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***Progressing progressions:
Design considerations in the
development of prototype progressions
for community languages learning in Australia***

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OVERVIEW

- SICLE Passport and Progressions project
- What's a learning progression?
- Key language constructs
- Language progression prototype
- Preliminary design frameworks
- Writing systems

Community language learning & development

Macro-level

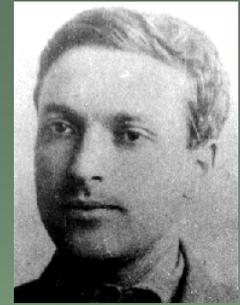
- Heritage language acquisition research – second generation migrant language loss/attrition - shift to societal dominant language, home language environment
- diverse home language models and interaction - first/second generation migration parents – ethno-linguistic vitality
- common HL learning progression - initial pre-school bilingual development; during-school atrophy against dominant language; attrition/limited attainment by adolescents, young adults

Meso-level

- sequential and parallel bilingualism in pre and early school - subtractive bilingualism during school
- HL trajectory - HL dominant → HL non-dominant → HL stasis/atrophy/attrition
- interrupted/incomplete heritage language acquisition, characterised by functional limitations, simplification/over-generalisation of morpho-syntax, limited vocab
- diversity of CL learner profiles on entry to school - students with little or no CL exposure, students with receptive oral language only, students with age-appropriate oral language in CL, students with beginning CL literacy
- fragility of early language acquisition gains – ‘acquisition without mastery’?

Middle years of schooling a key period for heritage language consolidation/loss

DEVELOPING LANGUAGE THROUGH SEMIOTIC RE-ARMAMENT



Lev Vygotsky 1896 - 1934

In the process of development the child *arms and re-arms* himself with widely varying tools. The child of the highest grade differs from the child of the lowest grade ... in the *level and character of his armament*, his instrumentarium, i.e. the degree of mastery of his own behaviour

Vygotsky, 1997 The instrumental method in psychology p.88

Community language learning & development

Micro-level

- naturalistic language acquisition (initial oral language repertoires developed in home contexts) vs instructed language acquisition (literacy related language repertoires developed in classroom contexts)
- key role of literacy in language maintenance and development
- cross-language grammatical influences - eg. pro-drop and null subject languages
- code-mixing/switching seen as compensatory communication strategies for language gaps

Perspectives

- HLA research focus on development of morpho-syntax rather than discourse
- need for broad research and evidence base - educational linguistics, language socialisation, LA/SLA/HLA, language assessment and testing, language teacher practice - CL learning encompasses/incorporates child first and second language acquisition
- community language learning/development as the building/aggregation of language repertoires – usage-based language acquisition
- implicit vs explicit learning - language development as internalised language learning (ZPD), degrees of mastery – imitation, appropriation, innovation?
- key role of identity/identification/affect and self-efficacy (eg. language learning strategies) in language learning, motivation and engagement

SICLE project expected outcomes

- language progressions with milestones and elaborations/ indicators for **six languages, including Arabic and Chinese**, supporting the implementation of K-10 language syllabuses;
- **a report** on the trialling and evaluation of progressions detailing development methodology and evidence for validity/reliability;
- **professional learning modules** and resources on the use of the progressions, classroom differentiation/inclusion in terms of student learning and language learning needs;
- **a trained pool of 60 teachers** across community languages and day schools confident in using the progressions and in differentiated language instruction and language learning strategies;
- **online learning passports** for each of six languages which document student self-assessment and teacher classroom-based assessment, recording and accrediting student learning.
- **online portal** which contains accessible versions of language milestones and elaborations in each language, teacher assessment and annotated work samples, secure site for teacher uploading student work samples, online passport with facility for student self-assessment and teacher classroom-based assessment, professional learning resources.

Project implementation

Discovery phase

- review of research into first, second and heritage language development and of current Australia and international work on progressions.
- review of existing language scales, assessments and tests. Steering groups for each language and the overall project will monitor and advise on research and development.

Alpha phase

- development of the English prototype set of milestones and elaborations
- development of language-specific progressions in Arabic and Chinese with the assistance of teachers and language experts.
- elaborations of language learning milestones developed based on extensive annotated student work samples.
- development of professional learning resources for progressions and their use in identifying and planning for diverse learner needs.
- development of an online portal housing the student passport for languages and all teacher support resources.

Beta phase

- trialling of progressions and passports in a wider range of schools (20 to 40 teachers for each language and community languages school teachers for each language (20 to 40)
- intensive professional learning on students' diverse learning/ language learning needs and on the passport, milestones and elaborations.
- teacher collection and assessment of work samples from ten of their students at different stages of learning.
- teacher moderation workshops assessing work samples of other teachers.
- conduct of a range of tests for reliability/validity.

Final phase

- planning for the scalability and sustainability of the languages progressions.

Learning progressions - policy context

Gonski Report: Through Growth to Achievement Review to Achieve Excellence in Australian schools (2018)

- 51 references to ‘learning progressions’
- ‘to achieve this shift to growth, the Review Panel believes it is essential to move from a year-based curriculum to a curriculum expressed as learning progressions independent of year or age’. p.x
- ‘growth mindset’
- paradigm shift – from *standards-based performance assessment* to *formative teacher-based assessment*

Learning progressions - policy context

Gonski Report: Through Growth to Achievement Review to Achieve Excellence in Australian schools (2018)

Recommendation 6:

Prioritise the implementation of learning progressions for literacy and numeracy in curriculum delivery during the early years of schooling to ensure the core foundations for learning are developed by all children by the age of eight.

Recommendation 11:

Develop a new online and on demand student learning assessment tool based on the Australian Curriculum learning progressions.

National School Reform Agreement Initiatives

- ACARA Literacy and Numeracy Learning progressions
- Online assessment initiative
- [Home - Online Formative Assessment Initiative \(ofai.edu.au\)](http://ofai.edu.au)

Definition of national learning progressions

Learning Progressions are descriptions of the sequence of learning as typically develop towards more sophisticated ways of thinking during a defined time span, context and framed topic.

Salinas, 2009, p.14

National learning progressions describe the skills, understandings and capabilities that students typically acquire as their proficiency increases in a particular aspect of the curriculum over time. They describe the learning pathway(s) along which students typically progress in particular aspects of the curriculum regardless of age or year level and are designed to help teachers ascertain the stage of learning reached, identify any gaps in skills and knowledge, and plan for the next step to progress learning.

