

Research Article:

Listening More, Interacting Less: Learner Agency in Indonesian Pre-Service Teachers’ Digital Listening

Noor Sahid Kusuma Hadi Manggolo^{1*}, Sukma Shinta Yunianti¹, and M. Fatkhu Arifin¹

¹English Education Study Program, Faculty of Teacher Training and Education, Universitas Tidar - Indonesia

*Corresponding author: englishnoor@untidar.ac.id

Abstract

EFL learners now do much of their listening outside class, on streaming sites, music platforms and phone apps. Research on listening strategies, however, still tends to ask which strategies learners prefer rather than how they combine them in everyday media use. Drawing on the notion of learner agency, this convergent mixed-methods study examined how 105 pre-service English teachers at Universitas Tidar, Indonesia, put together their out-of-class listening strategies. A questionnaire identified each student’s main strategy, and short individual interviews recorded every strategy students described. The interview codes were analysed for repertoire size, strategy co-occurrence and learner profiles, and the two datasets were integrated in a joint display. In the questionnaire, two thirds of the students (65.7%) chose a cognitive strategy, most often watching films with Indonesian subtitles or listening to English songs. In the interviews, most students (67.6%) combined two or more strategies, and nearly half (45.7%) paired songs with subtitled films. Four profiles emerged: single receptive listeners (26.7%), receptive combiners (45.7%), extenders who added interaction to receptive practice (21.9%), and a small interactive-only group (4.8%). Students who used conversation or language apps were less likely to rely on Indonesian subtitles (51.9% vs. 76.9%) and more likely to watch without them (29.6% vs. 11.5%). Interaction with other speakers was chosen as a main strategy more often than it was described in practice. We argue that digital media have expanded students’ access to English far more than their agency in using it, and that listening instruction should help students regulate the support they use and move from listening to interaction.

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INTRODUCTION

Listening is how most learners first meet a new language, and for many it remains the hardest skill to improve. Speech disappears as soon as it is heard, the listener cannot slow it down, and accents and connected speech make individual words hard to pick out (Goh & Vandergrift, 2022). How well a learner copes depends on several things at once, including vocabulary and grammar knowledge, awareness of their own listening, memory, and attention (Wallace, 2022). EFL learners who hear little spoken English

outside class tend to find all of this especially difficult (Shamsi & Bozorgian, 2024). In Indonesia, this difficulty has a particular shape. For most students, English is a school subject rather than a language of everyday life, and chances to hear it spoken outside class have traditionally been few. Many learners meet spoken English mainly through recordings played in the classroom, and some feel self-conscious about using it in front of their peers. As a result, listening practice beyond the classroom has largely been left to students themselves, to be done on their own terms and in their own time. This is precisely the space that digital media have now filled.

What has changed in recent years is where learners hear English. Students in Indonesia, as elsewhere, can now listen to English all day on YouTube, Spotify, Netflix, online games and conversation apps, and more recently through generative AI tools. Researchers call this informal digital learning of English (IDLE), and a growing body of work shows that a great deal of language learning now happens in this self-directed, out-of-class space (Liu, Soyoo, et al., 2025; Reinders et al., 2022; Soyoo et al., 2023). In Indonesian education, the change is often discussed in terms of Society 5.0, the idea of a human-centred society in which digital and physical life are closely joined and in which universities are expected to prepare graduates for that kind of world (Carayannis & Morawska-Jancelewicz, 2022). Most research on how EFL learners approach listening uses O'Malley and Chamot's (1990) three categories of cognitive, metacognitive and socio-affective strategies. Recent studies keep finding that learners who are more aware of their own listening tend to perform better (Al-Khresheh & Alruwaili, 2024; Wallace, 2022). They also show that strategy use depends heavily on what learners already know. Learners with weaker vocabulary and grammar, for instance, lean more on translation, while stronger learners use a wider range of strategies (Fung & Macaro, 2021).

We see two gaps in this work. First, most studies ask about general strategies such as planning or guessing meaning from context, and rarely about the actual media activities through which students now do most of their listening. Second, strategies are usually reported one by one or as category averages. We therefore know little about how students combine them, even though good listeners are marked out by the way they use several strategies together (Fung & Macaro, 2021; Goh & Vandergrift, 2022). IDLE research has a gap of its own. It has mostly examined outcomes such as willingness to communicate, motivation and proficiency (Lee & Sylvén, 2021; Lee et al., 2024; Liu, Zhao, & Yang, 2024) and has said less about the listening strategies involved. As a result, it is still unclear whether easy access to English is leading students to listen more actively and interactively, or simply to listen more.

To look into this, we combined a questionnaire, which asked each student to name their main listening strategy, with short interviews, which asked them to describe everything they did to practise listening. The participants were 105 pre-service English teachers at an Indonesian university. We asked three questions:

RQ1. Which listening strategies do Indonesian EFL students choose as their main strategy for practising listening outside class?

RQ2. How do these students combine listening strategies in their out-of-class digital media use?

RQ3. What does comparing the two sets of data reveal about how digital media are changing these students' listening practice?

Looking at strategies as combinations rather than single preferences allows us to say something about how out-of-class listening is changing, and about what this means

for listening teaching and for the preparation of future English teachers. The study also has a practical aim. Listening courses in Indonesian teacher education programmes are often built around classroom recordings and comprehension questions, while students' own listening happens elsewhere. Knowing which out-of-class habits students already have, and where those habits stop, can help lecturers design listening courses and materials that start from what students actually do. At Universitas Tidar, the data were also used to review the first half of a listening course and adjust the second half, so the study speaks directly to curriculum and materials development.

