accessibility of education for children with disabilities?
- How can mainstream teachers and specialist teachers become effective supporters and promoters of quality inclusive education?
- Which forms of teacher education enables teachers to promote and practice inclusive education?
- How can the diversity of learning needs and potentials be adequately addressed in an inclusive setting in order to ensure quality education for all (e.g. learners with hearing impairments/who are deaf, learners with learning disabilities, learners with significant disabilities)?
- Scoping and defining examples of good practice for early intervention preparation for gaining access to inclusive education and inclusive learning in early childhood education.

In order to help focus the analysis two research questions were formulated. The main research question asked:

- What approaches are being used to increase access to education for children with disabilities in LMICs?

The intention of this question was to allow for the gathering of information from the literature on what kinds of interventions are happening in LMICs focused on providing education for children with disabilities. This was then followed by a supplementary question asking:

- What can we learn about what approaches lead to the best educational outcomes for children with disabilities in LMIC?

This supplementary question allowed for the analysis of current information in order to draw some conclusions in terms of what works for the inclusion of children with disabilities in education. An alternative supplementary question was debated, namely to ask: 'Which of the approaches are resulting in the best educational outcomes for children with disabilities in LMICs?'. However this was rejected because currently there are not enough results/outcome based studies in the literature with which to make firm conclusions about which approaches provide the best outcomes. This is a consideration which is taken up further in the concluding section.

Search strategy

In total three databases were searched including EMBASE, SCOPUS, and JSTOR. The following terms were included in a three phased initial search:

Phase 1	Phase 2	Phase 3
Adolescent/ or child/ or child, preschool child* teenage*	disabl* handicap impair* disabled children children with special needs students with special needs	"mainstreaming (Education)" or Education, Special/ "inclusive education".mp. "integrated education".mp. "special education needs".mp. "special needs education".mp. education/ or 'mainstreaming (education)*'/ or education, nonprofessional/ or education, special/or schools/ or inclusion, education/ "preschool"/ or "early years education"

This generated a body of literature which was then screened against country specific search criteria including all current LMICs countries and/or the terms developing countr*, least developed countr*, low income countr*, middle income countr*.

Study selection

EPPI-Reviewer 4.0 software was used to store, screen and code the information ready for analysis. All articles were screened initially by title, then by abstract and finally via the full text to ensure eligibility. To be included the studies had to be:

- Peer reviewed.
- Available in English.
- Available to download.
- Related primarily to LMICs (LMICs identified using the UNDP 2014 Human Development Index: <http://hdr.undp.org>).
- From 2005 onwards.
- Reporting on children with disabilities.
- Reporting on mainstream, inclusive, special, segregated or home based education (i.e. there were no exclusions based on type of educational placement).

3. Results

The database search identified 2,488 articles, which on title screening was reduced to 1,213. Of these, 64 were found to be duplicate studies, 66 were not available for downloading and a further 1,011 were excluded on the basis of relevance (not LMICs, outside the date, not reporting on evidence, not in English, not related specifically to education and children with disabilities). A total of 134 documents were then assessed for eligibility on first reading of the full text with 3 subsequently being excluded (2 were not focused specifically on children with disabilities and one was not a LMIC). For the purpose of this review therefore 131 articles were analysed in full.

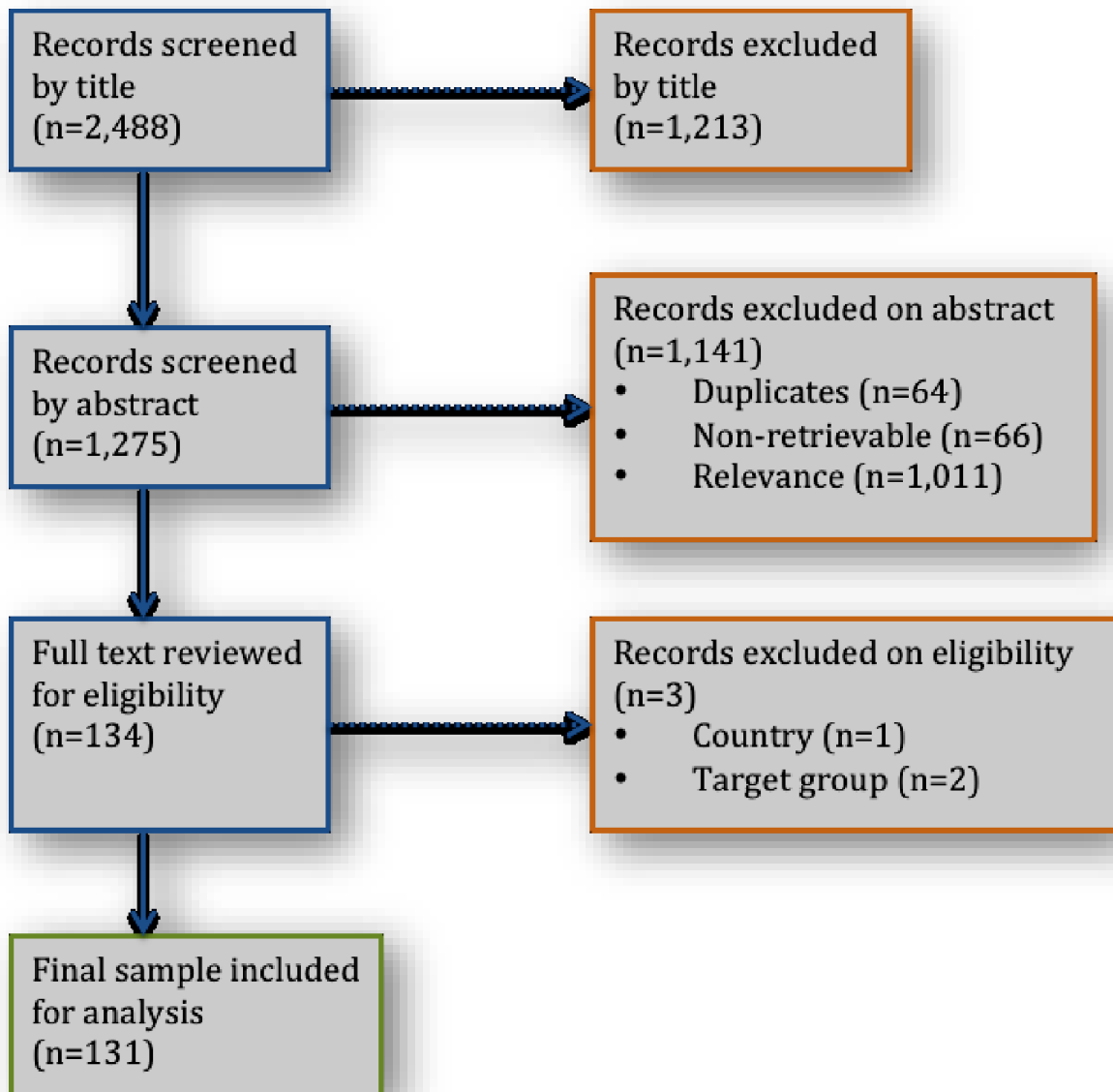


Figure 1 Flowchart of search results

On full screening it became clear that there were six significant themes emerging from within the literature in relation to how the education of children with disabilities was being presented and discussed:

External (n=60)

Discussions around policy, legislation, curriculum, pedagogy, or funding mechanisms and their influence on opportunities for children with disabilities in education. This included discussions around attempts at national level to introduce IE for children with disabilities.