ACARA, 2019

A science learning progression

| Level | Framework | Carbon Learning Progression | Student Exemplars |
|----------------------|--|---|---|
| Upper Anchor | Students' sophisticated scientific ideas | Students trace matter through chemical processes using scientific principles | <i>The plant's increase in weight comes from CO₂ ... The carbon in that molecule is used to create glucose, and several polysaccharides which are used for support</i> |
| Intervening level(s) | Students' emerging scientific ideas | Students explain matter is transformed during chemical processes and can be lost by converting to energy | <i>The weight comes mostly from H₂O it receives which it uses in its light reactions to eventually produce glucose to provide itself with energy</i> |
| | | Students explain macroscopic changes result from invisible processes (e.g., breathing) and organisms grow because their bodies need and use materials | <i>I think their weight comes from the soil and fertilizer because as it grows it increases in weight and fertilizer and soil are the things that make a plant grow</i> |
| Lower Anchor | Students' initial, naive ideas | Students explain plants and animals are comprised of different "stuff" than dead things and have inherent tendencies | <i>Leaves comes from trees; the weight comes from when a plant grows the weight also grows bigger</i> |

FIGURE 1. The alignment of a generic learning progression framework (“Framework”), an abbreviated version of [Mohan et al.'s \(2009\)](#) carbon learning progression (“Carbon Learning Progression”), and student exemplars for each level of the carbon learning progression (“Student Exemplars”). Scott, E, Wendewoth, M.P. Doherty, J., 2019.

Learning progressions - nature and development

Nature

- LP focus on student growth and development in a conceptual domain, typical student thinking/understanding, learning trajectories/pathways from novice to expert, increasing levels of sophistication, includes common 'errors' eg. naïve preconceptions, misconceptions
- LP reflect evidence-based, hypothetical model of learning
- LP a formative assessment tool - 'productive stepping stones' to inform instruction and curriculum, 'next step' teaching
- Construct-related heuristics for LP revision of levels, descriptors
- nature of language learning progressions – what is the underlying construct? Language skill/proficiency/competence vs language learning/development?
- LP differ from standards-referenced performance descriptors as per proficiency/competency levels/scales

Development

- 'top-down' vs 'bottom-up' – theoretical/hypothetical vs empirical
- issue of upper anchors– what constitutes achievable, mature attainment?
- issue of 'messy middle' – single or multiple, unidirectional learning pathways?

Design principles and elements for learning progressions (Sikorski, 2019)

| <i>Principles</i> | <i>Elements</i> |
|--|--|
| <ol style="list-style-type: none">1. LPs are conjectures2. LPs are research based3. LPs are instructionally useful | <ol style="list-style-type: none">1. “Big” science ideas2. Interwoven dimensions3. Starting points4. Multiple pathways5. Upper reaches |

Key construct – ‘repertoires’

‘Linguistic repertoires’ (Zentella, 1997)

‘Repertoires of linguistic practice’ (Gumperz 1964, Gutierrez and Rogoff, 2003)

‘Communicative repertoires’ (Rhymes, 2010)

‘people’s usual way of doing things..., individual’s history of involvement in the practices of varied communities..’

... the structure and development of human psychological processes emerge through the participation in culturally-mediated, historically developing practical activity involving cultural practices and tools

...regularities [of] student’s participation in familiar cultural practices as well as .. their public school experiences that limit the use of the cultural resources that are part of their repertoires.’ (Gutierrez and Rogoff, 2003)

‘The total complex of linguistic resources available to speakers to use in different social contexts and within particular communities ..’

(D’Warte, 2014)

Key construct – ‘repertoires’

- ‘chunks’, ‘set pieces’
- repetition, practice, rehearsal, effort
- performances, audiences
- improvisation, versatility
- skill, competence, mastery
- genres, styles, artistry



‘Growth’ verbs

- *build, extend, expand, develop*
- *refine, perfect, polish*

Language acquisition = language repertoires

- *lexical* - 1-2 word → collocations, n-grams → multiple-word utterances
- *functional* – holophrases, formulaic/prefabricated speech → functional expressions, clusters → assembled speech
- *grammatical* - ‘verb islands’ → lexical phrases → phrase/ clause constructions/combinations → complex clauses
- *discursive* - ‘chunks’ → scripts, schemata → texts, genres, registers

Language progression as growth in language repertoires and language repertoire-building

Language repertoires and ecologies

practice ecologies

- language demands, affordances and constraints
- language use routines and supports (scaffolding)
- expanding language practice opportunities (discursive spaces)

'message abundance' Gibbons 2003

- multiple exposure (recycling)
- multiple expression (recasting)
- multi-modality

