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PLATAFORMAS DIGITALES Y DESTREZAS INTEGRADAS DEL INGLÉS: DIAGNÓSTICO CENSAL EN UN CONTEXTO RURAL FRONTERIZO DEL CARCHI, ECUADOR

DIGITAL PLATFORMS AND INTEGRATED ENGLISH SKILLS: A CENSUS DIAGNOSIS IN A RURAL BORDER SETTING IN CARCHI, ECUADOR

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RESUMEN: La integración de plataformas digitales en la enseñanza del inglés se ha expandido en América Latina, pero la evidencia procede sobre todo de intervenciones urbanas y describe poco el punto de partida de las instituciones rurales. El estudio caracteriza la frecuencia de uso pedagógico de plataformas y el desempeño auto percibido en las cuatro destrezas integradas del inglés en una unidad educativa ubicada en la parroquia Chical del cantón Tulcán, Carchi, Ecuador. Se adoptó un enfoque cuantitativo, no experimental, transversal y descriptivo. Se censó a los 152 estudiantes de octavo, noveno y décimo año de Educación General Básica Superior durante el año lectivo 2025-2026, con un cuestionario de veintidós ítems en escala ordinal de cuatro puntos validado por tres expertos. Las distribuciones se resumieron mediante media ponderada, mediana, moda e índice normalizado de intensidad de cero a cien puntos, agregado por destreza. La mediana fue a veces en los nueve ítems de uso y la moda coincidió en ocho; el índice global de uso alcanzó 43,9 puntos, bajo el punto medio de la escala, y los dos ítems de utilidad percibida promediaron 66,8 puntos. Ambos valores proceden de tipos de pregunta distintos y se presentan como contraste descriptivo, sin calcular diferencias. La reproducción de audio mediante plataformas registró el valor más bajo del estudio y la fluidez oral, el desempeño auto percibido más bajo. La preferencia se concentró en una única aplicación generalista en el 69,1 % de los casos. Los hallazgos sitúan el problema en la mediación didáctica y no en la disponibilidad tecnológica.

Palabras clave: Tecnología educativa; enseñanza de lenguas; inglés; educación rural; aprendizaje en línea.

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ABSTRACT: The integration of digital platforms into English language teaching has expanded rapidly in Latin America, yet the available evidence comes mostly from urban interventions and says little about the starting point of rural institutions. This study characterizes the frequency of pedagogical use of digital platforms and self-perceived performance in the four integrated English skills at a rural border school located in the Chical parish in the canton of Tulcán, province of Carchi, Ecuador. A quantitative, non-experimental, cross-sectional and descriptive approach was adopted. A census was administered to all 152 students of the eighth, ninth and tenth years of Upper Basic General Education during the 2025-2026 school year, using a twenty-two-item questionnaire with a four-point ordinal scale validated by three expert judges. Distributions were summarized through a weighted mean, the median, the mode and a normalized intensity index from zero to one hundred points, aggregated by skill. The median fell in the category sometimes for all nine use items and the mode coincided in eight of them; the global use index reached 43.9 points, below the midpoint of the scale, whereas the two perceived-usefulness items averaged 66.8 points. Both figures come from different question types and are presented as a descriptive contrast, without computing differences. Audio playback through platforms recorded the lowest value in the study and oral fluency with the lowest self-perceived performance. Preference concentrated on a single generalist application in 69.1 % of cases. The findings locate the problem in didactic mediation rather than in technological availability.

Keywords: Educational technology; language teaching; English; rural education; online learning

INTRODUCTION

English has become an enabling competence for accessing scientific information, academic mobility and entering the labor market. In Ecuador, that competence is shaped in a system of education that has significant territorial disparities, and whose learning outcomes are more related to the content and pedagogical practices of the school where learning is carried out than to the curriculum itself. The most limiting constraints are faced by rural and border institutions: limited equipment, poor connectivity, and teacher training on pedagogical technology use that is typically limited to one-off workshops. Before proposing any technological innovation, it is crucial to understand that point because a strategy developed based on urban assumptions seldom survives the first encounter with a rural classroom.

The size of the structural constraint can be measured. The latest official data on information and communication technologies (ICTs) indicates that 66.0 % of Ecuadorian households have access to the Internet, 73.6 % of which are in urban areas and 48.1 % in rural areas (1). The gap of 25.5 percentage points between the two territories (Figure 1) is not contextual detail, but a boundary condition that will affect the viability of any proposal that is supported by available online resources, and especially autonomous practice outside school hours. Studies in rural areas across the country have found that the restriction doesn't stop connectivity, and that no specific teacher training is a second constraint when devices are present (2,3).

