Is Grade Repetition Always Wasteful? New Data and Unanswered Questions

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The BRIDGES Group includes educators, researchers, planners and policymakers committed to improving opportunity and quality in Third World schools. The goal of their collaborative effort is to identify policy options that will increase children's access to schooling, reduce the frequency of early school leaving and repetition, improve the amount and quality of what is learned, and optimize the use of fiscal and educational resources.

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Foreword

The meaning of facts is shaped by their context. This paper is a subtle reminder of the importance of context in the formulation of educational policy. The authors argue that repetition, which is usually seen as inefficient and wasteful, may be desirable in some cases. Although the research on which the paper is based was carried out in a particular environment, the "context" that is at issue here is not the hills and valleys and waters of Burundi, nor even the Burundi culture, but the current status of the Burundi economy, its demography, and the structure and performance of the education system.

In Burundi the government has restricted access to the seventh grade. Only a small percentage of the students who take the seventh grade entrance examination are allowed to pass it. Because of this, many students who do not pass the exam choose to repeat the sixth grade in the hope of passing the following year. There is little else to do. The unit cost to the government for sixth grade students is lower than for seventh grade, and the authors argue that students who repeat sixth grade score higher on achievement tests than those who have had only one year. Since students appear to learn more by repetition, it can be argued that repetition of the sixth grade raises the quality of education these students receive. Certainly the number of sixth grade students each year is increasing, in part because of the success of a prior decision to expand enrollment through double shifts, but also because of increased repetition by students who did not gain access to the seventh grade.

Social scientists have developed research methods that can produce comparable facts across widely divergent social contexts. A prime example in education is the careful work of the people involved in the International Educational Achievement (IEA) studies. The IEA studies are well known for their comparisons of more and less-industrialized countries in terms of student achievement scores. There is now general agreement that the tests applied by the IEA may be comparable in that translations into different languages have not significantly changed the questions posed to students who take the tests. Also, the IEA staff have developed measures of resource inputs and instructional processes that can be replicated across countries.

But comparability in the form of questions and measures is not the same as identity in the meaning of answers to those questions or scores on the measures. Identical answers and scores can vary in meaning for at least two reasons. First, even when the denotative sense of questions or measures is the same in two settings, the connotative sense can vary. We can, for example, all agree on what water is, but its subjective meaning to each of us varies according to unique individual and cultural experiences. Second, not only may connotative meanings differ, but so too may the intentions of the person who uses those answers to decide on action. Even when two people have identical perceptions of reality, their actions in response to it can vary as a result of either past experiences or current circumstances.

This paper is a subtle reminder of the importance of context in the formulation of educational policy.

The authors are suggesting that this is the case in Burundi. What others have called evidence of *in*efficiency in the system can, in Burundi, be seen as desirable. Repetition is the result of reform success and it works well to increase learning. This is not to be interpreted as a call to abandon the concept of *efficiency*. Nor do the authors recommend high repetition rates as a goal for an education system. On the contrary, they see repetition as an indicator of a problem to be overcome.

What is at issue is *why* repetition occurs, and therefore which policy is most appropriate for overcoming it, or, conversely, for encouraging it until the situation that causes repetition can be changed. In distinction to other countries, where repetition is more often a reflection of low quality instruction in lower grades, repetition in Burundi *in the sixth grade* is a reflection of the barrier imposed to further education. One can infer that improvements to quality in the primary schools of Burundi would have little or no effect on repetition in the sixth grade. What will reduce repetition is increasing access to secondary school.

The significance of this paper for the BRIDGES *Research Report Series* is in its attention to the education system and the way it operates within a larger environment. The development of effective policies to improve access to and the quality of education depends on understanding the interaction between the many factors within that environment. Above all, effective policies depend on clarity about the goals we hold for our systems.

Noel F. McGinn
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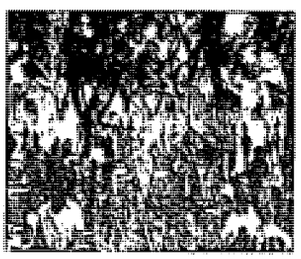

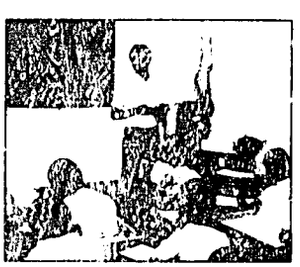

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Executive Summary

The prevailing view of grade repetition in primary school is that it is wasteful and should be minimized. According to this view, repetition is costly, has negligible positive effects on learning and is demoralizing to the repeaters. This view is heavily influenced by studies from North America and Europe. There has been little empirical research on the nature and effects of repetition in developing countries.

The Burundian data reported here constitute a challenge to such over-generalization and therefore indicate the need for similar research in other countries. In developing countries, the concept of educational efficiency has typically been operationalized without taking into account how much children have or have not learned. Data on rural sixth graders in Burundi show that repeaters have learned substantially more than nonrepeaters.

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Burundi has high repetition rates in part because it has a highly selective secondary school system. All sixth graders are permitted to take the national secondary school entrance examination and nearly all do so, but only 10% are allowed to pass, producing a secondary school enrollment ratio of perhaps 4%.

The data on which this report is based were collected in Burundi between March and May 1989 from a rural sample of sixth grade students, teachers and principals. Tests were developed in reading comprehension, written composition, mathematics, science, and agriculture. A subsample of students took these tests in French while the rest took the tests in Kirundi, the national language. Both languages are used in primary school.

The differences in mean scores on these tests between repeaters and nonrepeaters in sixth grade were large and statistically significant. Repeaters did better on all the tests. The differences were largest for the most school-based tests, that is, when the knowledge being tested was most likely to have been learned in school.

As one would expect from a system in which there is much repetition, there was great variation in ages. Analyses to disentangle the effects of age (viewed as representing maturity) and repetition showed that the repetition effects were still strong even when adjusted for age.

These results run against the grain of much that has been written about repetition. The following issues are important to consider:

- **What is special about sixth grade repeaters in Burundi?** Many Burundi repeaters at the sixth grade level are well-motivated and scholastically capable children who are taking extra time to prepare for the very selective secondary school entrance examination. These children are being held back, not because they lack the knowledge and skill to succeed at the next level of schooling, but because the country has not had the resources to expand the secondary school system to allow such students to continue. This phenomenon is not limited to Burundi. Capable repeaters preparing for external examinations are common in other countries as well.

- **Specifying the positive and negative effects of repetition.** Many repeaters would be better off if they went directly to secondary school. But if secondary schools are not expanded sufficiently to accommodate all the sixth grade repeaters, one has to consider other options. More precise studies are needed to estimate the incremental learn-

ing that results from each year of repetition (as well as to see whether such effects are larger or smaller than for relevant comparison groups). Then it would be possible to assess whether such benefits warrant the great cost of repetition. It appears that approximately half the resources devoted to sixth grade education in Burundi is spent on repeaters.

The need for concomitant changes. Reducing repetition makes sense only if considered in conjunction with other changes that will increase learning or at least ensure the same level of learning outcomes at less cost. Among the changes that might be considered are changes in the secondary school entrance examination and/or access to secondary school, changes in the double shift system, changes in the curriculum, and changes in teacher qualification and practice. Examination of these alternatives reveals that they could be difficult or undesirable to implement.

Discussion of repetition is meaningful only in the context of the choices open to those faced with it. This does not mean that repetition is so context-specific that no cross-national generalization is possible, but it does mean that research should take more account of variation in repetition and its effects. Repetition rates can be seen as the combined effect of student characteristics, school characteristics and national policies. Such a model avoids the problem of drawing conclusions about educational efficiency in the absence of information about learning (as well as other relevant variables). While it may indeed be more efficient for students to spend one rather than two years in sixth grade, this question should not be answered without information on how much repeaters and nonrepeaters learn under present circumstances, as well as how much they would be likely to learn under alternative arrangements if the repetition rate were reduced.

