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A comparative study of TEEP and IELTS for transnational education (TNE) students and their relationship to subject study

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This paper reports on a comparative study of two English language tests in a transnational education (TNE) context: TEEP (Test of English for Educational Purposes) developed at the University of Reading (U.K.) and IELTS (International English Language Testing System). Our study adopted a longitudinal mixed-methods design. Students' TEEP and IELTS results were collected, and then two phases of focus groups with students were conducted to explore their perceptions of test-taking and academic study.

Quantitative data were subject to statistical analysis and qualitative data to thematic analysis. Quantitative results showed that the students performed significantly better on Speaking and Writing in TEEP while they performed significantly better overall and on Listening and Reading in IELTS. Factor Analysis suggested both TEEP and IELTS tapped into one single underlying construct which we termed English-language proficiency. Qualitative results from focus groups illuminated the quantitative findings and the perceived relevance in their subject study.

Keywords: TEEP (Test of English for Educational Purposes), test comparison, assessment in TNE (Transnational Education), relationship between English-language tests and academic study

Introduction

There has been an increasing interest in transnational education (TNE) in recent years; however, this form of international provision brings both benefits and challenges. One of these challenges is the choice of language tests suitable for this specific context. The TEEP (Test of English for Educational Purposes) developed at the University of Reading, U.K., is an example of a test selected by one particular institution in an attempt to meet the specific needs of its TNE students. The study reported here looks at TEEP in relation to IELTS among a cohort of TNE students in a Sino-U.K. joint education institute (JEI). It attempts to provide initial research evidence on the suitability of TEEP as a progression requirement, as compared to IELTS, and students' test-taking experience and perceptions of the relevance of the tests for their academic programme. In this paper, we begin with a brief introduction to the TNE context and TEEP and IELTS, followed by presentation of the findings of an empirical investigation into student performance and experience of the two tests.

Background

Transnational education (TNE)

Transnational education (TNE), broadly defined as 'the mobility of education programmes and providers [instead of students] between countries' (Knight, 2016, p. 34), is a significant feature of the higher education landscape. TNE can take various forms, including branch campuses, franchise programmes, and joint programmes or institutes, in all of which a student can study a foreign degree while remaining in their own country. It is an area of continued growth for U.K. universities, with collaborative provision (where a sending institution from the U.K. partners with an overseas host) forming the largest proportion, according to Universities UK International (UUKI, 2023). According to recent data, China has become the top host country by student numbers (UUKI, 2023). U.K.–China JEIs offer students the opportunity to study a U.K. or dual degree in China, thus forming a unique locus of educational collaboration and interchange. At the same time, this opportunity may also require the JEI students to navigate a hybrid context in which they face the challenge of learning and assessment 'across two systems' (Dai et al., 2020, p. 1140). A key concern of TNE providers is therefore to contextualize the teaching and assessment practice of the sending institution appropriately (see O'Mahony, 2014; Heffernan et al., 2010); this includes ensuring the relevance, as well as the quality, of any English-language proficiency tests used.

The focus of this study is a Sino–U.K. JEI formally approved by the Chinese Ministry of Education. Students are recruited nationally based on

their results in Gaokao, China's national university entrance examination. However, in line with local policy, there are no separate entry requirements for English. Since teaching is conducted through English at the JEI, a foundation year (U.K. Part 0) that focuses primarily on the improvement of English language skills is thus required before students commence their degree study in the second year (U.K. Part 1). There is an English-language progression requirement at the end of this year.

As agreed between the two institutions, a phased approach to the JEI development was adopted. In the initial 3+1 model, students studied in China for three years and spent their final year in the U.K. if they met the entry requirements. During this initial phase, there was a gradual shift of teaching from English for General Purposes (EGP) to English for Academic Purposes (EAP), with support from the U.K. institution on staff training and development. Final assessment in English was through IELTS.

In the final phase, a 4+0 model was adopted and in theory, students could spend all four years in China and be awarded the U.K. degree if they satisfied the academic requirements. Due to the established orientation of teaching to IELTS and concerns about teacher readiness, 2018/19 was agreed as a transitional year, in which the English progression requirements would still be based on IELTS results. However, from 2019 to 2020, the U.K. university's EAP teaching and assessment would be adopted, with the TEEP featuring as the final assessment.

To facilitate this transition, two pilots of the TEEP test were planned for summer 2018 and 2019, the former being a partial pilot on a selected sample (about forty) of the 2017/18 cohort, whilst the latter included the whole population (i.e., the full cohort of 2018/19, 278 enrolled students). Meanwhile, all the students in these two cohorts were still required to take IELTS as a progression requirement at the end of the foundation year. Such a situation lent itself well to a research opportunity which could offer empirical evidence on the broad comparability of the two high-stakes tests (i.e., IELTS and TEEP), which was necessary from an institutional point of view. However, even more importantly perhaps, it could provide further evidence on the predictive validity (see Weir, 2005) (e.g., how well the students were coping in Year 2/Part 1) of TEEP (and IELTS as comparison) for these pilot candidates in a TNE context.