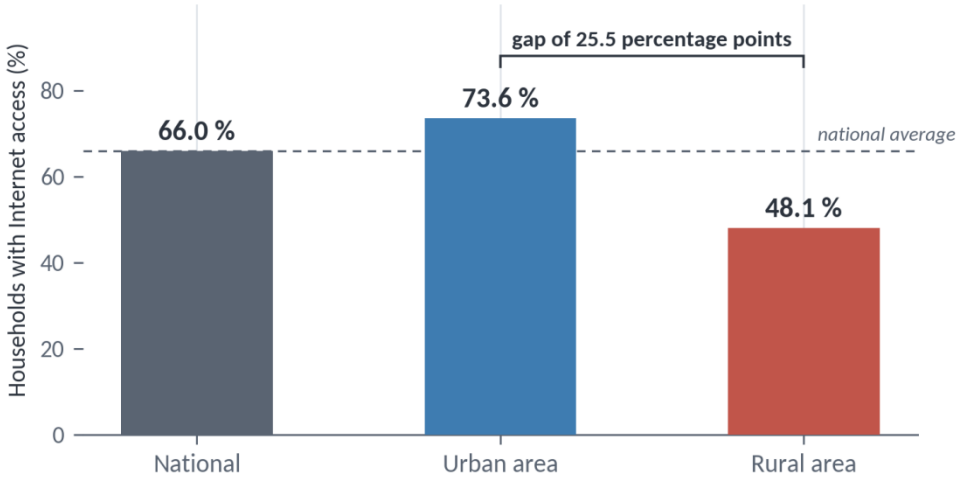


Figure 1. Internet access in Ecuadorian households by area, 2024.
Source: (1).
Note: the gap between urban and rural areas amounts to 25.5 percentage points.

There is a consistent body of specialized literature that provides evidence of the potential of digital platforms for the development of specific skills. Research on language-learning applications based on spaced repetition and immediate feedback have found improvements in receptive knowledge and in productive skills in the case of continued practice (4,5) but also note that improvements in oral production are far less than in comprehension (6) and that the gamer aspect alone is not enough to ensure learning (7). For written production, systematic reviews of the use of automated written feedback indicate that formative use, with teacher supervision, of the system results in gains in grammatical and spelling accuracy, but that summative use, with or without teacher supervision, does not (8-10). In the field of oral production, the use of automatic speech recognition has led to positive results in terms of pronunciation, intonation and fluency, as well as high levels of user satisfaction (11-15); however, recent studies have emphasized that the success of these applications relies on teacher mediation, as learners require assistance in understanding the feedback and in avoiding instrumental dependence (16-19).

That evidence is all linked to the curricular integration of the tool, and that is the common denominator. The findings of the studies on Latin American platforms are similar: platforms boost motivation and participation, but only when they are used regularly, and with clear learning goals (20-22). Studies of learner perceptions of mobile-assisted language learning converge on the same point: a favorable view of the resource does not by itself translate into systematic classroom use (23). In the Ecuadorian context, this qualification is critical because the use of technology is often reported as availability of resources, and not as systematic pedagogical practice (24). This collection of work provides a working hypothesis that skills that are practiced more on the platform will be perceived as being performed better, and that the ordering of skills by intensity of use will be parallel to the ordering of skills by perceived performance. The expectation is descriptive, linear and monotonic, but not statistically tested here; it is simply stated as the pattern of ordering against which the observed ordering is read. Explicitness is important because any deviation from this parallel ordering (especially a reversal at the extremes) would suggest

that exposure is not sufficient to explain perceived competence, and would shift focus from the amount of technological mediation to the quality of it. However, there is a lack of evidence. Most published studies are based on an intervention design, and the results are reported for one isolated skill in specific groups, with few reporting the baseline of an entire institution, and almost none in rural border schools in northern Ecuador. This lack has an impact on practice: When developing improvement suggestions, the actual usage of platforms is not considered, as is the lack of skills and the relationship between these and what students think they perform. If no such diagnosis is made, the digital divide is perceived as an access issue as opposed to a mediation issue. The general aim of this study is to describe the frequency of pedagogical use of digital platforms and the self-perceived performance in the integrated English skills of Upper Basic General Education students at a rural border school in the canton of Tulcán, and to compare the ordering of skills that results from each description. Three specific aims follow: (i) to establish how often digital platforms are used for each skill; (ii) to describe self-perceived performance in listening comprehension, oral production, reading comprehension and written production; and (iii) to identify declared platform preferences and their degree of concentration. The question of organizing the analysis is whether the ordering of skills by declared intensity of use coincides with the ordering by self-perceived performance; the answer indicates whether the intervention priority is technological provision or didactic mediation.

MATERIALS AND METHODS

Research design

The study used a quantitative, non-experimental, cross-sectional and descriptive design: no variables were manipulated, and the aim was to describe one educational situation at a single point in the 2025–2026 school year, establishing a baseline for later interventions.

Setting and study area

The study was carried out in the public school Unidad Educativa Ecuador, located in the parish of El Chical, in the canton of Tulcán, province of Carchi (Zone 1, Sierra calendar, morning shift). The parish is rural and is located next to Colombia, and can only be accessed by road, which is approximately 110 km from the cantonal capital (Figure 2). That location affects the continuity of connectivity and replacement of equipment and is the key to making the case different from the urban settings typically studied; it also makes the school community small enough that individual response records would be at risk of re-identification.

