Structural analysis of Dropouts and Repeaters in basic education schools
in the Republic of the Union of Myanmar

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Abstract

This paper analyzes the enrollment status of basic education schools in Myanmar as a whole, including national basic education schools under the Department of Basic Education, Ministry of Education, monastic schools and private schools using the most recent educational statistics.

Looking at the enrollment status of the national basic education schools regarding the advancement rate, the repetition rate, and the dropout rate, there was a clear improvement in enrollment in all grades, except in the high school courses under the current administration since AY 2016, not only compared to the military administration, but also compared to the previous administration since AY 2011. Especially in KG, the conventional high dropout rate has become almost 0%, partly because it is no longer compulsory.

Dropout students may be divided, depending on the timing. More than half of the dropouts occurred at the end of the academic year at Grade 4 and above. Until Grade 3 and below, there used be a certain number of students who repeated the same grade, and there was a strong tendency for those students to drop out from school. However, the number of students who repeated the same grade decreased, particularly in the lower grades of primary school courses, and the number of students who advanced to the next grade increased. However, the percentage of students who dropped out of school by the end of the next academic year after they advanced to the next grade has increased.

The repetition rates of monastic schools and private schools were extremely low in all grades. From the viewpoint of the dropout rate, especially in private schools, the calculated dropout rate showed a large negative value for all grades. This indicated that the inflow from outside of the private school system was large in each grade. The main source of the inflow was the outflow from the national basic education schools, which has been classified as dropout in the educational statistics thus far. In particular, many students transferred from national basic education schools to private schools when they went to middle school courses and high school courses. In addition, many transfers from Grade 10 to Grade 11 were also observed in monastic schools. Moreover, these large inflow schools were overwhelmingly located in the urban area. Having a dormitory also helped the transfer. High school courses in some monastic schools and many private schools have actually become college preparatory schools and have been advanced, particularly in Grade 11.

1. Purpose

As an educational administration, it is important to encourage children of school age to enroll in school and to provide appropriate education to graduate from school. The proper functioning of these basic administrations can be evaluated by looking at indicators such as the repetition rate, the advancement rate, and the dropout rate. Although analysis of these indicators has been carried out occasionally, detailed analysis has been limited due to data constraints [1][2][3], but the development of educational statistics has made it possible to carry out detailed analyses especially since Academic Year 2016. Therefore, the enrollment status in basic education in the Republic of the Union of Myanmar as a whole, including national basic education schools under the Department of Basic
Education, Ministry of Education, monastic schools and private schools, was analyzed.

2. Method

2.1 Trends in the Number of Students and Repeaters in the National Basic Education Schools According to Statistics at the End of Each Academic Year

For national basic education schools, the number of enrolled students and repeaters by grade from the end of AY 2006 to the end of AY 2017 were obtained [4]. It is easy to calculate the transition rate in order to see the transition in the number of students. The transition rate is defined as the number of students in a grade divided by the number of students one year ago and one grade below. This value varies depending on the repetition rate and the dropout rate, but if the repetition rate is small, it becomes close to the value obtained by subtracting the dropout rate from 1.0 [1]. Since the transition rate can be considered to represent the probability that a student who is in a certain grade will be in the next grade, it can be used for estimating the number of students by grade in the future. However, although this value is convenient, it does not accurately represent the status of repetition or dropout. Therefore, the repetition rate, the advancement rate, and the dropout rate were calculated accurately in this paper.

Statistics on national basic education schools for each year indicate the number of repeat students among the number of enrolled students. Although the number of years of repetition for the first year, the second year, the third year or higher is also available in the statistics, there are almost no problems even if all are treated as first year repeaters [2], since the number of repeat years is almost always one year and two years or more is small. The number of students who are enrolled minus the number of repeaters is the number of students who enter or advance to the grade (Freshers). The remainder of the students who do not register are considered to have dropped out from school. A more detailed discussion is as follows.

The number of students \( n(Y_0, G_0) \) in a certain year (Y0) and a grade (G0) are considered to be either \( f(Y_1, G_1) \) to advance to the next grade (G1) in the next year (Y1), or \( r(Y_1, G_0) \) to repeat to the same grade (G0), or \( d(Y_0, G_0) \) to leave school. As used here, dropout means dropout from the national basic education school system, and it includes not only dropouts from a school in a narrow sense of the definition, but also transfers to other school systems such private schools, monastic schools, and overseas schools, and death. The mortality rate for school-age populations was 0.0011-0.0013 in 2015 [5, Table 3.04], and the dropout rate sought here should generally not be less than this, but in some cases, it may be negative if there are many new entrants or inflows from other school systems including foreign countries.

Therefore, the following definitions can be made. In a year (Y0) or a grade (G0),

- Number of students \( n(Y_0, G_0) = f(Y_1, G_1) + r(Y_1, G_0) + d(Y_0, G_0) \)

Dividing both sides by the number of students gives the following.

\[
1.0 = \frac{f(Y_1, G_1)}{n(Y_0, G_0)} + \frac{r(Y_1, G_0)}{n(Y_0, G_0)} + \frac{d(Y_0, G_0)}{n(Y_0, G_0)}
\]

\[
= \text{Advancement rate} + \text{Repetition rate} + \text{Dropout rate}
\]

In addition, the number of students in the next year (Y1) and the next grade (G1) is composed of advanced students from the previous year, transferred from outside school systems, entrants, and repeat students.

