English Medium Instruction and language proficiency gains: Evidence from Vietnam

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Introduction

- **Internationalisation of higher education** (Knight, 2004; Marginson, 2010; Johnson, 2009)

- **Teaching English as a global language** (Crystal, 2003)

- **Teaching content through English: English Medium Instruction**
  
  ‘the use of English language to teach academic subjects (other than English itself) in countries or jurisdiction where the first language of the majority of the population is not English’. (Macaro, 2018, p. 1)

**Internationalisation through EMI: a geographical map**

- **Europe**: the Bologna Process 1999 (Coleman, 2018; Lueg and Lueg, 2015; Macaro et al., 2018)
- **Middle East**: EMI in Saudi Arabia and United Arab Emirates (Belhiah and Elhami, 2014)
- **East Asia**: Globalisation Project in South Korea, Global 30 Project in Japan, Multi-functional EMI in China (Byun et al., 2011; Cho, 2012; Rose et al., 2020)
- **Southeast Asia, Africa, Latin America** remain under-researched areas of EMI
EMI in Vietnam

- Doi Moi (Reform) policy since the 1980s: intensification of global integration and cooperation (Wright, 2002)

- Development of EMI in Vietnamese HE
  - First recorded EMI course in 1998, now the total number is more than 300 in 84 universities (out of 237 HEIs) across Vietnam (VIED, 2017)
  - Walking a tightrope situation:
    - Strong policy push for more EMI
    - Universities retain Vietnamese Medium Instruction (VMI) in parallel with newly introduced EMI, offer dual degrees in both instructional languages
    - Internationalisation at home trend adopted in Vietnam (Tri and Moskovsky, 2019)

- Remaining gaps:
  - Labelling issues: VMI as ‘standard quality’ whilst EMI as ‘high quality’: lack of research on the quality gap between two media of instruction
  - A pedagogy of assumptions (Pham & Ngoc, 2020): unclear on the language gains of EMI in Vietnam

Literature review
Literature Review

• **EMI impacts on language gains**

  • **General English test scores** (e.g: national high-stake English tests, end-of-term scores, GPA on EFL subjects) (Lei & Hu, 2014; Nurshatayeva & Page, 2020; Yang, 2015)
  
  • **Self-reported perceptions** (e.g: perceived language gains from EMI learning, language learning motivation, English self-efficacy beliefs) (Aizawa & Rose, 2019; Chapple, 2015; Kırkgöz, 2009; Lei & Hu, 2014; Rogier, 2012; Wannagat, 2007; Yang, 2015)

• **Findings:**
  • Mostly mixed findings
  • Positive gains only in students’ perceptions of improved self-efficacy beliefs, motivation and less anxiety
  • Various indicators of language gains and inconsistencies in research methods led to difficulty to identify patterns, and determine effects of EMI on linguistic skills
  • Consideration of contextual, learners’ individual, and socio-cultural factors is called for
  • Lack of comparison between EMI and non-EMI groups
The study

• **Research setting**
  • Carried out a public university in Hochiminh city, the largest city in Vietnam
  • The total number of students of the whole university: 4000
  • The total intake for the International Business (IB): 450 (160 for EMI, 290 for VMI)
  • For selective admission, prospective students have to meet same academic requirements and prerequisites on the National High School Examination (Maths, English and Vietnamese Literature are three required subjects)
  • During application process, students can declare their choice for either EMI or VMI programme for the same IB degree
The study

• Data
  • N = 111 (50 EMI, 61 VMI)
  • All participants were recruited on their third year of IB studies to ensure each already had substantial exposure to EMI/ VMI
    • Firstly, questionnaire data on students’ demographic information such as gender, household income, weekly hours of private English tuition, entry English grades accompanied with open-ended questions on perceptions on the chosen medium of instruction and their language learning experiences
    • Second, online Duolingo English Test to complete within a total of 15 minutes
    • Third, follow-up focus group interviews were conducted upon participants’ consent
  • Data analysis: quantitative analysis was performed using R, focus group interviews and open-ended responses were transcribed and translated by the researcher and thematic content analysis was conducted using NVivo 12
The study

• Research questions

1. What are the effects of English Medium Instruction on student English proficiency?

2. Are there any differential effects of English Medium Instruction between different social groups? (gender, household income, private English tuition access, English entry grades)

3. How do students perceive the relationship between medium of instruction and English proficiency?
### Effects of English Medium Instruction on student English proficiency

| Table 2. Descriptive statistics of Duolingo score and predictor variables |
|-------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Variable                                        | Range  | Min    | Max    | Mean   | SD     | Variance| Skewness|
| Entry English grades                            | 4.80   | 5.00   | 9.80   | 8.141  | 1.118  | 1.250   | -0.755  |
| Household income                                | 3      | 1      | 4      | 2.31   | 1.204  | 1.451   | 0.404   |
| Hrs of EL tuition                               | 2      | 1      | 3      | 2.04   | 0.852  | 0.726   | -0.069  |
| Duolingo scores                                 | 100.0  | 45.0   | 145.0  | 104.356| 23.415 | 548.256 | -0.223  |

