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In December 2004, the Organization for Economic Cooperation and Development (OECD) announced preliminary results of the second Program for International Student Assessment (PISA) survey that had been conducted in 2003 on 15 year olds from the 30 OECD members and eleven "partner countries" in mathematics, science, reading, and problem solving. [1] This survey confirms two trends in Japanese education that have been widely recognized in recent years: the general decline in academic standards of Japanese students and growing bifurcation in student performance. This essay assesses these trends and their implications for Japanese society including issues pertaining to Japanese competitiveness and social equity.

The decline in academic standards among Japanese students is both absolute and relative. In just three years since the first PISA survey, Japanese students dropped from first to sixth in mathematics, and from eighth to fourteenth in reading. [2] These results are consistent with other international surveys such as Trends in International Math and Science Study (TIMSS) as well as national surveys conducted by the Ministry of Education, Culture, Sports, Science, and Technology (hereafter Ministry of Education) and the National Institute for Educational Policy Research of Japan. However, PISA results raised especially serious concerns since they are supposed to measure "the capacity of students to apply knowledge and skills and to analyze, reason, and communicate effectively as they pose, solve and interpret in a variety of situations" rather than the accumulation of knowledge. [3] Perhaps more alarming, the Japanese students ranked at the bottom in their interest in the subjects and motivation for study. The recent "reforms" by the Ministry of Education have focused on student motivation and interest in learning as well as their ability to apply their knowledge to real life problems. However, these survey results indicate that Japanese students are performing poorly in those areas as well as in academic abilities measured in more traditional ways.

Sleeping student

The decline in academic standards has been debated prior to, and particularly since, the Ministry of Education announced a reduction in the elementary and secondary school curriculum content in 1998. This curriculum change was introduced for at least two reasons. First, since formal instruction time at public schools was reduced with the elimination of half-day classes on Saturdays, fewer materials could be covered. Second, the pace of instruction was slowed so that more students could keep up with the classes. Students' inability to keep up with the pace of instruction was considered a source of behavioral problems and a basic contributor to dropping out. The change was deemed necessary to reduce their burden and stress level.

Recent reports indicating the inability of growing numbers of university students, including graduates of the most selective schools, to solve elementary school level math problems attribute this partly to the reduction in school curriculum content. [4] They argue that further reduction in curriculum content would only make the situation worse.

The Ministry's 1998 decision was initially popular. Many people believed that stress stemming from excessive school work and intense competition contributed to rising incidence of school violence and withdrawal syndrome. The Ministry of Education hailed a shift in emphasis from knowledge acquisition to encouraging a "zest for living". The new approach is styled as "Yutori Kyoiku", which the English version of The White Paper on Education describes as "liberal, flexible, and comfortable" education. However, declining performance aside, official statistics indicate no significant improvement in student behavior since the curriculum reform. The total number of elementary and junior high school students who refuse to go to school increased from 66,817 in 1990 (0.47% of all students) to 138,722 in 2000 (1.23%). Cases of violence at school increased from 23,621 in 1996 to 34,595 in 1999 before dropping to 31,278 in 2002. (There are no comparable data before 1996, since the method of counting changed at that time). The drop out rate from senior high school has remained relatively constant, fluctuating between 1.9% to 2.6% in the years 1982 to 2002. [5]

The second trend confirmed by the PISA study is increasing educational bifurcation that is most apparent in the growing percentage of students ranked in the lowest level of achievement. For example, the percentage of students in the bottom of six levels in reading comprehension increased from 2.7% in the first survey to 7.4% in the second survey, a figure that now surpasses the OECD average (6.7%). By contrast, the percentage of students in the top level remains virtually unchanged (9.9% in 2000 and 9.7% in 2003), still above the OECD average (8.3%). While the percentage of students in the bottom level in mathematics (4.7%) is still below the OECD average (8.2%), it is higher than that in other countries with comparable mean scores such as Finland (1.5%), Canada (2.4%), South Korea (2.5%), and the Netherlands (2.6%).

At the other end of the spectrum, Japan has a higher percentage of students in the top level of mathematics (8.2%) than any other OECD member, twice the OECD average (4.0%). Science scores among the top 10% of students from Japan improved from the 2000 survey, while the scores in the bottom decile dropped. In short, while the performance of the top Japanese students in math and science remained at the top internationally, the average declined with a notable increase in the number of students at the lowest level. What we see is a hollowing out of the middle levels with a shift of students from the middle range to the lower range.

This is the heart of the growing inequality in Japanese education. While widening educational inequality is not uniquely Japanese, the recent PISA results reveal that the pace of change is unusual. It is also important to note that a high level of equality in achievement was once considered a characteristic of Japanese education.