LANGUAGE PROGRESSIONS - COMMUNICATIVE REPERTOIRE FRAMEWORK

| COMMUNICATIVE REPERTOIRES | NATURE AND SCOPE | SPOKEN TEXTS | WRITTEN TEXTS | HYPOTHETICAL LANGUAGE PROGRESSION | | | | | | | | | | | | |
|---|--|---|---|--|-------------------------|------------------------|------------------------------------|--|------------------------------------|-------------------------|-------------------------------------|-------------------------------------|-------------------------------|--------------------|---|-----------|
| <p>INTERACTING & NEGOTIATING</p> | <p>Receptive and productive communication in home, school and community contexts whose primary purpose is to facilitate:</p> <ul style="list-style-type: none"> - social interaction through culturally appropriate, formal and informal <i>interpersonal language use</i>, and - cognitive processes through <i>intrapersonal language use</i>. <p>Repertoire includes social and self-regulatory spoken language functions of:</p> <ul style="list-style-type: none"> - greeting, addressing, introducing, apologising, interrupting, turn taking, leave taking, paraphrasing, elaborating, repairing, translating, trans-languaging, requesting, sharing, offering, suggesting, accepting, directing, coordinating, cooperating, collaborating and negotiating - focusing attention, recalling, problem-solving, correcting, deliberating, planning and reflecting. | <ul style="list-style-type: none"> • conversation, chat, gossip • telephone conversation • face book, live streaming • collaborative group work • service transactions • think aloud, self-talk, private speech | <ul style="list-style-type: none"> • text messages • emails • twitter • birthday cards | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"><i>other-regulation</i></td> <td style="width: 50%; vertical-align: top;"><i>self-regulation</i></td> </tr> <tr> <td style="vertical-align: top;">complex negotiation/ collaboration</td> <td style="vertical-align: top;">↑ reflection</td> </tr> <tr> <td style="vertical-align: top;">coordination/planning/ cooperation</td> <td style="vertical-align: top;">deliberation</td> </tr> <tr> <td style="vertical-align: top;">simple negotiation</td> <td style="vertical-align: top;">problem- solving</td> </tr> <tr> <td style="vertical-align: top;">topic maintenance/ transition</td> <td style="vertical-align: top;">recall</td> </tr> <tr> <td style="vertical-align: top;">turn taking, conversational openings/closings</td> <td style="vertical-align: top;">attention</td> </tr> </table> | <i>other-regulation</i> | <i>self-regulation</i> | complex negotiation/ collaboration | ↑ reflection | coordination/planning/ cooperation | deliberation | simple negotiation | problem- solving | topic maintenance/ transition | recall | turn taking, conversational openings/closings | attention |
| <i>other-regulation</i> | <i>self-regulation</i> | | | | | | | | | | | | | | | |
| complex negotiation/ collaboration | ↑ reflection | | | | | | | | | | | | | | | |
| coordination/planning/ cooperation | deliberation | | | | | | | | | | | | | | | |
| simple negotiation | problem- solving | | | | | | | | | | | | | | | |
| topic maintenance/ transition | recall | | | | | | | | | | | | | | | |
| turn taking, conversational openings/closings | attention | | | | | | | | | | | | | | | |
| <p>INQUIRING & INFORMING</p> | <p>Receptive and productive communication in home, school and community contexts whose primary purpose is to gain and provide factual information for immediate and remote participants through <i>informative language use</i>.</p> <p>Repertoire includes language functions of naming, labelling, classifying, describing a process, instructing, informing, warning, inviting, inquiring, interrogating, clarifying and questioning, describing and explaining natural phenomena, comparing and contrasting, reporting, expounding and summarising in spoken and written texts.</p> | <ul style="list-style-type: none"> • questions • quizzes, riddles • interviews • recounts of events • instructions, directions • sayings, proverbs • what/how/why explanations | <ul style="list-style-type: none"> • lists, menus, catalogues • signs, labels • invitations • notes • summaries • research questions, hypothesis • descriptive/classification report • wikis • news report, research report • historical recount, time lines • procedures, recipes • rules, principles • instructions and directions • what/how/why explanations • posters | <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">historical recounts</td> <td style="width: 50%; vertical-align: top;">↑</td> </tr> <tr> <td style="vertical-align: top;">sequential explanations</td> <td style="vertical-align: top;">factoral & consequential (causal) explanations</td> </tr> <tr> <td style="vertical-align: top;">instruction/procedures</td> <td style="vertical-align: top;">sequential explanations</td> </tr> <tr> <td style="vertical-align: top;">classification/ comparative reports</td> <td style="vertical-align: top;">classification/ comparative reports</td> </tr> <tr> <td style="vertical-align: top;">factual statements</td> <td style="vertical-align: top;">factual statements</td> </tr> </table> | historical recounts | ↑ | sequential explanations | factoral & consequential (causal) explanations | instruction/procedures | sequential explanations | classification/ comparative reports | classification/ comparative reports | factual statements | factual statements | | |
| historical recounts | ↑ | | | | | | | | | | | | | | | |
| sequential explanations | factoral & consequential (causal) explanations | | | | | | | | | | | | | | | |
| instruction/procedures | sequential explanations | | | | | | | | | | | | | | | |
| classification/ comparative reports | classification/ comparative reports | | | | | | | | | | | | | | | |
| factual statements | factual statements | | | | | | | | | | | | | | | |

LANGUAGE PROGRESSIONS - COMMUNICATIVE REPERTOIRE FRAMEWORK

| COMMUNICATIVE REPERTOIRES | NATURE AND SCOPE | SPOKEN TEXTS | WRITTEN TEXTS | HYPOTHETICAL LANGUAGE PROGRESSION |
|-----------------------------------|---|---|--|--|
| REASONING & PERSUADING | <p>Receptive and productive communication in home, school and community contexts whose primary purpose is to reason and persuade listeners, readers or viewers through <i>cogent language use</i> and evaluate its effectiveness.</p> <p>Repertoire includes language functions of defining, generalising, giving opinions, agreeing/disagreeing, reasoning, justifying, elaborating, clarifying, exemplifying, qualifying, arguing, rebutting, critiquing, deducing, hypothesising, reiterating, emphasising, summarising, concluding, discussing, debating, claiming, appealing, promoting, sloganeering and branding in spoken and written texts.</p> | <ul style="list-style-type: none"> statements, propositions exploratory talk discussions debates speeches slogans, catchphrases, jingles | <ul style="list-style-type: none"> blogs editorials essays reviews speeches advertisements brochures persuasive copy | <p>complex arguments (viewpoints + supporting ideas + reply to counter-arguments)</p> <p>simple arguments (opinions + supporting ideas)</p> <p>supported opinions (statement + reason)</p> <p>simple opinions</p> <p>discussion/debate (issue + perspectives + position)</p> <p>suasion (engagement + claim + support + appeal)</p> <p>exposition (thesis + arguments + reinforcement)</p> |
| RECOUNTING & NARRATING | <p>Receptive and productive communication in home, school and community contexts whose primary purpose is to engage listeners, readers or viewers in experiencing situations, characters, themes and feelings through <i>narrative language use</i> and enjoy being engaged in these narratives</p> <p>Repertoire includes language functions of recounting, sequencing, retelling, chronicling, summarising, thematising, narrating, commenting and appraising in dialogic, digital and multimodal spoken and written texts.</p> | <ul style="list-style-type: none"> personal recounts anecdotes retellings dialogue, role play, drama digital stories, multimodal texts | <ul style="list-style-type: none"> letters, postcards short stories novels, graphic novels news stories folk tales, fables, legends biographies, diaries case studies child /youth fiction picture books, cartoons, captions digital stories, multimodal texts | <p>serial event stories (factual recounts)</p> <p>observation stories (personal recounts)</p> <p>narrative evaluations</p> <p>literary narratives</p> <p>multi-stage narratives</p> <p>simple narratives</p> |
| PLAYING & CREATING | <p>Receptive and productive communication in home, school and community contexts whose primary purpose is to entertain through <i>and enjoy playful and creative language use</i> in relation to form, style, or aesthetic value.</p> <p>Repertoire includes language functions of joking, recounting, narrating, simulating, parodying, satirising, imagining and appraising in narrative, poetic, dialogic, digital and multimodal spoken and written texts.</p> | <ul style="list-style-type: none"> personal recounts pretend play, role play games songs, poems, rap jokes, word play, pun parody, satire | <ul style="list-style-type: none"> imaginative recount, narratives stories, narratives dialogue, drama scripts, screen play songs, lyrics, poems jokes, puns and riddles | <p>drama</p> <p>role plays, simulations</p> <p>games</p> <p>puns</p> <p>jokes</p> <p>riddles</p> <p>poems</p> <p>verse</p> <p>songs</p> |

