

2. SACHL: Preparing to assess Vietnamese speech

This document is designed for speech pathologists to provide a brief overview of what you need to know before assessing Vietnamese speech, if you do not speak Vietnamese. Four key areas are covered:

- 1 Vietnamese phonology
- 2 Vietnamese speech development
- 3 Phonetic transcription of Vietnamese
- 4 Collaborating with families and interpreters

Further information will be available in the SACHL manual.

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1. Vietnamese Phonology

| | Vietnamese phonology | Comparing Vietnamese with English |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Consonants | Standard (23) /p, b, t ^h , t, d, t̚, c, k, ʔ, m, n, ɲ, ŋ, f, v, s, z, ʃ, z̥, x, ɣ, h, l/ Dialectal variants /k ^p , ŋ ^m , r, ts/ | English has 24 consonants /p, b, t, d, k, g, m, n, ŋ, f, v, θ, ð, s, z, ʃ, ʒ, h, ɹ, j, l, w, tʃ, dʒ/ Vietnamese (VN) and English (ENG) share 16 consonants. Vietnamese has 13 non-shared consonants and English has 8 non-shared consonants (see Venn diagram). Vietnamese speakers typically would not use all non-shared consonants as some are dialectal variants. |
| Semivowels | /w, j/ | /w, j/ are semivowels (not consonants) in Vietnamese |
| Consonant clusters | None | Consonant clusters only occur in English. Some Vietnamese words start with /kw/. Given that /w/ is a semivowel, /kw/ is not considered a consonant cluster. |
| Vowels | /i, e, ε, u, o, ɔ, ɤ, a, ǎ, ɤ̃, ɛ̃, ɔ̃, ie, uo, uɤ/ | Vietnamese and English share some vowels. There are many non-shared vowels (see Venn diagram), which differ according to the English dialect. |
| Tones | (1) level (2) falling (3) creaky (4) dipping-rising (5) rising and (6) constricted | Tones occur in Vietnamese but do not occur in English |
| Phonotactic restrictions | Syllable shape C ₍₀₋₁₎ W ₍₀₋₁₎ VC ₍₀₋₁₎ W ₍₀₋₁₎ T w = semivowel; T = tone | Syllables are written and spoken separately in Vietnamese. English has many polysyllabic words. Vietnamese has a wider range of word initial consonants than word final consonants. English has many within word consonants and a wider range of word final consonants compared to Vietnamese. |
| Prosody | Syllable-timed | English is stress-timed |
| Major dialects | Standard, Northern, Central, Southern | There are many English dialects |

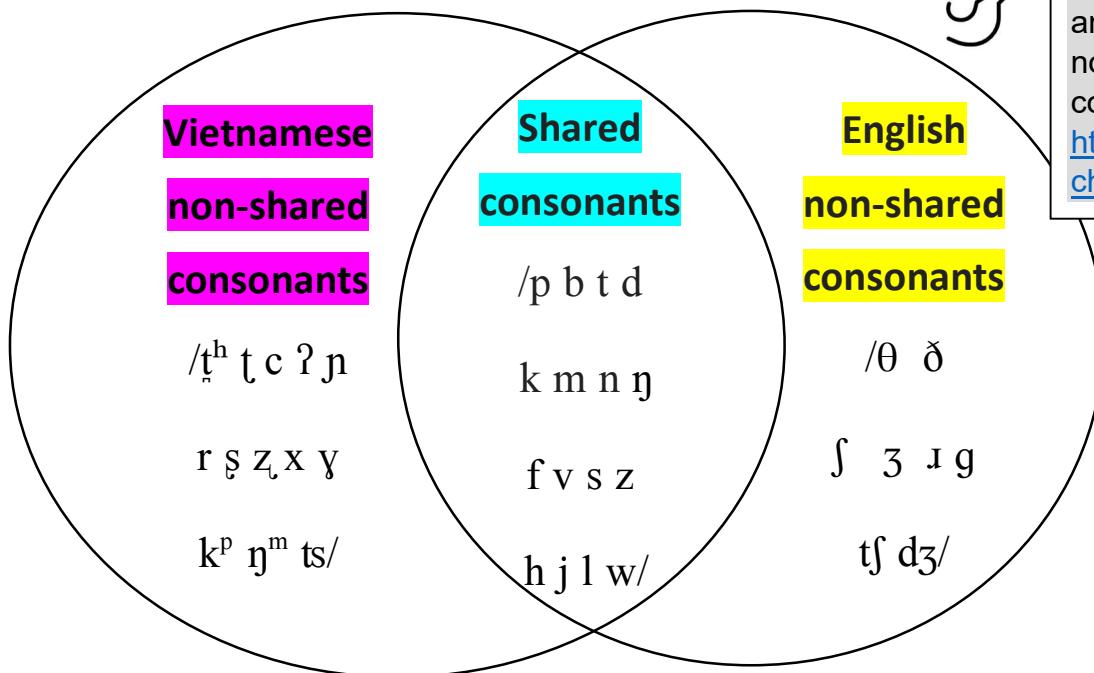
Margetson, K., McLeod, S., Tran, V., Verdon, S., & Phạm, B. (2026). English + Vietnamese speech development. In S. McLeod (Ed.). *The Oxford handbook of speech development in languages of the world*. Oxford University Press.

