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FACTSHEET

THROUGHPUT RATE OF TVET COLLEGE STUDENTS (NATIONAL CERTIFICATE VOCATIONAL) FOR THE PERIOD 2017 TO 2019

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1. BACKGROUND

The National Certificate (Vocational) (NC(V)), which is a three-year qualification, was introduced by the then Department of Education at public Technical and Vocational Education and Training (TVET) colleges in 2007 to respond to the priority skills demands of the South African economy. The NC(V) continues to be offered by TVET Colleges; however, many stakeholders have expressed concern about the low numbers of students completing the full NCV qualification within expected time frames.

Reliable and credible information about throughput rates of TVET College students enrolled in NC(V) programmes has been hard to come by for many years owing to the unavailability of unit level student enrolment data. Since 2016, however, the Department of Higher Education and Training (DHET) began collecting unit level enrolment data from TVET colleges. The availability of such data has now made it possible to calculate the throughput rates of NC(V) students with better reliability and confidence. The Department published its first fact sheet on TVET College throughput rates (NCV) in 2021.

Information about throughput rates is crucial to understanding, among others, the level of efficiency of an education system. Throughput rates provide insights into how quickly or slowly students move through the system. The slower the movement of students from enrolment to completion, the greater the cost to the system. Moreover, the slow movement of students through the system (which is caused largely through high levels of repetition) creates a bottleneck in the system, resulting in constraints to the admission of the number of new entrants to TVET colleges. As the number of students repeating courses overlap with new student enrolments, entry into required courses become harder for all to access. Bottlenecks can cause both the student and the institution to incur increased educational costs, waste time, and delay completion. High throughput rates impede student progress, impact negatively on teaching and learning, increase costs, and impacts negatively on the ability of institutions to facilitate student success. Delays in the completion of qualifications entail a waste of resources both at individual as well as at collective levels. They also deprive the economy of adequate numbers of new graduates. The National Development Plan¹ recognises that throughput rate is “a critical indicator of performance” of the TVET College system and sets an ambitious target thereof.

2. DEFINITION OF THROUGHPUT RATE

Throughput rate is defined as the rate at which a student cohort successfully completes a qualification within the stipulated timeframe for that qualification². For the purposes of this fact sheet, the throughput rate is defined as the number of students who completed NCV Level 4 in 2019 within expected time frames (namely, 3 years), expressed as a percentage of the number of students who enrolled for NCV Level 2 (in 2017).

3. PURPOSE

The purpose of this fact sheet is to provide information and insights into the throughput rate of TVET college students enrolled in NC(V) programmes. Such insights can be drawn upon to inform interventions to address relevant challenges and to improve accountability in the system.

¹ NPC (2011) *National Development Plan: Vision for 2030*. National Planning Commission

² DHET (2019). Data Dictionary

4. METHODOLOGY USED TO CALCULATE THROUGHPUT RATE

The throughput rate is calculated by dividing the total number of students who completed NC(V) Level 4 in year 3 (2019), by the total number of students who enrolled for NC(V) Level 2 in year 1(2017), multiplied by 100. This calculation is based on a comparison of the same cohort of students who enrolled in year 1 and who completed in year 3. This Fact Sheet used the TVET Management Information System (TVETMIS) database as the data source for enrolment data, and the DHET Examinations database as the data source for completion data.

5. LIMITATIONS

- The South African Identity Number (ID) was used as a unique identifier to merge the TVETMIS and Examinations datasets; consequently, records with passport numbers were excluded from the analysis. This means that non-South African students were excluded from the analysis.
- “Exam-only³” students who completed NCV Level 4 in year 3 were excluded from the analysis because these students are not counted as part of the cohort who enrolled in 2017.

6. SUMMARY OF FINDINGS

- In the 2017 academic year, 61 045 students enrolled for the NC(V) Level 2 programme. In 2019, 6 328 students of this cohort completed the NCV Level 4. Therefore, 10.4% of all students enrolled in the NC(V) 2 programme in 2017 completed this qualification within the expected time frame. The overall throughput rate of the 2017 NCV Level 2 student cohort was therefore 10.4%. (Table 1)
- The NC(V) Level 2 throughput rate for females is almost twice as that for males and 2.4 percentage points higher than the overall throughput rate of 10.4 %. (Table 2)
- The highest throughput rate was in the *Education and Development* programme, which was 10.9 percentage points higher than the overall throughput rate. The second highest throughput of students was in the *Primary Health* programme, which was 7.5 percentage points higher than the overall throughput rate. (Table 3)
- The lowest throughput rate was in the *Process Plant Operations* programme, which was 7.2 percentage points lower than the overall throughput rate. The second lowest throughput rate for the 2017 NC(V) Level 2 cohort was in the *Information Technology and Computer Science* programme, which was 6.4 percentage points lower than the overall throughput rate. (Table 3)
- TVET colleges with the highest throughput rate for the 2017 NCV Level 2 cohort were Waterberg TVET College (21.4 %), Gert Sibande TVET College (19.0 %), Northlink TVET College (17.4%) and Mopani South-East TVET College (14.8%). (Table 4)
- TVET colleges with the lowest throughput rate for the 2017 NC(V) Level 2 cohort were Central Johannesburg TVET College (2.0%), Flavius Mareka TVET College (2.1%) and Northern Cape Rural TVET College (2.4%). (Table 4)
- The province with the highest throughput rate was Mpumalanga, which was 3.9 percentage points higher than the overall throughput rate of 10.4%. (Table 5)
- The province with the lowest throughout rate was Northern Cape, which was 5.8 percentage points lower than the overall throughput rate. (Table 5)