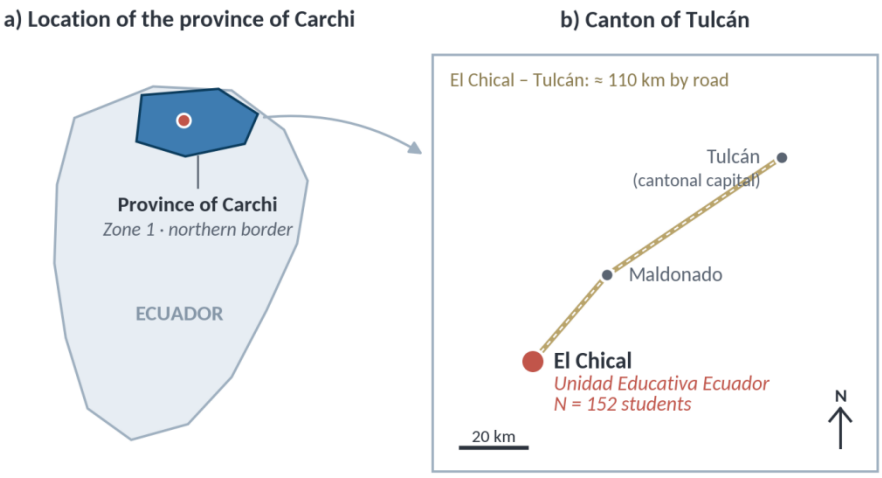


Figure 2. Location of the study area.
Source: prepared by the author.
Note: schematic representation; distances are not to scale.

Population

The target population consisted of all students in the 8th, 9th and 10th year of Upper Basic General Education. A census (as opposed to a sample) was conducted because the number of cases was manageable; all 152 students at those three levels participated. The students in this stage were chosen because it is where the shift towards functional uses of the language and the four skills consolidation are expected.

Instrument

A structured 22-item questionnaire was used to collect data, which was administered face-to-face and anonymously. Twenty-one items were rated on a four-point ordinal scale (always, almost always, sometimes, never) and the last item was a single-choice question with four alternatives on platform preference. The instrument consists of four blocks of items, which are presented with the skills in Table 1, with the two perceived-usefulness items in between the use items. The content validity is based on the judgment of three experts in the pedagogy of national and foreign languages who gave ratings on the relevance, clarity and sufficiency of each item before administration. Therefore, the only validity evidence for the instrument is expert judgement. There was no individual record kept and questionnaires were counted directly into a frequency matrix by item and response category, so that the anonymity of the participants is guaranteed in this school of a small size, but no participant-level data were retained. Because reliability coefficients that depend on a case-by-item matrix are not estimable (Cronbach's alpha, McDonald's omega, or an ordinal alpha on polychoric correlations), no reliability coefficient is reported anywhere in this article. The block indices are therefore interpreted as descriptive summaries of the observed distributions and the Limitations section is presented as an explicit opportunity for future applications. Block A is a student-reported proxy for classroom practice,

not an actual observation of classroom practice. Triangulation with teacher reports and classroom observation was not done.

Table 1. Composition of the instrument and correspondence with the integrated skills.

Block	Items	Construct measured	Associated skills	Scale
A	9	Frequency of pedagogical use of digital platforms	All four skills plus two cross-cutting items	4-point ordinal
B	2	Perceived usefulness of digital resources	Crosscutting	4-point ordinal
C	10	Self-perceived language performance	Written production (2), oral production (4), reading comprehension (2), listening comprehension (2)	4-point ordinal
D	1	Declared platform preference	Crosscutting	Single choice (4 options)

Source: prepared by the author.

Data processing and analysis

There were two levels of processing. Absolute and relative frequencies were first calculated for each response category and the median and mode of each item were also calculated. The ordinal distributions were summarized using a weighted mean at the second, with weights of four, three, two and one for the categories always, almost always, sometimes and never, respectively, as per equation (1). This transformation assumes equal spacing between adjacent response categories, which is a common assumption that cannot be tested with ordinal data; therefore, the media and the mode are also reported with each index and are used to interpret the index whenever the two values differ:

$$M = (\Sigma\, w_i \cdot n_i) / N \qquad \text{with } w_i \in \{4, 3, 2, 1\} \tag{1}$$

where n_i is the frequency observed in category i, w_i the weight assigned to that category and N the total number of cases. To allow comparison across items and across skills, the resulting meaning was transformed into a normalized intensity index (NII) ranging from zero to one hundred points, following equation (2):

$$NII = [\,(M - 1) / 3] \times 100 \tag{2}$$

Fifty points is the same as the middle of the scale. The individual indices were then averaged by skill, one for the pedagogical use index (based on the items in block A) and the other for the self-perceived performance index (based on the items in block C). The two indices reflect different constructs, one a report of the frequency of a classroom event and the other a self-assessment

of ability and therefore are reported together on a common normalized metric to be able to order the skills, but without computing arithmetic differences between them. The number of items averaged (k) is reported in each table and varies by skill. Two use indices are based on one item each: listening comprehension (audio playback through platforms) and reading comprehension (readings on digital platforms). A single-item index has no internal redundancy, has no consistency check, and is completely specified by the wording of that one item; both are therefore treated as indicative values, and every claim about these two skills is qualified accordingly in the Results and the Discussion. No confidence intervals were calculated, and no significance tests were used throughout the analysis, since the study is based on the entire population, and not a sample. Spreadsheets were used for computations, as well as open-source statistical analysis routines.

Ethical considerations

The principles of autonomy, beneficence, non-maleficence and justice were observed during the research. The school authorities and the legal guardians of the participants gave their institutional authorization and their informed consent, and the students themselves gave verbal assent, in which the purpose of the study, the voluntary nature of participation and the right to withdraw at any time without any consequences were explained. The names and identifying data were not recorded: the information was coded and is presented in an aggregate form. The information gathered was not shared with anyone for any purpose other than what stated.