REVIEW OF LITERATURE

Listening Strategies and How Learners Combine Them

In O'Malley and Chamot's (1990) framework, cognitive strategies work directly on what is heard. Examples include guessing meaning from context, linking new information to what one already knows, taking notes, and summarising. Metacognitive strategies are about managing listening: planning before listening, checking understanding while listening, and judging afterwards how well it went. Socio-affective strategies involve other people or the listener's feelings, as when learners work with a partner, ask for clarification or try to calm their nerves (Goh & Vandergrift, 2022; Shamsi & Bozorgian, 2024).

More recent work has moved away from simply listing the strategies learners use. Fung and Macaro (2021) found that Hong Kong secondary students with stronger linguistic knowledge reported a wider range of strategies, while weaker students relied more on translation, although some weaker students made up for their gaps through strategy use. Wallace (2022) showed that listening comprehension depends on knowledge, metacognitive awareness, working memory and attention working together. Teaching studies point in the same direction: metacognitive instruction helps learners understand more, especially when they discuss video material with one another (Fakhri Alamdari & Bozorgian, 2022; Shamsi & Bozorgian, 2024). What we take from this work is that counting individual strategies tells only part of the story. It also matters how learners put strategies together, what resources they draw on, and how deliberately they do so (Goh & Vandergrift, 2022).

What Questionnaires Can and Cannot Tell Us

Questionnaire studies of university students often find frequent reported use of metacognitive strategies (Al-Khresheh & Alruwaili, 2024), and metacognitive awareness has been linked to listening test scores (Ghorbani Nejad & Farvardin, 2022). The picture is not always what one might expect, however. Among Saudi university students, mental translation was one of the most frequently reported strategies, alongside problem-solving (Al-Khresheh & Alruwaili, 2024). Fung and Macaro (2021) also warn that reported strategy use makes little sense unless we know what learners already know and what task they are doing.

Part of the problem is methodological. Most questionnaires describe mental operations in general terms, and students may agree with these items because they sound like good practice, not because they do them often. Few studies tie their items to the concrete activities through which students listen, and fewer still compare what students say in a questionnaire with what they describe in interviews. The literature therefore has little to say about listening in the media-rich settings where students now spend much of their time.

Informal Digital Learning and Subtitled Media

IDLE research has shown that out-of-class digital activity is a major source of English for many learners and is linked to willingness to communicate, motivation, enjoyment and proficiency (Lee et al., 2024; Liu, Zhao, & Yang, 2024; Soyoof et al., 2023). Lee and Sylvén (2021) drew a useful line between receptive IDLE, such as watching and listening, and productive IDLE, such as chatting and speaking, and found that the two relate differently to communication in different countries. In Asian EFL settings, receptive activities make up most of what learners do (Liu, Soyoof, et al., 2025). Indonesia seems to fit this pattern. Mulyono et al. (2024) found that Indonesian pre-service and in-service English teachers most often listened to English songs and watched YouTube videos but rarely communicated with English speakers on social media. Mulyono and Saskia (2021) showed that Indonesian students' willingness to communicate depends on different affective factors in face-to-face and digital settings, and learners' backgrounds, proficiency and devices also shape how they take part in IDLE (Zhang & Liu, 2025).

Films and videos are a large part of this activity. Watching audiovisual material supports L2 listening and vocabulary, and the kind of on-screen text matters (Montero Perez, 2022). Captions in the target language and subtitles in the learner's first language (L1) do different jobs. L1 subtitles make the story easy to follow, but they can pull attention away from the soundtrack and towards reading (Montero Perez, 2022). Captions, including glossed captions, can support vocabulary learning from authentic series (Fievez et al., 2023). Much less is known about how learners move, on their own initiative, from L1-subtitled viewing to viewing with less support.

Affect, Confidence and Interaction in Digital Settings

Whether learners move from listening to interacting depends not only on access and skill but also on how they feel about using English with other people. IDLE research has paid close attention to this question. Lee et al. (2024) found that emotions shaped the relationship between informal digital learning and learners' willingness to communicate in a second language, and that the pattern differed by gender and educational stage. Liu, Zhao and Yang (2024) showed that motivation, enjoyment and self-efficacy predict how much learners engage in IDLE in the first place. The learners who use digital English most actively, in other words, tend to be those who already enjoy it and feel capable of it.

Indonesian evidence points in the same direction. Mulyono and Saskia (2021) found that the affective variables behind students' willingness to communicate were not the same in face-to-face and digital environments, which suggests that feeling comfortable with English in one setting does not automatically carry over to the other. This has consequences for listening. Interactive listening, such as following a live conversation on a video-chat app, carries a social risk that watching a film does not. If learners avoid that risk, their listening practice may remain receptive even when interactive options are only a click away. The present study does not measure anxiety or confidence directly, but this research offers a way to interpret the balance between receptive and interactive practice reported below.

Learner Agency as an Analytical Lens

We use learner agency as the main lens for interpreting students' listening practices. Lin and Huang (2026) describe language learner agency in terms of three linked components: noticing the resources and constraints present in a learning situation, becoming aware of how these can be used, and acting on that awareness.