Language progressions – key elements

- Milestones
- Phases
- Elaborations

Language progression architecture

Language progression

sequence of 8 milestones in
listening, speaking, reading, writing
in 4 **developmental phases**:
establishing, expanding, extending, enriching

Milestone

Elaboration

Communication

- *repertoires*
- *strategies*
 - *communication*
 - *learning*

'can do' descriptors

Cultural & language understanding

- *cultural*
- *language*

'can do' descriptors

Language encountered/produced

- *text*
- *grammar*
- *vocabulary*
- *phonology/grapho-phonics/orthography*

'can do' descriptors

Language progressions – milestones

- *‘Milestones in language development should represent the underlying construct of language development, including intertwined aspects such as speech, language and communication’* Margot et al. 2020
- Milestones describe the emergent significant, observable moments, events or behaviours in students’ language growth in each of the macroskills of listening, speaking reading and writing, which can be identified, tracked and instructionally supported by teachers.
- Each language milestone within the language progression identifies a key unit of language development in relation to communicative language use, contexts and characteristics
- Milestones reflect the developmental norms of the language progression and provide an alternative concept and language to that of performance levels, standards and outcome statements.

Phases of language learning & development

enriching language repertoires

Learners are engaged in self-directed efforts *refining and enriching their diverse repertoires* of language use across a wide range of familiar and unfamiliar communicative contexts through *enhanced language sophistication, effectiveness and creativity*.

extending language repertoires

Learners are engaged in *broadening or extending their repertoires* of language use across a range of familiar and unfamiliar communicative contexts through *improved language appropriateness, complexity and control*.

expanding language repertoires

Learners are engaged in building on and *expanding their basic repertoires* of language use in familiar communicative contexts through *increased language volume, accuracy and flexibility*.

establishing language repertoires

Learners are engaged in *establishing a basic repertoire* of language use in controlled communicative contexts through *building an essential foundation* for further language learning and development.

OVERVIEW OF LANGUAGE LEARNING MILESTONES – LISTENING PROGRESSION

| | MILESTONE 1 | MILESTONE 2 | MILESTONE 3 | MILESTONE 4 | MILESTONE 5 | MILESTONE 6 | MILESTONE 7 | MILESTONE 8 |
|------------------------------|---|--|---|---|---|---|--|---|
| LISTENING PROGRESSION | Learners tune into the sounds and meanings of supportive interlocutors' modified, learner-directed speech ¹ and overheard conversational exchanges | Learners respond to supportive interlocutors' accommodating speech and routine conversational exchanges with familiar speakers | Learners respond to short, predictable spoken texts on familiar topics in routine social and learning situations, showing cued literal understanding of referenced objects, states, events, relationships and ideas | Learners respond to predictable spoken texts on familiar topics in routine social and learning situations, showing global and specific understanding of referenced objects, states, events, relationships and ideas | Learners interpret extended spoken text types on familiar topics in social and learning contexts, showing cued inferential understanding of implied meaning and speaker purpose | Learners interpret extended spoken text types on familiar and unfamiliar topics in social and learning contexts, showing global and specific inferential understanding of implied meaning and speaker purpose | Learners interpret formal and informal spoken texts on new and unfamiliar topics in a range of contexts, applying cued critical understandings of speaker purpose, message appropriateness and effectiveness | Learners interpret formal and informal spoken texts on new and unfamiliar topics in a wide range of contexts, independently enhancing critical understandings of speaker purpose, message appropriateness and effectiveness |
| Phases | <i>establishing listening repertoires</i> | | <i>expanding listening repertoires</i> | | <i>extending listening repertoires</i> | | <i>enriching listening repertoires</i> | |

OVERVIEW OF LANGUAGE LEARNING MILESTONES - SPEAKING PROGRESSION

| | MILESTONE 1 | MILESTONE 2 | MILESTONE 3 | MILESTONE 4 | MILESTONE 5 | MILESTONE 6 | MILESTONE 7 | MILESTONE 8 |
|-----------------------------|---|--|---|---|--|---|--|---|
| SPEAKING PROGRESSION | Learners interact with supportive interlocutors in routine conversational exchanges ² to communicate needs, thoughts and feelings through gestures, formulaic speech and one/two word utterances | Learners interact with supportive interlocutors in routine conversational exchanges to communicate needs, thoughts and feelings through multi-word utterances comprising gestures, formulaic speech and simple language patterns | Learners sustain spoken communication about shared events, ideas and experiences with familiar participants in routine social and learning situations through novel multi-clause utterances comprising rehearsed and spontaneous speech | Learners sustain appropriate, coherent spoken communication about shared events, ideas and experiences with familiar participants in routine social and learning situations through rehearsed and spontaneous speech incorporating novel complex clause constructions | Learners communicate with familiar and unfamiliar participants for a range of purposes, using basic spoken text types with some fluency, flexibility, appropriateness and control over language and register | Learners communicate with diverse participants for a range of purposes, using extended spoken text types that show developing fluency, appropriateness and versatility of language and register | Learners communicate widely using formal and informal spoken registers appropriately, tailoring content, language, and rhetorical strategies to engage participants' attention, expectations and interests | Learners communicate widely and appropriately using formal and informal spoken registers, independently enhancing the engagement, expression, and effectiveness of speech produced under different conditions |
| Phases | <i>establishing speaking repertoires</i> | | <i>expanding speaking repertoires</i> | | <i>extending speaking repertoires</i> | | <i>enriching speaking repertoires</i> | |

¹ For Arabic listening and speaking, everyday social communication focuses on the relevant Arabic home dialect in milestones 1-4 and transition to diglossic communication involving Modern Standard Arabic in milestones 5-8.

