

BURDEN OF THE SCHOOL BAG: IS ANYBODY LISTENING?

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In recent years, the weight of students' school bag has become an increasing concern to people with an interest or involvement in education at primary and secondary level. Parents, in particular, have given voice to this concern both as individuals and through their representative organisations. In addition, school authorities and teachers, health professionals and, indeed students themselves have increasingly voiced their unease regarding the heavy loads, which must be carried to and from school on a daily basis. Heavy school bags can be a burden, which tire students unnecessarily. There are also many researches, which have revealed strong correlation between school bag weight and physical problems among all students that can result in serious consequences in the future. So what are the factors, which contribute to the increased burden and weight on school children? Is it the number of textbooks, workbooks and copies, the size and weight of individual textbooks, the additional content and weight of the school bags or some other factors which have an indirect influence on the weight of school bags? These could be the provision of storage facilities, the lack of coordination of homework by teachers, students' lack of organisational skills and awareness in the school authorities of the possible health problems posed by excessively heavy school bags. This paper seeks to address these issues.

KEYWORDS: Curriculum Load, Learning Without Burden, Physical Load, Load of Incomprehension

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INTRODUCTION

School bag has become an inevitable burden for the child. I am now pleading for abolition of the school bag by an ordinance, if necessary. I have investigated and found that an average child carries strapped to his back like a pack-mule, not less than 6-8 kg of books, notebooks and other paraphernalia of modern education in addition to lunch box and water bottle. More children on account of this daily burden develop a stoop and hang their arms forward like a chimpanzee while walking and I know some cases of serious spinal injuries in children too.

It is a cruel harsh life imposed on her and I present her case before this House and the Hon'ble members to think over and devise a remedy by changing the whole educational system and outlook so that childhood has a chance to bloom...(Rajya Sabha, 2012, p.24)

One can easily feel the pain and anger in this address of Shri R.K.Narayan, a writer of national and international acclaim in the Rajya Sabha during 1986-92 on the issue of crushing burden of a heavy school bag on children.

CURRICULUM LOAD: POLICY DOCUMENTS

Several committees and groups have been set up in our country to address the issue of academic burden on students and unsatisfactory quality of learning. Way back in 1977, as a measure to reduce the burden, the Ishwarbhai Patel Review Committee suggested revision of books in Science and Social Science and also for deletion of a few topics from the syllabi and textbooks of different subjects (National Council of Educational Research and Training, 1985). However, the recommendations of this committee were not found effective by educationists and teachers in solving the problem of curriculum load. Therefore in order to re-examine the whole question of curriculum load, the National Council of Educational Research and Training (NCERT), set up an in-house working group in 1983 to make a quick appraisal of present curriculum from point of view of curriculum load. Working Group analysed the phenomenon of curriculum load by taking into consideration its various dimensions such as: length of the prescribed course vis-a-vis availability of time, difficulty level of the course content vis-a-vis mental level of the pupils, language used in the textbooks (NCERT, 1985). Besides these, it also took into cognizance some other factors like facilities available in schools and the extent of their utilisation; curricular provisions and management of curriculum; impact of examination system on curriculum transaction; instructional techniques used by teachers of different states; the nature, purpose and quantum of home work and textual materials such as textbooks, workbooks and supplementary readers in relation to the curriculum load (NCERT, 1985). To reduce the academic burden on students it gave several recommendations

such as:

- A core curriculum for the country supplemented by specific curricula on local ecological, sociological, cultural, economic and developmental requirements relevant to states, districts and geographical typologies
- Curriculum to be a blend of physical culture, culture and knowledge and knowledge to comprise of humanities, science and technology
- Curriculum to be developed keeping in view the majority of students, teachers and physical facilities available in majority of schools
- Information load to be kept at a minimum especially at the earlier stages. Overloading of information to be avoided at the higher level also Mother tongue as the medium of instruction at the primary stage
- Language and the writing style followed in the textbooks to be easily intelligible to students
- Quality of education not to be equated with quantum of curriculum content
- Concepts introduced to be compatible with the mental development of the child
- Integrated approach at the middle/ upper primary stage
- Minimum facilities in every school for teaching learning such as chalk, blackboard, books, source books, maps, charts, models etc.
- Optimum number of pupils in a class to be around 35
- Availability of sufficient working days for instruction
- No formal home work at the primary stage. Innovative homework at later stages
- Updation and intensification of curriculum for pre-service training, both for elementary stage and secondary stage
- Organisation of in service training programmes on regular basis besides making available teacher guides and usage of mass media
- No public examination till class VIII. Internal and summative evaluation to be carried continuously with a view to diagnose pupil's weaknesses in learning (p.22-25).

Further National Policy on Education Review Committee (NPE, 1990) considered 'the load of the school bag' a serious problem and made several recommendations to reduce this load by- adopting an integrated approach, emphasising on supplementary reading material and library work to reduce dependence on textbooks, stressing the scientific method of acquiring knowledge rather than knowledge itself, shift in the emphasis from mere information to concepts and principles, helping students in acquiring capabilities of self-learning and an aptitude to learn throughout life, emphasising not only cognitive domain but also affective domain and psycho-

motor skills and connecting classroom learning with children's life outside the school.

- But the problem of curriculum load remained the same. The Ministry of Human Resource and Development, Government of India, set up a National Advisory Committee (MHRD, 1993) to “advise on the ways and means to reduce the load on school students at all levels particularly the young students, while improving quality of learning including capability for life-long self-learning and skill formulation” (p.1). This committee submitted its report 'Learning without burden' in 1993. The committee considered the curriculum load in clear terms of 'incomprehensibility' and 'physical load'. It (MHRD, 1993) regarded 'weight of the school bag' as one dimension of the problem and pointed out various other following dimensions as contributing towards the load on school children resulting into 'incomprehension' by pointing out that "a lot is taught, but little is learnt or understood" (p.3). These are:
- Absence of elements of joy and inquiry from learning
- Examination system's focus on children's ability to reproduce information instead of their ability to apply concepts and information on unfamiliar, new problems, or simply to think
- Textbooks primary focus on conveying information or 'facts', rather than making children think and explore
- Style of teaching that is devoid of interaction
- Disparity between the child's everyday life and the content of the textbook
- Vocabulary and syntax used in the textbooks
- No opportunity for observation
- Gaps in the syllabi between the lower and the Higher Secondary stages as well as repetitions of concepts and information
- Densely packed syllabi with an aim to teach everything

This report of MHRD (1993) regarded compelling students to carry very heavy bags everyday to school as a 'torture' and recommended that:

Textbooks should be treated as school property and thus, there should be no need for children to purchase the books individually and carry them daily to homes. A separate timetable for the assignment of homework and for the use of textbooks and notebooks be prepared by the school and be made known to the children in advance. (p.21, 22)

It (MHRD, 1993) also advocated for a radical change in the nature and character of homework and stated that:

In the primary classes, children should not be given any homework, save for extension of explorations in the home environment. In the upper primary and secondary classes, homework, where necessary, should be non-textual, and textbooks, when needed for work at home should be made available on a rotation basis. (p. 22)

Besides these, it recommended:

- Discouragement of competitions where individual achievement is rewarded
- Involvement of large number of teachers in the process of curriculum formation and preparation of textbooks
- Support of experienced voluntary organisations in development of curriculum, textbooks and teacher training
- Provision of sufficient amount for purchase, repair and replacement of pedagogical equipment
- Adequate pre-service and continuous in-service teacher training programmes to ensure quality of learning in schools
- Focus on 'concept questioning' rather than on 'text based questioning' in public exams
- Connection between the syllabi and textbooks in different subject areas with children's everyday life

The committee (MHRD, 1993) also made an important recommendation of examining the syllabi and textbooks for all school classes in each state and decide on:

The minimum number of topics required to be taught, minimum number of concepts to be introduced within each topic and total time needed for teaching this minimum number of concepts comfortably by a teacher in the total working days realistically available in a year. (p.22,23)

