

Schoolbags weight carriage in the context of the Algerian primary school reforms

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Abstract:

The Algerian educational reforms are intended to establish a renovated educational system. The reforms cover all the levels of education from primary school to universities. The aim set at modernizing the educational syllabuses, improving the school textbook and promoting the quality of education in general. In primary schools, the reforms have shrunken the six levels used in primary schools to five levels. Courses have been introduced with their correspondent textbooks and notebooks. Recently, parents presented allegations about the observed heavy weight of schoolbags. Doctors, journalists and teachers have been also presenting their worries about this issue. This study investigated the weight of schoolbags carried by schoolchildren from the first grade to the fifth grade. Results showed a significant schoolbags weight reaching five Kg carried by schoolchildren from the first grade. The educational reform while has focused on the content of the teaching programs seems to neglect the overloaded schoolbags and ignored their effect on the quality of children health.

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1. Introduction

Even tough studies have been focussing in studying schoolbags in many areas throughout the world, it is noticed that such studies are very limited if not absent in the case of Algeria. However, some reports have traced the subject by newspapers and health organisation. They usually bring the attention of the existing problem of schoolbag weight. For this reason, it is of importance to tackle this subject by other means than the media and speculation. The ongoing educational reform is meant to modernize the education system, meanwhile the process revised to improve textbooks content. It was active providing learning resources, but in the process of this change problems emerge. Schoolbags weight is largely considered by parents and schoolchildren as one of the difficulties which emerged and rest considered not as priority. To clarify this question, the need to conduct such study seems to be essential in order to provide some evidences related to the matter.

2. The Algerian reform in primary school:

The Algerian educational reforms are intended to establish a renovated educational system. The reforms cover all levels of education from primary school to universities. The aim set at modernizing the educational syllabuses, improving the school textbook and promoting the quality of education in general.

The Ministry of Education had delivered until

January 2008, 177 millions of textbooks during the precedent four years of educational reform. These textbooks covered the number of pupils who are estimated to reach around 7 millions each year. One can conclude from this official data that the estimation of the number of textbooks for each student is about 7 textbooks.

In primary schools the number of pupils is estimated around 4 millions. However, it is declared that the overall covering of the textbooks needs will be met the year 2009-2010.

In primary schools, the reforms have shrunken the six levels used in primary schools to five levels. Courses have been introduced with their correspondent textbooks and notebooks. If we took as example the fifth level of primary school, there are eight textbooks and 12 notebooks which their number of pages heats 2169 pages. Schoolbags will get fatter when we add other learning objects and probably some patiently lunch known in local language as (Sabera).

Due to the multiple complains concerning the heavy loading programs and the charges, the Ministry of Education had taken the decision to apply this year a new schedule in order to free two days a week as school break. These changes were operated because of the incapacity of pupils to support the heavy programs.

Recently, parents presented allegations about the observed heavy weight of schoolbags. Doctors, journalists and teachers have been also presenting their worries about this issue; others are considering it as a real alarming. The health check out in the first quarter of 2008, had registered among 92486, 182

cases of scoliosis. Another scary number of concern have been given by the Ministry of Health showed that among a sample of 2000 pupils, 25% of them were touched by scoliosis and as a consequence a commission of the early detection of sickness was installed (Nawal. B, 2008).

We have to note that the Algerian educational system is centralized in terms of provided programs. Even the private institutions are asked to apply with the official programs, that means all pupils in primary schools, whose number exceeds 4 millions, are enrolled in the same conditions with regard to programs and what goes with it namely text books notebooks and other learning objects.

1. Theoretical background

It has been noted by Kinoshita that throughout history men and women of all ages have carried goods, food, supplies and arms for the purpose of survival. Today, despite many technological advances, this basic form of man-powered transportation remains an indispensable resource for many occupational tasks and activities of daily life (Gemma C, Sara D, 1996).

The literature seems to agree with the Voll and Klimt's (1977) recommendation that schoolbag weight correspond to 10% of the body.

Whittfield J., Legg S. J. and Hedderley D. I (2005) reported several studies that suggested the existence of relationship between schoolbags weight and back pain and musculoskeletal symptoms. The weight of schoolbags related to body weight was investigated in these studies and reported a relative difference. The percentage varied from 10 % to 22 %. The Italian

schoolchildren schoolbag weight was higher than their British counterparts.