Agency, in this view, is not a fixed trait but something learners exercise in relation to what their setting makes available. Informal digital environments offer an unusually rich set of resources, from subtitles and captions to apps that allow live conversation, and research on AI-mediated informal learning shows that learners differ considerably in how they negotiate the use of such resources (Liu, Darwin, & Ma, 2025).

For the purposes of this study, we look for three observable signs of agency in students' accounts of their listening. The first is breadth: whether students combine several strategies rather than relying on one. The second is regulation of support: whether students adjust the help they receive, for example by watching with or without subtitles. The third is extension: whether students move beyond taking in English to using it with other people or with responsive tools. These signs relate mainly to the action component of agency. They can be traced in self-report data, even though the noticing and awareness behind them cannot be observed directly. We do not claim that they capture agency in full, but they offer a principled way of reading strategy data as evidence of how learners act on the resources available to them.

Society 5.0, Learner Agency and the Present Study

Society 5.0 puts people rather than technology at the centre and gives universities a key role in preparing people to take part in a digitally connected society (Carayannis & Morawska-Jancelewicz, 2022). In English language education, part of this future has already arrived through AI-mediated informal learning, in which students practise with ChatGPT and conversation apps outside class (Liu & Ma, 2024; Liu, Darwin, & Ma, 2024, 2025). This research shows that students have to work out for themselves how to access and use such tools, and that access alone does not guarantee learning (Liu, Darwin, & Ma, 2025). Seen this way, the key question for Society 5.0 is less whether students can reach digital resources than what they do with them. Research on learning beyond the classroom describes this as learners taking control of what, how and when they learn (Reinders et al., 2022). For listening, this raises questions that neither strategy research nor IDLE research has fully answered. Which strategies do students combine when they listen through digital media? Do they go beyond listening to interacting and checking their own understanding? How do they manage the support that subtitles and apps provide? The present study takes up these questions by treating listening strategies as combinations that students build within their everyday media use.

RESEARCH METHOD

Research Design

We used a convergent mixed-methods design, in which quantitative and qualitative data are collected at about the same time, analysed separately and then brought together (Fetters & Tajima, 2022). The two kinds of data answered different questions. The questionnaire showed which strategy each student saw as their main one across the whole group (RQ1). The interviews showed the full set of strategies each student used and how these were combined (RQ2). A joint display, a table that sets the two sets of results side by side, was used to answer RQ3 (Guetterman et al., 2021).

Context and Participants

The study took place in the English Education Study Program of the Faculty of Teacher Training and Education at Universitas Tidar, a public university in Magelang, Central Java, Indonesia. The participants were 105 undergraduate pre-service English

teachers aged 18 to 21, all of the students enrolled in the programme’s listening course when the data were collected. Because the whole group took part, the questionnaire results describe the full course population rather than a group of volunteers. As future English teachers, these students are of interest for two reasons. Their listening habits tell us about them as learners, and they may later pass similar habits on to their own students. The researchers are members of the programme’s teaching staff. This gave access to the whole cohort, but it also meant that participants knew the researchers, a point we return to in the limitations.

Instruments

The questionnaire listed eight statements describing listening practices in digital media (Table 1). We wrote the statements on the basis of O’Malley and Chamot’s (1990) framework and adapted them to activities that Indonesian university students commonly do, so that each statement described something students actually do rather than an abstract mental operation. Several statements name specific platforms, such as Spotify, Joox, YouTube, OmeTV and ELSA, to make each item concrete and familiar to Indonesian university students. Each student chose the one statement that best described their main way of practising English listening outside class, so the questionnaire produced one response per student.

For the analysis, we also sorted each statement by the kind of engagement it involved. Following IDLE research, receptive activities are those in which the learner takes in spoken English, and interactive activities are those in which the learner exchanges spoken English with other people or with an app that responds (Lee & Sylvén, 2021; Liu, Soyooof, et al., 2025).

Table 1. *Questionnaire items by strategy category and type of engagement*

Code	Statement	Category	Engagement
NT	I find main ideas and supporting details through note-taking	Cognitive	Receptive
MUS	I practise listening through digital music platforms (e.g., Spotify, Joox, YouTube)	Cognitive	Receptive
SUB	I learn vocabulary, grammar, and tenses by watching films with Indonesian subtitles	Cognitive	Receptive
NOSUB	I watch films without Indonesian subtitles and check translation and pronunciation in a dictionary	Metacognitive	Receptive
GAME	I interact with English-speaking gamers who have different accents	Metacognitive	Interactive
APP	I push myself to communicate through online applications (e.g., OmeTV, ELSA) to reduce anxiety and build confidence	Socio-affective	Interactive
OF	I work with online friends to learn and check each other’s understanding	Socio-affective	Interactive
NAT	I gain experience and feedback by talking with native and non-native speaker friends	Socio-affective	Interactive

Note. Categories follow the original design of the instrument, based on O’Malley and Chamot (1990). Some of these assignments are open to question, as discussed under Limitations.

The interviews were semi-structured. Each student was asked which activities they used to improve their English listening outside class and was invited to explain how and why they used them. Because all 105 students were interviewed individually on the

same day, the interviews were short. Each student's answers were documented and later coded.

Data Collection

Data were collected in the week of the course's mid-term examination. All 105 students completed the questionnaire in class before the examination, and each student was interviewed individually after finishing it. Collecting both kinds of data in one session meant that they came from the same students at the same point in the course. The results were also used by the course team to review the first half of the course and plan the second.