RESULTS

There were no missing values, and no imputation procedures were required as all 152 students who formed the population of interest responded to all items. The results are presented in four parts, following the specific objectives stated above: Pedagogical use of platforms (frequency), Self-perceived performance in the integrated skills (frequency), Overall comparison of the two dimensions (frequency), and stated tool preference (frequency).

Frequency of pedagogical use of digital platforms

The first block of results reflects the frequency with which students feel digital platforms are used in classroom activities. The distribution of responses, summary statistics and the normalized index for each item are shown in Table 2, which also reports, in its final section, the two perceived-usefulness items of block B.

Table 2. Frequency of pedagogical use of digital platforms and perceived usefulness of digital resources (N = 152).

Item	Always	Almost always	Sometimes	Never	M	SD	NII	Mdn / Mo
General use of digital platforms in class	17 (11.2)	27 (17.8)	67 (44.1)	41 (27.0)	2.13	0.94	37.7	Sometimes / Sometimes
Readings on digital platforms	21 (13.8)	52 (34.2)	54 (35.5)	25 (16.4)	2.45	0.92	48.5	Sometimes / Sometimes
Digital self-assessment quizzes	8 (5.3)	49 (32.2)	66 (43.4)	29 (19.1)	2.24	0.82	41.2	Sometimes / Sometimes
Audio playback through platforms	17 (11.2)	28 (18.4)	47 (30.9)	60 (39.5)	2.01	1.01	33.8	Sometimes / Never
Writing exercises on platforms	30 (19.7)	40 (26.3)	58 (38.2)	24 (15.8)	2.50	0.98	50.0	Sometimes / Sometimes
Assisted grammar correction	27 (17.8)	39 (25.7)	51 (33.6)	35 (23.0)	2.38	1.03	46.1	Sometimes / Sometimes
Assisted spelling correction	27 (17.8)	32 (21.1)	53 (34.9)	40 (26.3)	2.30	1.05	43.4	Sometimes / Sometimes
Pronunciation exercises on platforms	33 (21.7)	27 (17.8)	49 (32.2)	43 (28.3)	2.33	1.10	44.3	Sometimes / Sometimes
Assisted pronunciation correction	35 (23.0)	36 (23.7)	53 (34.9)	28 (18.4)	2.51	1.04	50.4	Sometimes / Sometimes
Block B. Perceived usefulness of digital resources								
Listening comprehension exercises facilitate learning	60 (39.5)	49 (32.2)	40 (26.3)	3 (2.0)	3.09	0.85	69.7	Almost always / Always
Educational games facilitate learning	55 (36.2)	39 (25.7)	48 (31.6)	10 (6.6)	2.91	0.97	63.8	Almost always / Always

Source: prepared by the authors.

Note: each cell shows the absolute frequency and, in brackets, the percentage. The first nine items belong to block A and the last two to block B (positions 4 and 5 of the questionnaire). M = weighted mean (range 1–4); SD = standard deviation; NII = normalized intensity index (range 0–100); Mdn = median; Mo = mode.

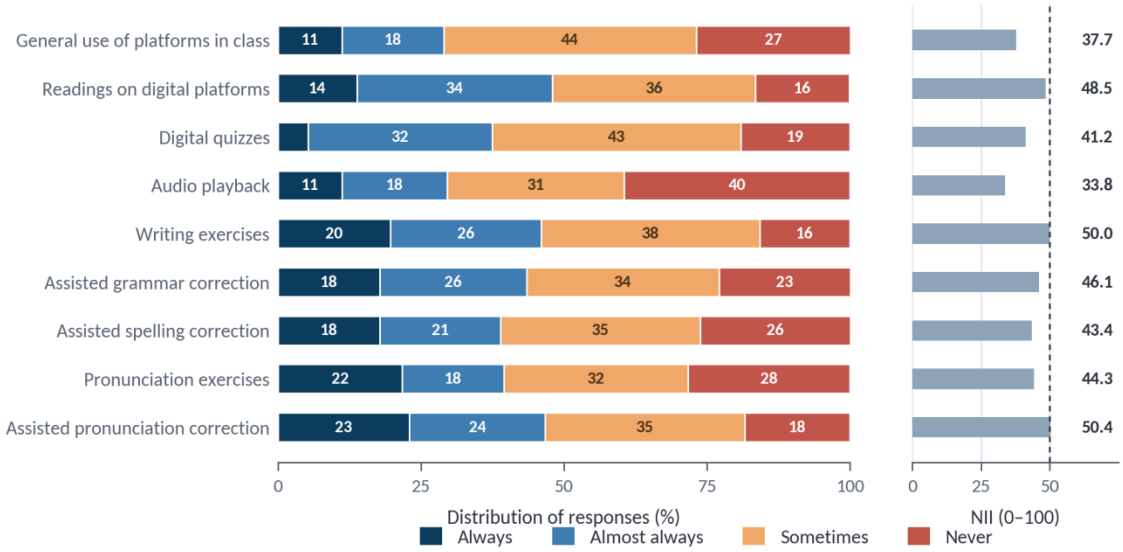


Figure 3. Distribution of responses and normalized index by pedagogical use item.
Source: prepared by the author.
Note: the dashed line in the right-hand panel marks the midpoint of the scale (50 points).