Number of students \( n(Y_1, G_1) = f(Y_1, G_1) + r(Y_1, G_1) + d(Y_1, G_1) \)

The transition rate used in the previous analyses can be expressed by the following equation.

\[
\text{Transition rate} = \frac{n(Y_1, G_1)}{n(Y_0, G_0)}
\]

Figure 1 shows the concept of calculating the repetition rate, the advancement rate, and the dropout rate. In addition, since passing the matriculation examination also serves as a completion approval of Grade 11, it was calculated that passing the matriculation examination was advancement, and those who failed and did not repeat the grade were the same as dropouts from the school.
The number of registered/enrolled students appears in two different tables in the annual education statistics [4]. Namely, there is a table for the number of students by grade, and a table on the results of the year-end examination where the number of registered and passed students appear. The number of enrolled students and the number of registered students in each table should be the same; and they mostly are, but they differed in some years. As the number of students who passed the matriculation examination appeared in the table on final examination results, the number of registered students was also taken from this table in Muta [3]. However, the number of enrolled students was listed in the same table as the number of repeaters, so the number of enrolled students listed in the same table as repeaters was used this time. It was confirmed that although the same calculation using different values in Muta [3] produced slightly different calculated values, the results did not lead to different conclusions.

2.2 Trend in the Number of Students and Repeaters in the National Basic Education Schools Based on Early Academic Year Statistics

Students who leave school are divided into three types, namely, those who leave school without advancing or repeating school at the end of the academic year, those who leave school by the end of the next academic year after advancement, and those who leave school by the end of the next academic year after repeating the same grade. According to Muta [1][3], many of the repeaters tended to drop out by the end of the next academic year, and special attention should have been given to prevent this. However, the early academic year statistics are required for such an analysis. Early academic year statistics (approximately at the end of July) from AY 2016 to AY 2018 were obtained for the national basic education schools, then a detailed analysis was conducted for this period in detail [6][7][8].

Figure 2 shows the flow of the students when the early academic year statistics are added to Figure 1.

2.3 Analysis Including Monastic Schools and Private Schools

Due to data constraints, all analyses conducted thus far were limited to the national basic education schools [1][2][3]. The number of students in monastic schools and private schools used to be considerably smaller than national basic schools; and it was correct to think that the national basic education schools represented the educational situation in Myanmar as a whole. Recently, however, the increase in the number of private school students in high school courses is remarkable, and interpretation will remain problematic if the dropout rate of basic education schools is calculated without including monastic schools and private schools. Since the statistics of monastic schools and private schools have also been included in the education statistics since AY 2016, the enrollment status during the two-year period was analyzed including monastic schools and private schools.
3. Analysis Results

3.1 Changes in Enrollment from the End of AY 2006 to the End of AY 2017

Since the time-series changes of indicators for each academic year are large and the trends are not always easy to understand, the geometric mean values were calculated by dividing the academic years from 2006 to 2016 into two five-year periods according to administration. The values that were compared to the data for AY 2016 through AY 2017 are shown in Table 1. Muta [3] used data at the beginning of AY 2017 due to the limited data at that time, but in this paper, all data at the end of the academic years are used to maintain consistency between the data.

The period is categorized as under the military administration (AY 2006 to AY 2010), under the previous administration (AY 2011 to AY 2015), and under the current administration (AY 2016 to AY 2017). However, strictly speaking, there is some confusion during this period. For example, those who dropped out for AY 2015 were included under the previous administration, but for the sake of calculation, the dropouts included those who registered in March 2016 but did not register in June 2016, those who advanced to the next grade in June, but dropped out of school by the end of March 2017, and those who repeated the same grade in June, but dropped out of school by the end of March 2017. Strictly speaking, those who has dropped out of school after advancement or repetition were dropped out under the current administration. However, since the number of students in March 2016 was the basic number of students used to calculate the repetition rate, the advancement rate and the dropout rate, the total dropout rate was calculated based on the calculation formula already described and categorized under the previous administration, because of the time it would take until the current administration's education could influence the rates. Table 1 shows the transition rate, the advancement rate, the repetition rate, and the dropout rate for the three periods. Of course, it is somewhat different in detail from Muta [3, Table 2], but it is very similar.

The change in the repetition rate was not significant because the original value was small. A comparison between the military administration (AY 2006 to AY 2010) and the previous administration (AY 2011 to AY 2015) shows that the repetition rate tended to be somewhat higher under the previous administration, but this was not a large difference. The only difference was 2.23 % points in the repetition rate for Grade 10. It can also be positively seen that the increase in the repetition rate led to an increase in the number of students who chose to repeat the year rather than leave.
Table 1. Changes in Indicators during the Three Period

| Rate          | Period | nKG->nG1 | G1->G2 | G2->G3 | G3->G4 | G4->G5 | G5->G6 | G6->G7 | G7->G8 | G8->G9 | G9->G10 | G10->G11 | G11->Mat |
|---------------|--------|----------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|----------|----------|
| Transition rate | 2007.03->2012.03 | 0.8746  | 0.9485  | 0.9453  | 0.9330  | 0.7568  | 0.9034  | 0.9004  | 0.8732  | 0.8350  | 0.8835  |
|               | 2012.03->2017.03 | 0.8484  | 0.9503  | 0.9557  | 0.9202  | 0.8811  | 0.9270  | 0.9238  | 0.8736  | 0.8297  |
|               | 2017.03->2018.03 | 0.9745  | 0.9583  | 0.9604  | 0.9311  | 0.9040  | 0.9484  | 0.9446  | 0.9252  | 0.9185  | 0.8407  |
| Advance-ment rate | 2007.03->2012.03 | 0.8716  | 0.9458  | 0.9432  | 0.9315  | 0.7553  | 0.9018  | 0.8976  | 0.8636  | 0.8173  | 0.8373  | 0.3495  |
|               | 2012.03->2017.03 | 0.8405  | 0.9424  | 0.9477  | 0.9141  | 0.8766  | 0.9280  | 0.9230  | 0.9059  | 0.8381  | 0.7824  | 0.3215  |
|               | 2017.03->2018.03 | 0.9698  | 0.9524  | 0.9546  | 0.9283  | 0.9380  | 0.9467  | 0.9426  | 0.9222  | 0.8814  | 0.7796  | 0.2778  |
| Repetition rate | 2007.03->2012.03 | 0.0055  | 0.0034  | 0.0028  | 0.0023  | 0.0015  | 0.0020  | 0.0017  | 0.0028  | 0.0018  | 0.0209  | 0.0529  |
|               | 2012.03->2017.03 | 0.0103  | 0.0074  | 0.0065  | 0.0060  | 0.0046  | 0.0042  | 0.0034  | 0.0038  | 0.0197  | 0.0432  | 0.0592  |
|               | 2017.03->2018.03 | 0.0017  | 0.0056  | 0.0063  | 0.0060  | 0.0030  | 0.0026  | 0.0019  | 0.0020  | 0.0034  | 0.0430  | 0.0817  |
| Drop out rate  | 2007.03->2012.03 | 0.1229  | 0.0508  | 0.0540  | 0.0662  | 0.2432  | 0.0962  | 0.1007  | 0.1336  | 0.1720  | 0.1418  | 0.5975  |
|               | 2012.03->2017.03 | 0.1493  | 0.0503  | 0.0458  | 0.0799  | 0.1188  | 0.0678  | 0.0737  | 0.0904  | 0.1422  | 0.1745  | 0.6192  |
|               | 2017.03->2018.03 | 0.0285  | 0.0420  | 0.0391  | 0.0657  | 0.0590  | 0.0507  | 0.0554  | 0.0757  | 0.1152  | 0.1774  | 0.6405  |