Data Analysis

We analysed the questionnaire data using frequencies and percentages for each item and category. The three categories did not contain the same number of items, so we used a chi-square goodness-of-fit test to compare the observed spread of choices with the spread expected if students had chosen evenly across the eight items ($3/8$, $2/8$ and $3/8$ for the three categories). Cohen's w is reported as an effect size. The interview data were coded using a codebook in five steps (Braun & Clarke, 2022). We transcribed the responses, read them several times, coded them against the eight strategies in Table 1, looked for practices that the codes did not cover, and then interpreted the patterns. A few students mentioned other apps, such as Duolingo, and these were coded under the application strategy. Each student was given a code from I1 to I105, and each strategy was recorded as present or absent for each student (Appendix A). From these codes we calculated two measures: repertoire size, meaning the number of different strategies a student reported, and co-occurrence, meaning the number of students who reported each pair of strategies. We then looked across these measures for recurring patterns of practice (Braun & Clarke, 2021, 2022).

To examine agency more directly, we carried out three further analyses on the interview codes. First, we assigned each student to one of four profiles based on the kinds of strategy they reported: single receptive (one receptive strategy only), receptive combiner (two or more receptive strategies and no interactive strategy), extender (at least one receptive and at least one interactive strategy), and interactive only. These profiles correspond to the breadth and extension signs of agency described above. Second, we compared students who did and did not use apps on their use of each receptive strategy, using Fisher's exact test with the phi coefficient (ϕ) as an effect size; this comparison relates to the regulation of support. Third, we compared repertoire size between users and non-users of apps and of note-taking using Mann-Whitney U tests with rank-biserial correlations (r). Because using a given strategy automatically adds one strategy to a student's total, we excluded the focal strategy when comparing repertoire size, so that each comparison concerned other strategies only. These tests were exploratory, and we report exact p values without correction for multiple comparisons.

To bring the two datasets together, we placed the share of students choosing each strategy as their main one next to the share who mentioned it in interviews, and judged each pair as convergent, complementary or divergent (Fetters & Tajima, 2022; Guetterman et al., 2021).

Trustworthiness

Collecting data from the whole group and comparing questionnaire with

interview data both strengthened the credibility of the findings (Fetters & Tajima, 2022). The data were coded and then recoded by the research team, and the codes were checked against the data over repeated readings (Braun & Clarke, 2021). Appendix A lists every code together with the participants it applies to, so readers can trace each figure back to the data.

FINDINGS

Main Listening Strategies (RQ1)

Table 2 shows the strategies that students chose as their main way of practising listening. The most common choices were watching films with Indonesian subtitles (25.7%) and listening to music (23.8%), followed by note-taking (16.2%) and online communication apps (14.3%). Gaming, working with online friends, and talking with native or non-native speaker friends were each chosen by only three students (2.9%).

Table 2. Main listening strategies chosen in the questionnaire (N = 105)

Category	Strategy	n	%
Cognitive	Watching films with Indonesian subtitles (SUB)	27	25.7
	Listening to music (MUS)	25	23.8
	Note-taking (NT)	17	16.2
	Subtotal	69	65.7
Metacognitive	Watching films without subtitles (NOSUB)	12	11.4
	Interacting with gamers (GAME)	3	2.9
	Subtotal	15	14.3
Socio-affective	Online communication apps (APP)	15	14.3
	Working with online friends (OF)	3	2.9
	Native/non-native speaker friends (NAT)	3	2.9
	Subtotal	21	20.0
Total		105	100.0

Cognitive strategies accounted for two thirds of the choices (65.7%), compared with 20.0% for socio-affective and 14.3% for metacognitive strategies. This spread differed clearly from an even spread across items, $\chi^2(2, N = 105) = 35.69, p < .001$, and the effect was large ($w = 0.58$). By type of engagement, 77.1% of students chose a receptive activity as their main strategy and 22.9% an interactive one.

How Students Combined Strategies (RQ2)

The interviews gave a much fuller picture. As Table 3 shows, most students talked about watching subtitled films (70.5%) and listening to music (59.0%), and more than a third mentioned note-taking (35.2%). About one in four mentioned online communication apps (25.7%). Gaming, online friends, and native or non-native speaker friends were each mentioned by just one student. One participant (173) did not describe any of the coded strategies.

Table 3. Strategies mentioned in interviews (N = 105; students could mention more than one)

Strategy	Category	Engagement	n	%
Watching films with Indonesian subtitles	Cognitive	Receptive	74	70.5
Listening to music	Cognitive	Receptive	62	59.0
Note-taking	Cognitive	Receptive	37	35.2
Online communication apps	Socio-affective	Interactive	27	25.7

Strategy	Category	Engagement	n	%
Watching films without subtitles	Metacognitive	Receptive	17	16.2
Interacting with gamers	Metacognitive	Interactive	1	1.0
Working with online friends	Socio-affective	Interactive	1	1.0
Native/non-native speaker friends	Socio-affective	Interactive	1	1.0
Total mentions			220	

Note. Frequencies are based on the participant codes in Appendix A.

Most students described more than one strategy. The number of strategies per student ranged from zero to five ($M = 2.10$, $SD = 1.08$, $Mdn = 2$), and 71 students (67.6%) reported two or more (Table 4). Of the 33 students who reported only one strategy, almost half (15) named subtitled films.