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Vietnamese and English Consonants



Listen to consonants and watch videos of non-shared Vietnamese consonants here: <https://www.seeingspeech.ac.uk/ipa-charts/>



THE INTERNATIONAL PHONETIC ALPHABET (revised to 2018)

CONSONANTS (PULMONIC) © 2018 IPA

| | Bilabial | Labiodental | Dental | Alveolar | Postalveolar | Retroflex | Palatal | Velar | Uvular | Pharyngeal | Glottal |
|---------------------|----------|-------------|--------|----------|--------------|-----------|---------|-------|--------|------------|---------|
| Plosive | p b | | | t d | | ʈ ɖ | c ɟ | k ɡ | q ɢ | | ʔ |
| Nasal | m | ɱ | | n | | ɳ | ɲ | ŋ | ɴ | | |
| Trill | | | | r | | | | | | | ʀ |
| Tap or Flap | | ⱱ | | ɾ | | ɽ | | | | | |
| Fricative | ɸ β | f v | θ ð | s z | ʃ ʒ | ʂ ʐ | ç ʝ | x ɣ | χ ʁ | ħ ʕ | h ɦ |
| Lateral fricative | | | | ɬ ɮ | | | | | | | |
| Approximant | | ʋ | | ɹ | | ɻ | j | ɰ | | | |
| Lateral approximant | | | | l | | ɭ | ʎ | ʟ | | | |

t^h
ʈ
tʃ
dʒ

Symbols to the right in a cell are voiced, to the left are voiceless. Shaded areas denote articulations judged impossible.

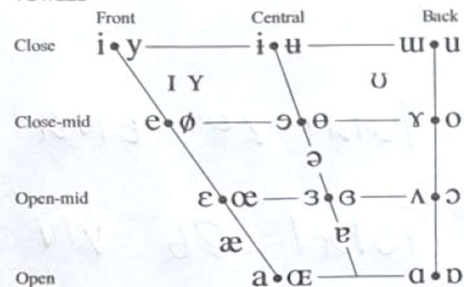
CONSONANTS (NON-PULMONIC)

| Clicks | Voiced implosives | Ejectives |
|--------------------|-------------------|-----------------------|
| ◌ Bilabial | ɓ Bilabial | ʼ Examples: |
| ◌ Dental | ɗ Dental/alveolar | ɸ' Bilabial |
| ◌ (Post)alveolar | ɟ Palatal | t' Dental/alveolar |
| ◌ Palatoalveolar | ɠ Velar | k' Velar |
| ◌ Alveolar lateral | ɣ Uvular | s' Alveolar fricative |

OTHER SYMBOLS

ʍ Voiceless labial-velar fricative ʎ Alveolo-palatal fricatives
 ʋ Voiced labial-velar approximant ɭ Voiced alveolar lateral flap