Teacher – focused (n=30)

Discussions highlighting interventions/ programs aimed at supporting changes in teacher skills (pre- or in-service); confidence; practice; learning materials; attitudes; contact time; class size.

Child focused (n=17)

Discussions of interventions / programs that focus specifically on the learning needs of children with disabilities. This encompasses the implications of how children with moderate to severe impairments are being accommodated by the system.

School – focused (n=10)

Discussions around interventions/ programs focused on effecting changes at the level of the school. Including programs that are trying to support a move from segregated to inclusive education for children with disabilities; any school based changes (including improving physical access, WASH facilities etc.), resource rooms, units, classroom assistants/ support staff.

Mixed focus (n=7)

These articles raise a number of issues including for example the impact of teacher training and policy environments on how children with specific impairments are being accommodated.

Parent / community focused (n=4)

Discussions of interventions / programs that focus on working with parents and/or the community to increase awareness over the right to education for children with disabilities, to support children with disabilities in school or home based programs, attitudes.

CBM were also interested in the influence of early childhood education and the impact of CBR programmes on education outcomes, but there were only 3 articles identified that covered these issues specifically (CBR, n=1; early childhood education, n=2). It was felt this was insufficient information to analyse although it does highlight an important gap in the current research literature. Given that both CBR and early intervention programmes can potentially make a substantial difference to the progress of children with moderate to severe impairments this would seem to be an especially significant area of research in terms of what impact these programmes might have on educational achievement.

What is clear from this analysis is that currently the literature is mostly focused on the impact of external influences (including the international development sector and international education programmes such as EFA) on the development of national inclusive education policies and plans in LMICs along with the current trends in teacher education. In fact a lot of this literature raises more questions than it answers because much of the writing is focused on raising issues and concerns about the effectiveness of policies to include children with disabilities in mainstream education rather than on presenting evidence around what has been successful.

Likewise, in terms of teacher education there is much comment about the attitudes and knowledge of teachers (trainees and practicing teachers) but far less direct analysis of what is happening within classrooms, especially around inclusive pedagogy and adaptation of curriculums.

One of the most significant gaps overall is that no article assessed the intervention, approach or programme in terms of *educational outcomes*, comparing disabled and non-disabled peers. There was only one article that attempted to show the difference in educational outcomes between disabled and non-disabled students using a mix of qualitative and quantitative methods (Paul, 2011). There is an absence of information relating to data on numbers of children with disabilities in mainstream education and on their educational attainment levels (which also applies to those in special education). It is therefore not yet possible to say with any degree of certainty, what kinds of educational approaches work best for children with disabilities.

In terms of the main research question therefore the literature would suggest that there are currently any number of approaches being used to increase access to education for children with disabilities but little in the way of systematic application or evaluation. Inclusive education is the most widely analysed approach; special education did not feature a great deal in more recent literature even though it was included in the search strategy. This suggests that IE has become the *modus operandi* of educational approaches for children with disabilities but it is worth keeping in mind that much of this analysis focused on the problems associated with its implementation. The status of special education currently is going largely unreported even though it is possible to see a direct link between the state of special education provisioning and the support available for mainstreaming. More research is needed on the role of special education in LMICs in supporting (or not) the mainstreaming of children with disabilities, especially those with moderate to severe impairments.

Overall it is clear there is a disconnect between policy and practice in LMICs when it comes to disability inclusive education and little in the way of measuring effectiveness. Yet this has not stopped inclusive education from being promoted as the primary approach to education for children with disabilities in LMICs. More active debate needs to happen around whether or not inclusive education is practical, achievable and beneficial for children with disabilities in LMICs and a greater willingness to explore the possibility that a range of options might need to be in place if children with disabilities are to be genuinely included in education.

Discussion

What are the requirements for the transition of education systems from special education to inclusion?

Conceptualising inclusive education

One recurring theme through many of the articles reviewed was the lack of clarity and consistency over what inclusive education means and how it should be implemented with specific reference to children with disabilities. Hence in LMICs there are a lot of variations in educational provisions for children with disabilities and no overriding sense around what type of placement works most effectively.

Bayat (2014), and Sharma & Das (2015) note that when analysing education for children with disabilities key concepts like 'integration' and 'inclusion' are often used interchangeably although they are not the same. Integration is largely associated with mainstreaming children with disabilities into regular classrooms but inclusion is about accommodating all children. This lack of clarity has a profound impact on the understanding and implementation of inclusive education which is contributing to a lack of overall progress on improving education for children with disabilities (Sharma and Das, 2015).

The lack of overall clarity of the EFA and the inclusive education agendas seems to have resulted in a tendency for LMICs to adopt the *term* inclusive education at policy level but one that in practice means the integration of children with disabilities into mainstream schools. Kalyanpur (2011) for example describes how Cambodia has adopted a reasonably strong inclusive education policy framework but is in fact just integrating children with physical disabilities into mainstream classes. This happens largely because physically disabled children can be enrolled with little adjustment on the part of the school. Any children with more challenging disabilities were either being referred to special schools or were not in education at all. Pather (2013) notes a similar trend across Southern Africa where they are developing inclusive education models that are essentially focused on the integration of children with disabilities and not considering the wider aspects of educational needs such as poverty or ethnic status for example. So in reality, inclusive education is being implemented using an impairment/integration perspective which does not reflect the shift in thinking envisaged or promoted by the international development sector.

Just to add to the complexity, this is often being done under the banner of EFA because it fits well with the overall agenda on promoting the right to education for all children. Kalyanpur (2011) suggests that it fits well with the situation LMICs face because of the constraints they have towards improving the state of their special education programmes. Far more appealing than increasing the

number and quality of special schools and specialist teaching staff, is the idea of integrating children with disabilities into mainstream classes with little in the way of accommodation.

The role of policy and funding

Most articles focused on what is needed for successful inclusion indicate that schools primarily lack direction in what inclusive education is in practice and the resources and skills to deliver it. So, whilst there may be a reasonably positive policy environment there may be little to no support for implementation.