TEEP and IELTS

The TEEP and the International English Language Testing System (IELTS) have both been created to assess the target test-takers' readiness for further academic study in higher education through the medium of English. It could be argued that there is some variance in the test construct of these two measures. For example, IELTS does not provide an authentic 'academic'

reason for listening or reading and does not provide an authentic 'academic' reason for writing.

Both tests have multiple versions, but as the IELTS is taken globally by millions of test-takers per annum (IELTS, 2024), far more versions of the test are generated each year. The TEEP originated from an extensive study carried out into the language problems of overseas students in tertiary education in the U.K. (Weir, 1983) in response to a growing need to judge the suitability of placing non-native English speaking students on U.K. university degree courses. It was completely redeveloped in 2001 by University of Reading assessment specialists and further modified and extended in 2008. The TEEP test is constantly developed and administered by the International Study and Language Institute (ISLI) at the University of Reading.

The TEEP is an integrated, topic-based test. The idea behind TEEP is that it simulates the needs of students embarking on university studies with the underlying concept that it should encourage purposeful learning. In order to successfully complete certain university assignments, students are expected to address the literature and attend relevant lectures and seminars. With this in mind, TEEP begins with a focus task where the test-takers are given the title of the essay they will complete in the final stage of the test. The students are then given ten minutes to think and prepare to answer the essay question. The aim is to provide an authentic purpose for the reading and listening sections of the test which are both topic-linked to the writing task. The focus task is not graded. The next part of the test is the test of reading (thirty-five minutes), at the end of which the students are instructed to begin the test of listening. The text and the completed answer sheets for the reading section remain with the students until the end of the test. Before beginning the test of listening (approximately thirty minutes), a short period of time is allocated for the students to read through the test items and make notes. At the end of this stage, the students still retain the question-and-answer sheets. They are then advised that they have sixty minutes to complete the test of writing. The test-takers are reminded to refer back to their focus task notes and to make use of ideas gleaned from the reading and listening sections to support their main ideas in response to the essay task. At this point, some students may continue working on their reading and/or listening answers but are advised to work on their essay and then to both review and do any fine tuning at the end of the writing test if they have time. The idea is to allow the students to decide independently how much time to focus on each task. This adds authenticity to the test based on the concept of independent learning.

There are two further parts to the TEEP. Before completing the sections described above, the students complete the Language Knowledge Test. This short test, which consists of fifty multiple choice grammatical and lexical-focused questions, serves two purposes. Firstly, it acts as a 'warmer' for

students before they embark on the integrated test. The second purpose is to enable decision-making when individual final TEEP results are being calculated. The speaking, reading, listening, and writing tests are scored on nine band scales, with half bands possible, and if the overall score is either .25 or .75 then the Language Knowledge test score is used to either round up or round down the final score to the nearest half band. Since there are only four sections, it is possible that students will score exactly between two bands, and half bands are possible.

The Speaking test (twenty-five minutes) is managed by an interlocutor and there is also an assessor who scores both holistically and analytically, whereas the interlocutor only provides a holistic grade. The students are tested in pairs. Each member of the pair is given different information on the same topic in order to create an information gap. There is both a monologic and dialogic section to the test. In the latter stage the pair are given the opportunity to either agree or disagree on a discussion question related to the overall topic. The TEEP speaking thus simulates a typical seminar/tutorial scenario; again, the emphasis is on authentic topic integration.

The preparation of both IELTS and TEEP is thorough and developed along similar lines by highly experienced language testers. As with the TEEP, each IELTS version is constructed for all four test components according to established principles. For example, the mean difficulty of each test version and the range of individual test item difficulties are calculated in a similar manner. However, while in IELTS all four language skills are tested, IELTS is not an integrated test. There is no language knowledge test or focus task in IELTS. Furthermore, there are differences in the content of the two tests, including the number of tasks in each section, and the length allotted to the tasks. Scoring for both tests is similar in that both are scored on a 0–9 scale, with 9 being the highest. Test-takers receive a separate score for each section of the test, as well as an overall band score. A further key difference is how TEEP also takes the Language Knowledge score into account in order to finalize the overall score.

Both TEEP and IELTS claim to test the broad language skills for the purpose of preparing candidates for study in higher education, even though the scope of the two tests (IELTS seems to claim a broader scope of use) and the actual constructs of the skills may differ. It thus seems possible to make broad comparisons on the same pilot candidates in the present context.

Literature review

Comparability of tests

Bachman (1995, as cited in Taylor, 2004) cautions on the notion of test equivalence or comparability by pointing out that test comparability is not

simply a matter of score equivalences; other factors such as test content and performance will also need to be considered. Davies et al. (1999, as cited in Taylor, 2004, p. 3) further highlight the problematic nature of test equivalence 'since each test is designed for a different purpose and a different population, and may view and assess language traits in different ways as well as describing test-taker performance differently'. Taylor (2004) clarifies the terminological differences between test equivalence and comparability, but for the purpose of the present study, the two terms will be used interchangeably. It thus seems that any attempt to establish test equivalence risks oversimplifying the matter and the model on which such comparisons are made must be carefully examined (Weir, 2005). However, Taylor (2004) also recognizes the demand by test users for information on test equivalence and the possibility of comparing different tests which claim to measure language proficiency. For instance, broad comparisons are made of Cambridge ESOL exams (including IELTS) and the Common European Framework of Reference (CEFR) (Cambridge Assessment English, 2018; IELTS USA, n.d.). These are also implied in the published English-language requirements, as manifested in the various accepted international tests of the English language (e.g., IELTS, TOEFL), for entry to higher education programmes where English is the medium of instruction and assessment.

