

**For information
On 17 December 2001**

Legislative Council Panel on Education

Secondary School Places Allocation (SSPA) System

Purpose

This paper informs Members of the changes that will be introduced to the SSPA System with effect from 2002 to abide by the Court ruling made in June 2001.

Background

2. Pursuant to a judicial review filed by the Equal Opportunities Commission (EOC), the High Court ruled on 22 June 2001 that the following features of the SSPA System were unlawfully sex-discriminatory:

- (a) the scaling of internal assessment (IA) scores using separate gender curves;
- (b) the banding of students by sex; and
- (c) the existence of sex quotas in co-educational secondary schools.

3. The Judge did not require the Education Department (ED) to quash the three features immediately but believed that ED would take steps to honour his ruling. As the timing of the announcement of the court decision was very close to the end of the allocation exercise in 2001, making abrupt change to the System at that late stage would cause chaos, confusion and anxiety to parents and schools, as well as delay the release of allocation results. After considering the possible impact carefully, the ED decided to maintain the original SSPA System for the 2001 allocation and instead implement a set of relief measures for students who felt aggrieved by the discriminatory elements of the SSPA System. A brief report on the exercise as a follow-up to Members' discussion at the LegCo Panel on Education meeting on 19 July 2001 is at Appendix 1.

Removal of The Three Gender-based Features

4. To abide by the court ruling, the three gender-based features of the SSPA as mentioned in paragraph 2 above will be removed with effect from the 2002 allocation. The algorithm for determining the sequence of allocation of Secondary 1 places in a school net at the Central Allocation stage will be as follows:

- (a) **Combined scaling** - To moderate differences in standards across schools for comparison of students' scores, the IA results of both girls and boys within a primary school will be scaled by the same Academic Aptitude Test (AAT) results of the school in the 1997/98, 1998/99 and 1999/2000 school years.
- (b) **Combined banding** - The scaled scores of all students, whether girls or boys, in a school net are put into a single order of merit and this order of merit is divided into three allocation bands, each consisting of one-third of the total number of students in the school net. The order of allocation within the same allocation band in a school net remains unchanged, i.e. to be determined by a random number allotted to each student.
- (c) **No pre-determined gender quota** - There will not be any fixed quota of Secondary 1 places for boys and girls in co-educational secondary schools.

The Possible Effects

5. To project the impact of the new allocation algorithm of combined scaling, combined banding and no pre-determined gender quota for co-educational secondary schools, ED conducted simulation runs based on the data of the 2000 and 2001 allocation exercises (hereafter referred to as Simulation 2000 and Simulation 2001 respectively). The findings of the two simulations are quite consistent. The following effects as compared with the old algorithm of processing boys and girls separately have been observed :

- (a) Boys, on average, obtain lower scaled scores than girls. Analyses on

students' IA results show that there are gender differences in most of the subjects being assessed. Boys are generally better in Mathematics, while girls are better in languages and other subjects. In terms of the magnitude of the gender difference, girls outperform boys most in Music, Art & Craft, Chinese, and English and less in Religious Studies and General Studies. Boys only outperform girls marginally in Mathematics. For most academic subjects, the gender differences are relatively smaller among high ability students and become larger within the low ability groups.

- (b) The percentage of boys in Band 1 will be smaller than that of girls and vice versa in Band 3 as illustrated in Tables 1a and 1b at Appendix 2.
- (c) To assess the impact on 'customer' satisfaction with the SSPA System, the percentage of pupils being allocated to schools of their first choice is used as an indicator. As shown in Table 2a at Appendix 2, the percentage of boys being allocated to schools of their first choice is about 2.8% higher than that of the girls under the old allocation algorithm. However, under the new allocation algorithm, the percentage for girls is about 3.7% higher than that of the boys. A similar shift is shown in Simulation 2000 as illustrated in Table 2b. It is therefore anticipated that girls will have a slightly higher satisfaction level than boys under the new allocation algorithm.
- (d) Both Simulation 2000 and Simulation 2001 show that more co-educational schools may have unbalanced ratios of boys and girls as shown in the shaded regions of Tables 3 at Appendix 2. It should be noted that the findings are based on simulations only. In the actual allocation, the effect may vary due to many factors such as parental choice, the supply and demand of places in a school net, etc. It is anticipated that a few secondary schools would possibly be allocated a lop-sided ratio of girls or boys under the new allocation algorithm and such a phenomenon may fluctuate from year to year, depending on parents' choice patterns. Moreover, the effect in these schools may not be significant in the first year but, in some cases, may worsen as the