Notes: N = 111. Sources: Own calculations from own survey data.
## Effects of English Medium Instruction on student English proficiency

In order to answer the first question, two regression models were used in which ‘Duolingo Test Score’ (DuoLingo<sub>i</sub>) was established as the outcome variable. In Model 1, we only included ‘Medium of Instruction’ (MOI<sub>i</sub>) as the predictor variable. The regression model 1 can be expressed as follows, with β₁ being the coefficient of interest, which is the effect of MOI on the Duolingo test score for each student <i>i</i>, and <i>e₁</i> being the error term:

\[
\text{DuoLingo}_i = \alpha + \beta_1 \text{MOI}_i + e_{1i} \quad (1)
\]

In Model 2, we further added other control variables such as gender, household income, hours of private English tuition and course entry English grades to explore if the variances in proficiency scores are associated with other sociological factors of participants. The regression model 2 can be expressed as follow, with β₂, β₃, β₄ and β₅ now capturing the effect of control variables on DuoLingo<sub>i</sub>:

\[
\text{DuoLingo}_i = \alpha + \beta_1 \text{MOI}_i + \beta_2 \text{Gender}_i + \beta_3 \text{Income}_i \\
+ \beta_4 \text{Eng Tuition}_i \\
+ \beta_5 \text{Entry English}_i + e_{2i} 
\quad (2)
\]

### Table 3. Regression results of EMI effects on English proficiency scores

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable:</strong></td>
<td>DuoLingo</td>
<td>DuoLingo</td>
</tr>
<tr>
<td><strong>Medium of instruction</strong></td>
<td>16.930***</td>
<td>13.791***</td>
</tr>
<tr>
<td></td>
<td>p = 0.0001</td>
<td>p = 0.002</td>
</tr>
<tr>
<td><strong>Course entry English grades</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.012***</td>
<td>6.012***</td>
</tr>
<tr>
<td></td>
<td>p = 0.002</td>
<td>p = 0.002</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>4.621</td>
<td>-4.621</td>
</tr>
<tr>
<td></td>
<td>p = 0.265</td>
<td>p = 0.265</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td>1.338</td>
<td>1.338</td>
</tr>
<tr>
<td></td>
<td>p = 0.431</td>
<td>p = 0.431</td>
</tr>
<tr>
<td><strong>Private English tuition</strong></td>
<td>1.016</td>
<td>1.016</td>
</tr>
<tr>
<td></td>
<td>p = 0.685</td>
<td>p = 0.685</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>96.730***</td>
<td>46.791**</td>
</tr>
<tr>
<td></td>
<td>p = 0.000</td>
<td>p = 0.011</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>111</td>
<td>111</td>
</tr>
<tr>
<td><strong>R²</strong></td>
<td>0.131</td>
<td>0.228</td>
</tr>
<tr>
<td><strong>Adjusted R²</strong></td>
<td>0.123</td>
<td>0.191</td>
</tr>
<tr>
<td><strong>F Statistic</strong></td>
<td>16.374*** (df = 1; 109)</td>
<td>6.193*** (df = 5; 105)</td>
</tr>
</tbody>
</table>

Note: *p* < 0.01, **p** < 0.05, ***p** < 0.01
Interaction term effects between different social groups in EMI

Interaction term analysis: how the effect on Duolingo score of a change in medium of instruction variable depends on the value of another predictor variable.

• Firstly, we wanted to ask if high income EMI learners benefit differentially from their low-income counterparts (where > £313/month as high, <£313/month as low), denoted as BiIncomei.

• Similarly, we want to explore the differential effects of EMI participation on English proficiency score among students from different genders (female/male) denoted as BiGenderi, access to intensive private English tuition (yes/no) denoted as BiIncomei, and entry English grade for the National Entrance Exam (>8 as high and <8 as low) BiEntryEnglishi. To answer these questions, we employed an interaction term analysis to measure the difference in the effect of interested independent variable for either EMI or VMI programme, which can be expressed in the formula below:

\[
\text{Duolingo}_i = \alpha + \beta_1 \text{MOI}_i + \beta_2 \text{BiGender}_i + \beta_3 \text{BiIncome}_i + \beta_4 \text{BiEngTuition}_i + \beta_5 \text{BiEntryEnglish}_i + \gamma \text{interaction}_i + e_{3i}
\]  

(3)

where interactioni are a set of interaction terms between MOIi and one of the following:(i) BiGenderi (ii) BiIncomei (iii) BiEngTuitioni (iv) BiEntryEnglishi.