VOWELS

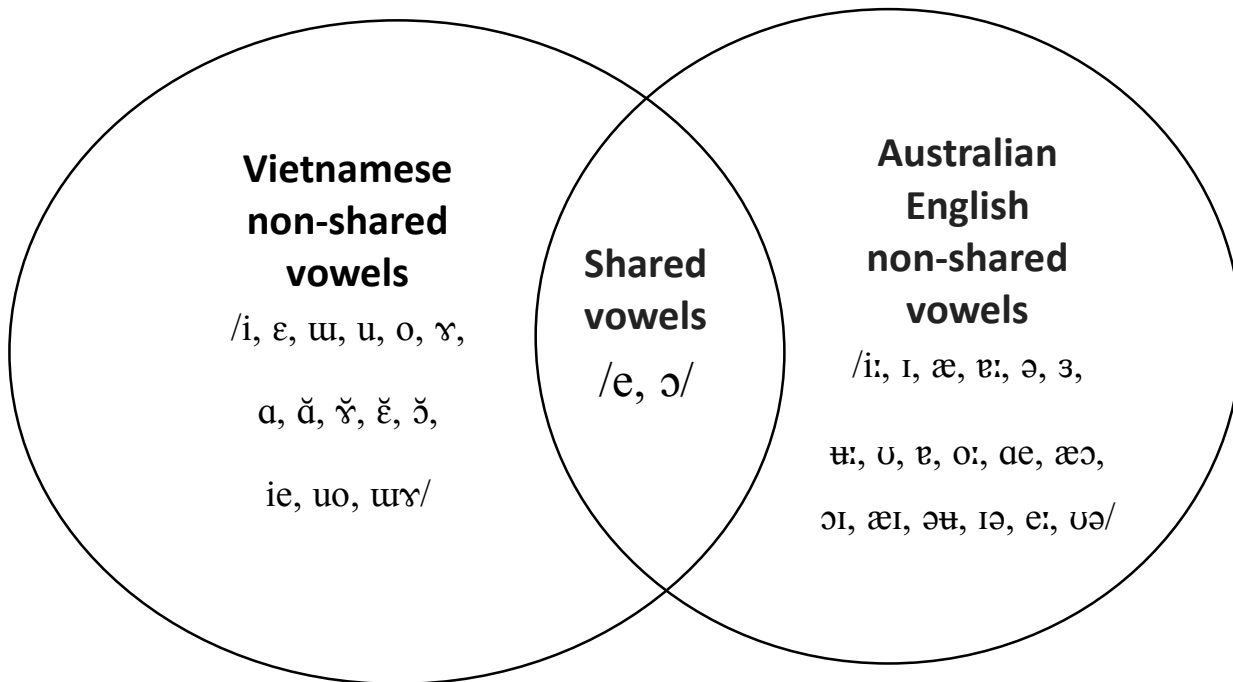


IPA Chart, <http://www.internationalphoneticassociation.org/content/ipa-chart>, available under a Creative Commons Attribution-Sharealike 3.0 Unported License. Copyright © 2015 International Phonetic Association **Shared consonants that occur in English and Vietnamese**

Non-shared Vietnamese consonants **Non-shared English consonants**

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Vietnamese and English Vowels



Vietnamese dialects

- Major dialects: Northern Vietnamese, Central Vietnamese, and Southern Vietnamese
- Consonants, vowels and tones differ across the Vietnamese dialects, for example the same target word may have a different word initial or word final consonant
- Vietnamese-English-speaking families in countries like Australia and the US may live in communities where more than one dialect is spoken, therefore different dialects may influence their speech productions
- The Vietnamese Speech Assessment (VSA) accounts for the differences in dialect and supports SLPs in assessing Vietnamese-speaking children according to the particular dialect that they speak
- Some of the non-shared Vietnamese consonants are dialectal variants. Vietnamese-speaking adults (and children) would typically only use the consonants in their dialect. This means, it is not expected that Vietnamese speakers would use every Vietnamese consonant in the Venn diagram