Although there was no significant difference between the primary and middle school courses under the previous administration and AY 2016, under the current administration, there was a difference of 2.25% points for Grade 11. This is probably because the pass rate of the matriculation examination at the end of AY 2016 decreased compared to the previous period. Thus, they chose to repeat the year and to advance the next year as high school course enrollees.

Looking at the dropout rate, it is clear that during the five years under the previous administration, there were significant improvements from Grade 5 to Grade 6, advancing from primary school courses to middle school courses, from Grade 9 to Grade 10, advancing from middle school courses to high school courses, and from Grade 8 to Grade 9. The promotion of various schools created a small, but a large number of opportunities to study at middle and high school courses, such as post-primary schools, branch-middle schools, and branch-high schools. However, there was no clear decrease in the dropout rates during the primary, middle, and high school courses.

In addition, there were significant improvements from Grade 5 to Grade 6, and from Grade 9 to Grade 10, as well as others, apart from the high school courses, in AY 2016 to AY 2017. In particular, the dropout rate from Grade 1 to Grade 2 (from the new KG to the new Grade 1), which had been a major issue, has become extremely small. The difference from the previous administration was 12.08% point. This is likely due to the major impact of the new KG introduced from AY 2016. In the past, many of the former Grade 1 students aged 5 years were unable to adapt to school due to their underdeveloped mental and physical condition. However, under the new KG curriculum, the educational content changed from learning to physical activities and the interests of students, thus increasing relevancy. In addition, the new KG was no longer compulsory, and some students did not experience the new KG at all and entered Grade 1 directly, which appears to have contributed to the reduction in the dropout rate in the calculation.

It is probable that the "No one is left behind" policy contributed the decrease in the dropout rate from Grade 2 to Grade 9. Specifically, the Ministry of Education worked to expand educational opportunities by establishing new schools in areas where schools were needed, and promoted the necessary schools. The Ministry of Education also strictly prohibited the collection of money from parents and worked to improve school management by utilizing a school management fund. A new Assessment & Examination Policy was implemented to reduce excessive competition by changing the examination method from a score system to a grade system and daily attendance and performance as well as the end-of-the-year examination were taken into consideration. The parents were enlightened about the importance of continuing education. It is probable that policies based on promoting school enrollment and preventing school
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Dropouts were successful. In high school courses, however, the dropout rate from Grade 10 to Grade 11 and from Grade 11 to graduation were nearly the same over the three periods.

Table 2 shows when school dropouts occurred by grade from March 2016 to July 2018. Figure 3 illustrates this. First, the rate of students leaving schools without advancing or leaving schools improved markedly from March 2016 to March 2018 at the stage of Grade 1 (new KG). Advancement from March 2018 to July 2018 exceeded 1.0 and the dropout rate was negative indicating that many 6-year-old children, who were eligible to enter the new Grade 1, entered the new Grade 1 directly without having to attend the new KG at national basic education schools.

The number of those who dropped out of school at the end of the academic year improved up to Grade 5, but the improvement was not clear in the middle school courses, and clearly increased in the high school courses. This may be due to an increase in the number

Table 2. Detailed Analysis of the Dropout Rate Including Early Academic Year Statistics

| Original Position | 2016.03 → 2017.03 | 2017.03 → 2018.03 | 2018.03→2018.07 |
|-------------------|-------------------|-------------------|-------------------|
|                   | Advance_16       | Repeat_16        | Drop_16          | Adv._drop_16     | Rep._drop_16     | Advance_17      | Repeat_17       | Drop_17          | Adv._drop_17     | Rep._drop_17     | Advance_18      | Repeat_18       | Drop_18          |
| G1/n_KG           | 0.8547           | 0.0220           | 0.0886           | 0.0073           | 0.0419           | 0.9696           | 0.0017           | 0.0050           | 0.0221           | 0.0016           | 0.10249          | 0.0015           | -0.0264          |
| G2/n_G1           | 0.9409           | 0.0184           | 0.0222           | -0.0054          | 0.0238           | 0.9523           | 0.0056           | 0.0187           | 0.0201           | 0.0033           | 0.9757           | 0.0029           | 0.0214           |
| G3/n_G2           | 0.9432           | 0.0163           | 0.0221           | -0.0021          | 0.0205           | 0.9545           | 0.0063           | 0.0171           | 0.0171           | 0.0051           | 0.9793           | 0.0043           | 0.0164           |
| G4                | 0.8988           | 0.0172           | 0.0511           | 0.0139           | 0.0191           | 0.9281           | 0.0060           | 0.0441           | 0.0170           | 0.0048           | 0.9672           | 0.0038           | 0.0290           |
| G5                | 0.9274           | 0.0094           | 0.0472           | 0.0089           | 0.0072           | 0.9376           | 0.0030           | 0.0447           | 0.0131           | 0.0015           | 0.9560           | 0.0015           | 0.0426           |
| G6                | 0.9468           | 0.0075           | 0.0292           | 0.0120           | 0.0045           | 0.9465           | 0.0026           | 0.0347           | 0.0151           | 0.0010           | 0.9664           | 0.0019           | 0.0316           |
| G7                | 0.9356           | 0.0059           | 0.0402           | 0.0151           | 0.0031           | 0.9425           | 0.0019           | 0.0388           | 0.0159           | 0.0008           | 0.9593           | 0.0016           | 0.0391           |
| G8                | 0.9122           | 0.0058           | 0.0510           | 0.0282           | 0.0027           | 0.9222           | 0.0021           | 0.0517           | 0.0234           | 0.0007           | 0.9520           | 0.0014           | 0.0465           |
| G9                | 0.8940           | 0.0117           | 0.0795           | 0.0091           | 0.0057           | 0.8830           | 0.0034           | 0.0950           | 0.0178           | 0.0008           | 0.8889           | 0.0023           | 0.1088           |
| G10               | 0.7649           | 0.0598           | 0.1275           | 0.0173           | 0.0306           | 0.7796           | 0.0431           | 0.1347           | 0.0254           | 0.0172           | 0.8124           | 0.0487           | 0.1389           |
| G11               | 0.2614           | 0.0885           | 0.6142           | 0.0000           | 0.0359           | 0.2699           | 0.0819           | 0.6204           | 0.0000           | 0.0278           | 0.2475           | 0.1024           | 0.5521           |