Taking inspiration from this report the National curriculum framework for school education (NCFSE, 2000) was initiated specifically to address the problem of curriculum load on children. It regarded that “the heavy load of curricula is not merely physical, but also one of non-comprehension resulting from the lack of understanding of some basic concepts” (p. 25). To reduce this physical load it suggested to take out the obsolete and redundant content, to remove the mismatch between the developmental capacities of the children on the one hand and the curricular expectations and teaching learning methods on the other, to not give undue emphasis on homework and memorisation of a large number of concepts, and to remove overlapping concepts and topics. For reducing non-comprehension load it called for a shift from the 'content' to the 'processes' of learning and making students 'learn how to learn'. It also suggested bringing in change in the evaluation practices and a need to adopt and encourage innovative evaluation practices which test the abilities of comprehension, application and analysis. Based on the recommendation of NCFSE-2000, an attempt was made to adopt an integrated approach from upper primary to secondary stages (DESS, 2004). Teachers and students welcomed this approach though it had its own shortcomings.

National curriculum framework (NCF, 2005) took into cognizance both positive and negative developments in the field and attempted to address school education by drawing mainly upon and elaborating on the insights of Learning without Burden. Following NCF (2005) textbooks were developed in a learner-friendly manner by supplementing with visuals, narratives, cartoons, case studies etc. and through this it aimed at addressing the load of non-comprehension. Textbook developers made an effort to include activities, box items, visuals, case studies, primary sources etc. with an expectation that 'learning by doing' would enable the students to understand the content and reduce the load of non-comprehensibility.

But in between the other dimension of the problem i.e. physical load got lost. As a result of this not only number of textbooks but also pages of textbooks increased which created a psychological pressure as well as contributed towards increased physical load on students. This physical load of heavy content has been repeatedly pointed out by teachers and students in course of trainings and various interactions with students and teachers (Ojha, 2006-2013). Although NCF lists 'heavy school bags' as one of the common sources of physical discomfort for children, the review of the Curriculum Framework in 2005, could not resolve the vexed issue of curriculum load be it 'load of non-comprehension' or 'load of school bag'.

REDUCING LOAD OF THE BAG: A BILL AND OTHER INITIATIVES

In 2006 a bill titled Children School Bags (Limitation on Weight) was introduced in the Rajya Sabha (Rajya Sabha, 2006) to:

Provide for limitation on the weight of school bags, duties and responsibilities of the schools to ensure the compliance of the limitations so imposed and to provide lockers in schools and to issue necessary instructions for handling and carrying of school bags by children and for matters connected therewith or incidental thereto. (p.1)

For the first time it detailed out all aspects regarding the physical load of school bag. As per the Children's School bag Bill of 2006:

- A school bag should not weigh over 10% of the body weight.
- Nursery and kindergarten students should not carry school bag.
- Schools should issue guidelines and instructions prescribing dimensions and the fabric for the school bag.
- The state government should provide appropriate lockers at schools.
- Schools violating such provisions are liable to face a penalty of up to Rs.3 lakh; a subsequent violation may lead to de-recognition. (p.1-2)

This bill was in line with the international standard followed all over the world and had provisions not only on the weight of the bag but also the kind of bag ideal for students and the way of handling the bag.

But unfortunately this could not become an act till date. Our children are still suffering. In an effort to reduce the load of school bag on students Central Board of Secondary Education (CBSE, 2008) in its various circulars in 2006, 2007 and 2008 advised schools “to maintain and keep the school bags of children up to class II in the school itself”. It also suggested “to support a system of class libraries in order to promote reading habits in children and also supplement in respect of those students who do not bring textbooks on a particular day”(CBSE, 2008). It called for a need to adopt pedagogical practices of integrating soft subjects with main course teaching, using interesting alternatives to homework, which supplement class room teaching, adopting a continuous and comprehensive evaluation for strengthening of learning to effectively reduce the burden on learning.