In any attempt to compare tests, it is also worth noting that many factors potentially affect test-takers' performance on a test. We were interested in exploring two such factors – test-taking motivation and test preparation.

Test-taking motivation and test performance

Test-taking motivation (TTM) is defined as 'giving one's best effort to the test, with the goal being to accurately represent what one knows and can do in the content area covered by the test' (Wise & DeMars, 2005, p. 2). In an earlier effort to attempt a meta-analysis of past studies on the subject, Wise and DeMars (2005) found a relationship between TTM as measured by test-taking effort and test performance, with low TTM resulting in decrease in performance in low-stakes tests. In a more recent larger-scale meta-analysis of 104 published articles, Silm, Pedaste, et al. (2020) provided further evidence on the relationship between performance and test-taking effort. Eklöf (2010) investigated TTM and test quality/validity, while Akhtar and Firdiyanti (2023) compared different measures of TTM (e.g., self-report vs time-based measures of efforts). Among the few studies on TTM in high-stakes test contexts, Silm, Must, et al. (2020) also found a relationship between TTM and test performance.

Test preparation and performance

Test preparation is a multi-faceted construct (Yu et al., 2018) that can encompass 'any intervention procedure specifically undertaken to improve

test scores, whether by improving the skills measured by the test or by improving the skills for taking the test, or both' (Messick, 1982, as cited in Yu & Green, 2021, p. 3). Recent reviews of the literature reveal the prevalence of test preparation practice in high-stakes tests (Yu & Green, 2021) and considerable research interest in test preparation in both general educational assessment and language assessment (O'Sullivan, Dunn, & Berry, 2021). A number of studies on test preparation in language assessment look at the relationship between test preparation and test performance (e.g., gains in test scores). For example, Yu et al. (2018) investigated the test preparation experiences of over 1,500 Chinese test-takers and twenty-three teachers for the TOEFL iBT speaking tasks. The research focused on both the students' and teachers' perceptions and the relationship between test preparation and performance. Multiple sources of data were collected, including questionnaire survey, focus group discussion, interview, and classroom observation. Among the findings was the perceived usefulness of test preparation activities by both the students and the teachers. The study also found a weak relationship between test preparation and performance. Xu (2021) investigated the processes and effects of test preparation for a high-stakes English admission test among 623 Chinese college students who were preparing for the writing tasks of the Graduate School Entrance English Examination (GSEEE). Five types of test preparation activities emerged from the study, including memorization, test familiarization, comprehensive learning, skill development, and drills. It was found that preparation efforts had a significant positive effect on test scores.

The above brief literature provides a conceptual framework for the present research. To the best knowledge of the present researchers, despite the long history of its development and use, there is a surprising lack of published research on the TEEP, in contrast to other widely publicized commercial tests such as IELTS and TOEFL. The present study is an attempt to redress this balance. It aims to investigate two tests, i.e., TEEP and IELTS, taken by the same cohort of Foundation Year (FY) students in a TNE context. Specifically, it hopes to answer the following research questions:

- To what extent are TEEP and IELTS comparable tests for this cohort of FY students in a TNE context?
- What were the students' perceptions of the two tests, particularly related to their TTM and experiences of test preparation?
- To what extent did the students perceive each test to be relevant to their subject study?

Method

Participants

Participants were the full cohort of 278 Foundation Year students across the six undergraduate programmes in the JEI in the academic year 2018/19, who were required by the JEI to participate in a large-scale pilot on TEEP. The cohort had all taken IELTS earlier as a progression requirement for English alongside TEEP. In addition, one focus group was selected for each programme, consisting of four to five male and female participants with varied proficiency in English based on their teacher recommendations. The focus group methodology was adopted to provide more in-depth data on experiences of the two tests. Details of the focus groups are shown in Table 1 below:

Table 1

Focus groups

Programme	Abbreviation	Participants
BSc Applied Chemistry	Applied Chem	4 (2M, 2F)
BSc Business Economic and Trade	Biz Eco & Trade	4 (1M, 3F)
BSc Mathematics and Applied Mathematics	Maths	5 (3M, 1F)
BSc Environmental Engineering	Env Eng	4 (3M, 1F)
BSc Atmospheric Science	Atmos Sci	4 (1M, 3F)
BA Law	Law	5 (2M, 3F)

Data collection procedure

The present study adopted a longitudinal design with mixed methods of data collection (both quantitative and qualitative). Data were collected in two phases. In Phase 1, TEEP and IELTS overall scores and those for each component of each student were collected from the JEI Student Affairs Office. Meanwhile, the first round of focus groups (FG1) was also conducted soon after the administration of TEEP, towards the end of their first academic year.

The focus group questions covered the participants' English-language learning experiences, test preparation and performance, and level of confidence in undertaking subject study in English (see Appendix 1 for the full list).