The most consistent pattern is that the median falls in the category sometimes for all nine items of the block, and the mode coincides with it in eight of the nine; the single exception is audio playback through platforms, whose mode falls in the category never. For none of the items the percentage of respondents who responded always or almost always (favorable responses) equal or surpassed 50 % of the total. The values closest to the midpoint of the scale were assisted pronunciation correction (NII = 50.4) and writing exercises on platforms (NII = 50.0); every other item fell below it. On the other side of the scale, audio playback via platforms was the least used resource in the entire study (NII = 33.8): 39.5 % of students said they never use this resource and 11.2 % said that this is permanent practice. The general use of digital platforms in class also had a low value (NII = 37.7), with 71.1 % of the responses being in the categories sometimes and never. It is obvious from Figure 3 that the band of those two categories is dominant for each item.

The two relevant contrast items of usefulness in block B are different. The listening comprehension exercises were considered to always or almost always facilitate learning by 71.7 % of the students (NII = 69.7), while 61.8 % of the students gave the same value to educational games (NII = 63.8). In both items the median falls in almost always and the mode always, in contrast with the median of sometimes that characterizes every use item. The perceived usefulness of both items is above the mid-point of the scale (66.8 points on average), while the nine use items are below the mid-point of the scale (43.9 points on average). The two figures are from two different types of questions (agreement with a statement in one, frequency of a classroom event in the other) and are not subtracted here. What they describe together is a school where the resource is valued but rarely seen, and that contrast is the main outcome of this first block.

Self-perceived performance in the integrated skills

The second block collects students' self-assessment of their performance in the four skills. Table 3 details the distributions and Figure 4 represent them graphically. Again, as in the previous block, the distribution of the full responses is reported along with the weighted mean, the median, the mode and the normalized index, allowing items to be ranked on a common measure regardless of the skill level they are associated with.

Table 3. Self-perceived performance in the integrated English skills (N = 152).

Item	Always	Almost always	Sometimes	Never	M	SD	NII	Mdn / Mo
Correct spelling when writing	28 (18.4)	32 (21.1)	67 (44.1)	25 (16.4)	2.41	0.97	47.1	Sometimes / Sometimes
Correct sentence structure in writing	24 (15.8)	46 (30.3)	60 (39.5)	22 (14.5)	2.47	0.92	49.1	Sometimes / Sometimes
Correct pronunciation	20 (13.2)	38 (25.0)	71 (46.7)	23 (15.1)	2.36	0.89	45.4	Sometimes / Sometimes
Oral fluency	12 (7.9)	28 (18.4)	65 (42.8)	47 (30.9)	2.03	0.90	34.4	Sometimes / Sometimes
Sentence structure when speaking	20 (13.2)	42 (27.6)	67 (44.1)	23 (15.1)	2.39	0.90	46.3	Sometimes / Sometimes
Appropriate vocabulary when speaking	24 (15.8)	36 (23.7)	70 (46.1)	22 (14.5)	2.41	0.92	46.9	Sometimes / Sometimes
Understanding main ideas in reading	24 (15.8)	41 (27.0)	63 (41.4)	24 (15.8)	2.43	0.94	47.6	Sometimes / Sometimes
Recognising vocabulary in reading	23 (15.1)	43 (28.3)	61 (40.1)	25 (16.4)	2.42	0.94	47.4	Sometimes / Sometimes
Understanding main ideas in audio	24 (15.8)	54 (35.5)	52 (34.2)	22 (14.5)	2.53	0.92	50.9	Almost always / Almost always
Understanding vocabulary in audio	26 (17.1)	48 (31.6)	57 (37.5)	21 (13.8)	2.52	0.93	50.7	Sometimes / Sometimes

Source: prepared by the author.

Note: the first two items correspond to written production; the next four, to oral production; the following two, to reading comprehension; and the last two, to listening comprehension. M = weighted mean; SD = standard deviation; NII = normalized intensity index; Mdn = median; Mo = mode.

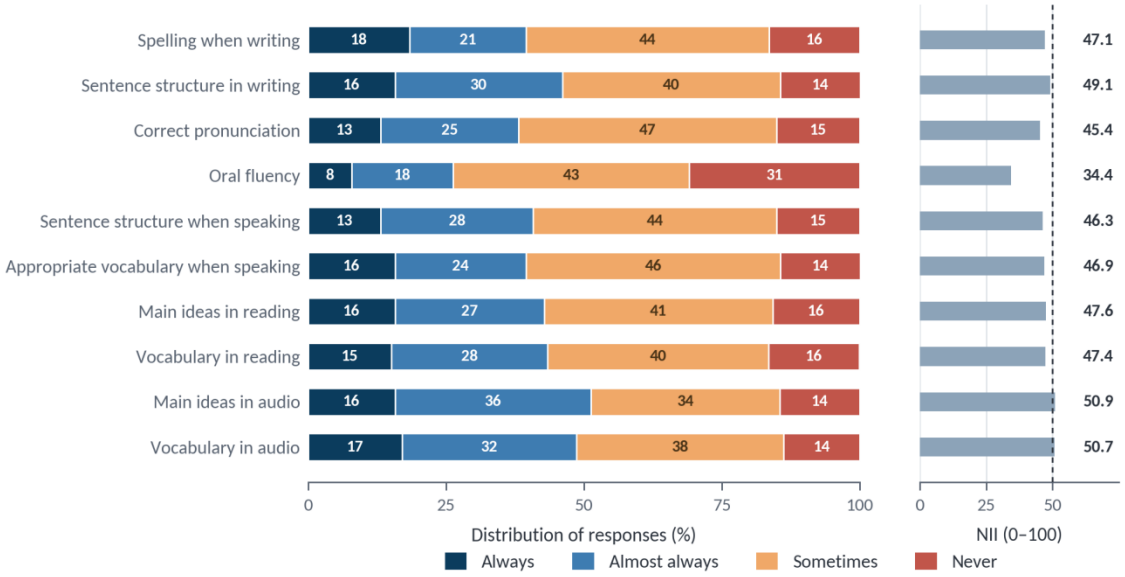


Figure 4. Distribution of responses and normalized index by self-perceived performance item.
Source: prepared by the author.
Note: the dashed line in the right-hand panel marks the midpoint of the scale (50 points).