Section I: Introduction

The prevailing view of grade repetition in primary school in developing countries is that it is wasteful and should be minimized. This view assumes that repetition is costly, has negligible positive effects on learning and is demoralizing to the repeaters. Of its costliness there is no doubt: repetition increases the average number of years that students take to complete primary school. The World Bank (1988) report on education in Sub-Saharan Africa provides a table which includes the cost per completer as a multiple of the cost that would be incurred if there were no repetition or dropout.

The perception that repetition is undesirable has figured prominently in the literature for several decades. For example, Haddad in his 1979 World Bank report on the *Educational and Economic Effects of Promotion and Repetition Practices* states that "repetition is considered as wasteful since repeaters stay in school longer than the normal duration and thus reduce the intake capacity of the corresponding grades and increase the unit costs" (p. 1). He cites studies from the 1960s in support of the contention that repetition contributes more to wastage than dropout does. Recently, the background document prepared for the 1990 World Conference on Education for All claims that "the achievement gains from repetition are minor, rarely cost-effective and often promote lower self-esteem and an increased propensity to drop out" (Haddad et al., 1990, p. 61).

But to our knowledge, although repetition is clearly costly, there is much less solid evidence on its effectiveness or lack thereof in developing countries. A UNESCO (1984) report on wastage, after asserting that repetition raises the cost of education, admits that "this definition of wastage is somewhat limited, since it does not take into account the gains made by a pupil before dropping out, or the advantage which [he/she] may derive from repetition of a grade" (p. 347). Spratt (1988), after a review of the literature, concludes that "in developing countries, where a policy of widespread grade repetition is often in practice, empirical examinations of its pedagogical (or even economic) practicality are virtually nonexistent" (p. 89). Our own search, too, has turned up very little in the way of empirical research on the nature and effects of repetition in developing countries, although it is difficult to know whether or not there are relevant theses in the libraries of Third World universities that have been overlooked.

...discussion of repetition in developing countries has been overly influenced by the study of repetition in industrialized countries.

As a result, discussion of repetition in developing countries has been overly influenced by the study of repetition in industrialized countries. For example, in a section on the effects of promotion practices on achievement, Haddad (1979) cites numerous studies and follows the lead of other reviewers in claiming that research does not support the contention that repetition has positive effects on achievement. But most of the studies are from industrialized countries, and the ones from developing countries do not adequately answer the question of whether students do better if retained than they would if promoted. (To be sure, it is difficult to find studies anywhere that meet this criterion.)

Although educational research is fully capable of providing data which illuminate, the literature suggests that researchers and funding agencies have been remiss in allowing somewhat misleading generalizations to stand without sufficient empirical testing, qualification and elaboration. This state of affairs is clearly revealed in the 1988 World Bank report in which the advantages and disadvantages of repetition are presented as matters of *belief* rather than as matters elucidated by empirical inquiry; the

report does not attempt to say where the empirical truth lies:

> The extent to which repetition should be regarded as waste is a controversial point. The proponents of repetition claim that it is useful in that it remedies inadequate achievement and helps pupils who are emotionally and intellectually immature when they enter school. Critics of repetition claim that achievement depends principally on nonschool factors, that valid tests cannot be developed to separate failures from those who are promoted, that repetition does not improve the achievement of slow learners, and that repetition, by calling attention to the repeaters' poor performance, hurts their self-image and their prospects for future success.... Critics of repetition propose that pupils be promoted automatically from one grade to the next. The proponents of repetition oppose this policy on the grounds that it lowers academic standards, destroys pupils' incentive to learn and teachers' incentive to teach, and creates pedagogical problems by increasing the ability range within the classroom (p. 50).

Thus, the literature reveals not knowledge, but ignorance of some of the basic realities of educational systems. Many of the basic statistics needed to make sense of repetition are lacking or not readily available. This is the case in many countries, both developed and developing. Overgeneralized conclusions have been drawn in the absence of knowledge about who repeaters are and how they vary by context as well as about what they learn under varying conditions. To be sure, the cost of education can be reduced by reducing repetition rates. But what would happen to the overall stock of learning in such a case? If repetition were reduced, would more students go on to a higher level of education (as might be hoped or assumed), or would more students stop their education upon completion of the level in question, or even drop out before completing this level?

Preliminary analyses of this issue in our Burundian research constitute enough of a challenge to preconceived notions to indicate the great need for more empirical research on the nature of grade repetition in developing countries and its consequences. Spratt (1988) likewise calls for more study to explain why the costly practice of repetition persists in countries where resources are very tight. This is not to say that repetition is generally beneficial but simply to argue that we have to know more about its effects in specific settings before good policy can be made.

Section II: Access to Education in Burundi

To understand repetition in Burundi, it is necessary to understand something about the structure of the educational system. After independence in 1962, Burundi, unlike most African countries, was slow to expand primary education. It was only in 1982 that the government began to move swiftly toward universal primary schooling. Since additional funds were not available to expand the system at the desired rate, a policy of double shifts was combined with a policy of collective (i.e., nearly automatic) promotion to increase enrollments dramatically—by 256% in the period 1980-81 to 1986-87. By 1987-88 the primary school enrollment rate had reached a reported 70%, up from 28% only six years earlier (Ziarati, 1989).

The reason for this high repetition rate... lies largely in the difficulties of obtaining access to secondary school.

Of the two policies, it was the double shifts that were by far more important in explaining this growth. In Burundi this policy means that each teacher is typically expected to teach two groups of children, one in the morning and one in the afternoon. Total teaching loads can therefore easily reach 80-100 students per teacher. Double shifts are now nearly universal throughout the country. In fact, they have become so much the norm that in the few schools that do not have enough students to justify double shifts, the students are required to follow the normal half-day schedule instead of a full-day schedule so that they will not have an advantage over students in double-shift schools.

In contrast, the policy of collective promotion was much harder to implement. Even though the policy never went so far as to call for automatic promotion, repetition rates still remained much higher than the average 10% (plus 5% dropout) targeted by the policy. In grades 1-5, school directors have been authorized to allow repetition only for students whose end-of-year grades do not exceed a certain minimum (40%), whereas at the end of sixth grade, repetition is authorized for better students who are thought deserving of additional tries at the secondary school entrance examination. But students are not given unique identification numbers when entering school, and as a result, repetition cannot be easily monitored. If refused permission to repeat, students may simply enroll in another school.

In 1988-89, the year of our survey, national repetition rates were reported by grade as follows:

First grade - 18.7%
Second grade - 17.5%
Third grade - 19.1%
Fourth grade - 24.0%
Fifth grade - 37.8%
Sixth grade - 51.4%

The overall rate was 25.7% (Proceedings, 1989). The sixth grade rate had risen substantially from 43.5% a year earlier (statistics provided by the Ministry of Primary and Secondary Education). These official figures are similar to our own data. The Ministry figure reported for sixth grade in 1988-89 is close to the figure of 55% self-reported by students in our sample of rural schools. In addition, 50% of the students in our sample reported having repeated previous grades; only 20% of this sample had never repeated.

The reason for this high repetition rate and the failure to implement the collective promotion policy lies largely in the difficulties of obtaining access to secondary school. Burundi resembles many other African countries in having a highly selective secon-

dary school system. All sixth graders are permitted to take the national secondary school entrance examination and nearly all do so, but only 10% are allowed to pass, producing a secondary school enrollment ratio of perhaps 4% (World Bank, 1988). The examination consists of tests in mathematics, French, Kirundi, and integrated science-social studies (mathematics and French account for 80% of the overall grade). The number of passes is predetermined as a function, not of student competence, but of the number of openings in secondary schools.