In phase 2, towards the end of Semester 1 in the following academic year, a second round of focus groups (FG2) was conducted with the same participants. The questions explored how they coped with their subject

study after taking IELTS and TEEP in order to gather data to help answer RQ3 (see Appendix 2). The focus groups were conducted in Chinese, each lasting thirty to forty-five minutes and audio-recorded with the participants' consent. Ethical approval had been obtained from the U.K. university and permission for entering the site in China had been granted prior to data collection.

Data analysis and results

Quantitative data were subject to statistical analysis using SPSS and qualitative data from the focus group transcripts were scrutinized and main themes identified. The quantitative results will be reported first to help answer research question 1 and then the qualitative insights, to answer the research questions 2 and 3, but also to shed light on research question 1.

Quantitative results

Descriptive tests of the TEEP and IELTS test scores, both overall and also broken down by sub-skills, are presented in Table 2.

Table 2

Descriptive statistics of TEEP and IELTS scores broken down by sub-skills

	N	Mean	Std deviation	Minimum	Maximum
IELTS-OVERALL	278	6.023	.6145	4.0	7.5
IELTS-L	278	6.241	.9888	3.0	9.0
IELTS-S	278	5.457	.4990	3.5	7.0
IELTS-R	278	6.619	.9511	4.5	9.0
IELTS-W	278	5.478	.4491	2.5	6.5
TEEP-OVERALL	278	5.734	.4066	4.0	7.0
TEEP-L	278	5.763	.5352	3.5	7.5
TEEP-S	278	5.876	.4917	4.0	7.0
TEEP-R	278	5.775	.4603	5.0	7.5
TEEP-W	278	5.730	.4722	4.5	7.5

Wilcoxon Signed Ranks Test was performed on the paired samples data to see whether there were statistically significant differences in either the overall results of TEEP and IELTS or in the sub-skills. These test statistics are shown in Table 3 and Table 4 below.

Wilcoxon Signed Ranks Test

Table 3*Ranks*

		N	Mean rank	Sum of ranks
TEEP	Negative ranks	143a	84.03	12016.00
OVERALL – IELTS OVERALL	Positive ranks	20b	67.50	1350.00
	Ties	115c		
	Total	278		
TEEP L – IELTS L	Negative ranks	167d	105.61	17637.00
	Positive ranks	33e	74.64	2463.00
	Ties	78f		
	Total	278		
TEEP S – IELTS S	Negative ranks	16g	67.09	1073.50
	Positive ranks	173h	97.58	16881.50
	Ties	89i		
	Total	278		
TEEP R – IELTS R	Negative ranks	208j	118.50	24649.00
	Positive ranks	18k	55.67	1002.00
	Ties	52l		
	Total	278		
TEEP W – IELTS W	Negative ranks	33m	73.09	2412.00
	Positive ranks	136n	87.89	11953.00
	Ties	109o		
	Total	278		

a. TEEP OVERALL < IELTS OVERALL

c. TEEP OVERALL = IELTS OVERALL

e. TEEP L > IELTS L

h. TEEP S > IELTS S

k. TEEP R > IELTS R

n. TEEP W > IELTS W

f. TEEP L = IELTS L

i. TEEP S = IELTS S

l. TEEP R = IELTS R

. TEEP W = IELTS W

b. TEEP OVERALL > IELTS OVERALL

d. TEEP L < IELTS L

g. TEEP S < IELTS S

j. TEEP R < IELTS R

m. TEEP W < IELTS W

Table 4*Test statistics*

	TEEP OVERALL - IELTS OVERALL	TEEP L - IELTS L	TEEP S - IELTS S	TEEP R - IELTS R	TEEP W - IELTS W
Z	-9.402 ^b	-9.474 ^b	-10.905 ^c	-12.141 ^b	-7.950 ^c
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000

a. Wilcoxon Signed ranks test

b. Based on positive ranks

c. Based on negative ranks

The Wilcoxon Signed Ranks Test showed that there were significant differences between the two sets of scores favouring either IELTS or TEEP. Specifically, the participants performed significantly better overall ($Z = -9.402$, $p < 0.001$) and in listening ($Z = -9.474$, $p < 0.001$) and reading ($Z = -12.141$, $p < 0.001$) on IELTS, but they did significantly better in speaking ($Z = -10.905$, $p < 0.001$) and writing ($Z = -7.950$, $p < 0.001$) on TEEP.

To gain deeper insights and to help answer research question one (RQ1), factor analysis was also performed to detect any underlying dimensions or factors. First, Kaiser-Meyer-Olkin (KMO) test was conducted to check whether the data was suitable for factor analysis. With the KMO Measure of Sampling Adequacy of 0.902 and the Bartlett's Test of Sphericity significant ($p < 0.001$), as shown in Table 5 below, we decided to proceed with an exploratory factor analysis.

Table 5*Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity*

Kaiser-Meyer-Olkin measure of sampling adequacy		.902
Bartlett's test of sphericity	Approx. chi-square	973.511
	df	28
	Sig.	.000

The exploratory factor analysis was conducted using the extraction method of Principal Component Analysis, and the rotation method of Promax with Kaiser Normalization. Communalities ranged from .33 to .74 (see Table 6). Eigenvalues of ≥ 1 were used to interpret the number of factors in the data set.

