

Equity and Opportunity in Education

CASE STUDY: IMPLICATIONS OF MEDIUM OF INSTRUCTION IN FIELD SELECTION
IN THE COMMON INTAKE OF THE ENGINEERING FACULTY OF THE UNIVERSITY OF MORATUWA

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A Case Study for the module

1207 “Principles and contexts of equity and opportunity in education II”

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Background

Structural context

The majority of Engineering Undergraduates of the University of Moratuwa¹ are enrolled to what is called the “Common Intake”. After a period² of common subjects, there is an examination and the results are used to determine selection of Fields, in much the same way as results of the Advanced Level examination are used to determine admission to universities. That is, the first ranked student is allocated his or her preference, then the 2nd, 3rd and all the way to the bottom – except of course if a field reaches capacity, in which case the student’s backup preferences are considered.

In principle, an examination on engineering related subjects is a better assessment of which students are suitable for particular disciplines than their performance in Combined Maths, Physics and Chemistry some years in the past.

However, there are at least two problematic areas here:

1. There is no subject-wise differentiation – for example, a higher score in Computer Science is not considered as a stronger predictor for performance in the Computer Science field than scores in other subjects. If performance in a selection of subjects are deemed to predict performance across a variety of disciplines, the selection performance should be weighted according to the relevance of each subject to the particular field.
2. There are substantial changes in environment from school to University (different structure of the academic program, medium of instruction switching to English, living away from home, social/cultural life) – if students are facing this high-stakes examination (with major implications for their future) without adequate support, there is the potential for discrimination against certain groups of students.

This case study attempts to address the concerns under the latter point, particular the change of medium of instruction to English.

¹ Possibly in Engineering Faculties as well, at least in the Public University system

² Presently 1 Semester. In my time as an undergraduate, it was 1 year.

My interest in investigating this area stems from my personal experience. At the Advanced Level examination in 1995, I obtained an Island Rank of 155. I enrolled in the University of Moratuwa in 1997 and at the First Year exam I was ranked 1st in the batch (of 400+ undergraduates). I knew, from my interactions with my peers, that I, and a few others, who had the privilege of immersion-based English education, had a head start over those who, after 13 years of formal school education in Sinhala or Tamil, now had to face lectures, tutorials and examinations exclusively in English.

Until recently, I did not see the equity aspect of this dynamic: Is it really fair that competence in the language of an invasive civilization³ be a major determinant in the lives of young people – deciding which career path is available to them – especially when the state, under a constitution that provides “*the assurance to all persons of the right to universal and equal access to education at all levels*”, has not provided them with equitable opportunities to learn that invasive language?

However, there were almost certainly other factors at play. Or perhaps my perspective was not representative of the larger population. Or perhaps my experiences from a decade and a half ago are not relevant today.

I embarked on this research to understand present undergraduate’s perceptions of the barriers to performance at the Field Selection exam, especially the medium of instruction, and to make – based on undergraduates’ suggestions and my own insights – recommendations for the future.

³ I am aware of the evergreen arguments in favour of English language instruction. However, if Estonia, with a population of approx. 1 million people, can provide higher education in the Estonian language to its citizens, who nevertheless learn English to the extent that they wish, and need to, interact with the world at large, there is really no reason why Sri Lanka cannot do the same.

Survey Methodology & Limitations

Survey Methodology

My original intention was to take a 3-pronged approach to the Case Study

1. Statistical analysis on the data available⁴ at the University of Moratuwa for all students – e.g. comparison of Semester 1 GPA with A/L z-score, analyzed with the grade in the Language Skills Enhancement module at the end of Semester 2
2. Quantitative survey to collect additional data (such as undergraduates self-perception of Academic English Capability, impact of interventions to improve it, etc)
3. Focus Group discussions to identify qualitative aspects

Unfortunately, as Universities were closed due to strikes at the time, it was only possible to conduct the quantitative survey, and this case study is based on the findings from that survey alone.

The survey was conducted on an online platform, was available in English, Sinhala and Tamil, and was completely anonymous (no personally identifiable data was collected).

Undergraduates from the 2020, 2021, and 2022 intakes were invited to participate (the 2019 intake had left the university already and the 2023 intake had not yet sat for their Semester 1 exams at the time of the survey). Invitations were sent by respective batch representatives via Whatsapp groups.