Parang Mehta (2009) advocated that carrying a backpack weighing 15% of body weight makes a child or adolescent unable to maintain proper standing posture. Children could get into bad habits like poor posture and slouching. Many symptoms were reported to be a result of heavy schoolbags or inappropriate holding. It could manifest in neck, shoulders and back symptoms.

2. Goals of the present study:

Although the literature showed an important numbers of studies tackling schoolbags effect, at the local level these kinds of studies are very limited. The need to give a particular concern to this issue in Algerian schools seems to be pertinent.

Thus, the objective of this study is to understand the problem of schoolbags weight in the context of Algerian educational reform. How parents live this issue with their children what is their appraisal? How pupils feel about schoolbags

This study aims to measure the weight of primary school schoolbags, to determine their effect on their carriers.

3. Method:

In order to meet the objectives of the study, two methodological tools have been considered. The first one dealt with weighting schoolbags and pupils body and the second was oriented to questioning parents and their children about carrying schoolbags.

5. 1 Research instruments:

The method used in this study aimed to take the weight of schoolbags at schools and the weight of student's body. In the same time a questionnaire was developed in order to gather information from pupils, their parents and their teachers.

9 items concerned parents, 2 items for teachers and 10 items for pupils. The items assessed their perceptions about the weight of schoolbags and its effects on student's health and their overall enrollment. The answer to the items is fixed by Yes or No.

The questionnaire was used to gain information about the effect of schoolbags on schoolchildren. It contains three groups of items. These groups concerned parents, teachers and pupils as follows:

Pupils

I feel back pain when I carry my schoolbag

I can carry my schoolbag during the year

I feel a real difference when I took out some stuff from my schoolbag.

I feel that my schoolbag is heavy even when the distance is limited.

I feel really tired when I get school.

The weight of my schoolbag makes me exhausted.

I feel comfortable while I am carrying my schoolbag.

I use back schoolbag.

Parents

My child is not comfortable carrying schoolbag.

The program is charged with textbooks and notebooks.

Schoolbag weight is not adaptable with my son physical capabilities.

My child complains from back ache.

My child is checking his pain with a Doctor.

Teachers

I consider the schoolbags weight is alarming.

We let pupils leave some of their materials in classroom

5. 2 Sample

Fifty schoolchildren were selected randomly from a public school in the area of Oran city. Ten pupils' males and females represented each of the five levels of primary school. The questionnaire was administered to three groups (50 pupils, 50 parents and 10 teachers).

1. Results:

6. 1 Schoolbags weight:

The age of the 1st year level of primary school is formally six years old; their average body weight is 20. 15 Kg. The percentage of their schoolbags weight with regard to their body weight (BW) varies from 17. 14 % to 26. 62%. The result shows also that the average load of schoolbags is 4. 30 Kg. When comparing this data with the second level schoolchildren, it can be observed that the weight of schoolbags is less than schoolchildren enrolling in the first year. While it seems logical to expect that schoolbags tend to gain weight from the first grade to the upper grades during schoolchildren's enrollment, the result shows us the contrary.

Table 1 Schoolchildren 1st year of primary school

Pupis	Pupils length	BW KG	SW (KG)	Percentage of schoolbags
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It is of concern to find that at this earlier age schoolchildren carries such load which show a difficult reasoning to grasp. Manifestly this suggested many difficulties in terms of health consequences.

Table 2
Schoolchildren 2d year of primary school

Pupis	Pupils length Meter	BW KG	SW (KG)		Percentage of schoolbags According to BW	
			1st	2d		
1	1.30	32	3.5	3	10, 94	9, 38
2	1.23	22	3	3	13, 64	13, 64
3	1.25	26	3.5	4	13, 46	15, 38
4	1.17	25	4	3.5	16, 00	14, 00
5	1.18	23	4	4	17, 39	17, 39
6	1.32	32	3.5	4	10, 94	12, 50
7	1.23	23.5	4	3	17, 02	12, 77
8	1.34	30	4	4	13, 33	13, 33
9	1.25	29	3.5	4	12, 07	13, 79
10	1.23	25	4.5	5	18, 00	20, 00
Mean	1.37	26.75	3.75	3.75	14, 02	14, 02