effect accumulates over the years. The changes in the gender composition may have implications on classroom dynamics and teaching skills. The schools may require help to cope with the changes. Special arrangements on teaching/learning (e.g. arrangement for PE lessons) and school accommodation (e.g. latrine facilities) would have to be made. ED would closely monitor the situation and ensure timely support to schools when the results of the 2002 allocation are known.

- (e) There may be the problem of 'unallocation'¹. Some students may not be able to get places from schools appropriate to their gender because the places are already filled. In Simulation 2000 and Simulation 2001, the total numbers of students 'unallocated' at the end of the allocation process are 200 (145 girls and 55 boys) spreading over 12 school nets and 41 (40 girls and 1 boy) spreading over 4 nets respectively. The number is unpredictable as there are many intertwining factors at play, such as parental choice, the number of single sex schools in a school net, the number of boys or girls admitted during the DP stage, etc. The situation can be dealt with by increasing the number of places in the school nets concerned.

6. By removing the gender-based features as from the 2002 allocation, the SSPA System will be in full compliance with the Sex Discrimination Ordinance. Parents who are not satisfied with the allocation results could no longer make any complaint on grounds of sex discrimination. Hence, there will not be any relief measures.

Enhancement of Learning for Boys and Girls

7. There are voluminous research studies which show that there are gender differences in academic performance and that the magnitude and direction of the differences would depend on what is taught, how the students are taught and learn, as well as how, what and when they are measured. It is

¹ 'Unallocation' refers to a 'mis-match' situation whereby the places available for allocation towards the end of the allocation process are from single sex schools but the students who are yet to be allocated are of the opposite sex. Because there are no more places available from co-educational schools or schools of the appropriate sex, these students would end up 'unallocated' in his/her school net.

important that we should have a better understanding of the differences in physical and cognitive development between girls and boys. There are also entangling social and cultural factors which influence gender patterns of educational outcomes.

Improve curriculum and teaching/learning

8. In the context of the education reform, ED has already embarked on a ten-year development plan to improve the curriculum, including the teaching methods and modes of assessment, to promote students' whole-person development. The broader and more balanced curriculum as well as the more comprehensive learning experiences being promoted in the reform would help individual students, regardless of gender, to develop their potential to the full and enhance their academic performance. For underachieving students, the available resources would be fully utilised to provide remedial support and to develop intervention programmes (such as the mentoring system, small group teaching, peer learning groups etc.). ED would continue to identify the specific constraints that lead to underachievement among students, both boys and girls, with a view to identifying strategies to raise standards for all students. Efforts would be made to remove gender-stereotyped beliefs (such as boys should not take Home Economics etc.) among teachers, parents and students. Appropriate ways (such as role models, etc.) would be explored to enhance the motivation of weaker students.

Improve Internal Assessment (IA)

9. IA is one of the key factors that determines students' priority order in the central allocation. It appears that the present content and format of IA in a sizeable number of primary schools have emphasized rote memorization and verbal skills. To assess students' diversified abilities and achievement fairly, validly and meaningfully, schools would be encouraged to employ a greater variety of assessment methods and formats on broader content areas. The cultivation of this new assessment culture is an integral part of the curriculum reform.