Replying to a question on weight of school bags in Lok Sabha, then Minister of Human Resource Development (MHRD, 2010) stated that:

Kendriya Vidyalaya Sangathan (KVS) has issued guidelines on 29.12.2009 to the effect that for students of class I & II, the weight of books and notebooks carried in the school bag including the weight of the bag should not exceed 2 kg, whereas the weight limits are 3 kg, 4 kg and 6 kg for classes III-IV, V-VII and VIII-XII respectively. The guidelines are to be followed with immediate effect.

However, nothing much happened. In between many individuals kept on raising their voices against this load and now it has become a routine activity in print and electronic media to discuss the load of school bag with the start of every academic session in schools. In this connection a case was filed in Delhi court in 2012 following which a committee was formed by Directorate of Education (DOE) to bring out some measures, which would help in reducing the weight of school bags (DOE, 2014). DOE accepted that “school children are carrying very heavy bags to school which is affecting their health adversely and that these small children need to be necessarily spared from such burden”. It issued following guidelines for reducing the weight of school bags for children:

- The School Principals and teachers should frame a well designed time-table for each section of the class so that children do not have to carry too many books or note-books to the school each day and also ensure that the co-curricular activity periods are held along with the other periods on daily basis there by having an equitable distribution of weight of school bags.
- Sensitization of teachers and parents should be done to create awareness of the potential problem of heavy school bags and to make them aware of the health issues, which can arise due to heavy weight of school bags.
- The school should teach correct lifting and carrying techniques as part of their health education programmes and encourage pupils to take

responsibility for health and back care.

- Parents should be requested to buy a child friendly bag which is comfortable to use light in weight. It needs to be reinforced at every level i.e. Principal, Faculty heads, Teachers and Parents.
- The student should be discouraged from bringing reference books and other books to school especially in senior classes.
- Parents should remind and guide their children to pack the school bag daily according to the timetable and bring only the prescribed books and discourage their ward from carrying unnecessary items to the school.
- Staggered homework schedule should be planned.

DOE also instructed all the concerned to ensure that the school bag of the children is not heavy and that it should be monitored on regular basis.

WEIGHT OF THE SCHOOL BAG AND HEALTH IMPLICATIONS

Children tottering to school with heavy school bags are a common sight. This sight is not common to metropolitan cities alone, it can be seen in small towns and the bigger villages too. Several studies (Dochrell, Kane & O'keefe, 2006; Greenberger, 2001; Melville, 2001; Orr, 2000; Parker-Pope, 2002; Puckree, Silal & Lin, 2004) have proved that heavy load on the back badly affect the health of the children. Some children may develop a permanent stoop due to the heavy pressure on their spinal cord, which would lead to permanent damage to their physical structure and back muscles. It is a medically proven fact that lifting heavy burdens for a long time or distance is not good for anyone, especially children. In the tender age, bones are delicate and excessive weight can misalign the spine leading to offensive skeletal and muscle maturity. Carrying a heavy bag on the back often results in aches in the back and shoulders. Forward bending at the back makes the work of breathing harder. Children carrying bags weighing more than 10 per cent of their body weight have been found to have poorer lung function. A survey conducted by the Associated Chambers of Commerce and Industry of India in the metros during March-April 2012 had also revealed that nearly 58 per cent of children below the age of 10 suffer from mild back pain, caused by their 'heavy burden,' which can progress to chronic pain (Prakash, 2012, p.1-2). Though the survey was conducted in the metro cities, the plight of children is not different in small cities and towns.

Choosing the Right Bag

The American Academy of Paediatrics provides recommendation regarding the weight and packing of school bag (American Academy of Paediatrics, 2014). It gives following tips regarding the issue:

- Choose a backpack with wide, padded shoulder straps and a padded back.
- Pack light. Organize the backpack to use all of its compartments. Pack heavier items closest to the centre of the back.
- The backpack should never weigh more than 10 to 20 per cent of your child's body weight.
- Always use both shoulder straps. Slinging a backpack over one shoulder can strain muscles.
- If your school allows, consider a rolling backpack. This type of backpack may be a good choice for students who must tote a heavy load. Remember that rolling backpacks still must be carried up stairs, and they may be difficult to roll in snow.