The mean of the ten items was 46.6 points, which is near the mid-point of the scale. The category sometimes was modal in nine of the ten items, with percentages ranging from 34.2% to 46.7%; in the remaining item the mode fell almost always. The lowest self-perceived performance was for oral fluency (NII = 34.4), with nearly one third of students (30.9 %) not meeting the criteria and only 7.9 % always meeting the criterion. Correct pronunciation (NII = 45.4), sentence structure when speaking (NII = 46.3) and the use of appropriate vocabulary in oral expression (NII = 46.9) were followed. The four items with the lowest scores are all related to oral production.

The listening comprehension was measured by the highest values: understanding the main ideas in audio material reached a maximum index (NII = 50.9) and was the only item in the whole instrument whose median fell in almost always. The indices of reading comprehension and written production were intermediate (47.1-49.1 points) and were quite stable, with narrow dispersion across the items.

The other two skills, however, have use indices in block A that are based on only one item (audio playback through platforms and readings on digital platforms), whereas the performance side of the comparison has two items per skill, and thus more redundancy in the measurement of exposure.

Aggregate comparison between use and performance

Presenting the two indices by skill allows the profile of platform use to be read against the profile of self-assessment. Both are shown in Table 4, along with the average number of items in each case, and both are shown in Figure 5. It is important to note that the two indices are not subtracted from each other, but are both normalized to a common scale to enable the ordering of the four skills.

It is also not a symmetrical comparison in terms of the number of items measured for each skill; the use indices for listening and reading comprehension are each based on one item of block A, while the other use indices and all performance indices are based on two or more items. The position on the use axis for a single-item index is not a stable estimate as there is no internal consistency check and it is only a reflection of the wording of the item. Table 4 shows k for each index for which it is desired to weigh.

Table 4. Pedagogical use index and self-perceived performance index by skill.

Skill	k use	UI	Basis of the use index	k perf.	PI
Listening comprehension	1	33.8	*single item: audio playback through platforms*	2	50.8
Oral production	2	47.4	2 items averaged	4	43.3
Reading comprehension	1	48.5	*single item: readings on digital platforms*	2	47.5
Written production	3	46.5	3 items on averaged	2	48.1

Source: prepared by the author.

Note: k = number of items averaged; UI = pedagogical use index; PI = self-perceived performance index. Both range from 0 to 100 points. The two indices measure different constructs and are not subtracted from one another; they share a normalized metric only so that the ordering of skills can be compared. The use indices for listening and reading rest on a single item each.

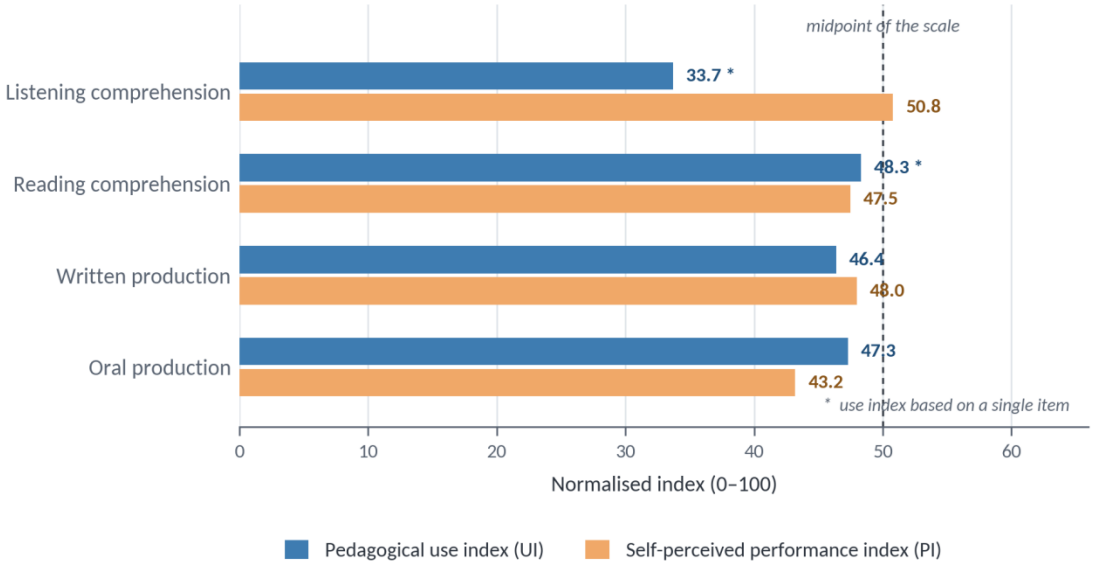


Figure 5. Pedagogical use index and self-perceived performance index, by skill.
Source: prepared by the author.
Note: the two indices measure different constructs and share a normalized metric only to allow the ordering of skills to be compared.