Table 6*Communalities*

	Initial	Extraction
IELTS -L	1.000	.736
IELTS -S	1.000	.557
IELTS -R	1.000	.634
IELTS -W	1.000	.490
TEEP -L	1.000	.678
TEEP -S	1.000	.426
TEEP -R	1.000	.334
TEEP -W	1.000	.498

Extraction Method: Principal
Component Analysis

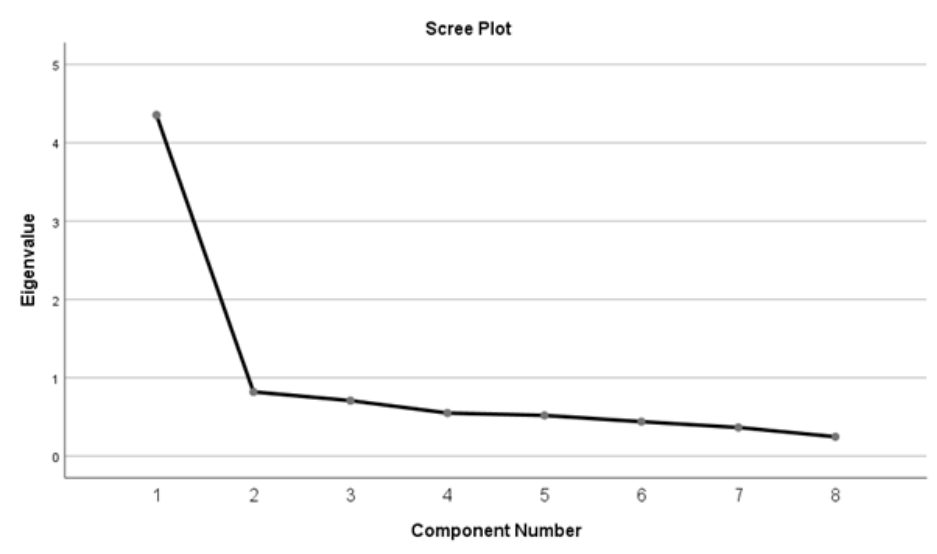
As can be seen in Table 7, only one factor was extracted, with an eigenvalue of 4.35, explaining 54.42% of the total variance.

Table 7*Total variance explained*

Component	Initial eigenvalues			Extraction sums of squared loadings	
	Total	% of variance	Cumulative %	Total	% of variance
1	4.354	54.424	54.424	4.354	54.424
2	.819	10.236	64.660		
3	.708	8.848	73.508		
4	.549	6.869	80.376		
5	.519	6.487	86.864		
6	.439	5.491	92.355		
7	.365	4.564	96.919		
8	.247	3.081	100.000		

The scree plot is presented in Figure 1 below, which offers a visual display of eigenvalues against each component or factor number, which helps to determine the number of components or factors to retain, i.e., those with eigenvalues of ≥ 1 .

Figure 1
Scree plot



The component matrix in Table 8 displays the loadings or the correlations between each variable (i.e., each sub-skill) and the derived component or factor which range from .58 (TEEP Reading) to 0.86 (IELTS Listening).

Table 8

Component matrix ^a	
	Component 1
IELTS -L	.858
TEEP -L	.823
IELTS -R	.797
IELTS -S	.746
TEEP -W	.706
IELTS -W	.700
TEEP -S	.652
TEEP -R	.578

Extraction Method:
Principal Component
Analysis.^a

a. 1 components
extracted.

This one factor extracted, which all the TEEP and IELTS sub-skills tap into, was named an 'English language proficiency' factor. This means that based on the data set in the present study, both TEEP and IELTS measure the same underlying language construct.

Qualitative results

As noted above, qualitative data were gathered from two rounds of focus groups: FG1 and FG2. The qualitative data were collected to help answer RQs 2 and 3 and shed further light on RQ1. The findings from each round will be presented separately, using participant quotations where possible, in order to foreground their voices. The discussions in the first round focused on the participants' learning experiences, motivation and preparedness, and the perceived difficulty of components of the tests.

Learning experiences

In order to gain a better understanding of the learning contexts for the two tests, the initial FG1 questions asked about the students' experiences of learning English in senior middle school and at the JEI in university. The participants generally perceived a strong contrast between the school and university environments. The following quotations illustrate the key differences that were reported regarding the range of English language skills covered, the learning atmosphere, and the motivation to study.

Table 9

Student learning experiences

Do you find learning English at university different from learning English in school?	
<i>High school was a place in which we were required in a very strict way. But here, we have a very easy atmosphere, and we have much less homework. The homework was not checked strictly, either. I needed to be disciplined and do lots of self-checking. For IELTS, I needed to finish all the exercises with my own motivation.</i>	Applied Chem
<i>We only focused on reading and writing before for a better score in the test [in high school]. There was absolutely no lecture and training sessions about oral English. So, I was confronted with a totally new learning environment.</i>	Env. Eng.
<i>We have a better atmosphere for English ... with full English teaching here. I feel I improve much quicker compared to in high school</i>	Atmos. Sci.