Many of the articles reviewed mention that governments are creating policies to promote education for children with disabilities - whether that is inclusive education or more commonly some form of inclusion / special needs / special education policy. Itimu (2008) for example mentions the progress being made in Malawi over the establishment of positive policies for Special Needs Education and comments that in spite of many challenges the government is very committed to improving the quality of SNE and is 'gain(ing) momentum' (p158).

Generally however, articles tend to be critical of the mismatch between seemingly comprehensive policies and the lack of priority for implementation (Anthony, 2011; Eleweke and Rodda, 2002; Johnstone and Chapman, 2009; Kalyanpur, 2008; Kalyanpur, 2011; Pather and Nxumalo, 2013). Donohue & Bornman (2014) provide a highly critical analysis of the role of policy in inclusive education in the context of South Africa. They criticise the top down approach which sees governments adopt policies that are in line with international priorities but which pay little regard to how they are going to be implemented at the level of schools and teachers. In their view inclusive education policies are a good example of what Matland described as 'symbolic implementation' policies (Matland, 1995).

Many of these policies are highly ambiguous, containing little in the way of direct statements around the plans and resources for implementation. A key issue raised in all the criticisms around policies is a lack of resources for implementation. As Donohue & Bornman (2014) point out, a significant barrier to the effective implementation of inclusive education in South Africa (as elsewhere) is funding:

'...it is difficult to envisage how significant transformations to the educational system in South Africa (e.g. mobilisation of out-of-school children with disabilities; infrastructure changes to schools) can be made without providing provincial departments with substantial increases in their short-term funding...' (p.7)

Johnstone & Chapman (2009) show that for teachers their biggest complaint is that they do not have the resources they need to implement inclusion ‘...teachers perceived the resources they had available to them to be inadequate.’ (p.140). Likewise the situation in Samoa: ‘The difficulty is of course funding of resources—an adequately prepared inclusive education teacher costs, as does the provision of advisers and technical resources.’ (p. 278, McDonald and Tufue-Dolgoy, 2013).

Kalyanpur (2008) notes the resource challenges of implementation in India. Decentralisation has led to a general reduction in funding for education from central government forcing States to take up the difference. Unfortunately, that has led to a reduction in support for India’s Integrated Education of Disabled Children’s scheme (the main programme supporting children with disabilities). Another example of financial constraints hindering progress on implementing education policies aimed at children with disabilities.

Vorapanya & Dunlap (2014) mention financing in relation to the challenges of implementing inclusive education in Thailand: ‘All the school leaders said that the level of national funding for schools was a long way from being sufficient to properly teach all students.’ (p.1021). Although in this case there is some funding available for children who have been certified as having a disability this is most often not sufficient to cover the costs of specialist equipment or support required. In this case it is parents that generally pick up the costs: ‘...most of their extra basic budget came from parents of students with disabilities...’ (p.1022).

Donohue & Bornman (2014) believe the ambiguity of policies is linked to the lack of funding and is intentional. Policies like this are created to conform with international norms not as a direct result of locally led changes and are hence ‘symbolic’. The lack of funding attached to such policies is an indication that the policy has little local substance.

There is certainly some consistency in the way many of the articles that are critical of policies tend to point to the influence of the international development sector on promoting inclusive education as the only progressive approach for the education of children with disabilities. In this sense donors have become very influential in promoting practices which are based on socio-economic contexts that are not the same in low income countries (Kalyanpur, 2008; Kalyanpur, 2011; Kalyanpur, 2014; Le Fanu, 2014).

Kalyanpur (2011) highlights the impressive policies developed in Cambodia with statements around the need to develop ‘strategies for disabled learners’ (p.1058). But notes then that: ‘While such political will is encouraging, the fact is these statutes are top-down responses to international imperatives.’ (p.1058).

In trying to comply with donor priorities their education system is struggling to be effective: 'Beleaguered by donor priorities that they may not necessarily see as priorities themselves, Ministry officials have become both the creators and the victims of a fragmented education system that is trying to do too much too quickly.' (p.1068). Le Fanu (2014) offers a good warning to the international development sector:

'Given the nature of local contexts of implementation..... (the) IDC (International Development Community) should not seek to impose a single transcendent vision of educational transformation on diverse and complex realities in low income countries – even though the Ministries of Education (MoEs) of these countries may sometimes be willing to accept such programmes, given the lack of critical capacity within these MoEs, coupled with their willingness to welcome any investment in their under-resourced education systems...', (p.74).

This general situation is not helped by the fact that at international level there are some very significant education initiatives which don't include children with disabilities - leaving local governments unsure about just how much of a priority children with disabilities really are. Despite the rhetoric at international level a study by Lei & Myers (2011) revealed that at country level the implementation of donor programmes that include children with disabilities is poor with the US being the only donor that could demonstrate systematic action on the ground. Their conclusion pointed to the lack of consistency in implementing disability inclusive education programmes: 'The problem is not that donors are doing nothing, so much as they are neither coordinated nor able to demonstrate consistent and/or deliberate attention to the rights of disabled children in relation to education.' (p.1178).

In addition countries are also trying to cope with the effects of implementing Universal Primary Education (UPE), again promoted by the international development sector, which is putting huge pressure on education systems in the context of delivering effective education for all children. Given the traditionally low status given to children with disabilities in education in these contexts it becomes easier to understand why disability inclusive policies remain 'symbolic'. Children with disabilities are simply not a priority.

Conversely it should also be noted that a lack of policy regarding education for children with disabilities can also present a challenge. Mosia (2014) for example outlines the development of education in Lesotho. Although the Ministry of Education has made several statements around special education, including in its latest Education Sector Strategic Plan (2005) which called for a specific Special Education Policy to be developed by 2012, there is still no such policy. With no definitive statements around what inclusion and special education mean teachers

are simply left to interpret these concepts for themselves. A special education policy is absolutely necessary to help standardise understanding and expectations across the system.

Overall the articles that focus on this macro environment tend to offer up a generalised warning that the ideals and concepts of inclusive education for children with disabilities are not necessarily easily transferred to low income contexts. As Urwick & Elliott (2010) point out there are already issues in the 'inclusive education orthodoxy', for example that inclusive education is the most effective strategy for teaching children with special education needs in developing countries; that the medical model is entirely inappropriate and by implication the support of specialists, and that it is the most cost effective method. The current 'one size fits all' inclusive education approach is something that needs to be analysed more critically at the international development sector level.

The status of special needs education and its role in inclusive systems

One of the key issues that several papers raise is that the baseline status of special needs education for children with disabilities in low income countries is already poor (Kristensen et al., 2006). Since provisioning traditionally has been so neglected, attempts to rapidly create inclusive systems that are able to meet the needs of children with disabilities, alongside increasing class sizes as a result of UPE, seems ambitious.