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2. Vietnamese Speech Development

Typical speech development

1. Bilingual Vietnamese-English-speaking children

McLeod et al. (2023) explored Australian bilingual Vietnamese-English-speaking children's Vietnamese and English consonant acquisition. Children were aged between 2 and 8 years old and were grouped according to their proficiency in each language. Consonants were categorised as early developing (correctly produced by 90-100% of children in the sample), middle (correctly produced by 70-89%) and late developing (correctly produced by <70%). Consonants are listed in order of consonant accuracy from highest to lowest.

English consonants

| | Early consonants | Middle consonants | Late consonants |
|------------------------------------------------------------|------------------------------------------------|-----------------------------|---------------------------------|
| High proficiency in both languages | /n, h, m, w, ŋ, k, b, p, f, g, l, tʃ, t, d, j/ | /v, ʃ, s, ʒ, z, ɹ/ | /ð, θ/ |
| Low proficiency in both languages | /h, w, m, f, n/ | /b, j, ŋ, k, d, g, ʃ, t, p/ | /tʃ, s, v, ʒ, ʒ, l, z, ð, ɹ, θ/ |
| High proficiency in English; low proficiency in Vietnamese | /h, w, f, m, n, d, ŋ, b, t, g, j, k, p, ʃ, tʃ/ | /ʒ, v, l, s, ʒ/ | /z, ɹ, ð, θ/ |

Vietnamese consonants

| | Early consonants | Middle consonants | Late consonants |
|------------------------------------------------------------|------------------------------------|------------------------------|----------------------------------------|
| High proficiency in both languages | /b, m, f, j, w, d, c, tʰ, s, ɲ, l/ | /h, n, t, v, p, x/ | /ʔ, ɣ, ŋ, k, z, ʂ, t, zʃ/ |
| Low proficiency in both languages | /b, w, j, h, m, f, d/ | /s, n, t, p, c, ɲ/ | /tʰ, l, ʔ, v, ŋ, k, x, z, ʂ, ɣ, t, zʃ/ |
| High proficiency in English; low proficiency in Vietnamese | /d, b, j, f, m, w, h/ | /v, c, l, tʰ, ɲ, s, n, t, p/ | /ʔ, z, ŋ, k, x, ɣ, ʂ, t, zʃ/ |

McLeod, S., Verdon, S., Margetson, K., Tran, V. H., Wang, C., Phạm, B., To, L., & Huynh, K. (2023). Multilingual speech acquisition by Vietnamese-English-speaking children and adult family members. *Journal of Speech, Language, and Hearing Research*, 66(7), 2184-2229. https://doi.org/10.1044/2023_JSLHR-21-00669

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2. Vietnamese-speaking children

Phạm et al. (2024) summarised studies of Vietnamese speech acquisition conducted in Vietnam with children who spoke Northern, Central and Southern dialects of Vietnamese. This table details the age at which 90% of children can correctly produce Vietnamese consonants and semivowels across the major dialects.

| Age | Word initial consonants | Word final consonants | Semivowels |
|------------|---------------------------------|----------------------------------------------------------|------------|
| 2;0 - 2;11 | /m-, b-, ʔ-/ | /-m/ | /-w, -j/ |
| 3;0 - 3;11 | /c-, k-, n-, ɲ-, f-, h-/ | /-p, -t, -k, -k ^p , -n, -ŋ, -ŋ ^m / | - |
| 4;0 - 4;11 | /d-, t-, ɲ-, s-, ʎ-, l-/ | - | - |
| 5;0 - 5;11 | /x-, t ^h -, v-, t̚-/ | - | - |
| 6;0 - 6;11 | /ʂ-, p-, z̥-, z-/ | /-c, -ɲ/ | - |