Limitations

1. Only 62 responses were received for the survey. This is not sufficient for detailed analysis – but nevertheless provides insights that can guide future research
2. There was no endorsement from the university for the survey – this may have resulted in a loss of credibility in the survey, discouraging participation.
3. As the university was on strike, invitations were only communicated on WhatsApp (where messages may get missed for those who have irregular internet access), and students who had limited internet access may have decided not to participate
4. Even for the most recent batch (2022) their memory of the issues at hand may have faded (note: there were 39 responses from the 2022 intake, 12 from 2021 and only 11 from 2020). It is unknown if this is due to better promotion in the 2022 intake, more interest in the issue, or more memory of the issue, or even some other reason

⁴ I am assuming all of this data is available at the University, but am not entirely sure if A/L results are only available at the University Grants Commission

Literature Review

I am given to understand (by a faculty member) that the issue has been studied by the University. Unfortunately, I have not been able to access their research.

I wish to note that this case study is different to other undergraduate programs with English Medium Instruction – in most degrees, students enrol in their preferred⁵ program based on their A/L results and, even if students are handicapped by English proficiency, there is no high-stake examination in the early stages of the program that determine academic (and subsequent career) pathways. At best, at the end of the 3rd year, there may be a selection of those who can continue for another year and obtain an honours degree – but this allows for a more level playing field, as it has 3 years of adjustment to university life, including medium of instruction.

⁵ some may opt to not enrol and attempt A/Ls again if they do not get their desired programs

Findings

Factors negatively affecting performance in Semester 1 Examination

The survey asked “Do you feel that any of the following factors negatively affected your performance in the Semester 1 exam?” and allowed ratings No Impact / Slight Impact / Moderate Impact / Significant impact across a range of criteria.

The results were as follows:

	Academic English proficiency	Mental Health ⁶ issues	Socio Emotional ⁷ issues	Lack of access to Semester 1 "Coaching"	Ragging	Time ⁸ issues	Financial ⁹ issues	Other
No impact	24	21	32	26	59	28	39	48
Slight impact	16	21	16	19	2	21	13	9
Moderate impact	9	7	8	10	1	10	4	3
Significant impact	13	13	6	7	0	3	6	2

It is evident that the most common issues identified as having “Significant impact” were Academic English proficiency and Mental health issues with 13 counts each (~21%)

When it comes to the Moderate Impact rating, similar emphasis (7-10 responses, 11~16%) were additionally obtained for Socio-Emotional issues, Lack of access to Semester 1 Coaching¹⁰, and Time issues

⁶ (stress, anxiety, etc.)

⁷ (being away from home/family/friends, adjusting to new environment)

⁸ (need to work, travel time, taking care for siblings/parents, etc)

⁹ (affording computers, internet, etc.)

¹⁰ These are paid exam prep classes targeting the Semester 1 exams, what we would call “tuition classes” for A/Ls

Assessment of English Competency

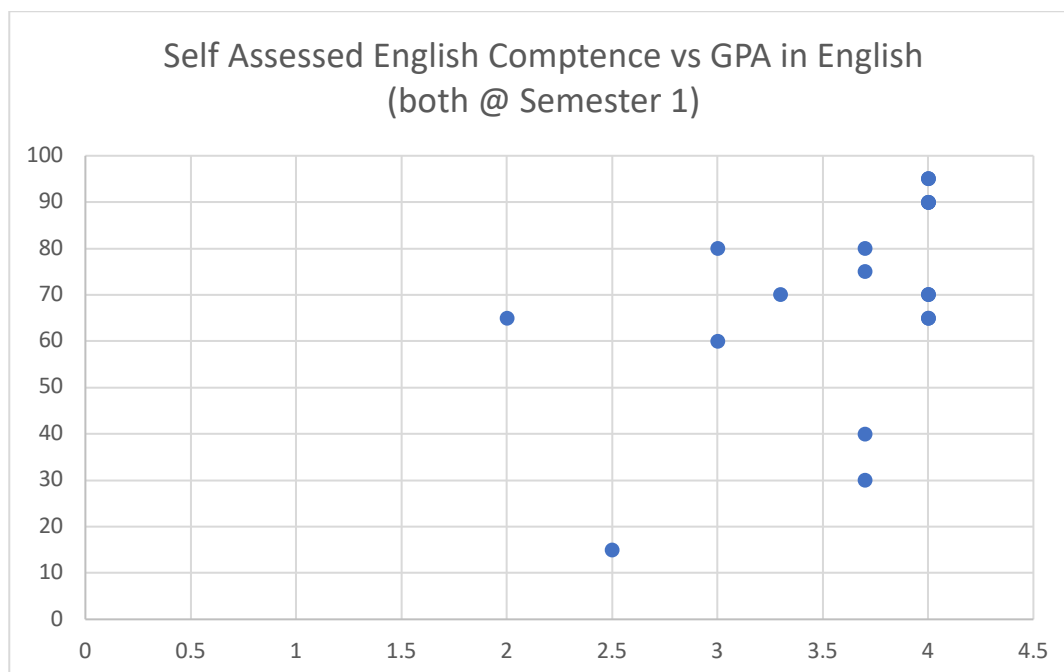
In order to assess the impact of Academic English competency on the Semester 1 results, we need to know how to assess the Academic English competency.