Figure 3. Changes in the Dropout Rate by Grade and Timing
of students who advanced from national basic education schools to private schools as shown later. In AY 2016 and AY 2017, the rate of students who dropped out of schools in the year after repeating the grade showed a significant decrease, especially in primary school courses. The number of repeaters themselves was largely reduced in primary school courses. This was a good result in itself. However, the percentage of students who dropped out after advancing has increased instead. Students, who are unable to study well, require special care, and not just to advance to the next grade. The reason why the dropout rate from Grade 1 to Grade 3 from March 2016 to March 2017 was negative was because many students may have registered after the initial statistic was obtained.

Figure 4 shows the percentage of students who dropped out of school by grade and timing. Comparing the changes from March 2016 to March 2017 and from March 2017 to March 2018, the tendency changed from dropping out after repeating to dropping out after advancing until Grade 3; and this same trend was observed even in higher grades. The largest number of students dropped out of school at the change of the academic year at Grade 4 and above even from March 2017 to March 2018, when the dropout rate declined. However, it is probable that a significant number of calculated dropouts actually transferred to monastic schools and private schools to continue studying.

3.2 Expansion of the Monastic School and Private School Sector

Table 3 shows the percentages of the number of students by grade and type of institution from March 2016 to July 2018. As is clear from Table 3, in March 2016, the number of students at national basic education schools accounted for 95.6% of primary school courses, 96.5% of middle school courses, and 92.8% of high school courses. In July 2018, the number of students at national basic education schools decreased to 94.9%, 95.8%, and 89.1%, respectively. They were 95.9%, 97.4%, and 95.5%, respectively, and accounted for 96.3% of the total in 2013/14.

Monastic schools accounted for 4.0% of primary school courses, 2.6% of middle school courses, and 0.9% of high school courses in March 2016, but increased slightly to 4.1%, 2.8%, and 1.0%, respectively in July 2018. In addition, private schools accounted for only 0.4% of primary school courses, 1.0% of middle school courses, and 6.3% of high school courses in March 2016. However, private schools increased to 1.1%, 1.3%, and 9.9%, respectively in July 2018.

Table 4 shows the figures of Table 3 further divided into urban and rural areas. In the urban area, the proportion of national basic education schools was small. In March 2016, it accounted for 90.2% of primary school courses, 93.5% of middle school courses, and 88.2% of high school courses. In March 2018, however, the proportion fell to 88.8%, 92.1%, and 83.4%, respectively. Thus, the decline is remarkable especially in urban areas. In urban areas, monastic schools accounted for 7.9% of primary school courses, 3.9% of middle school courses, and 1.6% of high school courses in March 2016. In March 2018, monastic schools accounted for 7.9%, 4.5%, and 2.1%, respectively, and increased in middle and high school courses. Private schools accounted for 1.2% of primary school courses, 2.6% of middle school courses, and 10.2% of high school courses in March 2016. In March 2018, private schools accounted for 3.3%, 3.4%, and 14.5%, respectively, and its increase in high school courses was remarkable.

3.3 Repetition Rate

Figure 5 shows the repetition rate of monastic schools by grade and area. In monastic schools, the repetition rate was extremely low in all grades. The urban areas tended to be higher, but there were no grades exceeding 1%. Compared to the repetition rates from March 2016 to March 2017, the repetition rates of any grade decreased to about half from March 2017 to March 2018.

Figure 6 shows the repetition rate of private schools by grade and area. In primary school and middle school courses, the repetition rate was nearly 0% for every grade. However, the repetition rate was somewhat higher in high school courses. This was more prevalent in the urban areas rather than in the rural areas and higher in 2017 than in 2016. It appears
Table 3. Percentage of the Number of Students by Grade and Type of Institution