Itimu (2008) stresses that the majority of African countries show only a theoretical interest in the provision of special needs education. A comparison of Malawi, Tanzania and Zambia showed that all three countries lacked sufficient resources for special needs education; showed minimal to no inter-agency collaboration around children with disabilities; and had an urgent need to train more teachers in special needs education. Few low income countries in fact defined children with disabilities in their education sector plans prior to the push for inclusive education, even those that were signatories to the UN Convention on the rights of Persons with Disabilities (Srivastava et al., 2013) which suggests that children with disabilities have never been very high priority. Likewise the same could be said for the international development sector.

Kalenga & Fourie (2012) reiterate that in South Africa children who face barriers to learning (including children with disabilities) are inadequately served by the system, and Srivastava et al (2013) show that in many countries children with special needs rarely attend school at all, even special ones. Little seems to be happening to accommodate their needs in the mainstream and whilst some are present simply by default, many are amongst the school drop-out population.

Preparedness of supporting services

Inclusive education policies often work on the assumption that mainstream schools will be supported by specialist services provided through the special education sector. However evidence is emerging from the literature suggesting that the special education sector, in many cases, is ill-prepared to support inclusion (Maguvhe, 2013).

Of key concern is that currently special schools themselves are often not adequately resourced to support their students and are in an already weak position when it comes to resourcing children in mainstream classes (Tumwesigye et al., 2009). Kristensen et al. (2006) studied 15 special schools in Uganda and found the quality of education in them to be generally quite poor with an absolute shortage of appropriate resources. Moreover, special education teachers may not be very good at supporting children with disabilities; they may themselves have only very limited or no specialised training (Hove, 2014; Maguvhe, 2013). It is also common to find schools specialising in one or two impairments but their teachers are nevertheless still being expected to provide support to a full range of children with disabilities.

The use of itinerant teachers is an approach which inclusive education policies often suggest. Itinerant teachers are those from either the special education sector or from the mainstream that have been given some form of additional training, who move from school to school supporting children with disabilities. Ideally, they would work with children for whom they have direct specialist knowledge; visit on a needs basis; and work in partnership with the class teacher to ensure the child has appropriate access to the curriculum and can progress alongside their peers. Whilst there are very few studies that focus on the effectiveness of itinerant teachers those that have been carried out show significant issues with this approach.

Lynch et al's (2011b) study of itinerant teachers in Kenya highlighted the difficulties under which these teachers are working. Despite being responsible for supporting visually impaired children in mainstream schools they lacked even the most basic of resources. Since there were no large print materials available for their students some had taken to spending their holidays transcribing the most important text books into large print themselves. The provision of magnifiers would have solved this issue. But as Lynch et al (2014) found in a similar study in Malawi, itinerant teachers often have little in the way of training in assistive technology and therefore do not tend to look for those kinds of solutions.

Itinerant teachers in Uganda were found to have levels of training that were well below what was required (Lynch et al., 2011a). Although most had some

training around half reported this as being non-validated in-service training. Despite being responsible for supporting visually impaired students many lacked knowledge of their specific learning needs. In addition, they were significantly underprepared for effectively managing their caseload and for record keeping. Their main contribution seemed to be in helping schools to identify visually impaired students: 'As it stands, whilst the ITs (itinerant teachers) may be effective in identifying children who are blind and require braille, they are not trained or equipped to support such children successfully in local mainstream schools.' (p.1131, Lynch et al., 2011a).

In high income countries inclusive education and the education of children with disabilities has benefitted from things like new partnerships between special and mainstream schools, with different professionals; new forms of pedagogy; improved teacher skills; more positive attitudes; and better learning environments. But this is not the case in low income countries where the pace of change is very different and highly influenced by their starting points. Each country is in a different state of readiness to implement inclusive education for children with disabilities but this does not seem to be acknowledged to any significant degree (Srivastava et al., 2013).

Accommodating difference

A really interesting perspective and one that is almost absent in the literature on implementing inclusive education comes from the water, sanitation and hygiene (WASH) sector. There is no question that improved WASH has a positive effect on health and educational outcomes for children but as Erhard et al. (2013) point out there is little evidence being collected about its impact on children with disabilities. Their study focused on practices in Uganda and Malawi and revealed the personal consequences for children with disabilities who do not have access to adequate WASH in school.

In Uganda there is a very positive policy environment and there is provision made for inclusive WASH in schools. This includes the building of separate male/female sanitation facilities along with facilities for 'special needs learners and buildings with ramps for easy access'. However implementing this provision is affected by both technical and social barriers. Essentially, although guidelines exist there is no motivation to follow them up. The Ministry of Education and Sport itself found in 2010 that only 20% of primary schools had built inclusive latrines and most were very unclean, with no supportive rails. Generally most schools had no hand-washing facilities but where they existed, none were accessible. No school had accessible clean drinking water.

Likewise in Malawi there was evidence of positive legislation on the need for inclusive WASH but it hasn't made much difference in practice. The overriding

problem is a lack of resources to put the policies into effect at school level. Even schools that stated they had inclusive latrines were not actually accessible – they were either dirty, locked, had inappropriate ramps, or were too narrow. Over 70% schools had hand-washing facilities but none were physically accessible. Once again, no schools had accessible drinking water.

The impact on the children was clear – mostly what they wanted was a clean latrine and one in which they were not required to sit on the floor to use. The lack of useable facilities was a significant reason why children with some disabilities were staying away from school. This is an important finding because WASH is not commonly featured in inclusive education provisions but it clearly has an impact on inclusion in practice.

Transitioning to inclusive education

Most of the discussions around the perceived benefits of transitioning to inclusive education focus on either its role in improving social justice and promoting rights or its assumed cost effectiveness in contrast to special education provisioning. No article in this review was found to assess inclusive education in terms of educational outcomes for children with disabilities although there were many that suggested inclusive education overall was not working for children with disabilities.

Abosi's (2008) study in Malaysia identified that teachers and parents regard social inclusion as being a much better outcome for their children than any potential offered by specialised curriculums in special schools. This perhaps illustrates again that in reality special schools have been so neglected in LMICs that the quality and academic outcomes for children with disabilities are in any case very poor (Kristensen et al., 2006). In this sense inclusive education for children with disabilities brings benefits because they are exposed to life outside the sheltered confines of segregated schools and get the opportunity to socialise with non-disabled peers. Arguments are often made that inclusive schooling is about the promotion of rights, dignity and equality of opportunity (Urwick and Elliott, 2010). As Donohue (2014) notes '...one of the first and foremost locations where attitudinal shifts toward people with disabilities can occur is in schools...' (p.10). Hence inclusive education is often promoted as being beneficial to all children in its potential for reducing negative attitudes and stigma towards disability and promoting rights understanding.

