

Costing of three Language Policy scenarios

Prepared for the Language Policy Revision Process (2021)

27 May 2021

Introduction

As part of the revision process of the Language Policy (2016) in 2021, **three cost estimates** were done to inform the work of the task team, the Rectorate, Council and Legal Counsel with reference to the cost of implementing each option:

- A) the **current multilingual Language Policy (2016)**;
- B) the **first draft of the revised Language Policy** as made available for public consultation on 21 March 2021; and
- C) a **fully Parallel Medium Teaching (PMT) option** for all undergraduate modules

In order to do these cost estimates a number of *quantifiable items* are identified for each of the three options, and a number of *assumptions* are made as indicated under each of the options. For example, current spending on PMT is used as a point of departure since SU does not currently do costing on a per module basis. Similarly, the cost norms of the Department of Higher Education and Training (DHET) are used to calculate the associated infrastructure costs (relevant to option C). Assumptions are also made as to how much time a staff member would typically spend on translation and editing to calculate the implicit costs of implementing a multilingual Language Policy. Other *considerations* that are not quantifiable, but must be taken into account above and beyond the financial considerations, are also indicated for each of the options.

A first draft of the costing document was compiled utilising information provided by Information Governance, the Division for Learning and Teaching Enhancement, the Registrar's Responsibility Centre, the Finance Division, Facilities Management and Corporate Communication and Marketing. A reference group was then convened containing representatives from these Centres as well as faculty representatives to comment and discuss the first draft in order to ultimately verify and validate the:

- a) assumptions used to construct the model;
- b) underlying data sources;
- c) way the underlying data sources were used; and
- d) calculations.

Option A (cost of implementing the current multilingual Language Policy (2016) contains the following *quantifiable items* with underlying *assumptions*, as explained in the relevant section:

institutional annual awards to faculties and professional administrative services for PMT, translation and editing;
institutional annual awards for interpretation services (simultaneous, sign language and equipment);
institutional annual contribution to the Language Centre; and
implicit staff related costs.

Other *considerations*, such as the complexity of scheduling and the reality that the number of students attending the Afrikaans stream of the PMT offering and the number of lecturers able to teach and assess in Afrikaans are declining and adding to the complexity, are mentioned but not quantified.

Option B (cost of implementing the first draft of the revised Language Policy) contains the following *quantifiable* items with underlying *assumptions*, as explained in the relevant section:

- a) All the items of option A; and
- b) The cost of complying with the following provision as prescribed by the Language Policy Framework for Public Higher Education Institutions (2020): All official internal communication will be conveyed in Afrikaans, English and isiXhosa.

Option C (cost of implementing a fully Parallel Medium Teaching (PMT) option for all undergraduate modules) contains the following *quantifiable* items with underlying *assumptions*, as explained in the relevant section for the **face-to-face PMT**:

- a) additional infrastructure costs and what it will cost the University to finance and maintain such infrastructure (total life cycle costs);
- b) additional space required;
- c) additional staff costs;
- d) potential impact on student fees; and
- e) potential impact of new infrastructure on environment (carbon footprint and carbon taxes).

Other infrastructure and spatial *considerations*, such as the availability of suitable space are mentioned but not quantified. The additional office space for additional staff is also not quantified. The complexities around PMT scheduling that are mentioned under option A, also apply here.

For **technology-mediated PMT**, the following *quantifiable* items with underlying *assumptions*, as explained in the relevant section, are considered:

- a) Dubbing costs;
- b) Number of additional staff members; and
- c) Potential impact on student fees.

Similar to the face-to-face option calculation, the additional office space for additional staff is not quantified. There are also serious *considerations* with regard to the pedagogical soundness of this asynchronous option where the dubbed lecture is accessed some time after the actual lecture by one (language) group of students without the benefit of real-time collaboration with the lecturer, while the other (language) group of students have the benefit of real-time collaboration with the lecturer and fellow students. The value of the dubbed lecture per se, in terms of its value for revision and reinforcement is not questioned, but rather whether this is an equitable solution if both language groups do not have the benefit of the collaborative interaction between students and the students and the lecturer during a lecture.