The two orderings do not coincide. Listening comprehension is the least used and the most self-perceived in terms of performance while oral production is the second most used and the least

self-perceived in terms of performance. The values of reading comprehension and written production fall in the middle of both orders and the difference between them is small. The difference is thus skewed to the extremes of the ranking and not distributed evenly.

There are two caveats to this comparison. First, the listening comprehension use index is based on a single item (playback via platforms) and the reading comprehension use index is based on a single item (readings on digital platforms), which means the two use indices have no internal redundancy; if the items were reworded or replaced, both use indices would change significantly. Second, the assignment of items to skills was done conceptually and was not tested against the data of the responses. It is important to note that the reversal at the extremes of the two orderings should be interpreted as a pattern that should be investigated rather than a relationship.

Declared platform preference

The final item asked which platform students consider most appropriate for learning English. Table 5 presents the distribution, together with the frequency that an even split across the four options would produce; Figure 6 represents it graphically.

Table 5. Declared platform preference (N = 152).

Platform	f	%	f under an even split	Tool orientation
Duolingo	105	69.1	38	Generalist (four skills)
ReadTheory	17	11.2	38	Reading comprehension
ELSA Speak	16	10.5	38	Oral production
Write & Improve	14	9.2	38	Written production
Total	**152**	**100.0**	**152**	—

Source: prepared by the author.

Note: the fourth column gives the frequency that an even split across the four alternatives would produce, reported as a descriptive reference. Since the study covers the whole population, no significance test is applied.

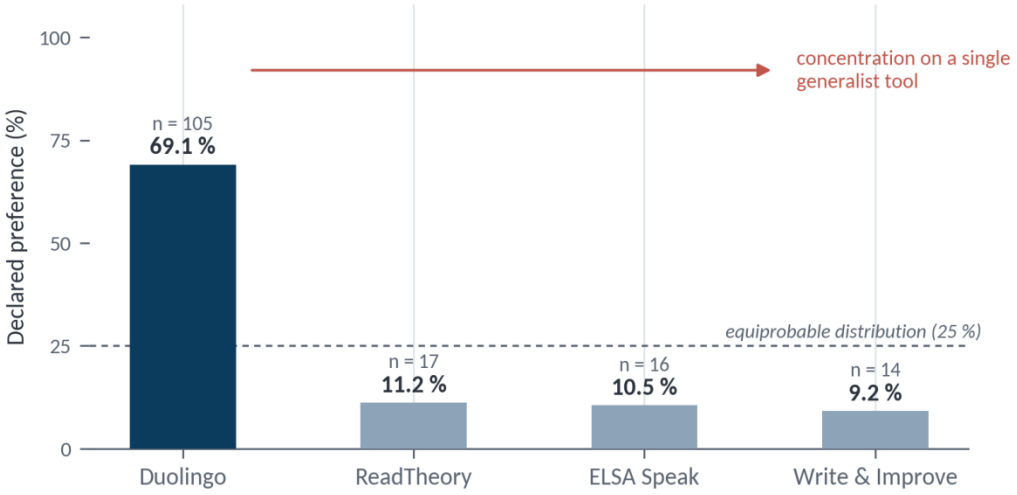


Figure 6. Declared preference of digital platforms for learning English.
Source: prepared by the author.
Note: the dashed line marks the 25 % corresponding to an equiprobable distribution.

Preference focused mainly on one application: 105 students (69.1 % of total) chose Duolingo. The remaining three tools shared the remaining 30.9 % in similar amounts: ReadTheory (11.2 %), ELSA Speak (10.5 %) and Write & Improve (9.2 %). If the four options were split evenly, there would be 38 students on each; the highest option has nearly three times this reference value, and none of the other three options has more than half of this value. This distribution is the population distribution as it is a study of the entire population and there is no test of significance to be performed or reported.

It is important to note that the three minority options are specialist applications, geared towards reading comprehension, oral production and written production, respectively, while the majority option is a generalist application. Declared preference is more toward the tool that is most visible to the public and not toward the tools that are specifically designed to address the skills that students say they struggle with most.

Overall, the four sections tell a unified story. The pedagogical use of platforms is lower than the mid-point of the scale in all items assessed, the usefulness is higher than the mid-point of the scale in all items assessed, and the self-perceived performance is around the mid-point of the scale, with oral production being clearly lower. Preference is for a generalist platform rather than specialized ones. The four results are not dependent on any single item as the pattern recycles regularly for each section of the instrument.

DISCUSSION

These data suggest that the problem described in this school is not a technological availability problem but a problem of didactic systematicity. The most convincing evidence in that regard is that the median falls in the category sometimes across all nine use items and the mode does so in eight of them: it is not that some use items are used and others are not, but that none of the

pedagogical functions of the platforms reaches a frequency that would allow them to build up routines of practice. This reading is consistent with the findings of research in Latin America, which has found that the sporadic incorporation of technology is not related to explicit learning goals (20-22) and with studies of rural Ecuadorian teachers, where pedagogical training in technology is found as a more severe constraint than equipment (2,3).

It works the same with perceived usefulness. Students do not oppose the resource, rate it above the midpoint and listening comprehension exercises score the highest in the whole instrument and are reported as infrequent. There is no claim of an arithmetic distance between the two sets of items, as the questions are different in kind. What can be said is that a positive attitude coexists with low exposure, and that closing that gap is a planning decision, not an equipment purchase.