This bifurcation was a predictable result of curriculum content reduction. Students at lower levels of academic achievement are studying and learning less because the curriculum is less demanding. In the 2003 PISA study, Japanese 10th graders reported studying 6.5 hours per week outside of school, compared to 8.9 hours for the average of all OECD countries. This includes time spent at after school classes (juku). There is also less pressure from entrance examinations since declining fertility rates and a concomitant reduction in the size of the pool of potential new college freshman has reduced admission pressure except at the very top. The number of 15 year olds today is about one third lower than it was 15 years ago, while the number of openings for college freshmen increased significantly with the opening of new colleges. As a result, many colleges and high schools now admit most (and some admit all) applicants without competitive exams. That has further undercut the motivation to study. On the other hand, competition to get into the most selective schools is still sufficiently serious to motivate significant numbers of Japanese students with high aspirations in a system long notable for high examination pressures to study hard. [6]

Japanese classroom

Particularly ominous is the possibility that this bifurcation may not be an unintended consequence of reform. For most of the postwar period, the Ministry of Education focused on raising the average academic standard of students. In the mid-1980s, however, Prime Minister Nakasone established a cabinet level advisory council, the Ad Hoc Council on Education (AHCE, Rinkyoshin), which called for a changing focus in Japanese education. The AHCE was established outside the jurisdiction of the Ministry of Education to provide a forum for people from various backgrounds to discuss education. [7]

Many participants in the AHCE discussions voiced concern about the failure of the educational system to promote originality and creativity. They attributed the problem to a curriculum and teaching methods that were tailored to boost average levels. Their assumption seems to have been that rapid learners were spending too much time on topics they had already mastered, and too little, if any, on developing creative skills, original thinking, and advanced techniques. They proposed greater variety and flexibility for the curriculum.

The AHCE issued its final report in 1987 after three years of intense discussion. Many of it ideas were implemented in a 1989 curriculum change and subsequently. Those included allowing parents to choose public elementary and junior high schools regardless of school districts, creating six-year public schools that combined junior and senior high schools, creating public high schools with flexible curricula that did not set a time limit for graduation, and allowing universities greater flexibility in selecting students.
If there was an unexpected result from the implementation of the AHCE changes, it was that the bifurcation was accompanied by a decline in average performance. Rather than raising the level of top performers, the new curriculum primarily lowered the performance of the middle and bottom performers. The increasing number of low-level performers could result in the creation of large numbers of “unemployable” people among the younger generation at the very moment when demographics create a situation of growing labor shortages and corporate strategies increase the number of part-time workers. Such results directly undermine one of the foundations of Japan’s postwar economic success: the high levels of skill and motivation of the rank and file labor force.

The PISA survey results stimulated wide-ranging discussion about improving standards. Proposals include increasing instruction time in math and science, restoring Saturday classes (eliminated with the 1989 curriculum change), revival of national standardized tests for all students (abolished in the 1960s), and ability-based groupings in addition to more school choices and six-year public secondary schools. Whatever the effects on mean scores, many of these changes seem likely to accelerate bifurcation, boosting the top performers while having marginal positive impact on lower achievers. Therefore, it is very important to ask which policy goal is really targeted.
There is a third trend in Japanese education that has been less widely discussed: the increasing impact of socio-economic background or social class on academic performance. In some prestigious universities, the percentage of incoming students from highly selective private schools has increased significantly in the last few decades. For example, graduates of private high schools made up 26% of entering students at the University of Tokyo in 1975. By 1993, that number reached 50%. [8] This has often been attributed to the reduction in elementary and secondary school curriculum content in the public schools. Private schools, being relatively independent of Ministry of Education supervision, and in many instances focusing their attention on placing students in competitive institutions, have maintained more rigorous standards.
The reduction in school curriculum has led to greater reliance on out-of-school classes (juku or cram schools). This too widens the gap between students whose parents can afford to send them to juku and those who cannot. All these trends point to a further stratification of Japanese education and Japanese society.

Juku poetry class

How serious are the problems? The impact of socio-economic background on school performance in Japan has been among the lowest among OECD countries. But that may be largely due to two factors that sharply differentiate Japan from others: these are immigrant background and language spoken at home. With extremely low levels of immigration, hence with extremely high levels of Japanese spoken as the language of the home, these factors that lie behind educational differentiation elsewhere are relatively insignificant in Japan. Another factor is “Single-Parent Families.” While the percentage of single parent families is on the rise in Japan, it is still small in contrast with most OECD countries. Limiting the comparison to the other three factors, occupational

status of parents, educational level of parents, and cultural capital within the family [9]), the effect of socio-economic factors in Japan matches the OECD average.