10. ED promotes the new IA culture in tandem with the implementation of curriculum changes. Recent efforts and initiatives in the pipeline include the following –

- (a) the 'Knowledge Fair on Assessment for Learning' on 12 November 2001, which attracted some 4 000 educators, helped promote the new IA culture and good practices;
- (b) the guidebook on IA at Primary 5 and 6 will be revamped to include the new concepts and guidelines with exemplars on assessment for different subjects. It will be issued to schools in early 2002; and
- (c) following the publication of the guidebook, seminars/workshops on IA methods and formats will be organized for primary school teachers in early 2002.

Noteworthy is that it takes time to cultivate a new culture and for the effects to be realized.

The Experts' Advice

11. To explore whether any further improvements should be made to the SSPA System to ensure that it is lawful and fair and conforms to educational principles, ED has set up a task force chaired by the Director of Education to review the allocation mechanism. Professor HAU Kit-tai of the Chinese University of Hong Kong and Professor Diane HALPERN of Claremont McKenna College, USA, were appointed as consultants to give advice. Both local and overseas renowned academics as well as the Equal Opportunities Commission were invited to review our proposals from various perspectives.

The Context

12. In deliberating on the way forward for the SSPA System, the Administration and the experts have taken note of the following context:

- the ongoing curriculum reform seeks to put in place a broader and more balanced school curriculum with new and diversified ways of teaching/learning and assessment in recognition of students' multiple abilities and intelligences;

- the SSPA allocation exercise is a two-year cycle starting from the second term of Primary 5 till the end of Primary 6. For the 2002 allocation, primary schools have already submitted the Primary 5 second term Internal Assessment (IA) scores of the cohort of participating Primary 6 students. Substantial changes to the System should normally start with Primary 5; and
- as part of the education reform recommended by the Education Commission (EC), the short-term mechanism² of the SSPA System has been implemented as from the 2001 allocation. The EC has scheduled to review the short-term mechanism in 2003-04 before implementing the long-term mechanism³ as from the 2005-06 school year.

The Guiding Principles

13. As the EC has undertaken to review in 2003-04 the long-term mechanism for 2005-06 and beyond, ED's focus is therefore on the allocation in the short term (i.e. 2002-05). The guiding principles, as supported by the two consultants and the academic reviewers, are:

- the short-term changes must interface with EC's long-term plan and should be in line with the spirit of the education reform;
- in view of the recent changes to the SSPA System arising from the education reform and the judicial review filed by the EOC, further changes to the System in the next few years should be kept to the minimum;
- the changes should be easily understood by teachers and parents, and not be disruptive to the study of those students now in Primary 5 and

² Under the short-term mechanism, the following changes to the SSPA System have been made:

- (a) The Academic Aptitude Test (AAT) as a scaling tool of schools' Internal Assessment (IA) results was abolished. Instead, a school's AAT results in the 1997/98, 1998/99 and 1999/2000 school years have been used to scale its students' IA results for the purpose of determining their allocation bands.
- (b) The number of allocation bands have been reduced from five to three;
- (c) The percentage of Discretionary Places (DP) has been increased from 10% to 20%; and
- (d) No written tests should be conducted by secondary schools in admission of students to fill the DP.

³ Based on the short-term mechanism, the long-term mechanism would include the following changes:

- (a) The proportion of DP should be increased from 20% to 30%;
- (b) Each student may apply to two secondary schools for DP; and
- (c) Students in each primary school who have not secured a discretionary place will be divided into three equal allocation bands according to their school IA results for determining the sequence of allocation.

6; and

- the measures should be easily administered and will not bring about undue additional workload and uncertainty to schools and parents.

The Experts' Recommendations

14. The two consultants submitted their recommendations (summary at Appendixes 3A & 3B) in mid-November 2001. Both note that there are imperfections in the allocation system and consider that the real challenge should better be construed as how to design a new educational plan that provides the best education for all students in a time of great changes. The Administration shares their view that there is no easy quick fix for such a complex problem. Any major change in education will take three to four years just to implement and hence, short-term changes would have only small effects. In addition, any proposed major changes should be preceded by adequate research and public consultation and hence would not be feasible in the coming year. In tandem with this, the consultants advocate, and the academic reviewers support, that the first and fundamental step is to improve the school curriculum, teaching/learning strategies and assessment methods so as to enhance the learning for girls and boys. We totally agree with this view and have put this in motion.