The second common perceived benefit of inclusive education is the idea that this is more cost effective than special education provisioning. Hence it being popular amongst LMICs who are keen to expand provision but who do not necessarily have the resources to increase the numbers of specialist schools. Inclusive education systems are seen as an efficient way of accommodating children with

disabilities because the alternative system of special education is '...more costly and less sustainable' (p.1172, Lei and Myers, 2011). Parallel systems of special schools are regarded as less efficient.

But Urwick & Elliott (2010) find this highly questionable and raise some important concerns around the orthodox views of inclusive education. Whilst they have no issue with the premise that education is a fundamental right for all children and that many children have special educational needs which should be accommodated within the mainstream education system: The idea that mainstream schools should be adapted to accommodate the needs of *all* children is contestable in the context of educational effectiveness. There is a sense that views around inclusive and special education have become polarised with inclusive education seen as being positive and progressive and special education as being out-dated, restrictive and 'outmoded' (Urwick and Elliott, 2010). Inclusive schools appear more in line with social model thinking whilst special schools are equated with the medical model approach and hence are not seen as rights based.

But this could be questioned, especially in low income contexts: 'The most important flaw is the assumption that fully inclusive schooling is universally the most effective strategy for children with SEN' (p.139, Urwick and Elliott, 2010). Their argument is that in reaction to the pre-Convention on the Rights of Persons with Disabilities (CRPD) medical model thinking the individual differences in learning needs of children with disabilities has been significantly played down to the point where they are no longer talked about and therefore the expected accommodations and support are not being provided.

It seems that the assertion that inclusive education is more cost effective is based on almost no empirical evidence. The main source is one OECD study cited in Johnsson and Wiman (2001) which stated that integrated education was the least expensive provision for children with disabilities. Urwick & Elliott (2010) however, point to the issue of economies of scale. Where impairments are mild integration is more effective because the children can be accommodated with no change to the system (Kalyanpur, 2011). But when it comes to a need for more specialist provisioning such as communication support workers, Braille equipment, adapted teaching and learning materials and specialist teaching skills, it's difficult to imagine how that level of support can be provided in low income countries to every school where it might be needed for one or two students only. In this situation it makes more economic sense to concentrate skills and provision in fewer places – which is a strong argument for limiting inclusion (or integration) to those with easily accommodated impairments.

Care has to be taken when advancing the cost effectiveness argument, that the benefits are being measured in educational outcome terms rather than simply in

expenditure. If children are being placed in inclusive settings without the appropriate levels of support they need to be able to access the curriculum, then this will not be cost effective if they fail to gain any academic benefits. Cost effectiveness in this sense can easily equate to not having to allocate resources at all. And if the underlying assumptions are that the main benefits from inclusive education for children with disabilities is social acceptance rather than academic progress then this is not a long way from the charity model approach to disability which inclusive education is supposed to be challenging (Donohue and Bornman, 2014).

This review has so far shown that globally there are very different understandings and interpretations of inclusive education. Where children with disabilities are placed within 'inclusive education' systems varies considerably which is what makes it so hard to measure effectiveness. It is still common to find both inclusive and special education systems running in parallel with varying degrees of assimilation. Some countries retain almost entirely separate provisioning for children with disabilities - funding, policies, and regulation whilst others are attempting to bring the systems together to get hybrid forms of special and inclusive education where children with disabilities are given a range of options from special education to mainstreaming (Ferguson, 2008).

Alborz et al (2013) noted in a study of inclusive education in Iraq that there was strong support for the inclusion of children with disabilities and a desire to increase the opportunities they have for education from amongst teachers. But that inclusive education was understood to mean creating more specialist schools for disabled children and training more specialist teachers rather than looking at improving provision in mainstream schools.

Byrne (2013) also warns that although there has been a shift in thinking from segregation, to integration to inclusion the difference between integration and inclusion is typically not well understood. So although there has been an increase in the numbers of children with disabilities entering mainstream schools this does not in and of itself equate to inclusive education - not when there has been no attempt to alter the curriculum, environment or pedagogy.

The reality is there is very little evidence on the effectiveness of inclusive education in these contexts, most of which rely on the NGO sector and other development agencies to run inclusive education projects which do not undergo the level of analysis needed to robustly conclude on effectiveness (Srivastava et al., 2013).

What is the influence of Universal Primary Education (UPE) on the quality and availability/ accessibility of education for children with disabilities?

The literature is not specific about the impact of UPE on educational access for children with disabilities although it is possible to see that it is having an effect. Certainly UPE has increased enrolment generally and many children with disabilities will have entered mainstream schools as a result by default (Srivastava et al., 2013). There does appear to be a greater willingness for schools to accept children with disabilities under UPE but as mentioned previously, that usually results in integration rather than genuine inclusion and often only of children with less severe impairments (Byrne, 2013; Kalyanpur, 2011).

What does appear frequently in the literature that is focused on barriers to effective inclusion is class size. Large class sizes are a direct result of UPE (and accompanying free primary education policies) challenging many mainstream education systems in LMICs. For children with disabilities who are being encouraged to enrol in mainstream schools and for their classroom teachers, this has important consequences. Hove (2014) for example questions how effective inclusive education can be in South Africa where class sizes are often in excess of 50 children per teacher: 'The classes are so big as to militate against the efforts of individual teachers in those settings to reach out and proffer help to those in need.' (p.1904). Mutasa's (2010) study of children with hearing impairment in Zimbabwe described how large class sizes were hindering the teacher's ability to provide adequate instruction to deaf students. Nkonyane & Hove (2014) and Hove (2014) raise the same point in relation to children with learning disabilities in mainstream settings in South Africa. High student to teacher ratios mean that teachers simply do not have enough time to pay attention to the needs of children with disabilities.

Teacher preparedness

Which forms of teacher education enables teachers to promote and practice inclusive education?

The preparation of teachers to implement inclusive education is a recurrent theme through the literature. Whether that is pre- or in-service training it is clear that in order for inclusive education to work, teachers need to be effectively prepared and hold positive attitudes towards inclusion (Ahsan et al., 2012). It has to be remembered that inclusive education is a relatively new concept and as shown previously, one that does not yet have an agreed understanding or approach. As such, there are many teachers in LMICs still who have not yet been directly trained or exposed to the concept of teaching a diverse range of children in their classes.

Commonly the teaching workforce in LMICs is made up from those who learned to teach mainstream classes and those who learned special education. There are still a lot of teachers who don't have the practical or theoretical knowledge base

from which to design inclusive lessons (Donohue and Bornman, 2015). And it is this lack of preparation amongst those charged with delivering new inclusive education policies, that is contributing towards high levels of stress experienced by teachers and leading to concerns about the practical realities of inclusion (Donohue and Bornman, 2015; Emam and Mohamed, 2011; Hettiarachchi and Das, 2014).