A) Implementing the current Language Policy (2016)

1. When considering the cost of implementing the current language policy, the following amounts are budgeted for 2021.

Award to Faculties for PMT and Translation	R22 331 219
Award to Professional and Administration Services for Translation and Editing	R2 464 797
Award for Interpretation Services	R6 872 570
Award for Sign Language Services	R807 000
Award for Interpretation Equipment	R -
Institutional Contribution for Language Centre	R12 430 705
Grand Total	R44 906 291

Table 1: Total budget for implementation of current Language Policy

A total of **R44.9 million** is therefore budgeted for operating the language policy in 2021 on SU's main budget.

2. This amounts to **0.7% of the total integrated budget** (approximately R6.9 billion) of the University and does not take the money spent by Faculties for additional support into account.
3. The **discretionary** part of the main budget amounts to R318.5 million. These are funds that are not yet committed to servicing obligatory expenses (e.g. salaries). The 2021 language implementation budget therefore constitutes 14.0% in relation to the total discretionary funds in the main budget.

3.1. A serious *consideration* is that these discretionary funds are fully spent each year on covering certain institutional expenses (e.g. recruitment bursaries) and any reallocation of further discretionary funds would imply ceasing or downscaling certain priority activities. If we increase funding to language as a priority, it implies that we will have to decrease allocation to other strategic priorities (opportunity cost within a balanced budget).

4. When quantifying **implicit staff related costs** in terms of time spent by existing staff on translating lecturing materials, exam papers, reports, presentations, emails, etc. from Afrikaans to English and vice versa, an additional amount of **R90 million per year** is implied. Of this total, **R52 million** is associated with the time spent by **academic staff** remunerated from the main budget.

4.1. This calculation is based on the following *assumptions*:

4.1.1. That all **academic staff** afforded from the **main budget**, up to job level 10, spend 2 hours on average per week on such activities, and all **academic staff** afforded from **funds other than the main budget**, up to job level 10, spend 45 minutes on average per week on such activities.

4.1.2. That all **non-academic** staff afforded from the **main budget**, up to job level 10, spend 2 hours on average per week on such activities, and all **non-academic** staff afforded from **funds other than the main**

budget, up to job level 10, spend 45 minutes on average per week on such activities.

4.1.3. 1 950 working hours per year.

4.1.4. 2020 staff numbers expressed in fulltime equivalent senior lector equivalent (FTE-SLE) numbers.

4.1.5. The 2021 Base Remuneration Level values.

5. In order to illustrate the magnitude of the estimated, **existing** implicit staff related costs, it can be expressed in relation the number of undergraduate students by year end 2020, namely **20 213**. Thus, the implicit cost of **administrative** and **academic** staff (**R90 million per year**) amounts to **R4 452** per student or **8.9%** of the average undergraduate student's fees (approximately R50 000 per year). When only considering the implicit cost of **academic** staff remunerated from the main budget (**R52 million per year**), it amounts to **R2 572** per student or **5.1%** of the average undergraduate student's fees (approximately R50 000 per year).

6. Two crucial *considerations* in terms of operating the current language policy, are:

6.1. The **cost and timetable complexity of using multiple lecturing venues** to cater for PMT as a given lecture is either presented in two venues simultaneously or in two different time slots at the same venue. This is further complicated by the reality that the **number of students attending the Afrikaans stream of the lecture is declining**, which makes an equal split of a large group (e.g. 400 students) into two class groups and scheduling only two venues for two class groups (e.g. 200 students in each of the two groups) not viable. Often, large class groups have to be split into three groups, because the English PMT stream would exceed the maximum number of students per venue (e.g. a split of 350 English students and 50 Afrikaans students, which then necessitates an additional venue to split the English students further into two groups). This then results in three lectures in three venues (two in English and one in Afrikaans) instead of only two lectures (one in English and one in Afrikaans) in two venues. This is not readily quantifiable.

6.2. The fact that the **proportion of lecturers who can teach and especially assess in Afrikaans is also declining**.

B) Cost of implementing the first draft of the revised policy as released on 21 March 2021

1. When considering the implementation of the **first concept of the revised language policy**, the teaching options and associated costs referred to earlier would remain the same. However, there would be a cost associated with implementing the following clause from the *Language Policy Framework for Public Higher Education Institutions (2020)*:

All official internal communication will be conveyed in Afrikaans, English and isiXhosa, as prescribed by the Language Policy Framework for Public Higher Education Institutions (2020). In an emergency, such communication shall be in the language(s) likely to be most effective.