Table 4. Number of different strategies reported per student

Strategies reported	0	1	2	3	4	5
n	1	33	41	20	5	5
%	1.0	31.4	39.0	19.0	4.8	4.8

Four patterns stood out in the way students combined their strategies. Table 5 shows how often the five main strategies occurred together.

Table 5. Co-occurrence of the five most frequent strategies (number of students reporting both)

	SUB	MUS	NT	APP	NOSUB
Subtitled films (SUB)	74	48	24	14	9
Music (MUS)	48	62	19	17	13
Note-taking (NT)	24	19	37	13	6
Apps (APP)	14	17	13	27	8
Without subtitles (NOSUB)	9	13	6	8	17

Note. Diagonal cells (in bold) show the total number of students reporting each strategy.

Songs and subtitled films as the core. By far the most common combination was music together with subtitled films, reported by 48 students (45.7%). Subtitled films also often went with note-taking (24 students, 22.9%), and music with note-taking (19 students, 18.1%). Almost every student (99; 94.3%) did at least one receptive activity. Music users were somewhat more likely than other students to also watch subtitled films (77.4% vs. 60.5%), although this difference did not reach significance (Fisher’s $p = .082$, $\phi = .18$). The pairing reflects how common both activities were rather than a tight link between them. For most of the group, listening practice rested on the same basic diet of songs and films.

Two ways of handling subtitles. Seventeen students (16.2%) said they watched films without subtitles and checked words and pronunciation in a dictionary. Nine of them also watched with subtitles, while eight did not mention subtitled viewing at all. For the first group, unsubtitled viewing seems to be an addition to subtitled viewing, used when the material allows. For the second, it may have replaced it. Unsubtitled viewers were not more likely than others to also use subtitles; if anything they were less likely (52.9% vs. 73.9%, $p = .144$). The data therefore do not point to a single, gradual path away from subtitles. They suggest instead that students regulate subtitle support in different ways, some by switching between levels of support and some by leaving L1 subtitles behind.

Note-taking as an add-on. Note-taking is usually associated with classroom listening tasks, yet 37 students mentioned it, and only five named it as their only strategy. Note-takers reported more strategies in total than other students ($M = 2.73$ vs. 1.75). Once note-taking itself was removed, however, they reported no more other strategies than non-note-takers ($M = 1.73$ vs. 1.75 ; $U = 1178.5$, $p = .575$, $r = -.06$). Some students, it seems, had brought a classroom technique into their own listening, but note-taking was added to whatever else they did rather than marking a broader repertoire.

Little interaction, and a different relationship with support. Only 28 students (26.7%) reported any interactive practice, and 27 of these used online communication or language apps. Talking with gamers, online friends or proficient speakers was each reported by one student. All ten students who reported four or five strategies used apps, but this is partly a counting effect, since using an app adds one strategy to a student's total. When the app strategy was set aside, app users reported only slightly more other strategies than non-users ($M = 2.00$ vs. 1.78 ; $U = 1154$, $p = .436$, $r = .10$). What distinguished app users was not how many other strategies they used but which ones (Table 6). They were less likely to watch films with Indonesian subtitles (51.9% vs. 76.9%; $p = .026$, $\phi = -.24$) and more likely to watch without subtitles (29.6% vs. 11.5%; $p = .037$, $\phi = .22$). They were also more likely to take notes (48.1% vs. 30.8%), although this difference was not significant.

Table 6. Receptive strategy use among app users and non-users

Strategy	App users (n = 27)	Non-users (n = 78)	Fisher's p	ϕ
Subtitled films	14 (51.9%)	60 (76.9%)	.026	-.24
Music	17 (63.0%)	45 (57.7%)	.658	.05
Note-taking	13 (48.1%)	24 (30.8%)	.160	.16
Without subtitles	8 (29.6%)	9 (11.5%)	.037	.22

Learner profiles. Grouping students by the kinds of strategy they reported produced four profiles (Table 7). The largest group, receptive combiners ($n = 48$, 45.7%), used two or more receptive strategies but nothing interactive; just over half of them (25) combined exactly two, music and subtitled films. Single receptive listeners ($n = 28$, 26.7%) relied on one receptive strategy, most often subtitled films (15). Extenders ($n = 23$, 21.9%) added interaction to receptive practice and had the widest repertoires ($M = 3.43$); nine of them also watched without subtitles and thirteen took notes. A small interactive-only group ($n = 5$, 4.8%) named apps alone, and one student (173) reported no coded strategy.

Table 7. Learner profiles based on interview codes

Profile	Definition	n	%	Mean	Most common pattern
Single receptive	One receptive strategy only	28	26.7	1.00	Subtitled films only (15)
Receptive combiner	Two or more receptive, no interactive	48	45.7	2.25	Music + subtitled films (25)
Extender	Receptive and interactive	23	21.9	3.43	Apps with media; 9 also without subtitles
Interactive only	Interactive strategy only	5	4.8	1.00	Apps only (5)

Profile	Definition	n	%	Mean	Most common pattern
No coded strategy	–	1	1.0	0.00	–

Comparing the Questionnaire and Interview Data (RQ3)

Table 8 brings the two datasets together. The questionnaire allowed one main strategy per student, whereas the interviews recorded every strategy mentioned, so the interview percentages are expected to be higher. What is informative is how much higher they are, and where they are not higher at all.