³ These are students who do not formally enrol at the TVET College and do not attend classes/lectures; they only register to write examinations

- It is evident that there were major differences in the throughput rate of students enrolled in the NC(V) Level 2 programme in 2017 across gender, programme, TVET colleges and provinces.

7. TABLES

Table 1: Throughput rate of NCV Level 2 students enrolled in TVET Colleges in 2017

| Number of new entrants for NCV Level 2 in 2017 | Number of students who completed NCV Level 4 in 2019 | Throughput rate (%) |
|--|--|---------------------|
| 61 045 | 6 328 | 10.4 |

Source: TVETMIS 2017 and National Examinations Database, November 2019

Notes: The students who enrolled for NCV Level 2 in 2017 for the first time (as new entrants), were compared to those students who completed NCV Level 4 in 2019

Table 2: Throughput rate of NCV Level 2 students enrolled in TVET Colleges in 2017, by gender,

| Gender | Number enrolled (NCV 2,2017) | Number completed NCV Level 4 in 2019 | Throughput rate (%) |
|----------------|------------------------------|--------------------------------------|---------------------|
| Male | 24 134 | 1 595 | 6,6 |
| Female | 36 911 | 4 733 | 12,8 |
| Overall | 61 045 | 6 328 | 10,4 |

Source: TVETMIS 2017 and National Examinations Database, November 2019

Notes: The students who enrolled for NCV Level 2 in 2017 for the first time (as new entrants), were compared to those students who completed NCV Level 4 in 2019

Table 3: Throughput rate of NCV Level 2 students enrolled in TVET Colleges in 2017, by programme

| Programme | Number enrolled (NCV 2,2017) | Number completed (NCV4, 2019) | Throughput rate (%) |
|--|------------------------------|-------------------------------|---------------------|
| 1. Civil Engineering and Building Construction | 4 384 | 291 | 6,6 |
| 2. Drawing Office Practice | 90 | 4 | 4,4 |
| 3. Education and Development | 1 416 | 301 | 21,3 |
| 4. Electrical Infrastructure and Construction | 8 033 | 347 | 4,3 |
| 5. Engineering and Related Design | 7 608 | 498 | 6,5 |
| 6. Finance, Economics and Accounting | 3 897 | 366 | 9,4 |
| 7. Hospitality | 3 964 | 473 | 11,9 |
| 8. Information Technology and Computer Science | 3 538 | 143 | 4,0 |
| 9. Management | 2 982 | 357 | 12,0 |
| 10. Marketing | 2 858 | 210 | 7,3 |
| 11. Mechatronics | 417 | 36 | 8,6 |
| 12. Office Administration | 11 641 | 1 874 | 16,1 |
| 13. Primary Agriculture | 1 822 | 238 | 13,1 |
| 14. Primary Health | 340 | 61 | 17,9 |
| 15. Process Plant Operations | 251 | 8 | 3,2 |
| 16. Safety in Society | 2 249 | 291 | 12,9 |
| 17. Tourism | 4 007 | 577 | 14,4 |
| 18. Transport and Logistics | 1 548 | 253 | 16,3 |
| Overall | 61 045 | 6 328 | 10,4 |

Source: TVETMIS 2017 and National Examinations Database, November 2019

Notes: The students who enrolled for NCV Level 2 in 2017 for the first time (as new entrants), were compared to those students who completed NCV Level 4 in 2019

Table 4: Throughput rate of NCV Level 2 students enrolled in TVET Colleges in 2017, by TVET College