- 1.1. When considering just the cost (based on the applicable per word cost for translating text from English/Afrikaans to Afrikaans/English and from English/Afrikaans to isiXhosa) of translating existing Codes, Guidelines, Policies, Regulations and Statutes related documentation, future official communication from the Rectorate, future official communication from the Council, future instalments of the Calendar, future installments of the Annual Report, as well as the SU's existing and future website's pages, in order for these to be available in the three prescribed languages:

1.1.1. An **initial cost of R3.649 million** would be incurred for the translation of the relevant existing material.

1.1.2. After the initial translation of the relevant existing material mentioned above, the annual ongoing translation of associated new or updated material is estimated as **R13.814 million per year**.

Initial Costs	
Codes, Guidelines, Policies, Regulations and Statutes (existing documentation)	R589 651
Website (translate current material to isiXhosa; Afrikaans mostly in place already; existing)	R2 629 250
Project coordinator (post level 9)	R430 000
	R3 648 901
Ongoing Costs	
Official communication from Rectorate and Council (ongoing communication)	R68 256
Senate and Council Documents (ongoing documentation) Annual Report (ongoing documentation)	R5 165 060
Calendar (ongoing documentation)	R1 681 048
Website revision per year (translate English base text to Afrikaans and isiXhosa for day to day revision of existing pages; ongoing)	R4 852 575
Website extension per year (translate English base text to Afrikaans and isiXhosa for day to day creation of new pages; ongoing)	R1 617 525
Project coordinator (post level 9)	R430 000
	R13 814 464

Table 2: Cost of translation to align with Language Policy Framework

1.2. These translation costs **exclude**:

- 1.2.1. the cost of formatting and styling publications in isiXhosa, which should be done by an isiXhosa speaker. This would have serious consequences for the Corporate Communication and Marketing Division.
 - 1.2.2. the costs associated with the added time and effort of deliberations between the isiXhosa translator and the relevant academic staff contributing technical module content to the Calendar on an annual basis as the translator would not be able to work in isolation.
 - 1.2.3. The costs (calculated in terms of additional time) associated with consultations with other professional translators/ terminologists at other institutions with isiXhosa as an academic language, because isiXhosa does not yet have standardised academic terminology.
- 1.3. Lastly, the the magnitude of resources that would be required for isiXhosa translation and the additional workload it would create (for the website team, graphic designers, and other members of the communication team) is unknown.
- 1.4. In order to illustrate the magnitude of the estimated, ongoing (annual) **future** translation costs, it can be expressed in relation the number of undergraduate students less NSFAS students, namely 16 845 (21 000 less 4 155 NSFAS students). The rationale for excluding NSFAS students from the total, is that their student fees are capped and no additional costs can be recovered from them.

Thus, the **R13.814 million per year** amounts to **R820** per student or **1.6%** of the average undergraduate student's fees (approximately R50 000 per year) in addition to the implementation of the current policy.

C) Cost of implementing full Parallel Medium Teaching (PMT) for all undergraduate modules

1. When considering going full Parallel Medium Teaching (PMT), the costs to implement the current policy (option A), the additional infrastructure and staff costs to offer parallel medium teaching (PMT), as well as the potential impact on student fees, are taken into account.
2. As mentioned under option A, a total of **R44.9 million** is already budgeted for implementing the current language policy in 2021.
 - 2.1. This amounts to **0.7% of the total integrated budget** (approximately R6.9 billion) or 1.4% of the main budget of the University and does not take the money spent by Faculties for additional support into account.
 - 2.2. The **discretionary** part of the main budget amounts to **R318.5 million**. The discretionary part of the SU budget refers to funds that is not yet committed to servicing obligatory expenses (e.g. salaries). The 2021 language implementation budget therefore constitutes **14.0%** in relation to the total discretionary funds.
 - 2.2.1. A serious *consideration* is that these discretionary funds are fully spent on covering certain institutional expenses (e.g. recruitment bursaries) each year and any reallocation of further discretionary funds would imply ceasing or downscaling certain priority activities.
3. Module enrolments, modules not already taught in PMT, total number of venues, total number of seats, DHET building cost norms, indirect costs and the repayment of a potential loan to construct additional infrastructure, are used in the financial model to approximate the **additional infrastructure costs of parallel medium teaching**. The table below provides a summary of sections 3.1 to 3.9.