Motivation and preparedness for IELTS and TEEP

Both IELTS and TEEP could be used for progression to the following year of study in the JEI. However, the participants took IELTS first, and some had already received their IELTS results and knew they had met the

requirements before taking the TEEP. Perhaps unsurprisingly, therefore, they reported high motivation with more engagement, often under pressure, and intensive preparation and practice for IELTS, whereas some slightly lacked motivation for TEEP which took place later. The following FG1 reflections and comments were typical:

Table 10

Student test preparation

How did you prepare for IELTS/TEEP?	
<i>I spent most of my time preparing for the IELTS test.</i>	Law
<i>The biggest challenge I think was IELTS. IELTS was really difficult, and we had a grade to reach, so that was big pressure.</i>	Atmos Sci
<i>I already passed my IELTS when we had the TEEP exam, so I did not have much pressure. When I had my IELTS I was quite worried about it ... TEEP was cool.</i>	Atmos Sci

This greater motivation for IELTS was also mentioned in the second stage of focus groups: for example, an Applied Chem student reported, ‘I was more engaged with IELTS’.

Given findings in the literature on the relationship between TTM and test performance (e.g., Silm, Must, et al., 2020), and preparation and test performance (e.g., Xu, 2021; Yu et al. 2018), these qualitative data may shed light on the quantitative findings. For example, it may partly explain why the cohort performed better overall on IELTS than TEEP.

Perceived difficulty of IELTS and TEEP

The focus group members were also asked about how they felt about the two tests. Data from FG1, conducted shortly after the TEEP test, showed that TEEP was perceived by the focus group members as slightly easier than IELTS. Representative comments are provided in table 11.

Table 11

Student perceptions of the two tests

How did you feel about taking the IELTS/TEEP?	
<i>I think the TEEP test is easier. Questions in TEEP are based on real life.</i>	Env Eng
<i>Reading [in TEEP] is definitely easier.</i>	Law
<i>Writing is relatively easy in the TEEP test and you can refer to the idea presented in the material in the reading test session. However, you have nothing to refer to in the IELTS test.</i>	Law

This perception was confirmed again several months later. During the second round of focus groups (FG2), members in four out of the six FGs (including all four members in the chemistry focus group) agreed that TEEP

was easier than IELTS overall, even in cases when they had received similar results in both tests.

The FG1 students were also asked for their views on the differences between the two tests. Table 12 highlights some of the common sentiments that were shared. Responses revealed that some seemed to like the topic-based nature of the TEEP test. Additionally, many students noted that they felt TEEP speaking was somewhat harder than that in IELTS.

Table 12
Perceived differences between tests

What do you think are the differences between the two tests?	
I found TEEP is a bit different to normal exams. It has a topic that links all the contents, including reading, listening, and writing. I don't know why, I found myself more comfortable finishing that paper.	Maths
The TEEP test put up a higher requirement than IELTS does. It requires us to be not only good at listening and speaking, but also good at understanding each other.	Law
I think the TEEP test pays more attention to communication while the IELTS test focuses on your narrative ability.	Env Eng
I think one of the difficulties is that [TEEP speaking] randomly assigned me an argument that I should hold at the beginning. Sometimes, the argument I want to hold may not be the one on the paper I have in my hand tells me, or I don't really want to talk about the argument I have in my hand, but I have to perfect the argument in my hand and it goes against my heart. Afterwards, the discussion was one-sided.	Env Eng
Cooperation [in the TEEP paired discussion] is too hard.	Law

Comments in the second round of focus groups (FG2) confirmed this perception about TEEP speaking; for example, a maths student reported 'TEEP speaking is more difficult than IELTS'.

These qualitative results are intriguing as they seem to contradict the quantitative results. On the one hand, students perceived TEEP to be easier than IELTS overall, but the cohort achieved better overall in IELTS than TEEP based on their test scores. At the same time, they felt speaking in TEEP was harder, but they did better in TEEP speaking than in IELTS speaking. There thus seemed a mismatch between these test-takers' perceptions and their actual test results. Yu et al.'s (2018) discussion of test preparation notes the importance students attributed to learning test formats in their preparation activities. Our finding that students found the TEEP speaking harder (despite their scores) could relate to this lack of familiarity with the paired discussion format.

The second round of focus groups encouraged the students to reflect on the relevance of the two tests for their subject study in Year 2. The key themes are presented below.

Perceived relevance of the two tests for their subject study

Both TEEP and IELTS were perceived by the focus group (FG) members as useful for their subject study. Among the twenty FG members who commented, seven single out TEEP while five single out IELTS, with another six mentioning both IELTS and TEEP, as particularly relevant, whereas only two – one from business economics and trade and one from applied chemistry – failed to see the connection. Typically, TEEP was valued for summarizing and information extraction skills (e.g., integrated skills of reading for writing) and the authenticity of the speaking test in an academic context (e.g., discussing or debating), whereas IELTS was valued particularly for the rigour of its reading in their subject study. Interestingly, IELTS was also valued more as an internationally recognized authoritative test in relation to their future postgraduate applications (Applied Chem.), or as a better-established test than TEEP, with a larger database of test materials for training and practice and population of test-takers (Env. Eng.).

Although the students had a greater familiarity with IELTS, the focus group data showed that some students preferred TEEP, or valued certain aspects of this test, as illustrated by the comments in Table 13.