| U+R  | G1/n_KG | G2/n_G1 | G3/n_G2 | G4  | G5  | G6  | G7  | G8  | G9  | G10 | G11 |
|------|---------|---------|---------|------|------|------|------|------|------|------|------|
| 2016.03 | Monastic | 0.0505  | 0.0386  | 0.0377 | 0.0363 | 0.0325 | 0.0305 | 0.0268 | 0.0243 | 0.0183 | 0.0072 | 0.0114 |
|       | DBE     | 0.9443  | 0.9563  | 0.9581 | 0.9601 | 0.9638 | 0.9635 | 0.9652 | 0.9662 | 0.9640 | 0.9472 | 0.9037 |
|       | Private  | 0.0052  | 0.0052  | 0.0042 | 0.0036 | 0.0037 | 0.0060 | 0.0080 | 0.0095 | 0.0177 | 0.0456 | 0.0849 |
| 2017.03 | Monastic | 0.0479  | 0.0407  | 0.0392 | 0.0384 | 0.0334 | 0.0310 | 0.0291 | 0.0269 | 0.0187 | 0.0074 | 0.0118 |
|       | DBE     | 0.9449  | 0.9527  | 0.9547 | 0.9565 | 0.9617 | 0.9622 | 0.9632 | 0.9630 | 0.9627 | 0.9373 | 0.8854 |
|       | Private  | 0.0072  | 0.0067  | 0.0060 | 0.0051 | 0.0049 | 0.0049 | 0.0067 | 0.0077 | 0.0102 | 0.0186 | 0.0553 |
| 2018.03 | Monastic | 0.0492  | 0.0416  | 0.0404 | 0.0390 | 0.0329 | 0.0324 | 0.0301 | 0.0291 | 0.0189 | 0.0091 | 0.0150 |
|       | DBE     | 0.9391  | 0.9497  | 0.9519 | 0.9538 | 0.9604 | 0.9590 | 0.9595 | 0.9603 | 0.9277 | 0.8695 |
|       | Private  | 0.0117  | 0.0088  | 0.0078 | 0.0072 | 0.0067 | 0.0086 | 0.0091 | 0.0114 | 0.0209 | 0.0632 | 0.1555 |
| 2018.07 | Monastic | 0.0465  | 0.0422  | 0.0408 | 0.0393 | 0.0347 | 0.0333 | 0.0312 | 0.0288 | 0.0182 | 0.0076 | 0.0120 |
|       | DBE     | 0.9390  | 0.9453  | 0.9495 | 0.9521 | 0.9570 | 0.9564 | 0.9583 | 0.9586 | 0.9598 | 0.9172 | 0.8625 |
|       | Private  | 0.0145  | 0.0125  | 0.0097 | 0.0086 | 0.0083 | 0.0104 | 0.0105 | 0.0126 | 0.0220 | 0.0752 | 0.1255 |
the aim of repeaters was to pass the matriculation examination, but repeaters did not exceed 2% even for Grade 11.

Figure 7 shows the repetition rate at the national basic education schools by grade and area. Compared to 2016, there were features such as a clear decline in the repetition rate in 2017 in all grades, a high repetition rate in high school courses, and a higher repetition rate in rural areas than in urban areas. The shape of the graph was similar to that of private schools in Figure 6, but differed 10 times in scale.

Figure 8 shows the repetition rate of all basic education schools in Myanmar, which is the sum of all established school. Since there were many national basic education schools, based on the shape of Figure 7, Figure 5 and Figure 6 were mixed, thus the repetition rate of high school courses was somewhat smaller than that of Figure 7.
3.4 Advancement Rate

Figure 9 shows the advancement rate of monastic schools by grade and area. Conventionally, primary school courses were the main curriculum in monastic schools, but as the number of students at middle school courses increased, there were few high school courses. As a result of expanding Grade 11 in some schools, these graphs show distinctive shapes. Only 69% of Grade 1 (new KG) students advanced to Grade 2 (new Grade 1) in 2016 as a whole, but the percentage increased to 84% in 2017. Following this, student advancement was relatively high until Grade 4, but the advancement rate from Grade 4 to Grade 5, from Grade 5 to Grade 6, which was the middle school course, was relatively low, although students advanced until Grade 8, which is the final grade of post-primary schools. But thereafter, the advancement rate declined, but rose rapidly from Grade 10 to Grade 11. The reason why advancement from Grade 10 to Grade 11 was higher than 1.0 was because there was large inflow to monastic schools from other education sectors.

The sharp increase in the rate of advancement from Grade 10 to Grade 11 was due to the relatively small number of Grade 10 students compared to Grade 11. The
number of students in the final grade appears to be large due to preparation for the matriculation examination. Because there are dormitories, it is probable that the schools gather excellent students from all over the country including national basic education schools to focus on preparing for the matriculation examination.

Figure 10 shows the advancement rate of private schools by grade and area. The value exceeds 1.0 for all grades without exception. This means that the number of students increased every year as the grade progressed. In particular, the values were high from Grade 5 to Grade 6 when middle school courses begin, and from Grade 9 to Grade 10 when high school courses begin. Since this figure is close to the ratio of the number of students in the previous year, Grade 10 was about three times that of Grade 9, and Grade 11 was about two times that of Grade 10 in terms of national averages. The generally higher value in rural areas compared to urban areas meant that the increase in the number of students in rural areas was relatively greater with the change in school grade.

Figure 11 shows the advancement rate of national basic education schools by grade and area. There was a large difference between urban and rural areas, and the difference was large in the grades such as from Grade 5 to Grade 6 and from Grade 9 to Grade 10, and the value exceeding 1.0 in urban areas meant that the grade transfer from rural to urban areas was large in conjunction with advancement. Between 2016 and 2017, improvements were seen, particularly in primary school courses. Among these improvements, there was a remarkable increase in the advancement rate from the new KG to the new Grade 1. The rate of advancement from Grade 10 to Grade 11 was much lower than that of monastic schools and private schools.

Figure 12 shows the advancement rates of all established basic education schools by grade and area, and Figure 9 and Figure 10 have been combined based on Figure 11. In particular, the advancement rate from Grade 9 to Grade 10 and from Grade 10 to Grade 11 was higher than shown in Figure 11. It was also clear that the gap between urban and rural areas in the advancement rate from Grade 9 to Grade 10 has increased because the high school courses of private schools has been concentrated in urban area and has been expanding.
3.5 Dropout Rate

Figure 13 shows changes in the dropout rate of monastic schools by grade and area. In monastic schools, as shown in Figure 5, the repetition rate was extremely low, so that the dropout rate was approximately equal to 1.0 minus the advancement rate. The reason why the dropout rate was higher from Grade 8 to Grade 9 and from Grade 9 to Grade 10 was that there were almost no schools to advance to the high school courses in rural areas. The negative dropout rate from Grade 10 to Grade 11 was due to the transfer of students from non-monastic schools. It seems the monastic schools which has dormitories serve as free college preparatory schools for households that cannot afford to send their children to private schools.