Summary	UG Module Enrolments	UG Modules	Estimated Lectures per Week*	Estimated FTE Students	Seats currently available	Additional Seats Required for Single and Double Medium Language Modes	Additional Seat Requirement
Undergraduate year end 2020	169 913	1 435	5 453	22 770	25 273		
PMT	61 672	204	775	7 875	8 740		
<i>PMT as % of Total</i>	<i>36.30%</i>	<i>14.22%</i>	<i>14.22%</i>	<i>34.58%</i>	<i>34.58%</i>		
Not PMT	108 241	1 231	4 678	14 895	16 533		
<i>Not PMT as % of Total</i>	<i>63.70%</i>	<i>85.78%</i>	<i>85.78%</i>	<i>65.42%</i>	<i>65.42%</i>		
Exempted from Language Specification	26 104	334	1 269	4 501	5 010		
<i>Not PMT, Exempted from Language Specifications as % of Total</i>	<i>15.36%</i>	<i>23.28%</i>	<i>23.28%</i>	<i>19.77%</i>	<i>19.82%</i>		
Not PMT, not Exempted	82 137	897	3 409	10 395	11 523	5 197	4 069
<i>Not PMT, not exempted from language specifications as % of Total</i>	<i>48.34%</i>	<i>62.51%</i>	<i>62.51%</i>	<i>45.65%</i>	<i>45.59%</i>		

Table 3: Summary of sections 3.1 to 3.9

* Assume an average of 3.8 lectures per module per week.

- 3.1. There are currently (by year end, 2020) **169 913 module enrolments** in **1 435** undergraduate modules (all undergraduate modules having more than one enrolment, excluding modules linked to the Faculty Military Science, Elsenburg Agricultural College, undergraduate modules on NQF level 8, as well as modules linked to Central Support Services divisions) taught by approximately **5 453** lectures per week. These module enrolments amount to approximately **22 770** full-time equivalent (FTE) students.
 - 3.1.1. An FTE student may be described as a student enrolled for all modules associated with the given academic year totaling to a credit total close to 120 credits.
 - 3.1.2. The value indicated here includes enrolments in modules that do not form part of the program curriculum (a.k.a additional module enrolments) and is not yet scaled to exclude such modules and will therefore necessarily be larger than official HEMIS FTE values.
 - 3.1.3. A handy approximation of the number of FTE students can be done by multiplying the number of module enrolments in a given module by the credit value of the relevant module, and then dividing the product by 120 (the prescribed credit total per year), and subsequently summing these results over all relevant modules.
 - 3.1.4. All module and module enrolment data for year end 2020 used here, was extracted on 25 January 2021.
- 3.2. Of the **169 913** module enrolments
 - 3.2.1. **61 672** module enrolments are associated with **204** modules, taught in PMT. These module enrolments correspond to **7 875** FTE students.
 - 3.2.2. The remaining **108 241** module enrolments are associated with **1 231** modules, not being taught in PMT.
- 3.3. Of the **108 241** module enrolments:
 - 3.3.1. **26 104** module enrolments are associated with **334 modules** that are **exempt from language specification**. These exempt modules are typically about the language itself, e.g. in the Language Departments.
 - 3.3.2. The remaining **82 137** module enrolments, which corresponds to **897 modules**, are not being taught in PMT and are not exempt from language specification.
 - 3.3.2.1. These modules are taught in approximately **3 409 lectures** per week (assuming an average of ± 3.8 lectures per module per week).
 - 3.3.2.2. These module enrolments amount to approximately **10 395 full-time equivalent (FTE) students**. Therefore, approximately **45.6%** of the total of 22 770 FTE students, are enrolled in modules not currently taught in PMT and are not exempt from language specification.