This is important to consider because more experienced teachers have a tendency to be less positive about inclusion than those who are newly qualified (de Boer et al., 2010; Moburg and Savolainen, 2003; Muwana and Ostrosky, 2014). Whilst it's not clear exactly why this is the case it is assumed to link with general changes in attitudes amongst younger people as well as more recent changes to incorporate inclusive education into pre-service training (Emam and Mohamed, 2011).

It is likely therefore that training has an impact on improving the attitudes of teachers but concerns are still being raised that the current content of courses falls short on providing relevant practical skills (Emam and Mohamed, 2011). As Hettiarachchi & Das (2014) note from their study of teachers in Sri Lanka: 'The lack of specific knowledge and training on inclusive methodologies disempowers mainstream teachers from supporting children with special educational needs in their classroom.' (p. 151)

A lack of apparent preparedness to adopt inclusive education practices and to respond to the needs of all children, concerns many new teachers. Nketsia & Salovita (2013) surveyed final year student teachers in Ghana and found that only a third felt completely confident about the prospects of teaching children with special educational needs. That is despite the fact that pre-service training includes the concept of inclusive education and that general awareness was quite high.

In Zambia too student teachers showed a high level of support for the principle of inclusive education but 90% also held the belief that children with disabilities should be taught by specialists because it involves significant changes to general classroom practice (Muwana and Ostrosky, 2014).

What happens during pre-service training is very important in ensuring new teachers maintain both a positive attitude and a belief that they can teach inclusively. Studies suggest that attitudes are generally very positive, especially early on but that during courses students become less sure about the practicality of inclusion (Muwana and Ostrosky, 2014; Oswald and Swart, 2011). Significantly, teachers who have a major special education component to their training are much more likely to maintain positive views about inclusive education and report higher self-efficacy around adapting classroom practices

(Hettiarachchi and Das, 2014; Muwana and Ostrosky, 2014). Likewise the more knowledge teachers have about specific impairments the more positive they tend to report feeling towards inclusion (de Boer et al., 2010; Malak, 2013).

These findings are important because they suggest that training needs to address the practical realities of implementing inclusion rather than just its theories and principles. Addressing concerns about how new teachers are going to implement inclusive practices in situations with limited resources, large classes and high teaching loads would seem to be where pre-service training could most effectively focus (Oswald and Swart, 2011).

How can mainstream teachers and specialist teachers become effective supporters and promoters of quality inclusive education?

A lot of studies focus on training experiences because there is a very strong link between self-efficacy and teachers attitudes towards inclusion (de Boer et al., 2010; Emam and Mohamed, 2011; Miles, 2009; Miles and Singal, 2009). Where teachers doubt their own abilities they may hold more negative attitudes towards inclusion overall (Emam and Mohamed, 2011). Low self-efficacy, meaning a lack of confidence over the ability to create inclusive classes, impacts negatively on teachers attitudes towards inclusion (de Boer et al., 2010). Significantly, Arbeiter & Hartley (2002) found that where teachers were more negative about integration they paid far less attention to the individual needs of the children in their classes: 'Attitudes may have a stronger impact on the response to children with disabilities in classrooms, than the availability of resources or the technical knowledge of specialised teaching strategies by teachers.' (p.74).

This is obviously a complex area which de Boer et al., sum up well: '...findings of studies regarding teachers' attitudes present a confusing picture. Teachers seem to endorse inclusive education in general, but do not like to be involved when it concerns their own teaching practice....' (p.333, de Boer et al., 2010).

Overall the more positive teachers are about inclusion during initial training the more accepting and accommodating they tend to be in practice. And if they are exposed to children with disabilities in their pre-service training, during teaching practice for example, they are more likely to retain less negative views about inclusion (de Boer et al., 2010; Donohue and Bornman, 2015).

Although there is often an assumption made that inclusive classes will help to increase the social acceptance of children with disabilities amongst their non-disabled peers and improve social justice this is not necessarily what happens in practice (Ngcobo and Muthukrishna, 2011; Rydstrom, 2010). A lack of social acceptance can have very serious long term consequences, especially in terms of

mental health and academic success so inclusion needs to be managed with care (de Boer et al., 2012).

If disabled children are going to be included on an equal basis with their peers the underlying prejudices and negative attitudes held by both teachers and children have to be addressed. Otherwise social isolation and segregation is simply perpetuated in the way students are treated (and seated) within classrooms. As Ngcobo & Muthuskrishna (2011) note: 'The school appeared to be site of social reproduction whereby adults enacted and reproduced unequal social spaces, often unconscious of the insidious nature of their practices.' (p.362).

Teachers can, consciously or not, reinforce prejudices by the way they draw attention to disabled children, by the way they act towards them or through the expectations they have about their capabilities (Ngcobo and Muthukrishna, 2011; Rydstrom, 2010; Singal, 2008). All of which can be transmitted to the disabled and non-disabled children in the classroom.

It is possible for disabled and non-disabled children to have a beneficial social experience from inclusion but inclusive programmes need to understand the key factors that affect attitudes. A study by de Boer et al. (2012) identified four key variables that had an impact on the attitudes of non-disabled students towards their disabled peers. Gender, girls are more accepting than boys; age, older students are more accepting than younger ones; experience, those who have experienced inclusion in the past are more accepting than those for whom it is new; and knowledge, those with knowledge about the causes and affects of impairments are more accepting than those who have no awareness.

What this collection of articles highlight is that it continues to be very important that inclusive education programmes focus on the attitudes of teachers, students and parents in advance of children with disabilities being placed. Attention should be paid to ensuring there is plenty of opportunity to learn about the nature of impairments, the learning needs and styles of the students and the importance of understanding difference and diversity within a positive, rights based discourse.

Generally however, even though attitudes may be positive there is overwhelming concern in the literature that in practical terms, teachers are not well prepared for including children with disabilities in mainstream classes (de Boer et al., 2010). Teachers are expressing that whilst increasing the diversity of their classrooms is good for fostering social inclusion and equality they are much more sceptical about its effectiveness from an *academic* perspective (de Boer et al., 2010; Deluca M, 2014; Donohue and Bornman, 2015; Moberg and Savolainen, 2003; Muwana and Ostrosky, 2014; Ocloo and Subbey, 2008).

One of the issues contributing to the problem is the prevailing pedagogy; the tendency for mainstream teachers to use a didactic (teacher-centred) approach to their classroom practice (Arbeiter and Hartley, 2002). Inclusive education requires that teachers use a child-centred approach, that they are aware of the individual learning needs of their students and that they adapt the delivery of the curriculum accordingly.

Arbeiter & Hartley (2002) found that although teachers in Uganda were able to report on what kind of strategies could be used to make their classes more inclusive (such as giving individual attention; grouping the children; sitting deaf children at the front; using gestures or 'sign language') these were not often observed in practice. It seems that teachers do not believe they have the professional skills or specialised support to be able to put their intentions into practice.