The university does conduct an exam that assesses English at the end of Semester 2, however

1. This is a non-GPA subject and therefore students do not show interest in scoring well in it; therefore, scores may under-represent abilities
2. The assessment takes place at the end of Semester 2, by which time English competency would presumably have further improved, making it less valid as a benchmark for competency at the time of the field selection exam (Semester 1)

Furthermore, only 18 students had even reported their English GPA in the survey, therefore the only option for this case study was to use the self-reported competency¹¹ collected in the survey as the baseline.

However, with the caveat that this is a very limited sample, there appears to be quite a large discrepancy between competency as measured by GPA vs. undergraduates self-assessment:

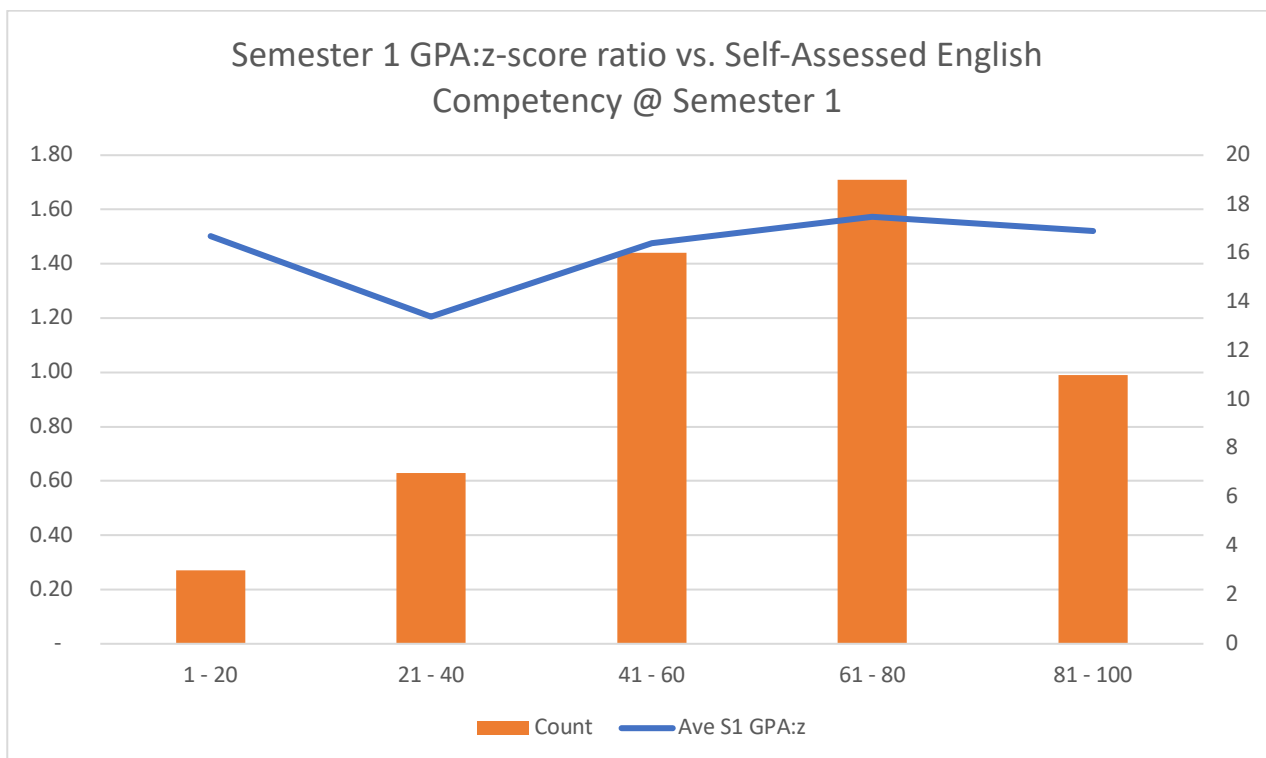


¹¹ The question asked was “Based on the actual academic requirements (understanding lectures, reading text books, answering quizzes, writing assignments, writing exam papers, engaging in discussions, presenting in class), what is your self-assessment of your language proficiency in Academic English...”, with separate responses for “At the time of entering university”, “At the end of Semester 1” and “At the end of Semester 2”

Relationship between Semester 1 GPA performance and English Competency

In the following chart,

- The x-axis is the self-reported English Competency (banded¹² in groups of 20 points)
- The left-hand y-axis shows the ratio between the Semester 1 GPA and the A/L z-score¹³ - a higher ratio indicates undergraduates who performed better than their z-score alone would have predicted. Likewise a lower ratio indicates a performance worse than their z-score alone would have predicted.
- The right-hand y-axis shows the number of respondents in each band



The general trend is that higher Semester 1 GPA:z-score ratios correlate with higher self-reported English proficiency (the notable exception is the 1-20 band, where there are only 3 respondents)

¹² Data was collected in bands of 5 (i.e. ratings accepted were 0, 5, 10... 90, 95, 100) but had to be aggregated due to the small number of responses