Table 13

Preparation for subject study

In what ways did your preparation for the [IELTS/TEEP] exam help with your subject studies? (i)	
<i>Both TEEP and IELTS are helpful: IELTS' four skills help with reading difficult articles and following lectures; TEEP tests your summarizing and information extraction skills, good for doing assignments and report or presentations</i>	Env Eng
<i>IELTS has a higher requirement for reading – whether you can roughly understand the reading; it is more academic. But TEEP requires the picking out of knowledge points, and getting them quickly, which [also] emphasizes academic skills.</i>	Env Eng
<i>IELTS reading, writing and listening are more challenging and good for the development of language skills; TEEP writing requires extracting information from listening and reading and the integration of materials, which is also required by academic writing, so more effective in this sense. If only to take one test, I would choose TEEP.</i>	Law

The participants also highlighted features that they saw as unique to each test. In particular, the authenticity of TEEP speaking as it related to academic

study was mentioned in three of the focus groups. The comments are given in full in Table 14.

Table 14

Relevance of TEEP speaking

In what ways did your preparation for the [IELTS/TEEP] exam help with your subject studies? (ii)	
<i>TEEP speaking is more helpful than IELTS: Similar to real life group work mechanisms/dynamics, requiring similar skills (e.g. skills for engaging other partners; trying to speak more and give your opinions).</i>	Env Eng
<i>TEEP speaking is like academic exchange with teachers, but IELTS speaking is a range of general daily topics [general consensus among the focus group members]</i>	Atmos Sci
<i>TEEP speaking is like debating, which trains your thinking and debating skills, closer to skills required for subject study (e.g. skills for use in court). IELTS speaking requires describing something clearly.</i>	Law

The other skill tested in TEEP which was considered to bear directly on their subject study was the ability to extract information. For instance, two business economics and trade students (Biz. Eco. and Trade) felt that TEEP emphasizes the ability to extract and integrate information (for related tasks), which is what TEEP is designed for, and is more relevant to their current subject study; one felt it was not relevant to subject study but closely related to EAP study, e.g., public speaking. This skill of extracting information in TEEP was also mentioned in the maths FG2.

On the other hand, other focus group participants felt IELTS was more relevant to their subject study, and Table 15 highlights two such comments.

Table 15

Relevance of IELTS

In what ways did your preparation for the [IELTS/TEEP] exam help with your subject studies? (iii)	
<i>Intensive preparation for IELTS helped [to develop] language skills which facilitated current study (e.g., following lectures)</i>	Env Eng
<i>In IELTS reading, [there are] lots of unknown words, which involves extracting information. [It is] transferrable to reading mathematical problems.</i>	Maths

How the students were coping with their subject study

This question was explored with the participants in order to gauge the extent to which students who had met the required English level through one or both of the tests now felt confident with the requirements of studying in English at university. The discussion was structured around the

following topics: following lectures and participating in tutorials, classroom participation and interaction, doing presentations, coping with homework/assignments, and coping with assessments/exams.

Following lectures and participating in tutorials

Among the focus group members who responded to the specific questions (twenty out of twenty-six), the vast majority (fifteen out of twenty) reported being able to follow lectures and participate in tutorials, even though it was a gradual process over the semester. However, they found the terminology difficult. Sometimes lecturers' rate of speech was too fast and occasionally it was also complicated by their accent, particularly on the applied chemistry and the mathematics and applied mathematics programmes, affecting understanding.

Classroom participation and interaction

Classroom participation and interaction varied among the focus group members. Fifteen out of the nineteen who responded to the question felt they were able to participate to some extent. Four felt lack of confidence, partly due to the lack of language, particularly technical vocabulary to express themselves. For example, one student reported a lack of confidence due to inadequacy in expressing themselves and the embarrassment experienced in front of the class:

I feel the English language is a big problem for me. For instance, I am a person who is willing to answer questions, but when I stand up there finding myself not able to say what I want to say, or saying it in a strange way, my classmates will laugh and the teacher will not understand what I am trying to say. My confidence will be blown away, and next time I won't stand up. (Env Eng)

Another described the issue of the different ways of thinking and expressing in English and Chinese in mathematics:

Honestly there is still the language barrier. To give a simple example, the expression of function [in mathematics], $F(x) = \frac{1}{2}x^2$. To say it in English, $F(x)$ equals to, then for $\frac{1}{2}$, is it half or one over two, and x^2 is x squared, which is very complex, but in Chinese it is quite easy: $Fx \frac{1}{2}x$ *Fang*.

I felt we had two systems in our subject study... we received the English system in class and then we converted it back to the Chinese system, and then we had to convert it back again to English for the exams. (Maths)

Others thought they should not waste their classmates' time by asking questions in class; instead, they preferred to ask after class, as was the case with Chinese students in other studies (e.g., Chan, 1999; Frambach et al.,

2014; Zhou et al., 2005). For still others, it seemed down to motivation or personality. 'I feel some students, including myself, are too shy in class. We never put up their hands to answer the teacher's questions, or ask the teacher questions. I don't think it is a question of language, it is down to personality' (Law).

Doing presentations

The focus groups reported different approaches to presentations in English. Some needed to write down everything and memorize them; others followed teachers' advice on presentation skills and only listed key words; some had developed their own skill, e.g., logical organization between different parts/slides. Generally, they could cope when there is time to prepare for the PowerPoint slides in advance, despite the normal nervousness associated with presenting in front of an audience.