The Ministry of Education, in attempting to raise the average level of achievement, has tended to ignore socio-economic differences among students, certainly in framing the terms of discussion. Since the formation of the AHCE in the 1980s, numerous Liberal Democratic Party Diet members have sought to improve the performance of top level students. By contrast, the Japan Teachers Union (JTU or Nikkyoso) and the Socialist and Communist parties have concentrated on reducing the gap in performance level. With the collapse of the Socialist and Communist Parties in recent years, and the decline in power of the Japan Teachers Union, their ability to shape the educational debate has similarly declined.

The JTU and the leftwing parties opposed ability-based grouping and early tracking (streaming) as forms of discrimination. They favored small school districts and "group selection" for high schools. [10] Those systems were introduced in order to reduce the differences in academic standards among high schools. With only one school in each district, students are not sorted out based on their academic achievements as in the case of large districts with two or more schools. Under group selection students were randomly assigned to multiple schools so that those with the highest exam scores are not concentrated in one school. However, in recent years, one result has been to encourage more students with high academic achievement to transfer to private junior and senior high schools. [11] Despite JTU efforts, tracking and ability grouping have shifted to an even earlier age, from the ninth to the six grade. The result is that economic background increased in importance since low income families could not afford to send their children to private junior high schools or to provide comparable educational enrichment opportunities.

The rising cost of education is leading to another serious social problem. Parents are losing confidence in the quality of public school education and many are turning to private schools and out-of-school classes for to prepare their children for college. For example, the ratio of seventh graders who attend private schools went up from 5.8% in 2000 to 7.0% in 2005. In Tokyo, that ratio reached 25.6% in 2005. [12] Moreover, 39% of elementary school students and 75% of public middle school students (55% among private middle school students) attended juku (cram schools) in 2002, up from 12% and 38% respectively in 1976, when the Ministry of Education conducted its first survey on juku. [13]

Official "streaming" in Japan's public schools begins at age 15 between the ninth and tenth grades. This is much later than in some European countries. Historically, the public primary and middle schools in Japan have insisted on "formal equality" with the same curriculum taught across the nation and resisted ability-based classes, while teachers in general upheld egalitarian pedagogical ideals [14]. However, streaming takes place in both formal and informal ways.

Formally, every student is under the same curriculum until the 9th grade. In practice, there are numerous forms of tracking. Students in the most selective private schools are clearly on a separate track from their cohorts in public schools. Most of those schools spend more instructional time on "core" subjects such as mathematics, science, and English. Their curriculum also includes material above and beyond the government requirements in ways that invite comparison with advanced placement classes in US high schools. The same is true in the 10th through the 12th grades. More than 70% of students are in "general education" courses, as opposed to vocational tracks, but the actual content of instruction is worlds apart in the top and bottom tier schools, and in different tracks within schools.

Recent attempts to provide "fast track" education options within the public school system include six-year public secondary schools, larger school districts for senior high schools, "enrichment" classes for advanced students, and ability-based groupings. These efforts may help to reduce the impact of economic background on performance. However, some of these measure may have the opposite effect of increasing the impact of students' "social" backgrounds (this refers to parents' educational level and cultural capital of the family rather than household income or parents' occupation), since students with disadvantaged social backgrounds are less likely to take advantage of the new options. [15]

A number of changes seem likely to widen regional gaps in education. School choice would be meaningless in areas in which there is only one public school within a reasonable distance, such as most rural areas. Ability-based groupings are also difficult to implement in schools with a relatively small number of students at each grade level. Students in rural areas are already at a disadvantage because there are fewer private junior high schools and fewer opportunities to receive out-of-school instruction such as juku.
Despite the potentially explosive social and political implications implicit in contemporary reform proposals, at present no major political party is seriously engaging the issue.

This article has highlighted the growing gap in student performance. If class divisions become more rigid, and only children of today's elites can become tomorrow's elites, Japan will face serious socio-political as well as techno-economic problems. Social mobility is important for the stability of the society and recruiting the "best talent" is important for achieving economic prosperity and social justice.