Reference: Phạm, B., Phạm, H., Phạm, V., Minh Tran, T. T., Hoang, N., Bui, L., Chung, L. T., Pham, Y. H. T., Dao, T., & Pham, L. T. (2024). Typical consonant acquisition by children across dialects in Vietnam. *Forum for Linguistic Studies*, 6(6), 295–309. <https://doi.org/10.30564/fls.v6i6.7796>

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Phonological patterns

Phonological patterns in bilingual Vietnamese-English-speaking children while speaking each language (McLeod et al. 2023)

| | English | Vietnamese |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Syllable structure patterns | Consonant cluster simplification Consonant cluster reduction Epenthesis Initial consonant deletion Final consonant deletion | Initial consonant deletion Final consonant deletion Semivowel deletion |
| Substitution patterns | Velar fronting Palatal fronting Stopping of fricatives Stopping of affricates Deaffrication Gliding of liquids Prevocalic voicing Postvocalic devoicing Fricative simplification Liquid simplification Backing Assimilation | Velar fronting Palatal fronting Stopping of fricatives Gliding of fricatives Gliding of nasals Denasalization Nasalization Aspiration Deaspiration Glottal replacement |

Other common phonological patterns in monolingual children

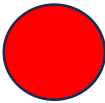
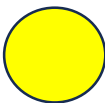

| English (Baker, 2017) | Vietnamese (Phạm & McLeod, 2019) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Syllable structure patterns <ul style="list-style-type: none"> • Weak syllable deletion • Reduplication Substitution patterns <ul style="list-style-type: none"> • Glottal insertion Assimilation patterns <ul style="list-style-type: none"> • Velar • Labial • Alveolar | Substitution patterns <ul style="list-style-type: none"> • Backing |

Note: Phonological patterns that can be typical in Vietnamese may transfer to English in bilingual children.

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3. Phonetic Transcription of Vietnamese

Multilingual Transcription Traffic Lights

| | Category | Consonants | Plan |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Difficult to transcribe non-shared home language consonants | /t ^h t c ʔ ɲ r ʃ z x ɣ k ^p ŋ ^m ts/ | <ul style="list-style-type: none"> • Compare to adult production • Ask for help from interpreter/family /multilingual colleague to decide if child is correct |
|  | Moderately difficult to transcribe Allophones/shared consonants produced in different ways | /p t k/ | <ul style="list-style-type: none"> • Compare to adult production • Ask for help from interpreter/family /multilingual colleague to decide if child is correct |
|  | Easier to transcribe shared consonants produced in the same way | /b d m n ŋ f v s z h j l w/ | <ul style="list-style-type: none"> • Transcribe yourself and seek assistance if needed |

Margetson, K., McLeod, S., Verdon, S., & Tran, V. H. (2023). Transcribing multilingual children's and adults' speech. *Clinical Linguistics and Phonetics*, 37(4-6), 415-435.
<https://doi.org/10.1080/02699206.2022.2051073>

Shared, allophonic consonants

| Vietnamese consonant | May be perceived by English-speaking SLPs as the following | How to tell the difference |
|----------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| /p/ | [b] | In word initial position, /p, t, k/ in Vietnamese are not aspirated. SLPs can try to focus on the voicing of the initial consonant, rather than relying on aspiration or longer voice onset time as a sign that it is a voiceless consonant. |
| /t/ | [d, t] | |
| /k/ | [g, c] | |

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Non-shared Vietnamese consonants