Theoretically the most interesting finding is the reversal at the extremes of the two orderings. Listening comprehension is the lowest platform-mediated use with the highest self-perceived use, while oral production is the most with the lowest self-perceived use. This is in opposition to the parallel ordering that was expected in the introduction, where more exposure to platforms should be related to higher self-perceived performance. There are two non-exclusive explanations. The first is the inherent imbalance between receptive and productive skills: research on language-learning applications has consistently found that comprehension skills are more likely to improve than oral skills, even when the amount of practice is the same (4-6). The second is the contact with English in an extramural context. In the out-of-school environment, students encounter the language primarily in the form of listening, such as in song lyrics, audio and voice communication in video games, streamed series, and short-form video on social media. That contact is dense, self-selected and comprehension-driven and there is no production and no corrective feedback, which is the profile of the skill that scored highest here. It would also account for the fact that a skill such as listening can be scarce in a classroom and high in self-perceived competence, since the exposure that maintains listening is not administered by the teacher, and thus has no effect on block A, which records only the activity of the classroom mediated by the platform. Oral production, on the other hand, requires continuous corrective feedback, something that is not provided by sporadic app use or informal exposure (16,18). The instrument did not include any out-of-school contact with the language, and therefore cannot be tested here; and it is presented as a hypothesis for future research; an extramural-exposure module would be the single most informative addition to a replication. The use index for listening comprehension is also based on one item in both readings, so the magnitude of the reversal (not its direction) is not determined.

A single generalist application is a risk because of the concentration of preference. The most publicly visible tool is the most-mentioned, not the one that matches to students' reported skill areas where they feel they have difficulties: the pronunciation and fluency tool receives the least. When the choice of resources is left to spontaneous preference, it is a foregone conclusion that the skill that is currently best will be strengthened and the one that is poorest will be neglected. The literature on automatic speech recognition (ASR) and on automated written feedback (AWF) both concur that the formative value of these tools relies on teachers' choice, sequence, and

support of their use (8,10,17); allowing students to make their own choices is a way of losing the mediating function.

The implication is that the lever is planning and not provision. It is more cost effective to have a specific tool for each skill, at a specific frequency, and monitored by the teacher, than to increase the technological stock and to directly address the oral production deficit in the context of limited connectivity.

Study limitations

The results should be interpreted with five caveats. The first is that the performance measures are self-perceived, rather than derived from a standardized language proficiency test, so they reflect the students' own assessment of their level of language proficiency rather than their objective level. The second is that the design is cross-sectional, meaning that it cannot be used to infer causal relationships between use and performance. Third, the processing was based on aggregate distributions, not on individual records a conscious protection of anonymity in a small community, but one that precludes participant-level correlations and internal consistency indices for an instrument validated by expert judgement alone. The individual data matrix should be kept and McDonald's omega should be reported in future applications of larger or multi-site samples. The fourth is that the use indices for listening and reading comprehension rest on a single item each, so the claims concerning those two skills carry the weakest empirical support in the study. The fifth is that the study is limited to one institution, meaning that the results only reflect one rural border case and cannot be generalized to the education system. These restrictions are not intended to detract from the diagnostic value of the work.

CONCLUSIONS

The use of digital platforms in the English language teaching in the school studied is systematically sporadic. The median falls in the category sometimes across the nine use items, and the mode coincides in eight of them, along with the global index of 43.9 points out of one hundred, suggests that no pedagogical function of these tools is regular enough to establish routines of practice. The two perceived-usefulness items, on the other hand, average 66.8 points and are well above the scale center. The two sets of items ask different types of questions, and the distance between them is not measured in this study, but the direction of the contrast is clear: that which hinders the use of digital platforms in this school is not the disposition of the students but teaching planning.

The intensity of ordering of skills does not match the self-perceived performance ordering of skills. Listening comprehension is the lowest platform-mediated and the highest declared performance, whereas oral production is the opposite, with the lowest four items of the instrument being found under the oral production section, led by oral fluency at 34.4 points. This trend at the extremes of the two orderings runs contrary to the parallel ordering that greater exposure would predict, and it points to didactic mediation rather than resource availability as the variable to be investigated. The observation should be interpreted with great care as the use

indices for listening and reading are based on one item for each skill, and the mapping of items to skills has not been tested empirically.

Preference focuses on a generalist application (69.1 %), and the three specialised tools do not add up to more than 30.9 % (with the one focused on pronunciation and fluency). The skill with the lowest score is exactly the one for which there is a dedicated tool and is the least selected; resource selection cannot be spontaneous student choice. The following practical recommendation is one of sequence. If budgets are constrained, the focus is not on increasing the technological stock, but on planning pedagogical mediation guided by the stock already available: assign a specific platform to each skill, establish a frequency of use, and put it under teacher control, starting from the skill of oral production. If additional hardware is added prior to this mediation, the pattern described here will be repeated at a higher cost. The investment in equipment is warranted after the pedagogical sequence is in place and the existing equipment is not sufficient to support the sequence, rather than before. Further research is needed to compare these self-perceived measures with standardised measures of proficiency, to record out-of-school contact with the language, and to expand the diagnosis to other rural border institutions to determine if the pattern is situational or specific to this case.

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