In theory, the administrators and teachers of primary school have little to do with this examination. Primary school teachers do not participate in the marking; this is done by secondary school teachers. Nor, until 1989, were individual scores announced. Students could find out only whether they passed or failed. There was no way to know whether examinations had been fairly graded, and suspicions that there was tampering with test scores were widespread. (These concerns have been addressed by the current government which has made the examination process more "transparent".) Thus, it was difficult for students, teachers and parents to assess the future chances of students who had failed once. Nevertheless, although published statistics are not available, it was said that in 1989 over half the students passing the examination were sixth grade repeaters.

Section III: Burundi Study Design

Although the findings concerning repetition are among the most interesting of our study of Burundian primary education, this survey was never designed to focus solely, or even mainly on issues of repetition.[1] Thus, the purpose of this paper is not to test an *a priori* model of the determinants and effects of grade repetition, but rather to suggest what should be addressed in such a model. Some questions which were needed for a more in-depth analysis of repetition were not asked. For example, students were asked whether they had repeated previous grades, but not which grades or how many grades.

Sampling

Data for this study were collected in March-May 1989 from a rural probability sample of sixth grade students, teachers and principals. Of the 31 school cantons in the country, three were excluded from the target population as predominantly urban, two were excluded because they were still disrupted from recent ethnic violence, and five were excluded because

Data... were collected in March-May 1989 from a rural probability sample of sixth grade students, teachers and principals.

they contained too many inaccessible schools. It seemed preferable from the start to exclude the latter five cantons from the target population rather than to draw a probability sample which could not be surveyed without undue replacement. In 1987-88, according to unpublished Ministry documents used for sampling, these excluded cantons accounted for 18,480 of the 64,910 sixth graders in the country.

From the remaining 21 cantons a multistage cluster sample was drawn by probability methods. In the first stage, eight cantons were selected from a list of cantons stratified by region with probability proportionate to size of the sixth grade population. In the second stage, from each of the eight cantons, three directorships (i.e., school clusters) were drawn with probability proportionate to size from a list of directorships, stratified by the sixth grade repetition rate in the core school. Within each directorship, in order to be able to contrast core and satellite schools, one core class and one satellite class were selected (except for five directorships where there was no satellite school). A total of 47 classes and 24 directorships were selected. All students in the sampled classes were tested, 1,896 in all. In the analyses of student data reported below (unless otherwise indicated), weights have been used to compensate for the fact that the sampling was not self-weighting in the final stage.

The sample was executed virtually according to plan. The only deviation was that in one sampled directorship a satellite school which turned out not to belong to this directorship was replaced by another school in the sampled directorship.[2]

Development of Instruments

We developed tests in reading comprehension, written composition, mathematics, science, and agriculture. Since we wanted to compare performance for different languages of assessment, the tests were initially prepared in English and then translated into both French and Kirundi, the mother tongue of Burundi. In the case of the French comprehension tests, two versions were developed. One employed standard French vocabulary, similar to the vocabulary contained in the teachers' guides from the Ministry of Primary and Secondary Education in Burundi. The other was a simplified French more equivalent to a back translation of the Kirundi version. The comprehension tests dealt with the filtration of water and the construction of a water filter from ordinary household materials. The Ministry has promoted such filters in its efforts to improve health instruction. The comprehension tasks asked students to locate and recall information as well as make inferences from text propositions or prior knowledge. These comprehension tasks were constructed in the multiple choice format used for the national secondary school entrance examination.

Although students are not required to produce a written composition on this entrance examination, for our study it was considered particularly important to assess student capabilities in this domain and to see if, as in certain other African countries, such a test should be added to the secondary school entrance examination in the future. Thus, a nine-picture task portraying events surrounding the theft of a woman's purse in a village market was constructed to stimulate production of a narrative composition in French or Kirundi. Three scores (overall quality, coherency of narrative and use of language) were derived, based on ratings by CPF researchers trained for this task. To monitor consistency of ratings, rated compositions were randomly sampled and rerated.

A mathematics test measured computational and problem-solving skills. Four of the 19 questions dealt with operations requiring numerical transformations (for example, representing common fractions as decimal fractions) and required little or no text processing for successful performance. Most, however, were story problems with one or two-step solutions.

Still another 19-item test was developed for science, health and agriculture, which are covered in different parts of the school syllabus. Science and health are taught in *étude du milieu* which also includes geography, history and civics. *Étude du milieu* constitutes one of the four main parts of the national secondary school entrance examination. Other topics on this BRIDGES test are supposed to be taught to Burundian children in the practical subjects of agriculture and home economics, subjects which are not included in the secondary school entrance examination.

Draft versions of the BRIDGES tests were pretested as well as reviewed for curriculum validity by the relevant curriculum development units of the Ministry of Primary and Secondary Education. In all, the tests were combined in five different forms and administered to subsamples in each sampled class. That is, within each tested class, the five forms were distributed in predetermined order to avoid bias in the selection of the subsamples taking each form. This rotation meant that about a quarter of the total sample took each form, except for French reading comprehension which was further subdivided into the standard and simplified versions. Students were given two hours to finish one of the five forms. The executed sample size for each form was as follows:

French comprehension and composition, with standard French text	264
French comprehension and composition, with simplified, colloquial French text	230
Kirundi comprehension and composition	468
French mathematics, science and agriculture	459
Kirundi mathematics, science and agriculture	475

Internal consistency coefficients (Cronbach's alpha) were calculated for each of the achievement tests as follows:

Kirundi mathematics (19 items)	.85
French mathematics (19 items)	.83
Kirundi reading comprehension (15 items)	.71
Simplified French reading comprehension (15 items)	.63
Standard French reading comprehension (15 items)	.62
Kirundi science-agriculture (19 items)	.41
French science-agriculture (19 items)	.32

As one might expect, the science-agriculture tests are much less homogeneous in content than the mathematics tests and therefore show much lower indices of internal consistency. Likewise, when we correlated the item difficulties of the Kirundi version with the corresponding item difficulties of the French version, we found that the correlations were very high for mathematics ($r=.86$, $n=19$, $p<.001$) but only moderate for science-agriculture ($r=.49$, $n=19$, $p<.05$). Nevertheless, earlier analyses using a more recently developed approach to item analysis indicated that the science-agriculture scores were substantially related to underlying ability constructs, though not as well as other measures (see Figure 2 of Eisemon et al. 1990). Any remaining concern for randomness in the student responses to the science-agriculture tests can be allayed by the fact that such randomness does not bias sample means but rather inflates variances and lowers the power of statistical tests. Hence, it is important to note that, in the results discussed below, the science-agriculture tests do give substantively meaningful comparisons that are consistent with the results of the other achievement tests.

In addition to student tests, school director and teacher instruments were administered to analyze the effects of school and teacher characteristics upon student achievement (for description, see Eisemon et al. 1990). In an adaptation of the teacher opportunity-to-learn ratings developed in the IEA cross-national surveys, teachers were asked to indicate for each item in the mathematics and science-agriculture tests whether, in teaching the sampled class, they had covered the content.

Section IV: Results Concerning Repetition

The repetition of grade six had the most impact on the BRIDGES test scores of any of the independent variables examined; repeaters did much better than nonrepeaters. The differences in mean scores were large and significant (Table 1; see also Eisemon et al. 1990, for discussion of other variables).