Several articles suggest that inclusion only works in reality if the teachers do not have to significantly modify their classroom practices or pedagogy (Donohue and Bornman, 2015; Ngcobo and Muthukrishna, 2011; Singal, 2008). Teachers seem happy enough to make some adjustments to the basic classroom environment and may even adopt strategies to help provide extra support to children with disabilities, but with no attention being paid to adapting pedagogical approaches this does not represent inclusion (Ngcobo and Muthukrishna, 2011; Singal, 2008).

Singal's (2008) study from India cautions that although some teachers were observed to be using strategies for inclusion, such as the use of peer-mentors (pairing a disabled with a non-disabled child) their continued belief was that they did not play an especially important role in promoting the learning and participation of disabled children. Rather, this was the responsibility of others, such as special unit staff and parents, leading to Singal's conclusion that although disabled children were being placed in mainstream classes there was little sense that they were actually 'part of the classroom' (p.1525, Singal, 2008).

Many of the articles therefore have started to question inclusive policies, and in doing so draw attention to the fact that what is often happening in practice is *integration*. Inclusion necessitates that teachers change their approaches to suit differing educational needs but there is a lack of evidence so far to support this happening in practice. Teachers too seem fully aware that they cannot in many cases provide the level of specialist instruction that children with disabilities may require. The overall lack of appropriate training means that teachers are effectively trying to teach children with disabilities who they find in their classes as though they were non-disabled children. Mainstreaming has enabled

increasing numbers of children with disabilities to enter schools but this does not equate to them being included (Ngcobo and Muthukrishna, 2011; Singal, 2008).

The impact of impairments on inclusion in practice

How can the diversity of learning needs and potentials be adequately addressed in an inclusive setting in order to ensure quality education for all (e.g. learners with hearing impairments/who are deaf, learners with learning disabilities, learners with significant disabilities)?

Given the impact that impairments have on the learning requirements of many children with disabilities (Cockcroft et al., 2010; Lynch et al., 2011b; Miles et al., 2011), there were relatively few articles overall that looked at how impairments affect inclusion (just 13% in total). Those that take an impairment focus however repeatedly stress that teachers in mainstream settings cannot adequately meet the demands placed on them by the presence of children with specific learning requirements in their classes without appropriate support services; specialist resources; additional training; and appropriate assistive technology.

Several studies looked specifically at deaf/hearing-impaired children (Chandee and Suksakulchai, 2012; Cockcroft et al., 2010; Johnstone and Corce, 2010; Miles et al., 2011; Mukhopadhyay and Moswela, 2010; Musengi et al., 2013; Mutasa, 2010; Nkolola-Wakumelo and Manyando, 2013; Obilade, 2015). A key theme in these studies centred around language (specifically sign language) and whether or not deaf children are best served in inclusive settings where access to a fluent sign language is less certain.

Interestingly, most of these studies focus either on what is happening in schools for the deaf or in deaf units bringing into question the efficacy of current teaching approaches which still largely rely on oral methods. Most articles suggest that sign language is often not the core methodology used in the instruction of deaf children and that most teachers (even specialist teachers of the deaf) are not at all confident in the local sign language. This calls into question the extent to which even specialist schools are really aware of the learning needs of deaf children.

Mukhopadhyay & Moswela (2010) for example reported that schools for the deaf in Botswana seemed to make little adaptation to the curriculum to assist their deaf learners. A particularly good illustration of that was the continued teaching of science topics such as music and sound, using exactly the same approach as would be used for hearing children. Overall teachers continued to favour using didactic methods with very little student interactions. Given that the sign language skills of the teachers was generally very poor, lessons were a constant struggle for everyone. This study highlighted how little teachers really

understood about the needs of deaf learners and in particular about the role of sign language in education. And this was in a centre specialising in deaf education.

In a similar study Nkolola-Wakumelo & Manyando (2013) looked specifically at the use of sign language in teaching deaf children in two schools for the deaf in Zambia. What they found was that most teachers felt their training in sign language was inadequate and their observed sign language skills were regarded as generally poor. Although well over half the teachers said they were offering lessons in Zambian Sign Language to the children, observations revealed that what was being taught as sign language was simply an attempt to symbolise spoken English.

Given the central role played by language and communication in promoting effective learning and general development in deaf children (Knors and Marschark, 2014; Marschark and Knors, 2012) it seems considerably more needs to be done in LMICs to focus on how that is going to be achieved more effectively.

Chandee & Suksakulchai (2012) looked at how Deaf children developed Nicaraguan Sign Language just by the fact of coming together over several generations in boarding schools; despite being banned from signing in class and being taught using a strictly oral-aural approach. This new language evolved through a process of peer education with no external input from their teachers, with a similar peer learning process happening in Thai boarding schools.

A very similar, if smaller scale example of peer language learning was also shown to be happening in Deaf units in Uganda (Miles et al., 2011). Students who had previously been placed in a specialist school for the Deaf and acquired Ugandan Sign Language but had been transferred to a unit attached to a mainstream school, were found to be transmitting their language skills to younger children who had joined the unit. These students were developing a level of sign language fluency that was not evident in other units where there were no experienced signers to learn from.

These studies suggest that sign language acquisition should be prioritised in education programming for deaf children and that peer education should be actively encouraged so that deaf children can learn to interact with other deaf sign language users to build up their confidence, language and social skills. Deaf children who learn a natural (native) sign language (with or without accompanying spoken language) do better during their early years in education and develop stronger social relationships with their family and peers compared to those who have only been exposed to spoken language (Marschark and Hauser, 2012).

The only study to focus specifically on deaf children in mainstream schools suggests that it is not only language that impacts on effective inclusion (Cockcroft et al., 2010). Teachers need to consider different approaches to both the curriculum and their teaching style if they are to take adequate account of the learning needs of deaf children: 'While the findings of this study are not aimed at excluding deaf learners from an inclusive education environment, they do suggest that several teaching adaptations may be necessary to ensure these children's optimum participation and learning.' (p. 208). Teachers have to be prepared to change the way they teach if their classrooms have deaf learners. Not just in terms of sign language but in the way they introduce concepts, in the way they utilise visual aids and most importantly in the pacing of their lessons (Cockcroft et al., 2010).

The other group of children who were the focus of several articles were children with learning disabilities (Hove, 2014; Narayan et al., 2005; Rao, 2008; Rydstrom, 2010; Thomas and Whitten, 2012). Typical of the conclusions is Rydstrom's (2010) study of children with learning impairments mainstreamed into regular schools in Vietnam. The views of the teachers involved in the study was that students with intellectual disabilities were not being taught to any great extent when they are in mainstream classes.