- 3.4. There are currently **202 venues** (all schedulable venues and computer user areas on Stellenbosch and Tygerberg campuses in January 2021) and computer user areas that can be used for undergraduate classes.
- 3.5. The total number of **seats** available in these venues amounts to **25 273**.
- 3.6. Of the **25 273 seats**:
 - 3.6.1. Approximately **34.6%** are already used for PMT (**7 875 FTE** students in PMT divided by the total of **22 770 FTE** students).
 - 3.6.2. Another **19.8%** of the total number of seats are further used for tuition of modules exempt from language specification.
- 3.7. Therefore, approximately **45.6%** ($100\% - 34.6\% \text{ (PMT)} - 19.8\% \text{ (exempt modules)} = 45.6\%$) of the **25 273** seats, i.e. **11 523** seats, are available to cater for the additional PMT modules. This total does not include the demand for schedulable venues by honours, post graduate diploma and structured Masters' modules.
- 3.8. As indicated in 3.3.2.2 above, there are **10 395** full-time equivalent (FTE) students that need to be converted to or rather accommodated by PMT to ensure that all applicable students receive PMT. These FTE students are representative of module enrolments in modules that are currently taught in *Single Medium* or *Double Medium* language modes. In terms of seat requirements, this number is supplemented with half of the number to cater for seat wastage due to resulting group sizes that are smaller than lecture hall capacity, as well as to cater for the demand for schedulable lecturing venues by honours, post graduate diploma and structured Masters' modules, amounting to **5 197 additional seats**, bringing the **total additional PMT seat requirement** to **15 592**. Subtracting the available number of seats (as per 3.7), the resulting additional seat requirement amounts to **4 069** ($15\ 592 - 11\ 523 = 4\ 069$ seats).
- 3.9. The net, additional seat balance required for the expanded PMT offering is therefore **4 069** seats. The costs of these seats include construction/setup costs, annual indirect operational costs and annual lifecycle cost:
 - 3.9.1. If the cost of these additional seats is calculated according to DHET building cost norms the **total construction/setup cost** (including professional fees and structured parking) for additional infrastructure would be **R636.730 million**.
 - 3.9.2. In addition to the total construction/setup cost for the infrastructure to provide the additional seats required for PMT expansion, there is also an estimated **R1 688 annual indirect operational costs** (e.g. electricity usage, insurance, property tax, etc.) associated with each extra seat. This amounts to **R6.870 million** per year for the additional **4 069** seats.
 - 3.9.3. The **annual lifecycle cost** (including a maintenance cost component of 1.8% of building cost) amounts to **R2 314** per seat resulting in a total of **R9.417 million** per year.

- 3.10. If the University were to borrow the **R636.730** million, it will have a repayment of **R60.102 million per annum** if calculated at **7%** (REPO rate 2021) over a period of **20 years**.
4. These estimations assume that there will be **suitable physical space** available to construct these additional lecture venues:
- 4.1. An approximate total area of **20 345m²**, based on norms of SANS 10400 of 5m² per seat, would be required to construct the infrastructure to provide the additional seats required for PMT expansion (this excludes office space for additional staff that may be required to realise the expanded PMT offering)
- 4.2. A further **15 960m²** for **570 additional parking bays** for the additional lecture venues as required by the local municipal zoning scheme regulations. The zoning scheme stipulates 4 bays per 100m² gross leasable/useable area. Usually more or less 70% of bulk square metres is leasable area. Thus 70% of 20 345m².
5. The following important *considerations* have to be taken into account when contemplating the construction of infrastructure of this magnitude on Stellenbosch's central campus:
- 5.1. The **lack of physical vacant space** on campus for buildings of this magnitude.
- 5.2. The **availability of sufficient development rights** to develop additional physical infrastructure of this magnitude centrally on campus. This could include the demolition of existing SU facilities and extensive land use applications (traffic impact assessments, visual impact assessments, heritage assessments, consolidation of erven, re-zoning applications, etc.) that are complex in order to obtain the necessary development rights.
- 5.2.1. The associated opportunity cost (costed at R450 per bulk sqm for 20 345 m²) can amount to **R9 155 250**.
- 5.3. The potential **impact of traffic in and around central campus** if the parking requirements are adhered to. One could argue that the additional lecture venues are mostly to cater for existing students. However, the local authorities are not very receptive for motivations of this nature.
- 5.4. The impact on **SU's carbon footprint**.
- 5.5. The **zoning scheme regulations and other statutory requirements** that have to be adhered to.
- 5.6. The **revision of the Spatial Development Framework** given the fact that a building of this magnitude is not catered for in the current long term planning.
- 5.7. The **future need for such a building** in the light of the exponential development in technology and changing circumstances.
6. The following model can be considered for the **staff cost of PMT**:
- 6.1. **897** modules (as per 3.3.2) have to be converted to PMT.