Table 1: Mean Test Score Differences by Subject-Matter and Language of Assessment: Repeaters (R) Versus Nonrepeaters (N) at Sixth Grade

Test	Mean test scores R	Mean test scores N	F Value
French mathematics (19 items, n=459)	10.4	5.9	132.99*
Kirundi mathematics (19 items, n=475)	9.6	6.0	88.82*
French reading comprehension standard text (15 items, n=264)	6.9	5.0	34.19*
French reading comprehension simplified text (15 items, n=230)	7.7	5.2	49.82*
Kirundi reading comprehension (15 items, n=468)	9.1	6.8	73.56*
French composition: general quality (ratings 0-10, n=474)	3.3	1.1	154.64*
Kirundi composition: general quality (ratings 0-10, n=451)	4.8	3.2	49.71*
French composition: coherence (ratings 0-10, n=474)	2.8	1.0	116.17*
Kirundi composition: coherence (ratings 0-10, n=451)	3.6	2.4	37.20*
French composition: use of language (ratings 0-10, n=474)	3.1	1.0	144.45*
Kirundi composition: use of language (ratings 1-10, n=451)	4.7	3.2	47.35*
French science-agriculture (19 items, n=459)	7.7	6.1	55.26*
Kirundi science-agriculture (19 items, n=475)	9.8	8.9	14.70*

Note: The very slight differences between figures reported here and those reported in earlier documents are due to continued data editing. *p <.001

An examination of Table 1 suggests that the differences are largest for the most school-based tests, that is, the tests in which the knowledge being tested is most likely to be learned in school. From what we know about the subjects, plus what was learned from teacher opportunity-to-learn ratings, one can hypothesize that (a) the learning of French is more school-based than Kirundi; (b) mathematics is more school-based than the language tests; and (c) the latter in turn are more school-based than the science-agriculture tests. For example, teachers reported having taught, on average, the content for 91% of the mathematics items, but only 58% of the science-agriculture items. In Table 2 the tests are listed in this hypothesized order, with the mean achievement test scores expressed as percentages of the maximum possible scores, permitting the calculation of the differences between the percentages for repeaters and nonrepeaters. The percentage difference for the most school-based test (French mathematics) is 23.6 while the difference for the least school-based test (Kirundi test of science-agriculture) is 4.8. As expected, the other tests rank in between.

The case of French written composition is particularly striking. The sixth grade nonrepeaters demonstrate almost no competence, scoring on average only 10% of the maximum possible rating. The repeaters, while still weak, do better, scoring about 30% of the maximum possible score.

The performance of repeaters and nonrepeaters on various kinds of test items was examined (locate, recall and infer tasks on the reading comprehension tests; recall, infer and problem-solving tasks on the science-agriculture tests; and compute, rule, logic, and multistep problems in mathematics). The results (not shown) indicated that repetition was associated with higher performance on all types of tasks on both the French and Kirundi tests. This effect did not vary greatly by type of task.

Students did much better in language and science-agriculture when these tests were administered in Kirundi, the national language, rather than in French. But it should be noted that repetition appears in part to compensate for the language effect on these tests. In other words, on the most school-based

Table 2: Percentage Differences by Subject-Matter and Language of Assessment: Repeaters (R) Versus Nonrepeaters (N) at Sixth Grade

Test	% of Maximum Score R	N	Diff.
French mathematics	54.7%	31.1%	23.6
Kirundi mathematics	50.5%	31.6%	18.9
French reading comprehension standard text	46.0%	33.3%	12.7
Kirundi reading comprehension	60.7%	45.3%	15.4
French composition (average of 3 ratings)	30.9%	10.5%	20.4
Kirundi composition (average of 3 ratings)	43.9%	29.2%	14.7
French science-agriculture	40.5%	32.1%	8.4
Kirundi science-agriculture	51.6%	46.8%	4.8

tests, the repeaters did about the same or better on the French versions as the nonrepeaters did on the Kirundi versions. On Table 1 this can be seen in the comprehension tests (repeaters 6.9 in standard French vs. nonrepeaters 6.8 in Kirundi), and the general quality of the written composition (repeaters 3.3 in French vs. nonrepeaters 3.2 in Kirundi). In mathematics, where there is no overall Kirundi advantage on the tests, the advantage of the repeaters is still greater (repeaters 10.4 in the French vs. nonrepeaters 6.0 in Kirundi). But in science-agriculture, the nonrepeaters did substantially better in Kirundi than the repeaters did in French (8.9 vs. 7.7). Since our observations and opportunity-to-learn ratings indicated that the science-agriculture test represents content less likely to be learned in school, it is not surprising to find that this test is an exception.

The same difference between the more and less school-based tests can be found in examining age differences on the tests. These age findings can be used to compensate in part for the lack of information on how many times students had repeated prior grades. As one would expect from a system in which there is much repetition, there was great variation in ages. Ages in our sample ranged from 11 to 19 years. Table 3 shows the distribution for sixth grade students by age at the national level for three years (1988, 1989 and 1990) as well as for our 1989 sample. Although there are small differences in this marker variable between our sample and the corresponding 1989 national figures, they can readily be explained not only by possible sampling variation and bias in self-report of age, but also and more readily by the exclusion of urban, disrupted and inaccessible regions from the target population for our survey.

Table 3: Total Enrollment for Sixth Grade, by Age at the National Level and in the BRIDGES Sample

Age in Years	National Population 1988	1989	1990	BRIDGES Sample 1989
11	0.0%	0.1%	0.1%	0.4%
12	1.4	1.5	1.6	6.4
13	11.2	11.3	11.4	16.3
14	25.3	24.1	23.2	28.4
15	29.1	29.7	28.6	26.0
16	23.1	21.2	22.5	15.3
17	7.0	10.0	9.9	6.1
18	2.4	1.5	2.5	1.0
19	0.4	0.4	0.3	0.1
20	0.0	0.1	0.1	0.0
Total percent	99.9%	99.9%	100.2%	100.0%
n	63201	71195	83013	1896

Source: National population statistics from unpublished statistics provided by Ministry of Primary and Secondary Education.

Overall, the message conveyed by these statistics is similar. Both in our sample and nationally, about three-quarters of the sixth grade students were 14, 15, or 16 years of age. This is not surprising; for example, age 14 in sixth grade could result from any of the following patterns:

School entry at age 8, no grade repetitions
School entry at age 7, one repetition
School entry at age 6, two repetitions

On average in our sample the sixth grade repeaters were about one year older than the nonrepeaters (14.9 years vs. 13.8).

Table 4 indicates that older students were more successful on the secondary school entrance examination. For the 12, 13 and 14-year olds, the success rate was approximately 5% or less whereas the rate for 15, 16 and 17-year olds jumped to 8, 13 and 17%, respectively. The rates for 18-year olds and older were even higher, but the number of such students taking the test drops off sharply.

Table 4: Sixth Grade Students Passing Secondary School Entrance Exam by Age, 1990

Age in Years	% Passing	Total Number of Examinees
11	14.06%	64
12	5.14%	1,265
13	3.29%	9,178
14	5.29%	18,672
15	8.20%	23,098
16	13.34%	18,152
17	17.44%	7,908
18	18.58%	1,964
19	21.05%	209
20	21.28%	47
21	66.67%	3
22	50.00%	2
	TOTAL	80582