¹³ I am suspecting that the A/L z-scores are correlated with the Semester 1 results

Factors influencing improvement of English proficiency

The survey asked “Considering your self-assessed improvement¹⁴ in Academic English Proficiency from the time you entered University till the end of Semester 2, how helpful was...” and allowed ratings Not Helpful / Somewhat Helpful / Very Helpful / Extremely Helpful across a range of criteria.

The results were as follows:

	the Language Skills Enhancement Module?	Other English classes / courses / lessons / apps	Informal feedback / advice from other Lecturers (other than Languages Dept)	Informal feedback / advice from peers
Not helpful	16	14	9	8
Somewhat helpful	40	24	28	26
Very helpful	5	10	12	14
Extremely helpful	1	2	3	4

Some remarks:

- No option has been rated “Extremely helpful” by any significant number of respondents
- The official program (the Language Skills enhancement module) has by far to the lowest rating (5 respondents) of the mechanisms rated “Very helpful”

¹⁴ Even if the Semester 2 English GPA results were available, that measure is not available across multiple time periods for comparison.

Conclusions

Based on respondents' direct views, the two most significant factors (each with 21% rating it has having a significant impact on their performance, with the highest rated other factor garnering 10% significant impact) are:

- Academic English proficiency - suggesting that the original hypothesis has some validity (the sample size is too small to express this with confidence), or at least is perceived as being valid, and
- Mental health issues

The impact of Academic English proficiency is also confirmed by analyzing the ratio of Semester 1 GPA results to z-scores from the A/Levels

Furthermore, based on the responses received, the Language Skills Enhancement module is seen as "somewhat helpful" at best – with informal supports seen to be far more impactful.

Recommendations

In terms of improving competence in English, incorporating suggestions from the respondents (included in full in the Appendix), my recommendations are:

1. We should not continue the faulty over-reliance of formal English language instruction in schools, that already denied many young people the opportunity to learn English (because no support was facilitated and they were just given the false promise of “when the English teacher comes”) – the formal instruction is only useful if it is **supporting** (note: supporting, NOT supported by) adequate opportunities for practice in real environments across multiple contexts (e.g. peer study groups, clubs/societies, social activities, etc.).
2. Group undergraduates (at least for English, but preferably for all programs in the semester) by mixing (NOT tracking) them by English proficiency as measured by a placement test – this way every group has a diversity of competencies to support peer-to-peer learning
3. Have more frequent assessments – but preferably self- or peer- assessments than teacher-assessments
4. Facilitate non-formal English experiences (e.g. movie nights, book clubs, debates, campus newspapers, etc.)
5. Make formal sessions shorter, and prepare the content for them (at least 25% of them) to support the requests arising from the peer activities rather than sticking to the syllabus
6. Eliminate grading in English – there is only feedback. But even for that, as much as possible have a round of peer feedback (e.g. on a presentation) before the instructor offers feedback
7. Selected past paper responses (of Semester 1, across a spectrum of English proficiency in the answers) should be additionally assessed on English, and these results (with the original student name anonymized) should be available as a resource to peer groups (with additional support from instructors/tutors if needed) to analyze and figure out for themselves why a particular grammar etc. was better than another.

To address issues of inequity in access to desirable specializations:

1. Record every lecture and publish it online. This allows those who struggled to understand all the content on the first pass to catch up with any difficult areas at their convenience (preferably encourage them to do so in peer groups)
2. Allow students to answer the Semester 1 exam using their native language (either completely, or by using a mix of English and that language). Have the answers translated to English for grading. They still have another 3.5 years (+ internship) to learn English and be “globally competitive”.

Recommendations for future studies in this area:

1. Use statistical analysis of cohort-wide data, and focus group discussions (preferably from the peer groups as recommended above) as proposed in my original methodology
2. The survey should be repeated for future batches, and be conducted longitudinally, where
 - a. Self-assessment on English proficiency is collected (at least every half-semester)
 - b. Survey on effectiveness of interventions in improving English be conducted approximately mid-way through the 1st Semester (allowing for some remedial measures to be taken for that batch itself)
 - c. Survey on equitability should be conducted shortly after selection of fields (issues will be easier to recall, than with the current survey where much time had elapsed)
3. Survey to be endorsed by the university (and officially intimated to Batch representatives) but conducted independently
4. Survey must be tri-lingual (as it was in this case)

Other Recommendations

I also recommend that interventions addressing the mental well-being of students be introduced (mental health awareness programs, enhancing counselling services, etc.) – more student responses are in the Appendix.

Appendices

Questionnaire

Is enclosed with this case study as a PDF file (including it here would not preserve the formatting) and it can also be accessed online at <https://voting.kinder.lk/index.php/478365?newtest=Y&lang=en>.

Demographics

Of the respondents who answered demographic questions:

- Gender: Female 7 (12%) / Male 53 (88%)
- Ethnicity: Sinhalese 54 (89%) / Sri Lankan Tamil 5 (8%) / Malaiyaha 0 / Sri Lankan Moor 2 (3%) / Burgher 0 / Malay 0
- School: National 52 (85%) / Provincial 5 (8%) / Govt Approved Private School 3 (5%) / Not in School 1 (1%)

Influences on A/L performance

This question was included mainly to see undergraduates' prior experience with Peer Study groups (because I was hoping to introduce it as a recommendation).

	Teaching at school	Individual Tuition (in-person & online)	Group Tuition (in-person & online)	Mass Tuition (in-person & online)	Self Study (books, videos, online courses, etc)	Peer Study Groups
No impact	4	21	16	10	1	6
Slight impact	19	2	7	4	8	20
Moderate impact	18	7	10	11	12	12
Significant impact	18	18	18	32	38	15

The responses suggest

1. The most useful strategies for A/L are the Mass Tuition¹⁵ and Self Study
2. While Peer Study is not particularly well regarded, it is not too different to the esteem to which teaching in school is held (bearing in mind that 85% of the respondents are from National Schools)

¹⁵ Perhaps because they are better at the exam strategy aspect?

Improvements to the content of the Language Skills Enhancement Module (topics, media, assignments, practice, etc)