Figure 14 shows the changes in the dropout rate of private schools by grade and area. Negative values are shown in all grades, particularly from Grade 5 to Grade 6, with large negative values from Grade 9 to Grade 10, indicating that many students were transferred from schools other than private schools. Since private schools were concentrated in urban areas, the national average value was approximately equal to the average in urban areas.

Figure 15 shows changes in the dropout rate of national
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basic education schools by grade and area. The negative values in urban areas from Grade 5 to Grade 6 and from Grade 9 to Grade 10 were observed. The average SES of parents in urban areas is higher than that in rural areas, then the participation in education is thought to be higher in urban areas, however, there must be some dropouts from a school even in urban areas.

The negative values were attributed to the fact that the number of students transferred from rural areas exceeded the number of those who actually dropped out. From Grade 9 to Grade 10, it was higher in 2017 than in 2016. Considering the situation of private schools shown in Figure 13, it is probable that the number of students who transferred to private schools has been increasing.

Figure 16 shows the changes in the dropout rate of all basic education schools by grade and area. Figure 13 and Figure 14 were added to the situation for the national basic education schools in Figure 15 where the number of students was large. Because there were many monastic schools and private schools in urban areas, the figure for urban areas shown in Figure 15 has dropped particularly in high school courses. Therefore, the disparity between urban and rural areas has especially increased in high school
courses. The average dropout rate also declined. The reason why the dropout rate from Grade 8 was high was the fact that there were many students who did not advance after Grade 8, which is the final grade in post-primary schools. The reason for the dropout rate from Grade 9 was the fact that many students did not advance after Grade 9, which is the final grade in middle school courses.

The reason why the dropout rate from Grade 10 was high was due to problems related to the matriculation examination. Compared to Figure 15, Figure 16 shows that the nationwide mean of the dropout rate from Grade 10 was 5.8% points lower than AY 2016 to AY 2017, and 6.6% points lower than AY 2017 to AY 2018, because it shows the percentage points of students moving from national basic education schools to private schools and monastic schools. However, even considering the mortality rate, which was about 0.11-0.13% points, the remaining 11% points of the students were pure dropouts, and they actually left school. Although the reasons may naturally differ from individual to individual, it was concluded that Grade 10 as the qualification for taking the matriculation examination was the reason. The completion certificate for Grade 10 was issued by the school principals. If it is certified, it is possible to take the matriculation examination one year later or at any time thereafter, and it is not meaningful to stay in school. If a student decides not to take the matriculation examination, it is meaningless to study one more year because they cannot get a graduation certificate from a high school course in anyway.

Advancing to Grade 11 is not to enjoy the high school education, but to prepare for the matriculation examination. This situation raises the question about the purpose and significance of high school education. Studying for the matriculation examination should not be the purpose of high school education. The new Grade 12 will be established in 2022 to meet the world-class standard. Regardless of its format, it should become a world-class high school education, and many students must want to benefit from a high quality high school education. One way to ensure this is to make the completion of Grade 11 as the qualification for taking the matriculation examination, and it should be raised to completion of Grade 12 or the prospect of Grade 12 completion from AY 2022. As a prerequisite, separating the high school completion certification and passing the matriculation examination should be considered as soon as possible [3]. This should be the world-class standard.

From a computational point of view, even if the dropout rate is high, it does not necessarily mean that the number of dropouts is large, because the basic number of students might be small. Thus, Figure 17 shows where the number of dropouts was relatively large, and how they changed by grade, area, and type of institution. In the calculations, there were no students who left school in urban areas, but rather some grades showed negative values. Although the dropouts appear to occur largely only in rural areas, it is believed that a corresponding number of dropouts occurred even in urban areas, but the number was cancelled by the massive transfer of students from rural areas. This tendency was particularly remarkable at the time of students advanced to middle school courses and high school courses.

In Figure 17, the negative number of dropouts in urban areas indicated that a large number of students actually transferred from rural to urban areas, and from national basic education schools to monastic schools and private schools. When considering only the negative dropout rate that shows an inflow from other education systems, among the number of students who left national basic education schools after Grade 10, 29.7% of them during March 2016 to March 2017 and 32.8% of them during March 2017 to March 2018 transferred to monastic schools and private schools. Of course, in actuality, there should be some dropouts at monastic schools and private schools. At the very least, some mortalities are calculated as dropouts. Therefore, the exact number was not known, although more students than the number calculated under these assumptions should have been transferred. Therefore, it can be considered that this is the minimum estimated value of the number of students who transferred.

Figure 17 characteristically shows a marked decrease in the dropout rate of the new KG over a year. This is probably the result that KG education is no longer compulsory. The students who left school in
Figure 17 included those who passed away. Because of the large number of original students on which the calculations were based in the new KG grade, the value based on March 2017 was estimated to be 1,719, which accounted for 3.92% of the calculated number of dropouts. The size is not negligible. The recent increase in the number of students in monastic schools and private schools has made it difficult to grasp the educational situation of Myanmar as a whole by analyzing the national basic educational schools alone.

3.6 Analysis of the Mandalay Region

The above is a nationwide analysis, but it can also be calculated by state/region. For example, Table 5 shows the number of students in the Mandalay Region by grade and type of institution. Compared to the national average in Table 3, it is clear that both monastic and private schools account for higher percentages of the total number of students in every grade. The proportion of national basic education schools is correspondingly small. When calculated in urban and rural areas, the sum of monastic schools and private schools has already exceeded that of national basic schools in Grade 11 in urban areas. In a sense, it might be indicative of Myanmar’s school attendance in future.