15. We have consulted the Board of Education (BoE) and the Education Commission (EC). Both advisory bodies support that the only changes that should be introduced to the SSPA in 2002 are the removal of the three gender-biased features to comply with the Court ruling. They have considered the recommendations made by the experts, and advised that the proposed changes involve many fundamental education issues which require very careful examination and extensive consultation. In accordance with the guiding principles in paragraph 13 above, in particular the need to keep further changes to the SSPA over the next few years to the minimum, both the BoE and the EC have advised that the consultants' recommendations should be considered in the context of the review of the SSPA mechanism to be conducted in 2003-04.

Points to note

16. Members are invited to note the removal of the three gender-biased elements from the SSPA System with effect from 2002 and the improvements to

the curriculum and teaching/assessment methods currently being promoted under the curriculum reform.

Education Department
December 2001

Report on Relief Measures under 2001 Secondary School Places Allocation

Background

At the LegCo Panel on Education meeting held on 19 July 2001, Members were briefed on the Relief Measures (RM) under the SSPA System. It was agreed that Members should be informed of the progress when the new LegCo session began.

2. To recap, the RM was implemented between 17 and 31 July 2001 according to schedule. Parents who had reason to believe that their children might have been discriminated against by the gender-based features of the SSPA System could request for placement under the RM by simply filling in a standard application form and sending it through their children's primary schools to the Education Department (ED) before noon on 20 July 2001. Students were notified of the results on 28 July 2001 and required to register with the re-allocated schools on 30 and 31 July 2001. For those who were classified as likely affected by the gender-based features but could not be re-allocated to a school of their higher choices because of the lack of vacancies, a Special Placement Service (SPS) outside the context of the RM was mounted from 28 to 31 July 2001. The whole relief mechanism was completed on 31 July 2001.

Outcome of the RM

3. A total of 7,722 requests for re-allocation was received by the deadline on 20 July 2001. Of these, 3,001 were identified as students whose allocation results were likely affected¹ by the gender-based features of the SSPA System. From the outset, ED was aware of the inherent limitations of the RM (i.e. it could not be guaranteed that all who were classified as likely affected would be placed in schools of their higher choices). Bearing in mind the interests of the students concerned, ED tried hard to maximise their opportunities of being re-allocated to a school of their higher choices. As a result, the RM managed to place as many as 2,261 (75%) of the 3,001 likely affected students in schools of their higher choices.

¹ Two simple criteria were set: (1) whether the banding of the student was raised when combined processing of both boys and girls was adopted; and (2) if the re-assessed band of the student was the same as that under separate processing, the Education Department would check his/her choice of schools made earlier and ascertain whether the schools above the student's allocated choice had been allocated a student of the opposite sex with a lower allocation band than that of the student.

4. For the remaining 740 likely affected students who had not been placed in schools of their higher choices because of the lack of vacancies, ED continued to make every effort to explore the possibility of offering them assistance after the re-allocation results under the RM were released. Subsequently, ED came up with the SPS which was a special arrangement outside the context of the RM. It aimed to fully utilize the remaining 'usable' school places left over by the RM to place the 740 students so that they could settle down and prepare for the new school year as early as possible.

5. During 28 and 29 July 2001, ED contacted individually all the parents of the 740 students to understand their concerns, alleviate their anxieties and gather information on their views. At the same time, ED also approached some target schools to see how far they could help these students. Some principals agreed to offer additional places. However, these places, together with the vacant school places left over from the RM, were not sufficient to accommodate all the students. On 30 July 2001, ED made the decision of running one additional S1 class in each of 10 government schools. One aided school also offered to operate an additional S1 class. By 1 August 2001 when the Secondary 1 places were scheduled to be 'unfrozen', 672 students were successfully placed while the remaining 68 students were content with their original allocation results and did not require for placement. The SPS succeeded in placing all the "aggrieved" students left over from the RM.