- There is no any encouragement from that module to read english books, watch english documentaries etc. Most of the time we are supposed to write like we were doing at school. There were speaking sessions but those are not interesting. There is a Communication Skills module in ENTC semester 1. That was really brilliant and helpful to be proficient in English. If the Language dept can make the English module in Sem 1 like that, it would be very helpful for all the students in the university.
- Speeches, presentations, debates etc
- Please make encouraging Continuous assessments, give priority to listening and speaking rather than writing (x2)
- Students should be practice to do presentation in this module. Other wise most of us neglecte this module due to lack of understand about the module. To do presentation students must go through readings writing and speaking all these skills (x2)
- Rather than just starting off from tenses like any other english course it should be more focused on university related skills like taking notes, writing lap reports etc.
- More interactive sessions like conversation building with batchmates as small groups
- teach them how to communicate well
- It's good to have some advanced grammer lessons to understand the questions in the semester exams
- Content was really good. But could reduce it abit so that students won't get bored
- Give more technicle words with examples.
- More assignments and practices are needed (x2)
- Should make the assignments interesting
- Better tutors are needed for the language department
- Practices schedu

Improvements to the organization of the Language Skills Enhancement Module (how students are grouped, schedule, etc)

- Since there are so many instructors, the marks you will gain vary from instructor to instructor. If you have a friendly instructor, you will gain higher marks, otherwise, you will have lower marks just like mine. Please make that does not happen again.
- The module is just based on a book and the main focus was to cover it. Making english class a non judgemental place is more effectivemore

¹⁶ Question: "Do you have any suggestions on how to support Undergraduates to improve their Academic English proficiency?" under the various areas

- Don't schedule english upto 6.15 no one will attend
- Reduce the time of the lectures. Maybe have 2 smaller lectures as the long lectures made many of us reluctant to attend. (x2)
- First of all, I think it is really valuable if everyone have a personal sessions to describe their knowledge of English Language.
- Do more english communication / communication activities to increase the participation and willingness to learn English (2)
- For every activity group have to randomly created
- They should be grouped according to their placement marks

Other interventions that could be offered by the Department of Languages

- try to improve soft skills of the students, not the theoretocal knowledge
- Actively encourage daily talking lessons
- More practical activities to engage students.
- Module has to be improved with activities that can engage all the students in the class rather than following the same traditional way of teaching.
- Individual mentoring

Any other suggestions

- The English course is very important for us as this is something most undergraduates from UoM lack. Maybe more emphasis could be put on this with more credits. Also strictly looking into attendance could be helpful
- More reading related to engineering questions so students can go through the whole paper in the exam with previous training.
- Actually some kind of spoken English practice at least once a week
- There is no any place to read english newspapers within the university. As we have lot of academic work most of us are not able to read english books. So I suggest if every department can provide a small newspaper table to the students it would he more helpful to encourage them to read english.
- Reading English books and watching English movies/documentaries to improve the spoken aspect
- It is helpful to use pre-academic time not only for teaching English grammar but also for similar lectures for the first semester. This way, students can get an idea of how to improve their skills in the first semester.
- If the class was more enjoyable students might participate it more, Rather than just focusing on the acedemic english because most of the students don't have the general english proficiency either.
- Much more practical methods should be used throughout the module specially to promote spoken skills instead of just teaching the content.It is what the students have done so far for 13 years at schools which is a bit unsuccessful.

Raw suggestions for improvements¹⁷ from Participants, re. Mental Health

- improve student counselling (x2)
- Spend some time to enjoy with friends (x2)
- Talk with senior students who faced to that situations (x2)
- Lecturers being more flexible / supportive (x2)
- Please ensure mentoring sessions actually happen
- Organize some social events like sport meet. Not fresher's meet. It was held like a preschool sportmeet. It should be more organized and managable
- I would be good if we can talk about our stress and everything with a therapist maybe

Survey Feedback

The closing question of the survey was “Do you have any feedback on the survey itself?”

Responses (10/62) were:

1. Hope the results of this survey will contribute to the betterment of education.
2. Was interesting and thought it is helpful. Wrote detailed answers for the first time in a survey.
3. Yeah. I think this survey will really helpful for raise up the university life of future undergraduates.
4. This is good. I hope our suggestions will be considered
5. It's helpful to clarify my own thoughts
6. Questions are well organized and has covered all the areas.
7. It's really good
8. Great one
9. Good survey
10. Yes, It is helpful

Personal note: I am moved by responses 1-4 above and regretfully suspect that I am unable to live up to their expectations. The survey, unfortunately, did not receive sufficient responses to make bold conclusions and recommendations. Nevertheless, I hope that a future case study addressing the concerns raised here will do justice to the findings here.

¹⁷ Question: “Do you have any suggestions on how to support Undergraduates to improve their Academic English proficiency?” under the various areas