			1st	2d		
1	1. 20	21	4	4. 5	19, 05	21, 43
2	1. 16	19	4. 5	5	23, 68	26, 32
3	1. 17	19	4	5	21, 05	26, 32
4	1. 25	26	4. 5	4. 5	17, 31	17, 31
5	1. 12	18. 5	4. 5	4	24, 32	21, 62
6	1. 17	19	4	3. 5	21, 05	18, 42
7	1. 22	20	4	4. 5	20, 00	22, 50
8	1. 18	20	4. 5	5	22, 50	25, 00
9	1. 15	18	4	3	22, 22	16, 67
10	1. 17	21	4. 5	4. 5	21, 43	21, 43
Mean	1. 17	20. 15	4. 25	4. 35	21, 09	21, 59

The second level of elementary school showed a percentage varying from 09. 38% to 20%. This is slightly lower than the first level. The mean of the two treatments is 14. 02%. The mean of schoolbags weight is 3. 75 Kg.

Table 3
Schoolchildren 3d year of primary school

Pupis	Pupils Length Meter	BW KG	SW (KG)		Percentage of schoolbags According to BW	
			1st	2d		
1	1. 35	33	4. 5	5	13, 64	15, 15
2	1. 28	25	4	5	16, 00	20, 00
3	1. 27	29	4	4	13, 79	13, 79
4	1. 26	29	3. 5	3. 5	12, 07	12, 07
5	1. 22	28. 5	3. 5	3. 5	12, 28	12, 28
6	1. 21	25	4	4	16, 00	16, 00
7	1. 19	22	3. 5	4	15, 91	18, 18
8	1. 30	25	4. 5	4	18, 00	16, 00
9	1. 22	24. 5	4. 5	4	18, 37	16, 33
10	1. 43	36	4	4	11, 11	11, 11
Mean	1. 27	27. 7	4. 4	4. 1	15, 88	14, 80

Table 4
School children in 4th year of primary school

Pupis	Pupils length Meter	BW KG	SW (KG)		Percentage of schoolbags According to BW	
			1st	2d		
1	1.24	32	4.5	4.5	14, 06	14, 06
2	1.55	43	4.5	5	10, 47	11, 63
3	1.43	42	4.5	5	10, 71	11, 90
4	1.49	30	4.5	4.5	15, 00	15, 00
5	1.46	28	3.5	4.5	12, 50	16, 07
6	1.57	28	5	5	17, 86	17, 86
7	1.45	31	4	4	12, 90	12, 90
8	1.32	25	4	4.5	16, 00	18, 00
9	1.45	26	4.5	4.5	17, 31	17, 31
10	1.54	44	5	4	11, 36	9, 09
Mean	1.45	28.6	4.4	4.55	15, 38	15, 91

Table 4 shows pupils enrolled in the fourth level with a mean of SW (4.43 Kg) which is the highest mean across all the five levels of primary school. This load of schoolbag weight is 15.64 % of the body weight.

Table 5
School children 5th year of primary school

Pupils	Pupils length Meter	BW KG	SW (KG)		Percentage of schoolbags According to body weight	
			1st	2d		
1	1.40	29	5	5.5	17, 24	18, 97
2	1.51	53	4.5	5	8, 49	9, 43
3	1.42	31	4	4.5	12, 90	14, 52
4	1.35	32	4.5	5.5	14, 06	17, 19
5	1.35	34	4.5	4.5	13, 24	13, 24
6	1.41	58	4.5	4	7, 76	6, 90
7	1.38	35	3.5	4	10, 00	11, 43
8	1.33	30	4	4	13, 33	13, 33
9	1.36	50	4.5	4	9, 00	8, 00
10	1.50	35	4	4	11, 43	11, 43
Mean	1.40	38.7	4.3	4.5	11, 11	11, 63

The forth level and the fifth level were slightly close to each other, with more than 4Kg of schoolbag weight. Even though the schoolbags weight is merely similar, but when we examine the percentage related to their body there is a wide distribution in ranging from 7.76 % to 18.97 %. This might explain the possibility of either the pupils do not have textbooks or their left them at home.