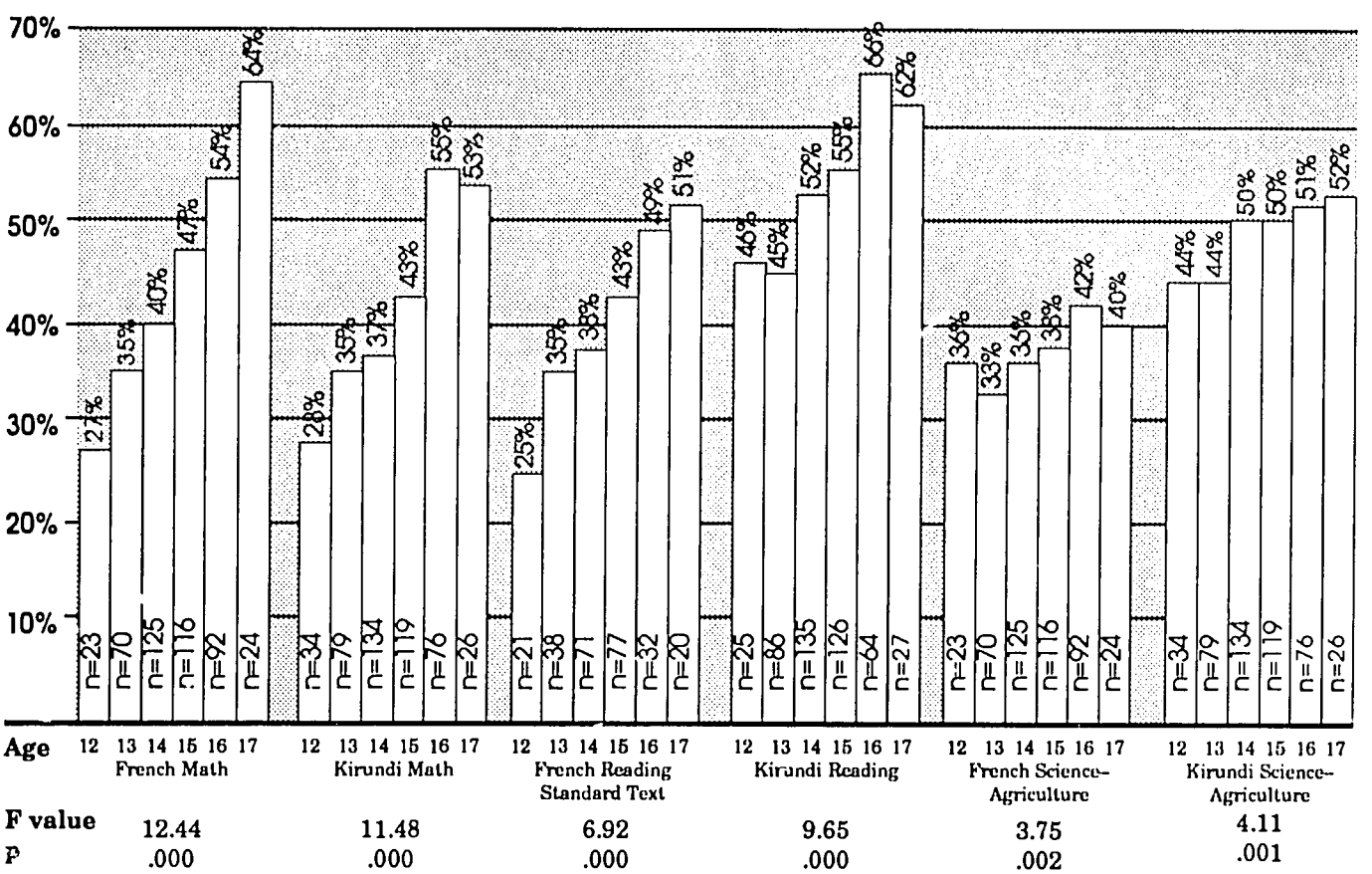
Source: Unpublished statistics provided by Ministry of Primary and Secondary Education.

Figure 1 shows the mean test scores on six tests for students at the various ages in our sample. (There were too few 11, 18 or 19-year olds for separate analysis.) Note that for the most school-based test, the French test of mathematics, there were sizeable increases in test performance with each year's increase in age:

12-year olds, a mean 27% of maximum possible score
13-year olds, 35%
14-year olds, 40%
15-year olds, 47%
16-year olds, 54%
17-year olds, 64%

In contrast, for tests of the least school-based content, the Kirundi test of science-agriculture, the results did not increase with age as much. The 12-year olds scored 44% of the maximum while the 17-year-olds scored 52%. In general, the differences by age are larger for the more school-based tests at the left of the figure than for the less school-based at the right.

Figure 1: Mean Scores (Expressed as % of Maximum Possible Score) by Age and Content-Language of Test



Since the differences are not constant across tests, it appears that something more than simply increasing maturity is at work in these age results. Nevertheless, the results are cross-sectional comparisons which should be interpreted with caution as we explore alternative explanations of the differences. But, so far, we see little indication from these age differences that repeaters in Burundi reach a point where they no longer gain anything from repetition. Diminishing returns could be expected under other circumstances among a group of students who have not been promoted and who might be thought to lack the aptitude necessary to benefit from further instruction.

In order to disentangle the results of age and repetition, analyses of covariance were carried out separately for the various student achievement tests. For these analyses the students were divided into four groups, depending on their self-reported experience with grade repetition. These four groups were: (1) students who reported repeating sixth grade and earlier grades (26.5% of the total sample); (2) students who reported repeating sixth grade but not earlier grades (29.2%); (3) students who reported repeating earlier grade, but not sixth grade (24.3%); and (4) students who reported that they had not repeated at all (19.9%).

Age was used as the covariate in these analyses. To adjust for the effect due to age, a common regression slope for age was used to estimate the average test achievement for each group as shown in Table 5.[3] For example, in the last column on the right of Table 5, for the French test of mathematics, students who reported repeating sixth and earlier grades received an average score of 49.9% on the test, once age had been taken into account. The adjusted means for the other three repetition groups on this test were 56.5%, 34.5% and 29.9% respectively.

Examination of all the columns of Table 5 indicates that repetition does continue to make a difference once age is taken into account. Across all subject matters and languages of assessment, significant differences were consistently found between those who repeated grade six (groups 1 and 2) vs. those who did not repeat grade six (groups 3 and 4). Among those who repeated grade six, those who did not repeat earlier grades (group 2) performed significantly better than those who also had repeated earlier grades (group 1) on five of the seven tests. This latter finding makes sense since those who repeated grade six but not earlier are likely, on average, to be the students of highest aptitude in the sample. The decision to repeat in grade six is more a matter of motivation and academic promise and less a matter of difficulty in school than is repetition in earlier grades. Finally, there were no significant differences for any of the tests between the two groups that had not repeated grade six (groups 3 and 4).

Table 5: Average Achievement by Subject-Matter, Language of Assessment and Grade Repetition Experience (Adjusted for Age and Expressed as Percents of Maximum Possible Scores)

		Science-Agriculture (19 items)		Reading Comprehension (15 items)			Mathematics (19 items)	
	Grade Repetition Experience	Kirundi n=472	French n=455	Standard Kirundi n=465	Simple French n=260	French n=227	Kirundi n=472	French n=455
(1)	Repeated grade 6 and earlier	48.4%	38.9%	56.5%	44.7%	49.3%	44.5%	49.9%
(2)	Repeated grade 6 but not earlier	52.4%	41.8%	61.9%	42.9%	49.0%	51.5%	56.5%
(3)	Repeated earlier but not grade 6	47.2%	32.8%	47.0%	36.5%	36.8%	32.2%	34.5%
(4)	Never repeated	46.8%	32.2%	46.4%	31.8%	36.8%	34.5%	29.9%
Comparisons:								
(1)(2) vs (3)(4)		.017	.000	.000	.000	.000	.000	.000
(1) vs (2)		.014	.042	.027	ns	ns	.010	.015
(3) vs (4)		ns	[illegible]	ns	ns	ns	ns	ns

Section V: Discussion

These results run against the grain of much that has been written, and hence it is tempting to discount them on methodological grounds. For example, one objection that has been raised is that these comparisons are inappropriate because repeaters and nonrepeaters are drawn from such different populations. But in our view the reason for making these comparisons is precisely to raise the following sorts of questions which have been too much neglected by researchers and policymakers: Who are these repeaters? How do they differ both from nonrepeaters at the same grade level and from those who get promoted to the next grade level? What is the variation in the nature and effects of repetition across schools and countries? How well does repetition in a particular context fit the generalizations that have been made about grade repetition in developing countries? And finally, given what we know about the repeaters, what is the likely effect of changes in repetition policy in the Burundi context, and what are the possible implications for other contexts?

What is Special About Sixth Grade Repeaters in Burundi?