OVERVIEW OF LANGUAGE LEARNING MILESTONES – *READING PROGRESSION*

| | <i>MILESTONE 1</i> | <i>MILESTONE 2</i> | <i>MILESTONE 3</i> | <i>MILESTONE 4</i> | <i>MILESTONE 5</i> | <i>MILESTONE 6</i> | <i>MILESTONE 7</i> | <i>MILESTONE 8</i> |
|----------------------------|---|--|---|--|--|--|---|---|
| READING PROGRESSION | Learners decode short simple environmental print or learner/teacher-created texts about topics of personal interest, recognising some letters, numbers, symbols, strokes or characters ¹ | Learners decode short simple environmental or class-created texts about topics of personal interest, recognising common sight words, symbol/sound relations and basic text conventions | Learners draw assisted literal meaning from short predictable texts about familiar topics, developing fluent recognition of key words and their graphic, phonetic and semantic features, with understanding of text purpose | Learners draw global and local meanings from predictable texts about unfamiliar topics, applying text cueing and reading strategies to identify main ideas and locate specific information | Learners make assisted inferences from extended text types in print, visual and electronic modes, cueing into basic text and schematic structures and drawing on cultural knowledge and experience | Learners make key inferences from a variety of extended text types in print, visual and electronic modes, integrating text cueing processes with cultural knowledge and experience | Learners engage in extensive reading of personal interest and culturally valued literary texts, developing critical understandings of how writer-reader relations shape textual meaning | Learners independently pursue extensive reading of personal interest and culturally valued literary texts, learning and appreciating new perspectives, information, language and genres |
| <i>Phases</i> | <i>establishing reading repertoires</i> | | <i>expanding reading repertoires</i> | | <i>extending reading repertoires</i> | | <i>enriching reading repertoires</i> | |

OVERVIEW OF LANGUAGE LEARNING MILESTONES – *WRITING PROGRESSION*

| | <i>MILESTONE 1</i> | <i>MILESTONE 2</i> | <i>MILESTONE 3</i> | <i>MILESTONE 4</i> | <i>MILESTONE 5</i> | <i>MILESTONE 6</i> | <i>MILESTONE 7</i> | <i>MILESTONE 8</i> |
|----------------------------|--|--|--|--|---|---|---|--|
| WRITING PROGRESSION | Learners communicate simply through drawings, symbols or manual or keyboard reproduction of letters, numbers, words, strokes or characters | Learners communicate simply through short simple texts comprising copied words or phrases based on spoken repertoire | Learners communicate ideas, events, experiences for specific purposes and familiar audiences through short formulaic texts based on spoken and modeled language showing some basic writing conventions | Learners communicate ideas, events, experiences for specific purposes and familiar audiences through coherent formulaic texts with sentence structures that reflect spoken and written language features | Learners write about familiar topics for real and imagined audiences using basic written text types with some flexibility and control over culture specific registers, expression, cohesion and writing conventions | Learners write about a variety of topics for real and imagined audiences using extended written text types with growing versatility and control over culture specific registers, expression, cohesion and writing conventions | Learners compose culturally valued texts for a range of audiences and purposes, evaluating and developing readability, engagement and impact for intended readers | Learners independently compose a variety of culturally engaging texts for diverse audiences and purposes, reflecting growing confidence, sophistication and creativity of expression, personal voice and style |
| <i>Phases</i> | <i>establishing writing repertoires</i> | | <i>expanding writing repertoires</i> | | <i>extending writing repertoires</i> | | <i>enriching writing repertoires</i> | |

¹ Includes developing reading and writing of Romanised and non-Romanised script systems and two-way transcriptions (e.g. pinyin- Hanzi for Chinese) using international keyboard within reading and writing milestones 1- 6

Language progressions – Elaborations

- Each milestone is “unpacked” in a one page elaboration which details observable ‘can do’ descriptors of language use in the dimensions of:
 - *communication* (*repertoires & strategies [communication, learning]*)
 - *cultural and language understanding*
 - *language encountered* (*text, grammar, vocabulary, phonology*) - **listening**
 - *language produced* (*text, grammar, vocabulary, phonology*) - **speaking**
 - *language encountered* (*text, grammar, vocabulary, grapho-phonics*) - **reading**
 - *language produced* (*text, grammar, vocabulary, orthography*) - **writing**
- Elaborations will be accompanied with language-specific student work samples.

LANGUAGE MODE

SPEAKING

LANGUAGE DEVELOPMENT PHASE

Establishing speaking repertoires

SPEAKING MILESTONE 2

Learners interact with supportive interlocutors in routine conversational exchanges to communicate needs, thoughts and feelings through multi-word utterances comprising gestures, formulaic speech and simple language patterns

RELATED TOPIC CONTENT & CONCEPTS

Communication Repertoires

- participate in routine interactions with parents/grandparents/teachers/peers, e.g. by initiating, suggesting, agreeing, disagreeing, requesting assistance
- make simple direct requests or express basic needs using learned formulas or sentence patterns, e.g. 'give me', 'drink, please?', 'It's home time, go now?'
- express feelings and reactions, e.g. very happy, exciting, boring, wow, yahoo!
- give some short response basic information about self, e.g. name, age, family details, likes/dislikes
- describe own actions while performing them, e.g. 'I am baking a cake'
- describe routine shared activities, e.g. what they are doing, ask and answer simple questions
- elicit and describe object/people location and change, e.g. 'x going down', 'x gone'
- describe/identify people, places and things using simple vocabulary for colour/size/place/location/time
- talk about pictures, identifying basic items of information, e.g. names of people or animals, feelings, colours, sizes.
- express likes, dislikes and preferences
- state simple opinions and ideas
- chime in on familiar rhymes and chants, songs and stories
- join in simple exchanges or dialogue in pretend role play

Strategies

- use limited language repertoire to communicate in different contexts, e.g. 'Go home Miss.' to mean 'May I go home?' or 'He's gone home.'
- use gestures and facial expressions to enhance meaning
- repeat interlocutor's words or use response markers to signal acknowledgement, interest, agreement
- show willingness to speak
- ask what a word means, elicit names of objects,
- use words learned from word sets in speech, e.g. colours, numbers, days of the week
- use simple language patterns to create novel utterances, e.g. 'We go to sport on Monday', 'We go to Art on Tuesday', 'We go to beach on Saturday'