Under these circumstances, Figure 18 shows the dropout rate between 2017 and 2018 by the type of institution. Looking at the national basic education schools, it is clear that the dropout rate increased as school grades progressed, but the negative value of the dropout rate increased in private schools, particularly from middle school courses and higher, and in monastic schools from the high school courses. It is clear that the national basic education schools have become a continuous source of incoming students for these schools.

In addition, since it is difficult to imagine the actual number of dropouts only by the dropout rates, Figure 19 shows the number of dropouts (including the deceased) by grade, area and type of institution. In urban area, there were no large numbers of positive
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4. Conclusion and Policy Implications

4.1 Conclusion

In a comparison of the dropout rate into three groups: five years under the military administration, five years under the previous administration, and 2016-2017 under the current administration, the main difference between the military administration and the previous administration was that the dropout rate from Grade 5 to Grade 6, transitioning from primary school to middle school courses, decreased significantly, and from the Grade 9 to Grade 10, transitioning from middle school to high school courses, also decreased significantly. Although the establishment and promotion of a large number of post-primary schools, branch-middle schools, and branch-high schools, has increased the opportunity to enter middle school courses and high school courses, there has been almost no improvement in the dropout rates in primary school courses and middle school courses. However, from AY 2016 to AY 2017, the

Table 5. Percentage of the Number of Students by Grade and Type of Institution in Mandalay Region (March 2018)

|       | G1/n | KG | G2 | nG1 | G3 | nG2 | G4 | G5 | G6 | G7 | G8 | G9 | G10 | G11 |
|-------|------|----|----|-----|----|-----|----|----|----|----|----|----|-----|-----|
| U     | Monastic | 0.0993 | 0.0835 | 0.0793 | 0.0767 | 0.0652 | 0.0623 | 0.0605 | 0.0618 | 0.0589 | 0.0664 | 0.1043 |
|       | DBE   | 0.8722 | 0.8927 | 0.8962 | 0.9035 | 0.9158 | 0.9167 | 0.9176 | 0.9095 | 0.8878 | 0.8011 | 0.6620 |
|       | Private | 0.0285 | 0.0238 | 0.0225 | 0.0198 | 0.0190 | 0.0210 | 0.0220 | 0.0227 | 0.0267 | 0.0532 | 0.1324 | 0.2338 |
| R     | Monastic | 0.1315 | 0.1139 | 0.1187 | 0.1105 | 0.0967 | 0.0878 | 0.0808 | 0.0800 | 0.1125 | 0.1165 | 0.1641 |
|       | DBE   | 0.7801 | 0.8100 | 0.8083 | 0.8250 | 0.8406 | 0.8552 | 0.8620 | 0.8495 | 0.7725 | 0.6649 | 0.4948 |
|       | Private | 0.0884 | 0.0760 | 0.0731 | 0.0645 | 0.0628 | 0.0571 | 0.0572 | 0.0704 | 0.1150 | 0.2186 | 0.3411 |
|       | Monastic | 0.0851 | 0.0705 | 0.0631 | 0.0625 | 0.0524 | 0.0487 | 0.0490 | 0.0504 | 0.0170 | 0.0000 | 0.0000 |
|       | DBE   | 0.9128 | 0.9281 | 0.9352 | 0.9365 | 0.9464 | 0.9496 | 0.9490 | 0.9470 | 0.9780 | 0.9818 | 0.9531 |
|       | Private | 0.0021 | 0.0014 | 0.0017 | 0.0010 | 0.0012 | 0.0017 | 0.0020 | 0.0027 | 0.0050 | 0.0182 | 0.0469 |

Figure 18. Dropout Rate by Grade and Type of Institution in Mandalay Region (From March 2017 to March 2018)

Dropouts except those who left Grade 10 in national basic education schools. Large negative dropouts from Grade 5 were from middle school courses at national basic education schools, and large negative dropouts above Grade 8 indicated large inflows from outside (rural areas and other educational sectors) to monastic and private schools. In contrast, in rural areas, the number of school grades which showed negative values was small, and it can be seen that many students left from the national basic education school in most of the grades.

Many of the positive dropouts in rural areas are believed to be absorbed as negative dropouts in urban areas, but there must be actual dropouts even in urban areas in every grade, at least 0.11-0.13% of deaths that should be included in the positive dropouts. Comparing the number of nominal dropouts at the national basic education schools with the negative dropouts at the monastic schools and the private schools, it seemed difficult to fill the inflow to monastic schools and private schools with the outflow from the national basic education schools in the Mandalay Region alone, and a large number of transfers from the neighboring states/regions must have occurred.
dropout rate declined remarkably in all grades except for high school courses. In particular, the conventional high dropout rate in Grade 1 (new KG) has been nearly 0%, because KG is no longer compulsory.

Depending on the timing of dropouts, dropouts can be divided into those who leave school at the end of the academic year without advancement or a repetition, those who leave school by the end of the next academic year after advancement, and those who leave school by the end of the next academic year after repetition. At Grade 4 and above, more than half of the dropouts occurred at the end of the academic year when the grade changes. In particular, at Grade 3 and below, there was a certain number of students who repeated the same grade then dropped out. However, the number of students who repeated the same grade decreased and the number of students who advanced to higher grades increased. In addition, the percentage of students who dropped out by the end of the academic year after advancement also increased. Subsequent care for those who advanced with low achievement is important.

The repetition rate of monastic schools and private schools was extremely low in all grades. From the viewpoint of the dropout rate, especially in private schools, the calculated dropout rate showed negative values for all grades. This indicated that the inflow from outside the private school system was large in each grade. The source of the inflow was the outflow from the national basic education schools, which has been analyzed as a dropout in school statistics. In particular, from Grade 5 to Grade 6, from Grade 9 to

Figure 19. Number of Students Leaving School by Grade, Area and Type of Institution in Mandalay Region (From March 2017 to March 2018)
Grade 10, many students moved from national basic education schools to monastic schools and private schools when they advanced to middle and high school courses. Based on such transfers from national basic education schools to private schools, it cannot be said that the number of dropouts who gave up studying at high school courses has increased in Myanmar as a whole.