The Japanese Constitution guarantees every student the "right to receive an equal education correspondent to their ability" (Article 26). The Fundamental Law of Education specifies that "the people shall all be given equal opportunities of receiving education according to their ability" (Article 3). [16] Both conservative and progressive political parties have violated this principle, conservatives ignoring the "equal" part and progressives the "ability" part.
Now that the decline in academic standards has become obvious at a time when Japan faces increasing economic challenges, the Ministry of Education seems to be trying to reverse its policy of reduction in curriculum content. At the same time, proposals by the Japan Teachers Union and others have not led to greater equality in education. Japan has long been known for its relative equality in income. However, there is abundant evidence that this is rapidly changing. [17] According to another survey conducted by OECD recently, Japan ranks third among its members in the ratio of people living under the poverty line as defined by income below half of the national median income. This ratio has almost doubled from 8% to 15% in the last decade. [18]

Without school reforms that address the incentive and curriculum issues applicable to students from disadvantaged social backgrounds, social stratification will become an even more serious problem, as will those of motivation and dropouts.

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Notes

[1] Organization for Economic Cooperation and Development Learning from Tomorrow's World: First Results from PISA 2003 http://www.pisa.oecd.org/
[2] Japanese students held second place in science from the first survey. Problem solving was not included in the first survey.
[3] Organization for Economic Cooperation and Development Learning from Tomorrow's World: First Results from PISA 2003 http://www.pisa.oecd.org/
[4] The elementary and secondary school curriculum contents have been reduced three times in the last three decades: in 1977, 1989, and 1998. The first PISA survey tested students educated under the 1977 curriculum. Those in the second survey were educated under the 1989 curriculum.
[5] All data are from "The Ministry of Education, Culture, Sports, Science and Technology Press Releases." http://www.mext.go.jp/b_menu/houdou/16/08/04082302.htm
[6] Abundant data documents the relationship between competitive exams and hard study among top Japanese students. Students at private schools affiliated with universities tend to study significantly less than students at other schools with similar academic ranks, unless they are attempting to secure spots in some of the more competitive departments at the university. Those who secure early admissions to the university from other high schools by recommendations from their high schools also tend to study less than their classmates who must sit examinations.
[7] Many of the published contents of AHCE discussions are available at the Nippon Foundation Library site. http://nippon.zaidan.info/seikabutsu/2002/01254/mokuji.htm
[8] Kariya Takehiko 1995 Taishu Kyoiku Shakai no Yukue Tokyo: Chuo Koron-sha, p.63
[9] In PISA survey, "Cultural Capital" is measured by possessions and activities related to "classical" culture (e.g., classical literature, books of poetry or

works of art).

[10] “Group selection” is a system in which several high schools are grouped, and the successful applicants are randomly allocated to each school regardless of their preference. At its peak, some form of group selection was used in more than a dozen prefectures.

[11] Kariya Takehiko shows that tracking within schools is more common in prefectures that have either small high school districts or group selection methods. Since there is less difference in student ability between schools, the difference within schools tends to become larger in those prefectures. The same study shows that in those prefectures (with small districts or group selection) the percentage of students who are accepted to the University of Tokyo and the University of Kyoto (the two most prestigious national universities) from public schools are lower than the percentages in other prefectures. Kariya Takehiko 2001 Kaisoka Nihon to Kyoiku Kiki Tokyo: Ushindo, p.105.

[12] The data are from The Ministry of Education, Culture, Sports, Science and Technology. http://www.mext.go.jp/b_menu/toukei/001/index01.htm and Tokyo Metropolitan Government Board of Education. http://www.kyoiku.metro.tokyo.jp/toukei/toukei.html See also Asahi Shimbun Shuzai Han. 2004 Kyoshi Ryoku. Tokyo: Asahi Shimbun-sha.

[13] The Ministry of Education, Culture, Sports, Science and Technology. http://www.mext.go.jp/b_menu/toukei/001/006/03121101/004.htm

[14] Oka Kaori and Motonori Tsuchiya 1999 Education in Contemporary Japan: Inequality and Diversity. Cambridge: Cambridge University Press, p.242.

[15] Ability-based groupings can be implemented in ways that do not emphasize the “competitive” aspects, as practiced in some Scandinavian countries. There is little indication, however, that such approaches are receiving serious consideration in Japan.

[16] This law prohibits educational discrimination “on account of race, creed, sex, social status, economic position, or family origin.” However, treating students differently based on their ability is not considered “discrimination”.

[17] On the issue of inequality and social stratification in Japan, see for example, Saito Takao 2001 Kikai Fubyodo. Tokyo: Bungei Shunju Sha; Sato Toshiki. 2000. Fubyudo Shakai Nihon. Tokyo: Chuo Koron-sha; Tachibanaki Toshiaki. 1998. Hihon no Keizai Kakusa. Tokyo Iwanami Shoten; Tachibanaki Toshiaki (ed.) 2004 Fuin Sareru Fubyodo.
Tokyo: Toyo Keizai Shimpo-sha.

[18] The top four countries are Mexico, the United States, Turkey and Ireland. Asahi Shimbun. Aug. 2, 2005.

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