### Table 4. Interaction term analysis between medium of instruction and other predictors

<table>
<thead>
<tr>
<th>Dependent variable: Duolingo</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium of instruction (MOI)</td>
<td>4.726</td>
<td>18.733***</td>
<td>-0.067</td>
<td>59.529*</td>
</tr>
<tr>
<td>Gender (G) (M= 0, F=1)</td>
<td>-14.936**</td>
<td>p = 0.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of MOI and G</td>
<td>19.571**</td>
<td>p = 0.022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household income (HI)</td>
<td>7.678</td>
<td>p = 0.109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of MOI and HI</td>
<td>-5.356</td>
<td>p = 0.429</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private English hours (PEH)</td>
<td>-17.289***</td>
<td>p = 0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of MOI and PEH</td>
<td>25.305***</td>
<td>p = 0.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entry English grades (EEG)</td>
<td>8.270***</td>
<td>p = 0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of MOI and EEG</td>
<td>-5.500</td>
<td>p = 0.141</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>106.524***</td>
<td>p = 0.000</td>
<td>91.695***</td>
<td>p = 0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>108.917***</td>
<td>p = 0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30.951</td>
<td>p = 0.101</td>
</tr>
</tbody>
</table>

Note: *p ** p *** p<0.01
Thematic analysis of students’ responses

<table>
<thead>
<tr>
<th>Name</th>
<th>MOI</th>
<th>Gender</th>
<th>Income</th>
<th>Entry English</th>
<th>English tuition</th>
<th>Duolingo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1</td>
<td>VMI</td>
<td>Female</td>
<td>1</td>
<td>8.8</td>
<td>&gt; 3 hours</td>
<td>102</td>
</tr>
<tr>
<td>Student 2</td>
<td>VMI</td>
<td>Female</td>
<td>2</td>
<td>7.4</td>
<td>1 - 3 hours</td>
<td>100</td>
</tr>
<tr>
<td>Student 3</td>
<td>EMI</td>
<td>Female</td>
<td>4</td>
<td>9.6</td>
<td>&lt; 1 hour</td>
<td>140</td>
</tr>
<tr>
<td>Student 4</td>
<td>EMI</td>
<td>Female</td>
<td>2</td>
<td>9.0</td>
<td>1 - 3 hours</td>
<td>145</td>
</tr>
<tr>
<td>Student 5</td>
<td>EMI</td>
<td>Male</td>
<td>3</td>
<td>9.8</td>
<td>1 - 3 hours</td>
<td>137</td>
</tr>
<tr>
<td>Student 6</td>
<td>VMI</td>
<td>Male</td>
<td>2</td>
<td>8.4</td>
<td>&lt; 1 hour</td>
<td>100</td>
</tr>
<tr>
<td>Student 7</td>
<td>VMI</td>
<td>Male</td>
<td>2</td>
<td>9.0</td>
<td>1 - 3 hours</td>
<td>95</td>
</tr>
<tr>
<td>Student 8</td>
<td>VMI</td>
<td>Female</td>
<td>3</td>
<td>8.4</td>
<td>1 - 3 hours</td>
<td>95</td>
</tr>
<tr>
<td>Student 9</td>
<td>EMI</td>
<td>Male</td>
<td>4</td>
<td>9.3</td>
<td>&lt; 1 hour</td>
<td>120</td>
</tr>
<tr>
<td>Student 10</td>
<td>VMI</td>
<td>Male</td>
<td>4</td>
<td>7.5</td>
<td>&gt; 3 hours</td>
<td>92</td>
</tr>
<tr>
<td>Student 11</td>
<td>VMI</td>
<td>Female</td>
<td>3</td>
<td>8.5</td>
<td>1 - 3 hours</td>
<td>90</td>
</tr>
<tr>
<td>Student 12</td>
<td>VMI</td>
<td>Female</td>
<td>1</td>
<td>8.8</td>
<td>&lt; 1 hour</td>
<td>86</td>
</tr>
<tr>
<td>Student 13</td>
<td>EMI</td>
<td>Female</td>
<td>4</td>
<td>9.4</td>
<td>&lt; 1 hour</td>
<td>125</td>
</tr>
<tr>
<td>Student 14</td>
<td>EMI</td>
<td>Female</td>
<td>3</td>
<td>8.6</td>
<td>1 - 3 hours</td>
<td>122</td>
</tr>
<tr>
<td>Student 15</td>
<td>VMI</td>
<td>Male</td>
<td>2</td>
<td>6.5</td>
<td>&gt; 3 hours</td>
<td>85</td>
</tr>
</tbody>
</table>

Notes: *Household income monthly level based on Statista country report in average income in Vietnam in 2021: level 1 < £156, level 2: £156 ~ £313, level 3: £313 ~ £469, level 4 > £469 ** Estimated currency conversion from VND to GBP was done by the researcher

***Entry English grades are based on results from the Vietnamese National University Entrance Examination with 10 being the highest grade

**** Duolingo Score scale range from 10 being the lowest to 160 being the highest score. A full comparison table between Duolingo Score and IELTS equivalence is in the appendix.
1. What are the effects of English Medium Instruction on English proficiency?