Table 8. Joint display of questionnaire and interview findings

Strategy	Main strategy (%)	Interview (%)	Ratio	Interpretation
Subtitled films	25.7	70.5	2.7	Complementary: a common background habit, not only a first choice
Music	23.8	59.0	2.5	Complementary: very widespread and usually paired with subtitled films
Note-taking	16.2	35.2	2.2	Complementary: mostly used alongside media rather than alone
Apps	14.3	25.7	1.8	Convergent: a distinct subgroup that relies less on Indonesian subtitles
Films without subtitles	11.4	16.2	1.4	Convergent: a small group following two different routes
Gamers / online friends / speaker friends	2.9 each	1.0 each	0.3	Divergent: chosen as main strategy more often than described in practice

Three things emerge from this comparison. First, the receptive media strategies grew the most from questionnaire to interview, which suggests they are a shared background habit even for students who put something else first. Second, apps and unsubtitled viewing grew less, so they seem to belong to a fairly stable subgroup rather than to the group as a whole; as Table 6 shows, the two practices also tend to occur together. Third, the three strategies involving other speakers were the only ones mentioned less often in interviews than they were chosen in the questionnaire. Nine students picked one of these as their main strategy, but only three described doing it when asked about their actual practice. For some students, talking with other speakers seems to be something they value or hope to do rather than something they regularly do.

DISCUSSION

Why Cognitive Strategies Came Out on Top

The strong showing of cognitive strategies in this study differs from survey studies in which learners report high use of metacognitive strategies (Al-Khresheh & Alruwaili, 2024; Ghorbani Nejad & Farvardin, 2022). We do not think this means our students are less strategic. It is more likely a result of how strategies were measured. When questionnaire items describe planning or monitoring in general terms, students can easily agree with them. When items describe the activities students actually do, as in this study, the answers reflect everyday media habits, and these are mostly receptive.

The mismatch we found for interactive strategies, where questionnaire choices outnumbered reported practice, supports this reading. Which strategy category appears to dominate may therefore depend partly on whether strategies are measured as principles that students agree with or as activities they carry out. This is in line with the view that strategy use cannot be understood apart from learners' knowledge and the task in front of them (Fung & Macaro, 2021).

Subtitles as Support That Students Manage Themselves

Watching subtitled films was the most common practice, and only about half of the students who watched without subtitles had also kept subtitled viewing in their repertoire. On-screen text is known to help comprehension and vocabulary learning (Fievez et al., 2023; Montero Perez, 2022). The students in this study, however, mostly used Indonesian subtitles, which help them follow the story but may draw attention away from the spoken English (Montero Perez, 2022). This reliance on L1 support echoes the frequent use of mental translation reported by Al-Khresheh and Alruwaili (2024). At the same time, some students were clearly adjusting the level of support: about half of the unsubtitled viewers switched between subtitled and unsubtitled viewing, and the rest appear to have left L1 subtitles behind. That is a metacognitive decision, even if students describe it simply as a viewing habit. Earlier research has mostly asked whether subtitles help. Our data suggest that some learners also decide for themselves when to use subtitles and when to turn them off. Teachers could make this progression explicit and open it up to all students, for example by guiding them from Indonesian subtitles to English captions and then to viewing without any text.

Much More to Hear, Little More Interaction

The finding with the clearest consequences concerns the gap between receptive and interactive practice. Digital platforms make it easy to talk with English speakers, yet nearly three quarters of the students reported only receptive practice, and conversation with gamers, peers or proficient speakers was almost absent. This matches reviews showing that receptive activities dominate IDLE in Asian EFL settings (Liu, Soyoo, et al., 2025) and survey evidence that Indonesian pre-service teachers often listen to English songs and watch videos but seldom communicate with English speakers online (Mulyono et al., 2024). It also tempers optimistic accounts of technology in Society 5.0 education (Carayannis & Morawska-Jancelewicz, 2022). Technology has plainly given students far more authentic English to listen to. It has not, by itself, given them more of the interactive listening that involves working out meaning with another person in real time.

The profile analysis adds an important detail. Extenders did not simply do more of everything. Once the app strategy was set aside, their repertoires were no larger than those of other students. What set app users apart was a different relationship with support: they relied less on Indonesian subtitles and more often watched without them. Interaction and reduced reliance on L1 support thus appear together, which suggests a shared underlying orientation rather than two separate habits. This is consistent with Lee and Sylvén's (2021) finding that productive and receptive IDLE relate differently to communication, and with evidence that learners differ in how they negotiate digital and AI tools (Liu, Darwin, & Ma, 2025). Because the tests were exploratory and the subgroups small, this link should be treated as a hypothesis for further research rather than as an established pattern.

Reading the Findings through Learner Agency

Returning to the three signs of agency set out earlier helps bring these findings

together. On breadth, most students showed some agency, since two thirds combined strategies. That breadth, however, was largely confined to receptive media, and it did not by itself lead students towards interaction: receptive combiners were the largest profile. On regulation of support, the evidence was mixed. Almost three quarters of the students used Indonesian subtitles and only a sixth watched without them, and those who did regulate support in this way were concentrated among app users. On extension, agency was weakest. Only a quarter of the students moved beyond receptive listening, and almost all of them did so through apps rather than through people.