Cultural and language understanding

- use conventional social formulas appropriately, e.g. please, thank you, may I?
- use appropriate forms of address when speaking to elders, peers, e.g. kinship terms instead of pronouns
- know that some words, gestures or intonation are inappropriate in certain contexts
- enhance meaning of own spoken texts with appropriate gestures and facial expression
- know when it is appropriate to speak or listen during class interaction
- use sentence patterns from other language to communicate ideas, e.g. 'the house white', 'I very like swimming'
- transfer some simple language structures to other contexts, e.g. I like bananas. I like soccer

Phonology

- imitate pronunciation, stress, intonation, word tones or familiar repetitive patterns accurately
- use stress or intonation appropriately in simple utterances, e.g. use rising intonation when asking simple questions, stress key words in short utterances
- use stress to enhance the meaning of utterances in context, e.g. my pen?/my pen!/my pen

Language produced

Text

- simple statements, questions, instructions, requests and commands
- sustained spoken exchanges, conversational episodes
- holo-phrases, formulas, formulaic sequences
- simple conjunctions joining ideas, e.g. and, but

Grammar

- simple SVO pattern with direct object, largely using present tense, e.g. 'we play ball'
- subject/verb/object pronoun patterns, e.g. John saw her. She saw John.
- word final stress to convey new information, e.g. 'She saw John.'
- simple clause patterns with action verbs and adverbial phrase, e.g. 'get down floor'
- simple clause patterns with relating verbs and adverbial phrase, e.g. 'He sick today',
- simple clause pattern with sensing verbs, e.g. - experiencer/phenomenon-'I like dogs,' 'I saw a cat'
- verbs or particles marking present and completed action
- noun groups with two qualifiers, e.g. 'big, blue truck', 'my favourite toy'
- noun groups with large quantifiers, e.g. 'three hundred dollars'
- two-three word adjectival phrases to describe or add emphasis, e.g. 'very hot', 'beautiful picture'
- personal and possessive pronouns, eg. I, me, mine, you, yours, they, them, theirs
- common locational prepositions, e.g. in, on, at, near, up, down
- yes/no questions - declarative with rising tone, e.g. 'sit here?'
- 'wh' interrogatives - who, what, where, when, why
- negation marker, 'no' or 'not' e.g. no like, not go, no hot, not me, no play

Vocabulary

- common words relating to familiar class routines, people, experiences and interests
- words from word sets related to immediate communicative need, interest or experience, e.g. family, school, colours, numbers, days, months
- common descriptive words, colours, size, attributes, feelings - e.g. hot, big, nice

Spoken texts

interactive

- statements, questions
- commands, exclamations
- home, class routines
- triadic classroom dialogue, IRF

informative

- factual, deictic statements
- questions

persuasive

- opinion statements

narrative

- rhymes
- songs

imaginative

- role play

LANGUAGE MODE
READING

LANGUAGE DEVELOPMENT PHASE
Establishing reading repertoires

READING MILESTONE 2
Learners decode short simple environmental or class-created texts about topics of personal interest, recognising common sight words, symbol/sound relations and basic text conventions

RELATED TOPIC CONTENT & CONCEPTS

Communication Repertoires

- Show response to new texts e.g. read along with repetitive sections
- Join in choral 'reading' of repetitive phrases in a story
- Read text by phrasing two words at a time with some attention to expression
- Attempt to read familiar and some simple unfamiliar texts using knowledge of symbol/sound relationships
- Identifies role of the author and illustrator of a text
- Link two explicit ideas in a text e.g. action and result
- Express an opinion but may not always be able to justify it
- Predict what might happen in a text
- Identify features that have personal appeal e.g. favourite character, favourite words or phrases
- Retell simple stories read in class
- Select and retell a memorable event from a story
- Maintain the storyline when 'reading' familiar texts although a limited number of words are read accurately
- Understand how people/characters are represented in texts and justify opinion e.g. the cat is greedy. How do you know?
- Talk about the way different people or characters are represented in a text eg the animal in this story is greedy

Strategies

- Read back the same way consistently their own writing or own simple sentences scribed by another
- Orally blend and segment words with two and three syllables e.g. fam-i-ly
- Consistently identify the first phoneme in a word
- Sub-vocalise unfamiliar words when reading
- Ask questions and use visual cues to gain meaning from text eg letter, shape in word, cues from pictures
- Break words into parts apply knowledge of reading in target language to new texts eg topic knowledge, sentence patterns, sound-symbol relationships
- Develop a small bank of common sight words
- Use limited range of strategies to comprehend eg predicting, comparing
- Determine unknown words by using word-identification strategies eg predicting, using letters, pictures

Cultural & language understanding

- Demonstrate understanding that print remains constant eg transfers knowledge of familiar words from one context to another
- With assistance locate and select texts appropriate to purpose or interest
- Begin to see themselves as readers and display confidence in reading
- Begin to show self-reflection of strategies used in reading

Grapho-phonics (decoding)

- Identify some letters of the alphabet or character strokes by name or sound
- Identify purpose of different simple punctuation conventions eg full stop, comma, question mark
- Build phonological and grapho-phonics awareness by segmenting words into sounds, linking letters/strokes with their regular sounds

Language encountered

Text content

- Short, simple texts
- Repetitive modeled sentences in texts
- Content presented from a single perspective
- Simply stated facts or information

Text layout

- simple bilingual classroom texts/resources, e.g. word memory cards, picture dictionary
- texts two-three sentences in length

Text structure

- simple statements, captions and instructions
- images support meaning

Grammar

- subject/verb/object pronoun patterns e.g. Marta saw him. He saw Marta.
- simple sentence patterns with sensing verbs e.g. I like ice-cream,
- simple sentence patters with action verbs e.g. Horses eat hay.
- simple sentence patterns with relating verbs e.g. I am 7 years old; I have two sisters
- verbs or particles marking present and completed action eg is walking, had eaten
- noun groups with two descriptors e.g. large, big ball
- noun groups with large quantifiers e.g. A hundred years
- personal and possessive pronouns e.g. I, me ,mine, you, yours, they, them, theirs
- common locational prepositions e.g. in, on, at, near, up, down
- simple conjunctions e.g. and, but
- negation marker e.g. not
- negation marker with contraction e.g. 'don't', isn't