In contrast, specialist unit staff were seen to be attempting to develop alternative curriculums for students with 'learning difficulties' and, or cognitive disabilities. Hove (2014) also raised concerns about the efficacy of closing specialist schools for children with intellectual impairments in South Africa whilst provisioning in regular schools was still so poor. Mainstreaming is not providing them with the level of attention, curriculum adaptation and opportunities for developing positive self-esteem and life skills that they require so closing specialist schools was impacting on their learning opportunities.

4. Conclusion

The original aim of this systematic literature review was to gather together the most recent information on what kinds of interventions are happening in LMICs in relation to education for children with disabilities. In particular what can be learned from experiences of inclusive education in resource poor contexts and whether there are any approaches which are proving to be especially successful. In total 131 articles were analysed and whilst they ranged in their focus from policies to classroom practice, only one presented evidence in terms of academic performance (Paul, 2011). This has meant that overall it has not been possible for this review to make recommendations in regards to effective approaches. Given that in developed countries academic results are used as an important indicator of how well education systems are performing, the absence of literature analysing outcomes appears to be a significant gap in the research. It

also raises the question of how education programmes are being evaluated in relation to children with disabilities.

Whilst education is much more than academic achievement and there were a number of articles that focused on the social benefits of inclusion, nevertheless the absence of discussions and evidence around academic performance is concerning. Without some objective measures in place to follow the progress of children with disabilities through education systems then it is impossible to be able to identify which systems are working well and which need closer scrutiny. A lack of focus on academic progress may also be an indication that in reality, attitudes towards the capacity and capabilities of children with disabilities may not have changed significantly from the pre-rights based, charity-model way of thinking. Differences in the outcomes of children with disabilities compared to those without disabilities need to be evidenced so that any significant negative results can be addressed.

Outcomes aside, this review has identified a number of interesting themes in relation to inclusive education and children with disabilities. Overall the literature strongly suggests that there is a lack of clarity and agreement over exactly what constitutes inclusive education and some confusion over the extent to which this focuses on children with disabilities (Kalyanpur, 2011; Pather, 2011). It is not uncommon to find education systems that have both inclusive and special needs education policies running concurrently (where inclusion is operationalised in terms of access for girls, remote rural communities or ethnic minorities for example); nor is it unusual to have donor supported inclusive education programmes that focus entirely on the enrolment of children with disabilities in mainstream schools. Arguably it is a lack of consensus at international level that is making it more difficult for governments in LMICs to build inclusive education systems that can accommodate all children equally effectively.

In addition to the conceptual confusion, it also seems as though there is a lack of support from the international community for the promotion of education for children with disabilities – regardless of whether that is done through inclusive or special education. The literature makes it clear that in general, children with disabilities are not being well served by education – be that special or inclusive education, because the education of children with disabilities is not prioritised for support (Bakhshi et al., 2013; Lei and Myers, 2011). In this sense the absence of children with disabilities from large global initiatives such as free primary education, and education for all has made it very difficult for governments to allocate the necessary resources to support children with disabilities.

One of the things that might help this situation would be to encourage the integration of the needs of children with disabilities into mainstream education planning and provisioning. Children with disabilities ideally need to be included in

mainstream education programmes, policies, funding and donor support. The education of children with disabilities should not be separate from that of non-disabled children when it comes to planning, allocation of resources, and monitoring.

Another point that is worth reiterating is the issue of cost-effectiveness. There is an assumption being made that including children with disabilities in mainstream schools rather than accommodating them in special schools is the most cost effective use of resources. In reality the literature at the moment cannot be used to support this conclusion (Urwick and Elliott, 2010). There needs to be more research on what it costs to genuinely include children with disabilities in mainstream schools in comparison to specialist units and special schools. This assessment should focus not just on the direct input costs but also take account of what the children achieve as a result of their education. Inclusive education is not more cost-effective if children with disabilities are failing to attain their academic potential. A thorough evaluation of the effectiveness of different approaches from an academic perspective needs to be made before longer term investment decisions are made.

The literature is clear that there are very many children with disabilities who can be included in mainstream classes with minimal levels of accommodation or changes to the system. Awareness raising and sensitisation of teachers, parents and peer groups does help improve the numbers of children with disabilities who enrol in mainstream schools. Small adjustments to the physical environment (including classrooms, dining areas, play and sports areas, WASH facilities etc.) can make a significant difference to the comfort levels of some children with disabilities to the extent that they (and their parents) are more likely to support attendance. This is one area that could be a short term focus of resources to ensure that physically at least, children can be accommodated (and that teachers, peers and parents are sensitised appropriately). It is important to ensure that children are not being excluded or placed in special education programmes unnecessarily, because of negative attitudes or inaccessible facilities.

Throughout this review it became clear that whilst mainstream teachers are increasingly aware of the need to include children with disabilities and are broadly supportive, they nevertheless face some significant challenges in trying to put inclusive education policies into practice, including:

- Large classes.
- Reliance on teacher-centred pedagogy.
- Inflexible curriculums.
- Results based focus of education and standardised testing.
- Lack of resources and access to specialised support.

- Poor general infrastructure.

Notably, pre-and in-service training is often described as being inadequate for the practical challenges that face teachers who are trying to accommodate children with different impairments in their classes (Ahsan et al., 2012). When disability training is provided it seems to focus too much on the identification of impairments and not enough on what impact those impairments have on children's learning needs. There is also not enough detailed information on what teachers can do to change the way they teach and organise their classrooms in order to accommodate different learning needs.

The use of itinerant teachers is potentially a good solution to ensuring most children with disabilities can be included in local, mainstream schools but this will only work if they are adequately trained, resourced and supported (Lynch et al., 2011b). Itinerant teachers need to be able to effectively support class teachers, not just the children as is often the case currently and they need to be trained to understand the learning needs of children with different impairments. They need to understand and have access to assistive technology; they need to be able to plan visits according to need and they need to be skilled in managing caseloads and record keeping. To be effective, they need sufficient time and transport support to be able to carry out this role. Thorough analysis of the full costs of effective support needs to be made so that education systems can resource itinerant teachers sufficiently. In addition mainstream teachers need to learn how best to work with support staff so that they avoid falling into the trap of believing responsibility for educating children with disabilities is just for the specialists.

Currently therefore it is still not possible to say very much about the impact inclusive education is having on educational outcomes for children with disabilities. Teachers are expressing deep concerns about the practicalities of this approach and there is not yet sufficient outcomes based evidence to determine how effective it is for children with disabilities in LMICs. This doesn't mean inclusive education is not a good approach nor that it is not possible in LMICs, but it does suggest that closer attention needs to be paid by governments and the international development sector to what is happening in schools and in teacher education programmes in relation to the education of children with disabilities.

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