Monitoring

6. The process of implementing the RM was monitored by the Monitoring Group chaired by the Chairman of the SSPA Committee and comprising members from the secondary and primary school representatives in the Committee, a parent and a community member. The Monitoring Group met five times and provided valuable advice. The Monitoring Group held its last meeting on 6 August 2001 and recorded their satisfaction with the whole conduct of the RM.

Findings of Simulations

Table 1a : Simulation 2001 – Comparison of Banding Distribution by Band and Sex

Allocation Algorithm	Band 1 %		Band 2 %		Band 3%	
	Boy	Girl	Boy	Girl	Boy	Girl
Old	33.3	33.3	33.3	33.3	33.3	33.3
New	27.6	39.2	32.3	34.2	40.1	26.6

Table 1b : Simulation 2000 – Comparison of Banding Distribution by Band and Sex

Allocation Algorithm	Band 1 %		Band 2 %		Band 3%	
	Boy	Girl	Boy	Girl	Boy	Girl
Old	33.3	33.3	33.3	33.3	33.3	33.3
New	28.1	38.9	32.4	34.4	39.5	26.7

Table 2a : Simulation 2001 – Comparison of First Choice % by Sex

Allocation Algorithm	First Choice %	
	Boy	Girl
Old	57.73	54.91
New	54.02	57.69

Table 2b : Simulation 2000 – Comparison of First Choice % by Sex

Allocation Algorithm	First Choice %	
	Boy	Girl
Old	57.06	53.70
New	54.02	57.95

Table 3 : Simulation 2000 and Simulation 2001 – Distribution of Schools by Sex Ratio

% of boys	2000		2001	
	No. of Schools		No. of Schools	
	Old	New	Old	New
0-15	-	-	-	-
15-25	-	-	-	-
25-35	-	5	-	6
35-45	1	66	3	60
45-55	308	147	294	147
55-65	31	109	47	115
65-75	2	15	4	17
75-85	-	-	-	3
85-100	-	-	-	-

Summary of Recommendations

(Professor Kit-Tai Hau, the Chinese University of Hong Kong)

In response to the judicial review of the Secondary School Places Allocation (SSPA) system and the subsequent court ruling that its three gender-specific allocation mechanisms have to be removed, as well as the need for alternative mechanisms to reflect students' diversified potential and achievement in the wake of the Education Reform, alternative arrangements to the existing SSPA system have been explored with respect to their practicability and their impact on our education system.

Patterns of gender differences for students at different ability levels and in the three large-scale assessment systems, namely, school examination (Internal Assessment), Academic Aptitude Test, and the Hong Kong Attainment Test are examined. Pros and cons of different possible alternatives to the current gender-biased allocation process which can fully reflect students' potential and achievement are also explored, namely, changes in (i) teaching, (ii) assessment system, and (iii) allocation system.

From the analyses, it is clear that there is no easy quick fix to the problems. Although the curriculum reform, the extension of classroom assessment, and the provision of remedial help targeted at students' specific weaknesses are fundamental measures that should be taken to enhance a gender fair assessment system, we will not be able to see overnight changes.

Informing the Public

Perhaps the public is still quite confused about what the Education Department will do for the 2001/2002 allocation (e.g., "Will combined gender measures be taken?"). The Education Department should consider:

- informing the public of the constraints on possible changes and the likely consequences;
- educating parents with children in P.6 through seminars and information pamphlets on how the new system works so that parents can make informed best choices for their children;
- educating the teachers, parents and the public that there will not be overnight changes and the success of the curriculum and teaching reform depends on our sustained efforts; and
- informing the educational policy makers that with the tentative new allocation (2005/2006) when inter-school differences are not adjusted, the degree of unbalanced gender ratio in coeducational schools will still be similar to the existing structure; any change of that gender ratio will depend on the success of the curriculum and other reforms to be implemented.