Vocabulary

- bank of known words of personal significance in different contexts eg relating to family, friends, everyday activities, familiar class routines,
- common action collocations, e.g. go home, eat lunch, play game
- words from word sets related to immediate communicative need, interest or experience, e.g. family, school, colours, numbers, days, months
- common descriptive words, colours, size, attributes, feelings – e.g. hot, big, nice
- high frequency words that can be used as language play eg rhyming words
- mainly generic words eg cut rather than slice

Written texts

| | | | | |
|--|---|---|---|--|
| interactive | informative | persuasive | narrative | Imaginative |
| <ul style="list-style-type: none"> text messages cards e.g. birthday card bilingual captions letters | <ul style="list-style-type: none"> signs, labels simple descriptions, procedures simple recounts | <ul style="list-style-type: none"> posters | <ul style="list-style-type: none"> picture book text captions simple rhyming poem simple readers theatre with repetitive parts | <ul style="list-style-type: none"> |

Language progressions - preliminary design frameworks

1. Communicative repertoires
2. Language development models
3. Text reading complexity

Reviewing language assessment frameworks

Foreign language assessment documents

- Common European Framework of Reference for Languages

Language curriculum documents

- ACARA Language syllabuses
- NSW syllabuses

Second language assessment documents

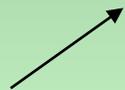
- ESL Scales
- ACARA EAL/D Learning Progression
- K-6 ESL Steps
- Victorian EAL Curriculum
- EAL/D Progress Map