Our Burundi data do not answer all these questions, but they force us to recognize that repeaters in different countries may be very different and that therefore the social meaning and consequences of repetition may differ as well. To date, there has been little analysis of basic differences in the structure of repetition by grade level. According to a UNESCO (1984) report, in Latin America and Europe repetition rates were lower toward the end of primary school than at the beginning. In much of Asia and Africa the opposite was the case. In 1980 for 22 of 33 African countries, repetition rates tended toward their maximum at the last grade of primary school. The median rate reported for the African countries was 14.3% in first grade while in the last grade it was 24.2%.

Many Burundi repeaters... are well-motivated and scholastically capable children...

Sixth graders in Burundi constitute a special case indicating the limits of generalization about repeaters. Many Burundi repeaters at the sixth grade level are well-motivated and scholastically capable children who are taking extra time to prepare for the very selective secondary school entrance examination. These children are being held back not because they lack the knowledge and skill to succeed at the next level of schooling, but because the country has not had the resources to expand the secondary school system to allow such students to continue. Moreover, if the secondary school system were expanded, growth in enrollments beyond a certain point would be questioned in terms of the capacity of the labor market to absorb the graduates of such a system.

While repetition in such cases is neither a totally voluntary nor involuntary activity, such children tend to be willing accomplices in their own repetition. In fact, it is in the nature of such repetition to grow beyond control and to resist the efforts of state authorities to control it. Thus, the repetition rate of 51% in the sixth grade in Burundi, if not yet deemed unacceptable by policymakers, soon threatens to become so. The mushrooming of repetition is a familiar phenomenon in other countries in Africa and is associated with such practices as changing schools and changing one's name in order to evade limitations on the number of repetitions which are permitted.

Spratt (1988) points out that, when repetition is used to prepare for an entrance examination, those who are allowed to repeat are in effect given time to persuade themselves that they have had their chance. Therefore, if they continue to be unsuccessful on the secondary school entrance examination, they come to accept the legitimacy of their failure. This

'cooling-out' function is a familiar one in the sociology of education (Clark, 1960), and hence it is plausible that this makes it difficult for political authorities to reduce repetition.

The contrast is great between this view of repetition and one in which repeaters are mostly students who are doing very poorly at school and who are held back because they have not learned enough to meet the minimum standards. The latter view is characteristic of the literature on the United States as summarized in a recent review (Byrnes, 1989):

> Grade repetition is intuitively thought to help children who are considered unable to deal responsibly with tasks typically assigned to students in the next grade. Children who lack basic skills, have poor work habits, or are immature are all likely candidates for retention in grade. These children, who are characterized as not being motivated to work, having poor self-esteem, and being immature, are given another year in the same grade in the hope that time and a repeat of the same curriculum will make them more capable students in the future... Retained children perceive retention as a punishment and a stigma, not as a positive event designed to help them (p. 130).

It is to this group that the empirical research, largely from industrialized countries, has mostly been addressed. According to the latest meta-analysis by Holmes (1989), "on average, retained children are worse off than their promoted counterparts on both personal adjustment and academic outcomes" (p. 27).

Yet even in this literature there is a suggestion that the effects of repetition vary by type of repeater and that therefore one should be cautious about generalizing across settings. Jackson (1975, as cited in Spratt, 1988) after reviewing 44 studies, recommended looking at interactions of grade repetition with characteristics of the schools, students and reasons for retention. Moreover, nine of the 63 studies in the Holmes (1989) meta-analysis showed positive effects of repetition. Mostly published in the 1980s, these nine studies were conducted in suburban settings with populations described as lower to upper middle class. Available IQ and achievement test data suggested that "children in the few studies where repetition 'worked' were systematically more able than the traditional population of retainees who were more likely slow learners with below average IQ and achievement" (p. 25). Yet even here Holmes emphasizes the caveats which should make us cautious about facile generalizations from such studies. In particular, the positive studies were characterized by intensive remediation for students retained. The comparison groups of promoted students did not receive special remediation.

In Burundi it is difficult to judge precisely, without further research, how able the sixth grade repeaters are as compared with other possible comparison groups. Within both the group of sixth grade repeaters and the group of nonrepeaters, various repetition histories are possible. As we have seen, while many of the sixth grade nonrepeaters have repeated previous grades (457 in our sample), many of the sixth grade repeaters have no previous history of repetition (548). Moreover, both the repeaters and the nonrepeaters at sixth grade are selective groups from which the top and bottom of the distribution of academic achievement may have been removed. The tiny minority which has gone on to secondary school may be more able than the sixth grade repeaters and nonrepeaters (although one cannot say with assurance that the secondary school entrance examination has been able to select validly the top 10% of all students in terms of academic aptitudes). At the lower end, the nonrepeaters are no doubt in some ways a more select group than those who are no longer in school, although here too, there are many reasons (such as cost of education, attitudes of parents, influence of friends, etc.) which could force able students to drop out while less able students continue. The repeaters are probably more able than the nonrepeaters since, among those who fail the secondary school entrance examination, those who are considered to have the best chance of passing with another try at the exam are more likely to repeat than those whose chances are not so good.

Family background may have an important influence on the decision of sixth graders to repeat, irrespective of ability. Recent Ministry documents suggest that children from the capital city are being sent to the countryside to have the chance to repeat in rural schools. In considering the selectivity of repeaters versus nonrepeaters, we have examined social background factors to the extent possible, but our data are limited in these respects. The fathers of repeaters had, on the average, a little more schooling than the fathers of nonrepeaters (4.26 years vs. 3.82 years, $F = 8.779$, $p < .05$). There was no such difference in mothers' education. As for gender, most (60%) of

If the secondary schools are not expanded, reducing repetition rates will force repeaters out of the primary schools into a situation where the prospects for employment and further training are at present bleak.

the grade six repeaters were male, but this is nearly the same as the overall proportion of males in grade six (59%), and sex was not related either to repetition of this or previous grades. It should be noted that we did not have data to compare repeaters versus nonrepeaters in terms of ethnicity.

Another possible confounding variable is the double shift policy which was implemented progressively grade by grade and therefore reached the sixth grade only in 1988-89, the year the data for these analyses were collected. Hence, the repeaters had their prior primary school experience in single shift classes, whereas the nonrepeaters had done their earlier primary school in double shift classes. Some of the effects imputed to repetition are probably due to having more time and smaller classes in their earlier schooling.

Optimally, we would have given a pretest in order to know how our four groups with differing repetition experience compared at the beginning of the academic year 1988-89. If we found that the sixth grade repeaters were more advanced in French and subject matter knowledge at the beginning of sixth grade than the nonrepeaters, we would be faced with a difficult question: Should any difference between the two groups at the end of the year be attributed to prior differences, or would it indicate that the repeaters were more apt to profit from the instruction offered during the year, and therefore, any difference at the end of the year should be attributed to the joint effect of selectivity prior to and treatment during the year. If, on the other hand, we found that the two groups were equivalent at the beginning of the year, the evidence would be more solidly on the side of the contention that repetition in sixth grade did result in substantial learning for these repeaters.

Methodologically, the literature on retention is firmly in favor of overcoming these difficulties of interpretation by comparing the achievement of retained students with comparable students who are promoted. This feature characterizes the Moroccan study by Spratt (1988) which is the most comprehensive and sophisticated study of grade repetition in developing countries that we have found. Spratt was able to do a longitudinal study of a cohort of students entering primary school in 1982-83. After five years, and controlling for region, gender and prior achievement, she found that nonrepeaters performed better than late single repeaters (i.e., students repeating one upper primary school grade), multiple repeaters and early single repeaters on both Arabic reading and mathematics.

One of the problems in comparing Spratt's results with the results in Burundi is that, although her design was superior in addressing issues of repetition, the longitudinal study in Morocco had not lasted long enough at that time to allow her to look at students who had already repeated the last grade of primary school in preparation for an external examination. Thus, some of the most highly motivated repeaters might have been lacking in her sample.