- 6.2. The applicable, existing formula for calculating staff costs associated with PMT can be used to estimate the cost to cover the additional PMT lectures. The PMT staff cost formula currently used stipulates 10% of the Base Remuneration Level (BRL) of an Associate Professor for PMT mode teaching of a semester module. This amount accounts for three lectures per week on average, and excludes practicals and tutorials. The 2021 BRL values were used in this costing exercise. When using this model, the cost for converting the **897** modules to PMT amounts to **R107 958** per semester module.
- 6.3. If the annual cost for additional staff capacity is calculated according to this formula for the 897 modules in question, it amounts to **R96.839 million per year**.
 - 6.3.1. This amount does not make provision for office space for additional staff that may be required to realise the expanded PMT offering which will be significant.
- 6.4. A further crucial *consideration*, over and above the cost to afford the additional staff to extend the PMT offering, is the availability of suitability qualified academic staff that is equipped and willing to teach in Afrikaans.
- 6.5. When quantifying **implicit staff related costs** in terms of time spent by existing staff on translating lecturing materials, exam papers, reports, presentations, emails, etc. from Afrikaans to English and vice versa, an additional **R90 million per year** is implied. Of this total, **R52 million** is associated with the time spent by **academic staff** remunerated from the **main budget**. This calculation is based on the following *assumptions*:
 - 6.5.1. That all **academic staff** afforded from the **main budget**, up to job level 10, spend 2 hours on average per week on such activities, and all **academic staff** afforded from **funds other than the main budget**, up to job level 10, spend 45 minutes on average per week on such activities.
 - 6.5.2. That all **non-academic** staff afforded from the **main budget**, up to job level 10, spend 2 hours on average per week on such activities, and all **non-academic** staff afforded from **funds other than the main budget**, up to job level 10, spend 45 minutes on average per week on such activities.
 - 6.5.3. 1 950 working hours per year.
 - 6.5.4. 2020 staff numbers expressed in fulltime equivalent senior lector equivalent (FTE-SLE) numbers.
 - 6.5.5. The 2021 Base Remuneration Level values.
7. When considering the option of expanding the PMT offering by means of a **technology-mediated option**, the following model can be considered:
 - 7.1. As per 3.3.2, **897** modules, taught by approximately **3 409** lectures per week, need to be converted to PMT.

- 7.2. This implies that **2 556 hours' worth of lectures (45 minutes)** need to be captured, digitalized and made available for consumption for the relevant students.
- 7.3. The Language Centre's dubbing of educational podcast cost estimate states that the development of a 30 minute podcast requires 8 hours of work, therefore a 45 minute podcast would require 12 hours of work. Using the Language Centre's dubbing of educational podcast cost estimate, and assuming the lecturer provides the Language Centre with an audio only file, and further assuming the digital artefacts that are created do not require any transcription or video editing, the dubbing cost per 45 minute lecture amounts to **R5 160**. The total dubbing cost for the **897 modules** in question, would be **R13 188 960**, or **R14 703 per module**.
- 7.4. However, the **Language Centre's dubbing capacity** in terms of available and trained staff members does not scale linearly with the additional dubbing demand. The following table illustrates the number of additional staff members required to service the additional dubbing demand in an acceptable turnaround time, expressed in a number of months (first column) as well as the implied additional remuneration for each scenario (rows) when using 2021 base remuneration level for post level 9. An assumption is made that 80% of new staff's time is available for dubbing activities. The cost of training and space for such staff is not included.