In the terms used by Lin and Huang (2026), most students had noticed the resources that digital media offer and acted on them, but mainly on the easiest and least risky of those resources. The constraints that held them back are not visible in our data, although the affective research discussed below suggests that confidence and comfort in interaction are likely candidates. This reading moves the discussion from which strategies students use to how far they exercise control over their listening, which is the question that matters most for teaching in a technology-rich society. It also suggests that agency in informal listening is not all-or-nothing. A student can show considerable breadth while showing little extension, and teaching may need to target these dimensions separately.

Why Students Stay on the Receptive Side

Why did so few students take their listening into interaction? Our data cannot answer this directly, but research on emotion and confidence in digital settings suggests a likely explanation. Interaction exposes learners in a way that receptive listening does not. When students watch a film, a misunderstanding costs them nothing; in a live exchange on a video-chat app, it may cost them face. Lee et al. (2024) showed that emotions shape whether informal digital learning leads to willingness to communicate, and Mulyono and Saskia (2021) found that Indonesian students' willingness to communicate in digital environments rests on different affective factors from those at work face to face. It is plausible, then, that the students who chose interaction as their main strategy in the questionnaire, but did not describe it in the interviews, wanted to interact but held back. The profile of app users, who relied less on L1 subtitles, also fits the finding that motivation, enjoyment and self-efficacy predict engagement in IDLE (Liu, Zhao, & Yang, 2024). Students who feel capable enough to watch without subtitles may also be the ones who feel ready to interact.

If this interpretation is right, simply telling students to talk to native speakers is unlikely to change much. Smaller, lower-risk steps seem more promising, such as shadowing a short clip before speaking about it, joining structured exchanges in which the task is clear, or practising with AI conversation tools, which recent studies associate with enjoyment and motivation in informal learning (Liu, Darwin, & Ma, 2024). We offer these as directions for teaching and for further research rather than as conclusions drawn from our data.

What the Study Adds on Method

The study also offers a methodological lesson. Had we relied on the questionnaire alone, we would have concluded that each student had one preferred strategy and that about a fifth of them preferred interaction. The interviews showed instead that most students used several strategies and that very few actually interacted. Neither dataset was wrong; they measured different things. The questionnaire captured what students

saw as their main strategy, and the interviews captured what they described doing. Bringing the two together in a joint display (Fetters & Tajima, 2022; Guetterman et al., 2021), and then analysing the interview codes as profiles, turned the gap between them into a finding. Research on informal learning, where what learners value and what they do may differ, could make more use of this approach.

What This Means for Listening Teaching

Our findings suggest that listening development is moving out of the classroom and into media environments that students choose for themselves. This changes the teacher's job. When English input was scarce, teachers mainly had to provide it. Now that input is plentiful, students need more help in managing it: choosing suitable material, deciding how much support to use, checking their understanding, and moving from listening to interacting. This fits with metacognitive approaches that teach learners to plan, monitor and evaluate their own listening (Goh & Vandergrift, 2022; Shamsi & Bozorgian, 2024), and with teaching that links classroom learning to learning outside it (Reinders et al., 2022). Because the participants were future teachers, the findings also matter for teacher education. Students who experience listening mainly as media consumption may need explicit preparation before they can guide their own students towards more deliberate and interactive listening.

The findings also give the Society 5.0 agenda a more concrete meaning for listening teaching. Discussions of Society 5.0 in education often focus on providing technology or building digital skills (Carayannis & Morawska-Jancelewicz, 2022). Our students did not lack technology; what they lacked was a bridge from consuming English content to using it deliberately and interactively. The same applies to AI tools, which students already use in their informal learning (Liu & Ma, 2024) and whose value depends on how learners negotiate their use (Liu, Darvin, & Ma, 2025). For listening teachers, a human-centred response is to treat students' media and AI use as part of the course, to discuss how they use subtitles and apps, and to help them set small goals for moving from listening towards interaction.

CONCLUSION

This study examined how Indonesian pre-service English teachers combine listening strategies in their out-of-class digital media use. When asked for their main strategy, most students chose a cognitive, receptive one, usually subtitled films or music (RQ1). In practice, most combined several strategies. Songs and subtitled films formed a common core, and four profiles emerged: single receptive listeners, receptive combiners, extenders who added interaction, and a small interactive-only group. App users relied less on Indonesian subtitles and more often watched without them (RQ2). Comparing the two datasets showed that receptive media habits were far more widespread than the questionnaire suggested, while talking with other speakers was valued more than it was practised (RQ3).

The main contribution of the study is to show that digital media have greatly increased the amount of English these students hear without a matching increase in interactive or self-regulated listening. The study also shows the value of looking at strategies as combinations. Patterns such as the different ways students regulate subtitle support, and the link between interaction and reduced reliance on L1 subtitles, only become visible when strategies are examined together rather than one at a time. Read through the lens of learner agency, the findings show considerable breadth in students' listening but limited extension into interaction. Then, the findings have practical implications. Listening teachers can build on students' existing media habits

by guiding them from Indonesian subtitles to English captions to viewing without text, and by setting reflective tasks in which students plan, check and evaluate their listening outside class. Courses could include structured opportunities for interactive listening, such as guided exchanges with speakers of different varieties of English, to narrow the gap between the interaction students value and the interaction they actually engage in. Teacher education programmes can prepare future teachers to support their students' informal listening rather than treating it as separate from classroom teaching.