Role of Schools

Growing weight of school bag and its effect on health of the children has become a matter of grave concern for every parent. School authorities have also been expressing their concern over the issue but nothing is actually being done to lessen the burden of school bags. Unfortunately, our schooling system has failed to understand the short and long term harmful effects of this practice such as making the young children carry heavy bags. Another dilemma that we face today is that the teachers are not specific regarding their daily class work, which makes the child carry all the text and notebooks to school every day. Table 1 provides an example of a timetable for students of class I studying in a Delhi school.

Table 1

Example of Time Table for Students of Class I.

| Period | I | II | III | IV | R | V | VI |
|-----------|-----------------------|-----------|--------------|--------------|---|---------|---------------------------|
| Monday | English | Hindi | Computer | Music | E | Maths | EVS |
| Tuesday | English | Hindi | PT/Skating | Maths | C | EVS | English Activity sheets |
| Wednesday | English | Taekwondo | Hindi | Computer (T) | E | Maths | EVS Activity sheets+Music |
| Thursday | English | Hindi | Computer (P) | Maths | S | Library | EVS |
| Friday | Hindi Activity Sheets | EVS | English | Hindi | S | Dance | Maths + Drawing |

There is also a note along with this timetable to send books and notebooks according to the timetable but as is evident from the timetable on an average a student has to carry minimum nine books and notebooks along with tiffin, water bottle, colours and sometimes skates. Activity sheets mentioned here

are not actual sheets but spiral bounded workbooks. Except a very few schools the picture is not very different in majority schools.

REDUCING THE LOAD: SOLUTIONS

Learning without Burden (MHRD, 1993) sums up the report by saying that:

The problem of the load on school children does not arise only from over-enthusiastic curriculum designers, or poorly equipped teachers, or school administrators, or book publishers, or district, state or central educational authorities. Yes, what all these groups, agencies and administrators do can exacerbate or alleviate the problem. (p.20)

Earlier discussions including this report and experiences from the field clearly highlight the role of individuals and other agencies in addressing the issue of the load on school children. Since this is a multi-dimensional phenomenon wherein various stakeholders are involved, this issue needs to be dealt at all levels and by all concerned with the curriculum development and its implementation. As far as curriculum design is concerned one way of addressing the curriculum load could be integration as is suggested in various documents also. An integrated approach is considered to help children to see interconnectedness of different phenomena in a systematic manner. NCF (2005) makes it clear that:

In India, we have traditionally followed a subject-based approach to organizing the curriculum, drawing on only the disciplines. The subject areas tend to become watertight compartments. As a result, knowledge seems fragmented rather than interrelated and integrated. The discipline, rather than the child's way of viewing the world, tends to become the starting point, and boundaries get constructed between knowledge in the school and knowledge outside. (p.29)

It also recommends that the cross-disciplinary approaches that are possible should also be indicated. "For an enabling curriculum, certain themes that facilitate interdisciplinary thinking need to be incorporated" (p.51). The draft Position Paper on the Teaching-Learning of Social Sciences (NCERT, 2014) suggests to open the boundaries of disciplines, and to adopt a plurality of approaches to understand a given phenomenon. For an enabling curriculum, it recommends to have certain themes that facilitate interdisciplinary thinking, so that learners are able to see the interconnections between various aspects of society. The draft paper mentions that themes should be culturally relevant, and concepts should be introduced bearing in mind the age of the child. It also expresses a need to select such themes where different disciplinary approach can facilitate an in-depth and multiple understanding. However, it accepts that all themes cannot be discussed in an interdisciplinary manner. So a careful selection of a few themes needs to be

made, as well as having separate chapters relating to different disciplines. In view of these issues, there is also a need to look into important concerns regarding the approach on number of textbooks at each stage and scope and sequence of organization of content. In this regard another important thing is, to consider the actual time available to teachers, for transaction in a school year.