- EMI participation accounts for nearly 17 points higher in Duolingo test compared to that of VMI and this effect is statistically significant ($p = 0.001 < 0.05$) without controlling for other sociological factors.

- When controlling for sociological factors (income, private English tuition, entry grades, and gender), the effect of EMI participation remains statistically significant ($p = 0.002 < 0.05$) compared to VMI programme by a gap of 13.8 Duolingo points.

- There is evidence to indicate a proficiency gap between male and female participants in this study with female scoring 4 points lower than male counterparts on average.
2. Are there any differential effects of EMI between different social groups? (gender, household income, private English tuition access, English entry grades)

- **Interaction between EMI and gender:** Within EMI cohort itself, female participants seem to benefit more from EMI than male by nearly 20 points ($p = 0.022 < 0.05$).

- **Interaction between EMI and income groups:** Higher income students benefit less from EMI than lower income students by -5 points in Duolingo score. However, we do not find any statistically significant evidence to support this.

- **Interaction between EMI and private English tuition attendance:** EMI students who study for more than 3 hours a week benefit 25 points higher than those who do not ($p = 0.004 < 0.05$).

- **Interaction between EMI and entry English grades:** Students who previously performed higher at the National Entrance Examination seemed to benefit less from EMI than lower achievers by five points ($p = 0.002 < 0.05$).
3. How do students perceive the relationship between instructional medium and English proficiency?

**Pre-sessional motivations for choosing either VMI or EMI**

- The expectation to improve English (both general and academic)

  ‘I chose to study EMI programme because I hope it will equip me with a good foundation in Business English and General English, which will enable me to communicate better and understand materials in English for my jobs in the future’ (EMI student 3)

- Students with lower linguistic backgrounds show divergent patterns

  ‘I chose EMI programme because at the time of enrolment, my English was not as good as other subjects and I thought by pursuing the EMI route, I could improve my English skills through immersion and practice.’ (EMI student 14)

  ‘I was not confident that I would be capable of learning entirely in English given my inadequate English background. I thought I should go with VMI as I felt more confident to understand content in my mother tongue and I would come up with strategies to supplement English lessons later’ (VMI student 15)

- The high cost of EMI programme remains the main gatekeeper between high-income and low-income students

  ‘I chose the VMI programme because its flexible structure can allow me to take classes in the afternoons and evenings so that I can take up part-time work in daytime to cover my living expenses. The fee for the VMI programme is much lower than the EMI so it is more affordable for me and my family.’ (VMI student 15)

- Other reasons: peer pressure, parental guidance, personal academic interest, and symbolic prestige
3. How do students perceive the relationship between instructional medium and English proficiency?

**Language learning experience within each medium programme**

EMI students interviewed all expressed they had a positive language learning experience

‘I have definitely grown to learn a more vocabulary especially related to International Business. Using English for class discussions, for homework assignments and even for exams have trained me the ability to think and work in English as my second language. My general English is also improved through my frequent contact with classmates and lecturers during groupwork and lectures. I also had a lot of chances to improve my academic English through written assignments and end-of-term exams’ (EMI student 5)

• VMI showed mixed reviews

‘I had very limited exposure to English as there was only one English as Foreign Language (EFL) subject to take every term. Even so, this module is mostly taught in a grammar-translation approach and there were not many opportunities for me to practice English within my classroom context.’ (VMI student 12)

‘I think I do not feel particularly confident if I have to use English in an improvised context. However, with more prior preparation and practice, I would be totally comfortable performing tasks in English.’ (VMI student 1)

• VMI students perceived a trade-off between content learning and language learning

‘I believe I could have had more chance to improve my English if I went with the EMI option but at the same time, I do not want to trade off my understanding of my major in International Business as I think it would be easier for me to study content in my mother tongue’ (VMI student 15)
**Policy implications**

- Further actions should be undertaken about EMI accessibility to female students in order to achieve language learning goals stated in EMI policy and regulations.
- Universities should offer more financial support or scholarships that help to alleviate the high tuition fees of EMI and thereby making EMI more accessible to lower income groups.
- More language support scheme needs be implemented within EMI programme.
- More transparency and standardisation should be introduced during admission process with respect to the level of English proficiency requirements.
Selected references


Thank you very much for your attention!

For further questions and comments, please email me at:
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