Number of months in which dubbing is completed	Number of additional dubbing staff members implied	Remuneration of additional staff per month	Remuneration of additional staff per year
1	289	R 10 355 833	R 124 270 000
2	142	R 5 088 333	R 61 060 000
3	93	R 3 332 500	R 39 990 000
4	69	R 2 472 500	R 29 670 000
5	54	R 1 935 000	R 23 220 000
6	44	R 1 576 667	R 18 920 000
7	37	R 1 325 833	R 15 910 000
8	32	R 1 146 667	R 13 760 000
9	28	R 1 003 333	R 12 040 000
10	24	R 860 000	R 10 320 000
11	22	R 788 333	R 9 460 000
12	20	R 716 667	R 8 600 000

Table 4: Staff for dubbing

- 7.5. There are also serious *considerations* with regard to the **pedagogical soundness of this asynchronous PMT option**, where the dubbed lecture is accessed some time after the lecture by one (language) group of students without the benefit of real-time collaboration with the lecturer and fellow students vis-à-vis the synchronous PMT option, where both (language) groups of students have the benefit of real-time collaboration with the lecturer and fellow students. The value of the dubbed lecture per

se, in terms of its value for revision and reinforcement of learning material is not questioned, but rather whether this is an equitable solution if both language groups do not have the benefit of the collaborative interaction during a lecture between students and the lecturer.

8. To calculate the **potential impact on student fees** for the **face-to-face PMT option**:

8.1. Assume that a total of **16 845** undergraduate students, which is representative of **21 000** undergraduate students less the number of NSFAS students in 2021, can hypothetically be levied to recover the said costs. The rationale for excluding NSFAS students from the total, is that their student fees are capped and no additional costs can be recovered from them.

8.2. Recovering the relevant **infrastructure, direct and implicit staff costs** will then amount to an additional **30.4%** study fees per year calculated as a per student cost for **16 845** undergraduate students, equalling roughly **R15 210 per year** as detailed in the table below. This is based on the ongoing cost per year of **R256 214 716**. An average undergraduate student fee of R50 000 per year was used as basis. This cost is additional to the cost of the implementation of the current language policy.

The **potential impact on student fees** (to illustrate the impact on students if no other additional sources of funding could be found) is illustrated in the Table below.

Ongoing Cost	Per Year	Per Student	% Increase in Student Fees
Infrastructure Bond Repayments (20 year period)	R60 102 861	R3 568	7.1%
Infrastructure Lifecycle Costs (opportunity and maintenance costs)	R9 417 125	R559	1.1%
Additional PMT Staff Cost	R96 838 954	R5 749	11.5%
Implicit Staff Costs			
Support and Academic Staff (all budgets)	R 89 855 777	R5 334	10.7%
Academic Staff (only main budget) *	R52 460 741	R3 114	6.2%
Total (implicit cost of all staff scenario)	R256 214 716	R15 210	30.4%
Total (implicit cost of academic, main budget staff scenario) *	R218 819 680	R12 990	26.0%

Table 5: Ongoing cost and % increase in student fees

*The cost of academic staff afforded from the main budget is included as part of the support and academic staff afforded from all budgets cost in this table.

9. For the **technology-mediated PMT option** the **potential impact on student fees** (to illustrate the impact on students if no other sources of additional funding could be found) will be as follows:

9.1. Recovering the **dubbing cost** will amount to an additional **1.6%** study fees per year calculated as a per student cost for **16 845** undergraduate students, equalling roughly **R783 per year**. An average undergraduate

student fee of R50 000 per year was used as basis. This cost is additional to the cost of the implementation of the current language policy.

- 9.2. When also considering the fact that the **Language Centre's dubbing capacity** (available and trained staff members) and therefore current cost structures, does not scale linearly with the extensive additional dubbing demand (as per section 7.4), the dubbing cost would increase substantially. In order for the technology-mediated PMT option to be even marginally comparable with the face-to-face PMT option it is safe to assume that dubbed material should be available to students within a month or even less after the actual lecture would have happened.

Recovering the **dubbing cost** in this scenario (as per the 1 month scenario in Table 4) will amount to an increase of **16.3%** in study fees per year. Calculated as a per student cost for **16 845** undergraduate students, this equals roughly **R8 160 per year**. An average undergraduate student fee of R50 000 per year was again used as basis. This cost is additional to the cost of the implementation of the current language policy.

- 9.3. The **grave concerns** with regard to the pedagogical soundness of this model should furthermore be seriously considered.