Such transfers have also been seen from Grade 10 to the final Grade 11. In addition, many inflows were observed from Grade 10 to Grade 11 also in monastic schools. Moreover, these large inflow schools were overwhelmingly located in urban areas. It is feared that the high school courses of monastic schools and private schools especially at Grade 11 have become college preparatory courses. In addition, the dropout rate after completing the Grade 10 was still high.

At the end of March 2018, private schools accounted for 11.55% of Grade 11 students, while monastic schools accounted for 1.50%. However, 23.38% was private schools, 10.43% was monastic schools, and 66.20% was national basic education schools in the Mandalay Region, one of the states/regions where private schools are concentrated. In urban areas, the proportion of the number of students in the national basic education school has already been halved to 49.48%. In addition to inflows from national basic education schools to private schools and monastic schools in the region, it is probable that a large number of students are transferring from outside the region. The fact that private schools and monastic schools have dormitories also helps students to transfer. The dropout rate has decreased in each grade, and the number of students who can take matriculation examinations has continued to increase. As competition for the examinations is expected to intensify further, such transfers will become more pronounced. However, from the standpoint of quality high school education and equal educational opportunities, it is feared that problems will also increase.

4.2 Policy Implications

The following policy implications can be derived from the above results.

1) Because several practices conducted in 2016/17 under the policy of “No one is left behind” seemed very effective, these practices should be continued after they have been evaluated in detail.

According to the data analysis, there is no doubt that several practices had impacted the reduction in the dropout rates as a whole. However, the details on the effect of each practice are not known. There must be some issues that need to be resolved for improvement. A detailed evaluation on these practices should be conducted, and the results should be used to make the practices more effective.

2) Special attention is needed for those students who advance with a low achievement record because they have a high tendency to drop out from school.

Especially in the lower grades of primary school, the number of repeaters declined due to the semi-automatic advancement of grades, and the number of repeaters who dropped out of school after their repetition declined markedly. However, this meant that the number of students who advanced to the next grade increased while their achievements remained low, and the percentage of those who dropped out from school by the end of the next academic year increased among those who advanced to the next grade. Since the repetition is a stage before the dropout, it is good to advance students semi-automatically. However, if insufficient attention is given to those students with a low achievement record, they will dropout from the schools in the near future. It is necessary to enhance special attention such as supplementary education for those with a low achievement record.

3) As the school grade increases, the dropout rate tends to increase. However, since the uneven distribution of educational opportunities between urban and rural areas is considered to be one of the factors, some measures should be taken.

As school grades goes up from primary school courses to middle school courses and high school courses, the educational opportunities become unevenly large in urban areas. Private schools, which have been expanding remarkably in recent years, are also overwhelmingly located in urban areas to recruit students efficiently. Since the uneven
distribution of educational opportunities is considered to be one of the factors behind the higher rate of dropout as a whole in higher grades, appropriate configuration of public schools and the establishment of school dormitories should also be considered.

4) It is necessary to review the prerequisite for taking the matriculation examination in order to realize desirable education in high school courses rather than just preparing for the matriculation examination.

By changing the current Grade 10 completion qualifications to Grade 11 completion including the prospect of completion to take the matriculation examination (from AY 2022, Grade 12 completion or the prospect of completion), it is possible to reduce the large dropout rate from Grade 10 to Grade 11 and to ease excessive preparatory education in Grade 11. To do so, the high school completion certification and passing the matriculation examination should be kept separate as soon as possible.

5) The roles and the regulations for establishing and operating national basic education schools, monastic schools, and private schools need to be reviewed.

National basic education schools provide the necessary education to all school-age children and the monastic schools and private schools provide education according to the mission of their establishment. However, it is feared that both monastic schools and private schools are becoming just preparatory schools to pass the matriculation examination, especially in the high school courses. Although preparing for the matriculation examination is important, the purpose of education at high school courses should not be focused on only passing the matriculation examination. It is necessary to conduct a thorough survey on the current status of education, including whether education is being conducted in accordance with the national curriculum with desirable standards, and to deepen sufficient discussions on the roles, conditions, quality assurance etc. based on the survey.

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国立基礎教育学校では、留年率、進級率、退学率から就学状況を見ると、2016年度からの現政権下では、軍事政権下と比較してもちろん、2011年度からの民主化政権と比較しても高校課程を除き、すべての学年で就学状況の明確な改善があった。特にKGでは義務教育ではなくなったこともあり、従来の高い退学率はほとんど0%になった。

退学者はその時期によって、年度の変わり目に進級や留年なしで退学する者、進級するが次の年度末までに退学する者、留年をしてその年度末までに退学する者に分けられる。Grade4以上では、退学者の半数以上は年度の変わり目に発生する。Grade3以下では従来は学年次の留年する者が有る程度いで、それらのものが退学する傾向が強かったが、特に小学校課程低学年では留年する者が減少し、進学する者が増えたが、進学をした後、学年末までに退学する者の割合が増えている。

モナスティック学校や私立学校の留年率はどの学年でも極めて低く、退学率という観点からは特に私立学校では計算上の退学率が各学年大きな負値を示す。これは、各学年で私立学校システム外からのインフローが大きいことを示している。そのインフローの主な源泉は国立基礎教育学校からのアウトフローで、教育統計上ではこれまで退学として分類されていた部分である。特に、中学校课程、高校課程に進学する際に国立基礎教育学校から私立学校に進学移動する者が多い。さらに、モナスティック学校においても、Grade10からGrade11にかけて、多くの進級移動がみられる。しかも、これらインフローの大きな学校は市部に偏在している。学寮を持っている事も進級移動を助けている。一部のモナスティック学校や多くの私立学校の高校課程は特にGrade11で大学受験準備課程化し、その規模を拡大している。

Key words : 退学率、中退率、進級率、都市農村間格差

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