| College name | Number enrolled (NCV 2,2017) | Number completed (NCV4, 2019) | Throughput rate |
|-------------------------------|------------------------------|-------------------------------|-----------------|
| Boland TVET College | 680 | 97 | 14,3 |
| Buffalo City TVET College | 1 369 | 178 | 13,0 |
| Capricorn TVET College | 2 951 | 322 | 10,9 |
| Central Johannesburg TVET | 637 | 13 | 2,0 |
| Coastal TVET College | 1 956 | 210 | 10,7 |
| College of Cape Town for TVET | 1 330 | 137 | 10,3 |
| Eastcape Midlands TVET | 1 365 | 151 | 11,1 |
| Ehlanzeni TVET College | 1 645 | 117 | 7,1 |
| Ekurhuleni East TVET College | 1 488 | 108 | 7,3 |
| Ekurhuleni West TVET College | 3 362 | 370 | 11,0 |
| Elangeni TVET College – | 1 642 | 148 | 9,0 |
| Esayidi TVET College | 1 388 | 183 | 13,2 |
| False Bay TVET College | 684 | 80 | 11,7 |
| Flavius Mareka TVET College | 335 | 7 | 2,1 |
| Gert Sibande TVET College | 2 741 | 521 | 19,0 |
| Goldfields TVET College | 650 | 46 | 7,1 |
| Ikhala TVET College | 799 | 109 | 13,6 |
| Ingwe TVET College | 1 279 | 83 | 6,5 |
| King Hintsa TVET College | 557 | 67 | 12,0 |
| King Sabata Dalindyebo TVET | 1 371 | 88 | 6,4 |
| Lephalale TVET College | 206 | 21 | 10,2 |
| Letaba TVET College | 982 | 144 | 14,7 |
| Lovedale TVET College | 418 | 59 | 14,1 |
| Majuba TVET College | 1 903 | 198 | 10,4 |
| Maluti TVET College | 1 798 | 207 | 11,5 |
| Mnambithi TVET College | 769 | 47 | 6,1 |
| Mopani South East TVET | 1 409 | 209 | 14,8 |
| Motheo TVET College | 539 | 46 | 8,5 |
| Mthashana TVET College | 612 | 77 | 12,6 |
| Nkangala TVET College | 1 259 | 167 | 13,3 |
| Northern Cape Rural TVET | 505 | 12 | 2,4 |
| Northern Cape Urban TVET | 292 | 25 | 8,6 |
| Northlink TVET College | 1 066 | 185 | 17,4 |
| Orbit TVET College | 1 360 | 189 | 13,9 |
| Port Elizabeth TVET College | 1 428 | 90 | 6,3 |
| Sedibeng TVET College | 1 631 | 145 | 8,9 |
| Sekhukhune TVET College | 815 | 37 | 4,5 |
| South Cape TVET College | 572 | 68 | 11,9 |
| South West Gauteng TVET | 3 797 | 364 | 9,6 |
| Taletso TVET College | 887 | 76 | 8,6 |
| Thekwini TVET College | 1 033 | 89 | 8,6 |
| Tshwane North TVET College | 1 422 | 103 | 7,2 |
| Tshwane South TVET College | 1 002 | 73 | 7,3 |
| Umfoloji TVET College | 1 140 | 132 | 11,6 |
| Umgungundlovu TVET College | 1 239 | 60 | 4,8 |
| Vhembe TVET College | 1 521 | 109 | 7,2 |
| Vuselela TVET College | 695 | 49 | 7,1 |
| Waterberg TVET College | 718 | 154 | 21,4 |
| West Coast TVET College | 1 272 | 129 | 10,1 |
| Western TVET College | 526 | 29 | 5,5 |
| Overall | 61 045 | 6 328 | 10,4 |

Source: TVETMIS 2017 and National Examinations Database, November 2019

Notes: The students who enrolled for NCV Level 2 in 2017 for the first time (as new entrants), were compared to those students who completed NCV Level 4 in 2019

Table 5: Throughput rate of NCV Level 2 students enrolled in TVET Colleges in 2017, by province

| Province | Number enrolled (NCV 2,2017) | Number progressed (NCV4, 2019) | Throughput rate |
|----------------|------------------------------|--------------------------------|-----------------|
| Eastern Cape | 8 586 | 825 | 9,6 |
| Free State | 3 322 | 306 | 9,2 |
| Gauteng | 13 865 | 1 205 | 8,7 |
| Kwazulu/Natal | 11 682 | 1 144 | 9,8 |
| Limpopo | 8 602 | 996 | 11,6 |
| Mpumalanga | 5 645 | 805 | 14,3 |
| North West | 2 942 | 314 | 10,7 |
| Northern Cape | 797 | 37 | 4,6 |
| Western Cape | 5 604 | 696 | 12,4 |
| Overall | 61 045 | 6 328 | 10,4 |

Source: TVETMIS 2017 and National Examinations Database, November 2019

Notes: The students who enrolled for NCV Level 2 in 2017 for the first time (as new entrants), were compared to those students who completed NCV Level 4 in 2019

8. CONCLUSION

This report indicates that only 10.4% of students who enrolled for the NCV in 2017 completed the qualification within the 3-year expected time frame. Although this figure is low, it reflects a small increase from the throughput rate of the 2016 cohort, which was 9.2%⁴. This report has also found that throughput rates differ significantly across gender, programme, TVET College and provincial disaggregations.

There are inefficiencies in education investment when throughput rates are low; low throughput rates often result in much smaller class sizes at later levels of the NC(V) programmes, which, in turn, increases per capita costs, as generally the same amount of lecturing time is required even when classes become very small. Given the low throughput rates in the TVET College sector, the cost of producing NCV TVET College graduates is exceedingly high. It is therefore imperative for TVET Colleges, Regional Offices and the DHET to use this report to identify and implement interventions that could improve throughput rates.

⁴ DHET (2021). Fact Sheet on Throughput Rate throughput rate of TVET college students (National Certificate Vocational) for the period 2016 to 2018. Pretoria.