Coping with assignments and assessments

No focus group member reported problem or difficulty in coping with homework/assignments and assessments in English at this stage of their subject study. There seemed the expectation, however, that teachers should narrow down the range of assessed areas in preparation for assessments, as implied in the account below:

Different teachers have different styles. I agree. For example, this morning we have just done one. We had just talked about 1 and 2 and they told us 4, 5, and 6 would be tested. But in the end, only the first part of 5 and the second part of 6 appeared in the paper, but nothing for 4. God knows what our beloved Calculus teacher is up to. (Maths)

The qualitative data from the focus groups presented above clearly demonstrated the relevance of both TEEP and IELTS, as perceived by the focus group members, in their subject study. Despite difficulties in some areas, they were able to cope with the academic demands of study through English. These results seem to slightly contradict the more mixed results in an earlier study on the relationship between IELTS scores and academic English use (Ingram & Bayliss, 2007).

Discussion and conclusion

The present study was an attempt to provide empirical evidence in relation to TEEP in comparison to IELTS in terms of the link between the two tests and the academic study needs of the student test-takers. Quantitative data showed that both tests seem to tap into one common underlying English-language proficiency construct. Clear patterns also emerged from

the quantitative data which point to different performances on the two tests or sub-components of the tests. While students did better overall and in reading and listening on IELTS by a small margin, they performed better on TEEP speaking and writing. Focus group data helped to shed light on these results and also provided some insights into student perceptions of the tests. It seemed that the students were better prepared and had stronger motivation for IELTS than for TEEP. Although both tests were high stakes as progression requirements, and the students seemed to have taken both seriously in general, they exhibited different attitudes and behaviour towards the two tests. The order of the two tests and the earlier release of the IELTS results seemed to have affected the level of motivation of some better performing students to both prepare for and take TEEP. Given that students' TTM and preparation affect their test performance (Silm, Must, et al., 2020; Xu, 2021; Yu et al., 2018), such attitudes and behaviour may partly explain the different IELTS and TEEP results. They may also help to explain the interesting discrepancy between the test results and the test-takers' perceptions of the relative difficulty of the two tests, that is, they performed better on IELTS overall although they felt TEEP was easier. The different test design, e.g., TEEP as an integrated reading and listening into writing topic-based test, as also confirmed by the students, may also be partly responsible for the different test performances. Many factors potentially affect student results on these tests and, when it comes to the predictive validity of language tests for subject study, we agree with O'Sullivan et al. (2021) that 'academic success is likely to be influenced by a range of variables, of which language will only be one' (p. 16).

There are potential limitations of the present study. One is the focus on the TNE context, which limits the claim we can make on generalisability to other contexts. Another relates to the arrangement of test administration and results release in the JEL. The order in which IELTS and TEEP were administered and the earlier release of IELTS results meant that the conditions in which the two tests were taken were not matched, which seemed to have affected the motivation and preparation of some students, and ultimately their performances on the two tests. However, within these limitations, the findings of the present research may have implications for test design and policymaking on the choice of tests. The topic-based design of TEEP seemed to be well recognized by the test-takers, and in some cases, preferred by the students in the cohort, so may be worth considering for other tests. Based on both the quantitative and qualitative evidence, policy-makers can have some confidence in TEEP as a possible alternative to, or as one among several other well-known international tests (such as IELTS) for use, particularly in a TNE context.

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Appendix 1

Focus Group 1 questions

- What difficulties or challenges have you experienced with English during your first year at the Academy?
- Do you find learning English at University different from learning English in schools? (In what ways? Prompts: Group work/interaction; able to questions; read more widely)
- How well do you feel you are supported in your English learning at the Academy? (teaching, tutorials, library or internet resources, and extracurricular activities related to English)
- How did you prepare for IELTS?
- How did you prepare for TEEP?
- How well prepared were you before you took the two tests?
- How did you feel about taking the IELTS? (Prompts: components you found easier or more challenging)
- How did you feel about taking the TEEP? (Prompts: components you found easier or more challenging; TEEP test is about two and a half hours, did you find that too long?)
- What do you think are the differences between the two tests?
- How do you feel about your English language skills? (LSRW or RW and LS)
- How confident are you about studying your academic programme through English in the coming year?

Appendix 2

Focus Group 2 questions and prompts

Over the past semester, how have you found learning your subject courses in English?

- **Class participation**, for example:
 - o Were you able to fully understand the lectures?
 - o Could you actively participate and express your thoughts in class?
 - o Were you able to deliver presentations effectively in English?
 - o Could you complete assignments successfully?
- **Tutorial sessions**
- **Exams**, for example:
 - o What types of exams have you taken?
 - o How well did you do?
 - o In what aspects do you feel your English skills are still lacking?
(Listening, speaking, reading, writing, vocabulary, technical terms, etc.)

Now, looking back, in what ways did your preparation for the TEEP exam help with your subject studies?

In what ways did your preparation for the IELTS exam help with your subject studies?

How do you think your subject studies this semester relate to the TEEP and IELTS tests? Which test do you think better prepared you for your subject study?