In general, one can ask whether the methodological question of attempting to compare the achievement of repeaters with the achievement of comparable promoted students is helpful in the Burundian case (and in other countries with similar selectivity at the beginning of secondary school). Does one need empirical data to know whether the Burundi repeaters would be better off if they went directly on to secondary school? It is very likely that they would learn more if promoted without repetition since the curriculum in secondary school is different and more advanced, the teachers more highly trained and specialized, the teacher-student ratios lower, the schools generally better equipped, and the schools' boarding facilities perhaps more conducive to study than many students' homes where electricity and other aids to study are often lacking. But this option would be open only if secondary schools were expanded, and the decision to expand secondary schools will depend less on the performance of repeaters in primary school than on the resources available to expand secondary schools and the need for persons with secondary education in the national economy.

If the secondary schools are not expanded, reducing repetition rates will force repeaters out of the primary schools into a situation where the prospects for employment and further training are at present bleak. The government's attempt to establish centers for polyvalent vocational training for primary school leavers has not been successful and is now being reassessed. It therefore appears that, from the point of view of the individual student and with consideration of the alternatives open to students who fail the secondary school entrance examination, repetition has its benefits. Students gain not only another, albeit slight, chance at entering secondary school, but our results suggest that they are also learning some of what they failed to learn previously. More precise

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and sophisticated studies of repetition are needed to estimate the incremental learning that results from each year of repetition (as well as to see whether such effects are larger or smaller than for relevant comparison groups).

From the national or social point of view, the answers are less clear, and more than our data are needed to illuminate these issues adequately. There are some benefits to current repetition practice, but at great cost. Approximately half the resources devoted to sixth grade education in Burundi is spent on repeaters. This is not a situation of repeaters filling underutilized classrooms and increasing student-teacher ratios by an acceptably few students. Still, up to this point the rapid doubling of the capacity of the Burundian system due to implementation of the double shift system may have made it seem possible to accommodate repeaters without denying access to nonrepeaters. Now with the nearly universal practice of having each teacher teach double shifts, it is easy to estimate roughly the savings that would result from the elimination of repetition. A 50% reduction in enrollment due to eliminating repetition at sixth grade could mean the elimination of the double shifts. That is, a 50% reduction would be the same as taking away all the afternoon students, making it possible to extend the morning students to an all-day shift. Or alternatively, the capacity thus freed up could be used to take in students presently denied access to sixth grade. (We do not know how many such students there are.)

The Need for Changes in Strategy

But what would be the effects of such a step (or a less radical reduction in repetition)? We simply do not know. Without making other changes in the system, reducing repetition by itself could have grave unintended consequences for the students involved and for the overall effectiveness of the educational system. Reductions in repetition make sense only if considered in conjunction with other changes designed to increase learning or at least to ensure the same level of learning at less cost. Experimentation and research would be necessary if one were to have reasonable confidence that the changes would bring about the intended results. Among the changes that might be considered are changes in the secondary school entrance examination and/or access to secondary school, changes in the double shift system, changes in curriculum, and changes in teacher qualification and practice. We will briefly discuss each of these in turn.

One could compute the possible savings that could result from reductions in repetition rates and see to what extent these savings could be used to increase the capacity of secondary schools. But given the fact that secondary school unit costs are much higher than those of primary school, it appears that it would take a large reduction in primary school repetition to increase the secondary school enrollments by much. It should be remembered that the number of repeaters in sixth grade is about five times the number of sixth graders that are currently being allowed to enter secondary school each year. Thus, this solution might be applied without doing much to reduce the demand for repetition at the sixth grade level. In fact, it is conceivable that, if the promotion rate from sixth grade to the first year of secondary school were increased from 10% to 20%, the demand for repetition might even increase since the probability of success in the secondary school entrance examination would thereby increase, motivating students to spend more time preparing for the examination.

The World Bank (1988) report suggests another way to deal with selection at the beginning of secondary school so as to achieve a reduction in costly repetition rates:

> One reason that pupils repeat grades, especially toward the end of a cycle, is that they believe this will improve their chances of passing the examinations for entry into the next level of education. Accordingly, a useful strategy for reducing dropouts is to separate the primary school leaving examination from the secondary school examination. Under this arrangement pupils take the school leaving examination at the conclusion of the cycle and, if they are successful, receive a diploma certifying that they have completed primary school. The secondary school entrance examination is taken independently. Individual students can try to improve their chances of success on the entrance examination through independent study or private tuition, but not by prolonging their time in a government primary school (p. 50).

This proposal does not seem likely to work in Burundi. First, although there are already both school-level, end-of-primary leaving examinations and a national secondary school entrance examination, there is no indication that this separation has reduced the demand for repetition. Second, in one of the

least urbanized, poorest countries in the world, it is not clear how one would get students and their families to accept independent study or private tutoring as a viable alternative to repetition.

If the double shift system were eliminated, presumably this change could mean increased learning for the nonrepeaters that might compensate for reduced opportunity to repeat. The question is how much? It is not clear, for example, that allowing sixth grade students to attend single shift classes, but without the option to repeat, would produce the same aggregate stock of learning as currently obtains with the double shift, repetition system. Language difficulties, unless also addressed, make one skeptical. We see the *de facto* elongation of primary school through repetition as a way of allowing students to improve their understanding and fluency in French, since that is a prerequisite to understanding the teaching at fifth and sixth grade levels. Repetition allows students extra time to gain fluency in the language and subsequently to master more of the content that they might have missed. Changes in the language situation might therefore reduce the need for repetition. No doubt, if Kirundisation had been implemented completely throughout primary school, as proposed in the reforms of 1973, there would be less need for repetition. But one problem would have been changed for another since the Kirundisation proposal did not provide a vehicle for students who need French for secondary school to attain the necessary fluency.

In general, the Burundi national curriculum at sixth grade appears to us to be too difficult for nonrepeaters being taught under present conditions. In part this is a matter of students being burdened with too many topics to learn. The system is driven in large part by the necessity of selecting a tiny minority to go on to secondary school, and some of what is stressed in sixth grade may have little value other than to provide a screen that will sift out all but a select few. Some of the Burundi curriculum may be too difficult for mass education even under the more favorable resource conditions of the most affluent countries. Some cross-national analysis of curriculum difficulty and the learning outcomes that could reasonably be expected under various conditions would help here. Being more selective about what is taught and reducing the difficulty of some material may be an effective means of raising the achievement of nonrepeaters, thus allowing for reduction in repetition without too much unintended reduction in overall levels of achievement.

The existing literature on repetition stresses the need for intensive remediation within a context of automatic promotion as the most desirable alternative to repetition (Shepard & Smith, 1989). It is hard to see how this alternative could be implemented within Burundi, where teachers are extremely pressed and where resources and qualifications for properly implementing innovations in teaching practice are very limited. It does not seem to be in the cards that teachers could, under foreseeable circumstances, provide much special help to individual children having difficulty when at present (a) these teachers are responsible for 40 or more children in a classroom at a time and 80 or more children during their long, double shift teaching day; (b) they estimate that only 30% of the children in their classes are able to follow instruction well in French, the required language of instruction in sixth grade; (c) instructional materials such as textbooks and writing materials are extremely limited; and (d) it is difficult to find substitute teachers when regular teachers are absent.

The search for ways to give special attention to repeaters and nonrepeaters may tempt educational authorities to consider special classes for repeaters. If the repeaters were separated, the teacher would not be forced to teach the repeaters as if they had never seen the content prescribed for sixth grade, or the nonrepeaters as if they had already been exposed to this content. But such special classes raise questions of tracking with all of its attendant concerns. Should repeaters be given a different curriculum? Should there be an early selection so that some students are being prepared for the secondary school entrance examination while others are regarded as terminal primary school students? Should the early selectees be the only students who are taught French and given an intensive French course at the end of primary school? We do not advocate pursuing any of these ideas for teaching repeaters separately inasmuch as they pose grave problems of reconciling equity, quality, and cost—problems that are to a large extent unresolved throughout the world.