7. Parent, teachers and schoolchildren perceptions:

Schoolchildren manifested a high percentage (86%) who felt pain attributable to carrying overloaded schoolbags. Even when it is a small distance, 74% of pupils found schoolbags heavy and 76% felt tired when they arrive at school. 44 % of pupils believe to

be exhausted getting school. On the other hand, 26% of pupils get help from their parents.

Table 6

Student's appraisal of schoolbags carrying: or from their relatives to hold for them schoolbag. Concerning the type of schoolbags used the majority (80%) is those hold on the back. 20% used bags with wheels on the bottom but the accidental road makes the rolling difficult.

Items fill out by pupils	Yes %	No %
I feel back pain when I carry my schoolbag	86	14
I can carry my schoolbag during the year.	78	22
I feel that my schoolbag is heavy even when the distance is limited.	74	26
I feel really tired when I get at school.	76	24
The weight of my schoolbag makes me exhausted.	44	56

I get assistance from somebody to carry my schoolbag	26	74
I use a back schoolbag.	80	20
I am used to carry my schoolbags	32	68

Table 7

Parent's appraisal of schoolbags carrying: or from their relatives to hold for them schoolbag. Concerning the type of schoolbags used the majority (80%) is those hold on the back. 20% used bags with wheels on the bottom but the accidental road makes the rolling difficult.

Items fill out by Parents	Yes	No
My child is not comfortable carrying schoolbag.	74	26
The program is charged with textbooks and notebooks.	91. 8	8. 2
Schoolbag weight is not adaptable with my son physical	81. 3	18. 8

capabilities.		
My child complains from back ache.	46.8	53.2
My child is checking his pain with a Doctor.	9.8	90.2

With regard to parent's observations, 74% of them declared that their children were not comfortable with carrying schoolbags and 91.8% found the program heavy. Less than half of parents affirmed that their children claim a back pain, and 9.8% of these children saw a doctor.

Table 8
Teacher's appraisal of schoolbags carrying:

Items fill out by teachers	Yes	No
I consider the schoolbags weight is alarming.	100	00
We let pupils leave some of their materials in classroom.	25	75

We have to note that all teachers unanimously viewed schoolbags weight as alarming, and only 25% of them let pupils leave their textbooks in class. It is known that this procedure is rooted in the policy of the school itself and not the teacher.

7. Discussion:

As was stated earlier, the means SW of the five levels of primary school varies from 3.75 Kg to 4.43 Kg. It is observed that the SW could get a weight of 5 Kg in almost all five levels. What is striking is the load of the first level, which turned around 4 and 5 Kg. knowing that the skeleton schoolchildren of this age is still in the phase of development and shaping. The risk for them to get a health problem is to be higher and unfortunate.

Taking the results as whole the percentage of SW of body weight is considered as higher than their counterparts pupils in Italy or in Britain.

Besides this measures which illustrate and give us a real picture of how schoolchildren are being used almost as “porters”. Some schools, however, operate by letting their materials in class but they are very limited because of the lack of lockers in class. This issue of providing lockers was raised by the Ministry of Education as an option of solution, but it is still not largely applied. It is really of concern to imagine the damage of such act if the children have to carry schoolbags if they live far away from their school.

This was illustrated by the high percentage of schoolchildren who felt exhausted when they get school. The consequences would be reflected in class and the exhausted children tend to pay less attention.

The educational reform appears to bypass this parameter, and merely focussing on the developing the tissue of programs. The problem of schoolbags is usually raised by the media, and the reaction of the

educational officials perceived as a pure technical problem which could be resolved by providing lockers. But, if the textbooks are left in class, does this option deprive schoolchildren from home work? Are they save by leaving them in class? One principle finds a 'clever decision' when he ordered schoolchildren to carry their schoolbags even in time break in order to ensure their materials from stealing.

Time table actually is operating by requesting the presence of all textbooks. It should be reviewed to allege them. Due to some errors reported in textbooks, it is suggested by the Ministry of education to constitute a national institution to review programs and textbooks. It is recommended to open the problem of schoolbags in its agenda. Health and safety are of paramount importance for children. Legislation has also to follow up with bill that regulates the schoolbag weight.

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