Curriculum Reform and Other Measures to be Considered:

A number of proactive measures should be considered:

- Recommended for immediate action: A broader curriculum with greater variety of assessment methods and formats should be employed to measure students' diversified potential and achievement. Proactive action should be taken to remove gender stereotypical belief among parents, teachers and students;
- Recommended as an option for further deliberation in the 2003 SSPA Review: exploration and inclusion of some centrally (Education Department) provided papers to be used in internal school assessment;
- Recommended as an option for further deliberation in the 2003 SSPA Review: less banding, no banding, or neighbourhood schools;
- Recommended as a short-term measure between now and the 2003 SSPA Review: a gradual increase in discretionary places from 20% to 30%;
- Recommended as a short-term measure and be further deliberated in the 2003 Review: do not provide accurate academic ranking of students applying for discretionary places to the secondary schools (or only provide rough ability grouping);
- Recommended for further deliberation in the 2003 SSPA Review: more formal channels and possibly special quota for primary school recommendation so as to encourage stronger linkage between primary and secondary schools in the same geographical regions;
- Recommended for further deliberation in the 2003 SSPA Review: the relative weights of different subjects have to be reviewed;
- Recommended for immediate action: parental choices of the 30 schools should be considered one by one in a strict order of preference rather than as groups for the latter choices;
- Recommended for deliberation in the 2003 Review: the removal of the artificial boundary of the 3-bandings so that students will not feel particularly unlucky or lucky just because they fall marginally below or above the boundaries;
- Recommended for immediate action: the Education Department should carry out systematic analyses on the degree of unbalanced gender ratio on various secondary schools and to provide immediate help (e.g., recruitment of extra P.E. teachers, conversion of school lavatories, etc. to cope with the unbalanced gender intake); as parental choices do fluctuate from year to year, probably the Education Department should start as early as possible, even before the formal announcement of the SSPA results, to help those schools that need such extra conversion facilities.

Summary of Recommendations

(Professor Diane F. Halpern, Claremont Mckenna College, USA)

In June 2001, the Hong Kong Court ruled that sex (or gender) cannot be used as a criterion in the placement of students in secondary schools. There are short-term and long-term implications of this mandate. There has never been a time in history when technology and the nature of knowledge have undergone such rapid change or when education has been more critically important. New technologies permit new ways of learning and assessment. At the same time, advanced learning is more important than ever before as an increasingly technological world demands more high-level skills and knowledge from all citizens. Like educational systems all over the world, Hong Kong is preparing for major changes.

The following recommendations can be combined and altered in multiple ways:

1. Eliminate Competitive Selection for Secondary School Placements — this is a bold change that offers many advantages; children mature at different rates and age 12 is too young for long-term educational decisions; IAs are unreliable and invalid predictors of future performance.
2. Use a broad range of tests for determining preference order for selecting secondary schools — including visuospatial tests, mechanical reasoning, using diagrams — all necessary skills for many professions.
3. Revamp the curriculum to include more content and skill areas where boys typically excel to offset the current curriculum in elementary school, which tends to favor girls (e.g., 3 languages) — add geography, elementary science, and mathematical reasoning from P1.
4. Develop an assessment system based on the “grade level” concept where approximately 75% (or 80%) of all children are at grade level in each major content area — this would allow specialized classes at each grade in each school for advanced and developmental students.

5. Develop curricular materials designed to reduce stereotyping and prejudice with units on sex differences and similarities — everyone will benefit from education designed to reduce prejudice and support diversity.
6. Use more computer-assisted, on-line learning, which can occur any place and at any time — this will allow teachers to spend more time with each student and make school choice less important.
7. Use a variety of incentives for good learning, including participation in sports, an incentive that will appeal to many children, but is especially appealing for boys — be sure that the school day allows active students more time for physical activity.
8. Link school work with the world of employment so that children can understand the critical importance of a quality education to their future — show all children that a good education can lead to a better life.
9. Begin a region-wide programme to encourage all sorts of reading — sports magazines, and other non-traditional materials. Include celebrity endorsements and more male reading tutors.
10. Encourage business-school partnerships and parent involvement in neighbourhood schools. Education is everybody's business. The future depends on it.