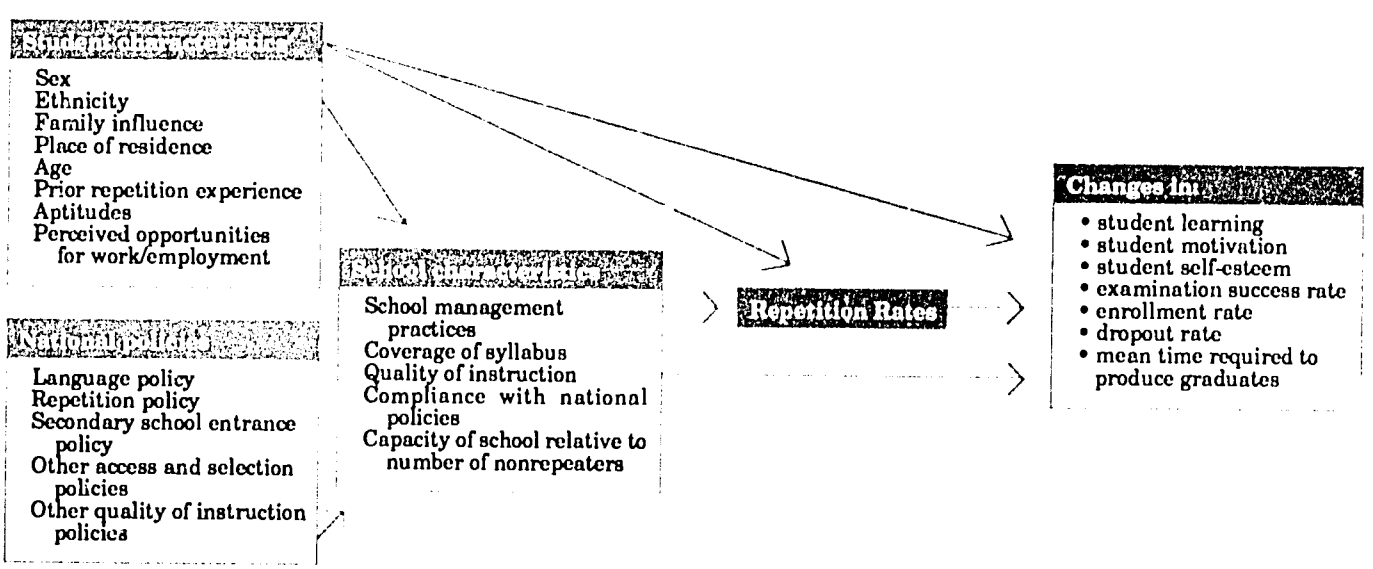
Section VI: Conclusion and Policy Considerations

Discussion of repetition is meaningful only in the context of the choices open to those faced with it. This does not mean that repetition is so context-specific that no cross-national generalization is possible, but it does mean that research should take more account of variation in the nature and effects of repetition. For some 20 years or more we have been mired in generalities originating in large part from the literature on industrialized countries. There has been too little in-depth empirical exploration of these issues in other contexts. Capable repeaters preparing for external examinations are common in other countries. Some children do learn a good deal during repetition while other children who have not yet had a chance to repeat sixth grade are learning very little. Educational research has not yet come to grips with such facts, but the methodological issues discussed above are a poor excuse for not doing so.

A more complex model is needed to explain the determinants and effects of repetition. One possible model that could be used to guide cross-national empirical research is shown in Figure 2. In this model repetition rates are seen as the combined effect of student characteristics, school characteristics and national policies. The student characteristics, such as student aptitude, sex and family background, could have two sorts of influence on repetition. One such influence could act directly on the repetition rates by motivating the student to repeat and the student's family to support the repetition. A second possibility would be for student characteristics indirectly to influence repetition rates by affecting school characteristics. For example, the more students there are in a particular school who have a strong aptitude for schooling, the easier it will be for the school to cover the national syllabus. School characteristics are also a function of national policies and the school's inclination to implement these policies.

The absence of repetition is not* prima facie *evidence of efficiency.

Figure 2: Framework for Explaining Determinants and Effects of Grade Repetition



...the concept of educational efficiency has been typically operationalized in developing countries without taking into account how much children have or have not learned.

Particularly important policies in this regard, such as language policy, repetition policy and secondary school entrance examination policy, have already been discussed in this paper and elsewhere (Eisemon, Prouty & Schwille, 1989; Schwille et al. 1990). As a result of such policies, the school acquires characteristics that are critical in determining not only the repetition rate within the school, but also the effects of this repetition (that is, not only in terms of how many students repeat, but in terms of how many other students enroll, how many students drop out, how repeaters are treated as compared to nonrepeaters, how much students in general learn, how motivated they are, how they see themselves, and how many ultimately succeed on the national secondary school entrance examination). These effects are of course influenced by factors other than repetition as is indicated by the arrows leading directly from student characteristics and school characteristics to the block of effects.

In short, repetition is an important, but not all-important, part of a complex process to which available data on schooling in developing countries do not do justice. We do not know for certain what explains the fact that repeaters do much better than nonrepeaters. Greater opportunity to learn through re-exposure to sixth grade instruction no doubt plays a role, but aptitude differences, motivation and differential exposure to double shifts may also account for some of this difference.

Enough has been said to highlight a more general problem, namely, the fact that the concept of *educational efficiency* has been typically operationalized in developing countries without taking into account how much children have or have not learned (Lockheed & Hanushek, 1988). The completion of primary school within the prescribed period of time (six years in Burundi) is thus regarded as more efficient than completion over a longer period. But in the difficult conditions under which many schools in developing countries operate, many children may attend school for the prescribed time and learn very little. The absence of repetition is not *prima facie* evidence of efficiency. As Lockheed and Hanushek (1988) point out, "repetition rates in primary grades can be changed by direct governmental policy; yet lowering repetition rates in a mechanical way might reduce the amount students learn" (p. 25). Thus, while it may be more efficient for students to spend one rather than two years in sixth grade, this question should not be answered without information on how much repeaters and nonrepeaters learn under present circumstances as well as how much they would be likely to learn under alternative arrangements if the repetition rate were reduced.

Finally, we offer the following policy advice distilled from the Burundi experience. Although repetition can be wasteful and should not be encouraged when there are other alternatives, it may be justified in the upper grades of primary school when: 1) there are few employment opportunities for children leaving primary schools; 2) there are few places in secondary schools; 3) the unit cost of secondary education is much higher than the cost of primary education; 4) many children have already dropped out of the system in the lower grades; and 5) the curriculum and language of instruction in the upper grades are difficult to learn in the time available to nonrepeaters.

Endnotes:

1: The data analyzed in this paper were collected as part of policy research on Burundian primary schools financed by USAID and organized under Project BRIDGES (Basic Research and Implementation in Developing Education Systems). A more detailed explanation of study design, including discussion of instruments and variables, is found in Eisemon, et al. (1990).

2: The data collection was planned and carried out with the collaboration of the Centre de Perfectionnement et de Formation en Cours d'Emploi (CPF) and with the support of the Ministry of Primary and Secondary Education in Burundi.

3: Since the purpose of this analysis was to isolate the effects of maturity (represented by age) from repetition, we chose to estimate a common age regression slope for the four groups. That is, the pooled estimate of the common slope became our estimate of the maturity effect. Seven common slopes were estimated, one for each achievement test. It is conceivable that there could be interactions between maturity and repetition experience resulting in different age regression slopes for each of the four repetition groups. This interaction, however, can be interpreted as an effect which is in some sense induced by repetition and which therefore need not be separated from the main effect of repetition.

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