One simple way to put these ideas into practice is a three-step routine that fits into a regular listening course. First, students choose a short clip from their own viewing and watch it with Indonesian subtitles, noting key words. Second, they watch it again with English captions and check their notes. Third, they watch it without any text and summarise it for a partner, who asks at least one follow-up question. The routine uses material students already enjoy, makes the move away from subtitles explicit, and adds a small, low-risk moment of interaction. Lecturers could then ask students to repeat the routine on their own and keep a short listening log. Such logs would also give teachers better evidence of students' out-of-class practice than a single questionnaire can provide.

The study has several limitations. It involved one group of students at one university and relied on what students reported, so it describes reported rather than observed practice. The questionnaire allowed only one main strategy per student, which limits direct comparison with the interviews, and the interviews were short. The questionnaire was designed by the research team and was not validated statistically, and no inter-coder agreement coefficient was calculated for the interview coding. Some items could also have been categorised differently. Talking with gamers is arguably socio-affective rather than metacognitive, and the app item grouped a random video-chat platform (OmeTV) with a pronunciation app (ELSA), which involve quite different kinds of engagement. Because the researchers taught in the programme, some students may have given answers they thought their lecturers would welcome. The association tests were exploratory, were not corrected for multiple comparisons and involved small subgroups (for example, 27 app users), so they should be read as generating hypotheses rather than confirming them. The profiles and the three signs of agency rest on present-or-absent codes from self-report and capture the action side of agency only. Finally, we did not link strategy use to any measure of listening proficiency, so we cannot say whether particular combinations of strategies go with better listening. Future studies could use an established instrument such as the Metacognitive Awareness Listening Questionnaire (see Al-Khresheh & Alruwaili, 2024; Goh & Vandergrift, 2022) together with media-use logs, relate strategy combinations to listening performance, and follow students over time to see how their use of subtitles and interaction develops.

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AI USE AND DISCLOSURE

The authors used ChatGPT, an AI assistant, to help restructure the manuscript and

edit its language. The authors checked all content, analyses and references and take full responsibility for the article.

ETHICAL STATEMENT AND INFORMED CONSENT

This study was conducted in accordance with the research ethics procedures of Universitas Tidar and with internationally recognised principles for research involving human participants, including the Declaration of Helsinki. Ethical approval was obtained through the institutional research procedures of Universitas Tidar. Before data collection, all participants were informed about the aims and procedures of the study, the voluntary nature of their participation, and how the data would be used. Informed consent was obtained from all participants before they completed the questionnaire and took part in the interviews. Participants were told that they could withdraw at any time without consequence. No sensitive personal information was collected, and all data were anonymised and used only for research purposes.

CRediT AUTHORSHIP CONTRIBUTION STATEMENT

- **Noor Sahid Kusuma Hadi Manggolo:** Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Writing – original draft.
- **Sukma Shinta Yuniarti:** Validation, Investigation, Formal analysis, Visualization, Writing – review & editing.
- **M. Fatkhu Arifin:** Supervision, Resources, Project administration, Methodology, Writing – review & editing.

All authors read and approved the final manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest. They have no financial interests, professional affiliations or personal relationships that could have influenced the research or the interpretation of its findings.

DATA AVAILABILITY

The anonymised interview coding is provided in Appendix A. Other data supporting the findings, together with the questionnaire and interview protocol, are available from the corresponding author on reasonable request for academic, non-commercial purposes. To protect participant confidentiality, the full raw data are not publicly available.

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APPENDIX A. PARTICIPANT CODING OF INTERVIEW DATA

Code	Strategy	n	Participants
NT	Note-taking	37	I1, I3, I6, I10, I13, I14, I15, I20, I22, I24, I26, I37, I56, I58, I59, I64, I65, I66, I68, I69, I70, I71, I76, I77, I78, I79, I81, I84, I85, I87, I88, I90, I94, I97, I99, I101, I104
MUS	Music platforms	62	I1, I2, I3, I4, I5, I6, I7, I8, I9, I10, I12, I13, I14, I15, I16, I17, I18, I23, I24, I25, I26, I27, I29, I32, I33, I34, I35, I36, I37, I42, I43, I44, I45, I47, I48, I49, I50, I52, I53, I55, I57, I58, I61, I62, I74, I79, I80, I82, I83, I84, I85, I86, I88, I90, I94, I95, I96, I97, I98, I99, I103, I105
SUB	Films with Indonesian subtitles	74	I1, I3, I4, I5, I6, I7, I8, I9, I10, I12, I13, I14, I15, I17, I18, I21, I24, I25, I28, I29, I30, I31, I34, I35, I36, I37, I39, I40, I41, I42, I43, I44, I45, I46, I47, I48, I49, I50, I51, I52, I54, I55, I57, I60, I61, I62, I63, I64, I65, I68, I69, I70, I71, I72, I74, I75, I76, I78, I80, I81, I83, I84, I85, I90, I93, I94, I95, I96, I98, I99, I100, I101, I103, I105
NOSUB	Films without subtitles	17	I11, I13, I14, I16, I19, I29, I32, I33, I34, I42, I57, I70, I79, I80, I85, I88, I89
GAME	Gamers with different accents	1	I6
APP	Online communication applications	27	I1, I4, I6, I10, I13, I14, I15, I20, I22, I32, I33, I38, I43, I45, I53, I59, I67, I75, I79, I80, I85, I88, I91, I92, I96, I101, I102
OF	Online friends	1	I16
NAT	Native/non-native speaker friends	1	I88