There is need for schools to prepare their timetables thoughtfully and effectively. Along with books, children are required to carry their sports and other equipment with them. So if schools provide lockers children can leave sports equipment, and some books and notebooks in school itself. The school should inform students in advance which books will be needed and which can be left at home and also teach the child to put down the bag when waiting at the bus stop, in the assembly, and to use both straps of the bag, etc. Some schools have already adopted ways to reduce the weight of school bags. There are schools, which don't send all the books back home but send only those books, which the students are required to study at home. In some other school, children are required to carry only white sheets to take notes. They file them in the subject wise files kept at home. There are a few other schools where lockers have been set up. It is high time to look at this issue seriously and find a common solution.

Apart from the above-mentioned suggestions some more solutions for this backbreaking burden can be:

- Using loose sheets for homework.
- Individual lockers for students in school.
- Class work notebooks to be kept in school.
- Consecutive periods for one subject.

To follow NCERT homework guidelines (NCF, 2005), these are:

Primary School: No homework up to Class II and two hours a week from Class III. Middle School: One hour a day (about five to six hours a week). Secondary and Higher Secondary School: Two hours a day (about 10 to 12 hours a week). Teachers need to work together to plan and rationalise the amount of homework that they give children. (p.96)

In essence, the school, which promotes healthy living, is one, which integrates teaching and learning with action directed towards improving the environment of the school. Parents should also liaison with schools in adopting measures, which alleviate the problem of load. They should purchase school bags, which are easy to carry and light in weight and encourage their children to carry their bags correctly and to forbid them from carrying unnecessary items.

While investigating possible solutions to the problem of heavy school bags, the potential impact of the major changes in information handling which are having an increasing impact on the learning environment in both schools and society can also be taken into consideration. In response to the challenges presented by the emerging global information society the Government of India launched a major initiative, ICT at schools in 2004, which sets forth a national strategy for integrating information and communication technologies into education (MHRD, 2004). Many students are already familiar with these technologies both at home and in school and as the objectives of the ICT at schools are achieved, students, teachers and parents will increasingly be exposed to a learning environment where information can be stored, retrieved and handed electronically. In this context it is reasonable to assume that computer work-stations, with networking facilities and multi-user capacity, can complement 'chalk and talk' in interactive learning and involve a diminished need to have access to hard copy information and for students' individual sets of school books. Students can use email facilities to link home and school, allowing the concept of 'homework' to continue to exist, but with less need for hard-copy reference material as in current textbooks. School textbooks can be made available in CD-ROM format, accessible through multi-media computers. It is likely, therefore, that the integration of information and communication technologies into learning and teaching may have some impact on this issue in the medium to long run.

Overall this issue is a vital topic to be addressed by all those concerned with children's health and well-being. If preventative measures and good practices can be introduced now with regard to school bags, it will not only help to protect children through their vulnerable growth spurts but will ensure that the high standards that they have experienced in their school-going years will be carried through to the workplace and elsewhere as adults.

CONCLUSIONS

As is clear from the deliberations above a number of factors contribute to the increased burden and weight which children carry to school each day. The curriculum development including its implementation and evaluation is a multi-dimensional phenomenon. Therefore, any discussion on the question of curriculum load has to encompass all aspects of the total endeavour made under the name of curriculum development and transaction. But whatever pedagogical interventions we are making to ensure 'quality learning' we need not forget the 'load of school bag' that children carry from home to school and back to home every day. We can't just think of addressing one dimension in isolation. There is a need to forge partnerships among curriculum

developers, school functionaries, parents and other stakeholders in this regard. Concerted efforts are required at all levels since isolated efforts do not bring the desired results. There is an urgent need to enact legislation for the whole of the country to save the children from carrying heavy loads on their back. The integration of ICT into education may significantly impact the problem of heavy school bags. However, in the meantime, it is necessary to consider potential strategies to alleviate the problem to whatever degree is possible.

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