| Non-shared Vietnamese consonant | May be perceived by English-speaking SLPs as the following ¹ | How to tell the difference |
|---------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| /t ^h / | [t, d, θ, ð] | For /t ^h /, the tip of the tongue approximates the back of the upper teeth (dentalization) and aspiration is present (unlike Vietnamese /t/ which is unaspirated). |
| /t̺/ | [t̺, ts, t, c, tʃ] | /t̺/ is articulated with retroflex placement (try to say /t̺/ by saying /t/ with the tongue tip flicked back). For English-speakers, it may sound like /t̺̃/. |
| /c/ | [tʃ, t̺, k, ts] | /c/ is a palatal plosive. Placement is further forward than /k/, and it sounds similar to /tʃ/ but without lip rounding. |
| /ʔ/ | [∅, h] | English speakers may not perceive /ʔ/ is present. May only perceive vowel or semivowel /w/ that follows /ʔ/. Vowel or /w/ sounds more forceful following glottal stop due to buildup of pressure. |
| /ɲ/ | [n, ŋ] | For English-speakers, it may sounds like /ɲj/ |
| /r/ | [ɹ] | /r/ is trilled. There is a slight roll/vibration of tongue. |
| /ʂ/ | [s, ʃ] | /ʂ/ is produced further back in the mouth with retroflex placement and without the lip rounding of /ʃ/ |
| /ʐ/ | [z, ʒ] | /ʐ/ is produced further back in the mouth with retroflex placement and without the lip rounding of /ʒ/ |
| /x/ | [k, ɣ, ɣ] | /x/ has same voicing and placement as /k/, but as a fricative has slightly longer more fricated sound |
| /ɣ/ | [g, z] | /ɣ/ has same voicing and placement as /g/, but as a fricative has slightly longer more fricated sound |
| /k ^p / | [p, c, ʔ, ∅] | /k ^p / has tongue placement of /k/ but lip placement of /p/. It only occurs in word final position and is not aspirated or released. |
| /ŋ ^m / | [m, ŋ, ∅] | /ŋ ^m / has tongue placement of /ŋ/ but lip placement of /m/. It only occurs in word final position. |
| /ts/ | - | /ts/ is a dialectal variant. /ts/ was not tested in the transcription studies. |

Masso, S., McLeod, S., Cronin, A., & Phạm, B. (2020). Transcription of Vietnamese adults' and children's consonants by English-speaking speech-language pathologists. *Folia Phoniatrica et Logopaedica*, 72(2), 92–107. <https://doi.org/10.1159/000500245>

Margetson, K., McLeod, S., Verdon, S., & Tran, V. H. (2023). Transcribing multilingual children's and adults' speech. *Clinical Linguistics and Phonetics*, 37(4-6), 415-435. <https://doi.org/10.1080/02699206.2022.2051073>

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4. Collaborating with families and interpreters

Speech pathologists, families and interpreters all have knowledge and skills that can be used to facilitate a multilingual speech assessment, including when the speech pathologist does not speak the home language.

| Speech pathologists | Families | Interpreters |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Lead the assessment in a collaborative way• Conduct English speech assessment• Assess Vietnamese speech with support from family/interpreter• Phonetically transcribe and analyse speech in Vietnamese and English• Make diagnostic decisions | <ul style="list-style-type: none">• Know their child, their speech skills and development• Communicate in home language with the child to help obtain speech samples• Indicate if there are concerns with Vietnamese speech production | <ul style="list-style-type: none">• Know about the home language and culture• Communicate in home language with the child and family to help obtain speech samples• Indicate if there are concerns with Vietnamese speech production |

Culturally responsive communication practices when working with Vietnamese-speaking families

- Recognise indirect communication styles: families may avoid saying something now or expressing disagreement openly to maintain harmony. Be attentive to subtle cues, hesitation, softened responses rather than expecting direct answers.
- Attend to non-verbal communication: facial expressions, tone of voice, pauses, body language can carry important meaning. Silence is not always equal to understanding, it could be uncertainty or careful consideration.
- Understand the importance of social hierarchy and relationships: Parents may rely on/agree with professionals totally, just because they respect them, even when they have questions. Invite them to express their opinions.
- Use and respect kinship terms: Kinship terms (e.g., sister, aunty) are used as pronouns when speaking to people, even when they are not family members, for example, *chị*, *cô* for older sister or aunty. You can ask how they would like to be addressed.
- Prioritise relationship building before getting down to work: take time for greetings and small talk.
- Frame questions carefully: use open-ended questions such as 'How do you feel about ...?' rather than 'Do you agree?'
- Consider using interpreter where appropriate: even when parents seem to be able to communicate, they may prefer Vietnamese to discuss complex topics. Offer an interpret if possible for clarity and comfort.