Language progression

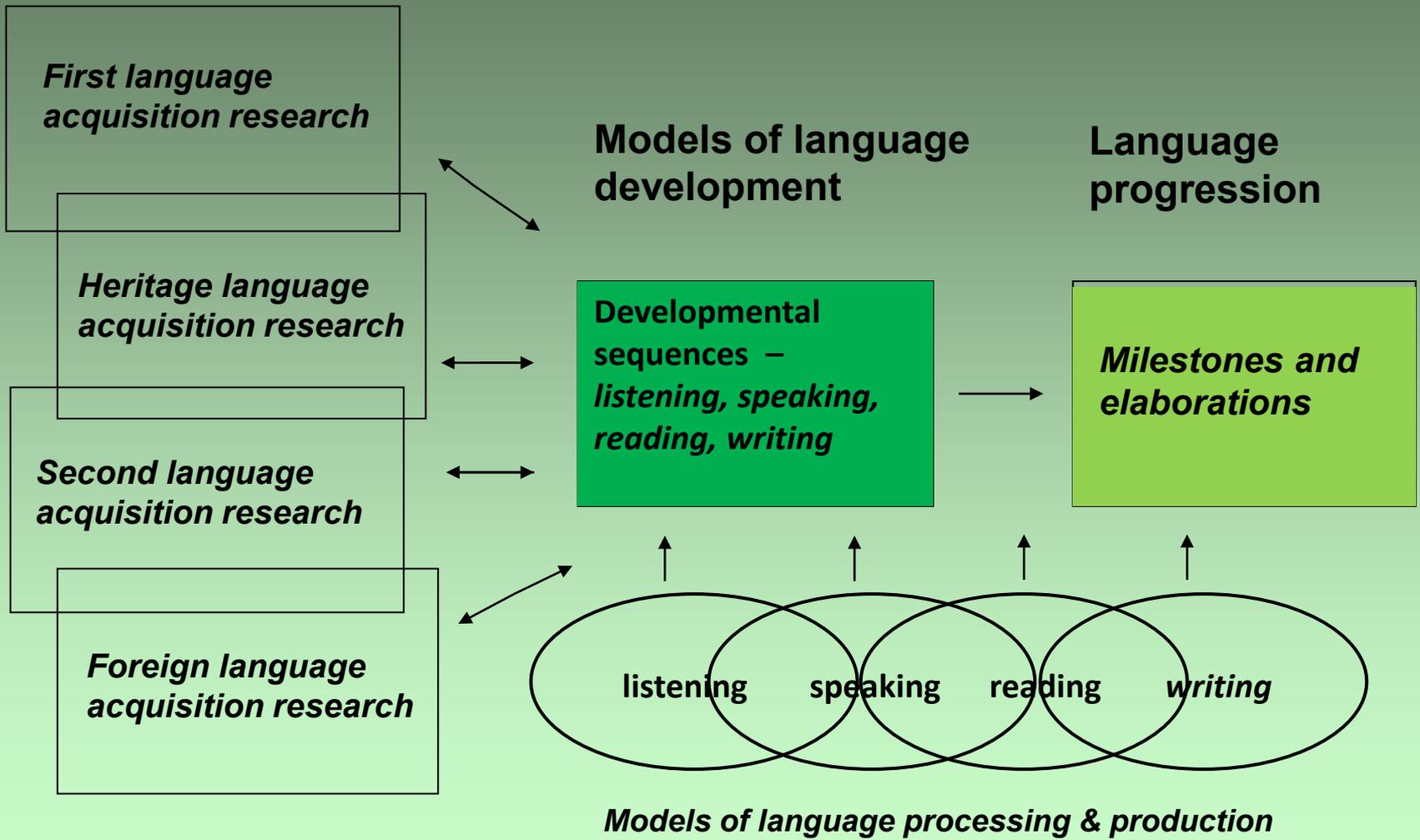
Language milestones & elaborations

Literacy assessment documents

- ACARA National Literacy Learning Progression
- NSW English syllabus



Synthesising and applying the research



DEVELOPMENTAL LANGUAGE PROGRESSION MODEL – EARLY YEARS SPEAKING

Draft 15/10/20

| | ESTABLISHING LANGUAGE REPERTOIRES | | EXPANDING LANGUAGE REPERTOIRES | | EXTENDING LANGUAGE REPERTOIRES | |
|---|---|---|--|---|---|---|
| | Milestone 1 | Milestone 2 | Milestone 3 | Milestone 4 | Milestone 5 | Milestone 6 |
| COMMUNICATION CONTEXTS | Child - parent dialogue within routine, shared home activity, eg. mealtimes, dressing, play | | Child - parent/teacher/peer interaction within familiar, shared home and school activities, eg. mealtimes, play, interests, classroom, reading | | Child - adult/peer interaction in regular home, school and community activities, eg. hobbies, sport, entertainment, classroom, media | |
| KEY PHASE MARKERS (hallmarks) | <ul style="list-style-type: none"> immediate, context-bound meanings in shared activity rudimentary reference to objects, states, events, relationships same words used to express different functions single words, single word sequences holo-phrases and formulas growth from one/two word utterances to multiword utterances emergence of grammatical structure time expressed pragmatically, eg. by inference, order | | <ul style="list-style-type: none"> attempted communication of shared objects, states, events, relationships beyond immediate, shared activity, reference to past and future events diversification of functions associated with control of activity appropriated ready-made speech, telegraphic speech semantic and grammatical development within clause complexity growth from single to two clause utterances basic spoken text repertoires time expressed lexically, eg. adverbs, verbs, days, connectives | | <ul style="list-style-type: none"> communication beyond the 'here and now' of present activity extended repertoire of major speech acts/language functions communicating hypothetical events and formulating alternative actions de/reconstruction of ready-made speech, creative speech production of sustained, cohesive spoken texts awareness of register variations, speaker roles, status relations differentiated expression of events time frames, past /future references extended spoken text repertoires, text compacting, cohesion time expressed morphologically, eg. verb tense, aspect | |
| WORD LEVEL (vocabulary, word inflections) | <ul style="list-style-type: none"> common, high frequency words for everyday objects, events, relationships gestures compensating for lack of fluency | <ul style="list-style-type: none"> common, high frequency words for everyday objects, events, relationships high frequency, general purpose verbs – go, do, give, put, make, get, awareness of word classes word-gesture combinations–deictics | <ul style="list-style-type: none"> key words for topic-specific objects, events, states, relationships noun, verb inflections, plural -s, -ing verbs of saying and thinking, mental states - listen, know | <ul style="list-style-type: none"> Key words for topic-specific objects, events, states, relationships noun, verb inflections, plural -s, -ing auxiliary verbs - do, can, will (expressing ability, requesting permission) | <ul style="list-style-type: none"> word webs for topic specific objects, events, states, relationships auxiliary verbs - do, can, will (expressing ability, requesting permission) lexical time markers, verb tense | <ul style="list-style-type: none"> word webs for objects, events, states, relationships specialised vocabulary for specific domains basic vocab of several thousand words (?) |
| UTTERANCE LEVEL (phrases, clauses) | <ul style="list-style-type: none"> single words calling attention (rising tone), directing attention 'look' (falling tone), wanting object or service (rising tone) 2 word combinations, requests, describing object/location/ action/ possession, negating state of affairs rudimentary statements (actor/action) question form – declarative word order, 'rising tone direct requests – imperatives, 'more X' object/people location absent/disappearing object/people 'daddy gone' completed action – 'finish', 'all gone' object possession deictics - here, there, this, that holophrases – 'wassat'? early formulas - 'all broke', 'all finish', 'all gone', 'more sing', 'more toast', 'more read' two word contour fluency | <ul style="list-style-type: none"> range of two word utterances types - subject + verb (agent/action), subject+ object (agent/object), verb+ object (action/object) agent/action. action/object, object /quality, possession/object two word (noun) phrases – a man, man's fire (prep adv) down there transitive/intransitive verbs, use of pro word 'do' questions, where/what + object questions (rising tone) seeking explicit yes/no response question form – declarative word order, rising tone direct requests - questions, imperatives questions to elicit names of objects naming things, attributes simple attributes – 'hot', 'big', 'nice' polite request forms - 'please' expressing changing people/objects object location – 'x going up', 'going down' repetition of interlocutor's words to signal acknowledgement, interest, agreement, uptake, verbal play word final stress for new information | <ul style="list-style-type: none"> longer utterances, two clause structure, explicit argument structure canonical word order, SVO, SOV, OSV, OSV, VSO, direct/indirect object 3 word utterance constituent structure – expressing two events – 'hand sore water', without connectives coordinate, subordinate clauses clauses linked by 'and', 'because', 'to' 'verb island' expansions - 'spill it'+ agent + object verb aspect express completed action, continuing state/ongoing status of events – verb + ing question forms – declarative word order, 'wh' fronted, formulaic interrogative frame conventional direct requests, + 'please.' noun phrase – prep+ article + noun 'in the basket' direct and indirect objects elaborated expression of wants describing objects, phenomena recounting an experience negotiating/resolving conflict role playing asking for/giving explanations, justifying abbreviated answers to teacher Qs | <ul style="list-style-type: none"> argument roles – agent, recipient, location, instrument, theme complex sentences, embedded clauses, relative clauses qualification of noun phrase by a relative phrase/clause – where's the pen that pappa gave me? verb aspect markers distinguishing event types – non/completed action complements to psychological verbs – 'I know that you are there' integration of auxiliary verb into clause structure interrogative, negative utterances question forms – inversion in yes/no Qs, declarative word order in 'wh' additional interrogative frames negotiating/resolving conflict role play directives story retelling conventional indirect requests, 'can you.?' requesting permission (direct and indirect) politeness conventions - address describing/reporting giving explanation (in response to why) requesting explanation – why qs full answers to teacher display questions | <ul style="list-style-type: none"> repertoire of within-clause elaborations and clause combinations distinctions between given/new information – clause final stress providing information extended noun groups cohesive links, pronoun reference, lexical (pro-verb do), ellipsis conjunctions (so) passive-like constructions, 'be X', 'do X' reference to particular times – 'before dinner', 'when daddy comes home', 'until bedtime' asking/answering questions question forms – inversion in all Qs except negatives indirect requests (status difference), politeness softeners/mitigation suggesting, offering, stating intentions expressing feelings/attitudes describing/reporting/explaining role play directives narrating, connecting events to cause and results elaborate identification of references in stories direct speech expressing actual contingency negotiating/resolving conflict role play directives persuading – offer, appeal, bargain | <ul style="list-style-type: none"> conditional/hypothetical statements, threatening, coordinating - 'I got to do, you got to do' aspectual distinctions – <i>habitual</i>, 'daddy's always late for dinner'; <i>repetitive</i>, 'he kept on banging the door'; <i>inceptive</i>, 'the snow's beginning to melt' early passive voice asking about others' feelings/ attitudes question forms – inversion generalised to embedded Qs non-conventional indirect requests pre-mitigation expression, delayed request describing/reporting/explaining narrating a story indirect speech expressing hypothetical contingency negotiating/resolving conflict role play directives adult register/pitch/voice modifications in play modality – possibility, obligation, qualification persuading – offer, appeal, bargain, guarantee |
| TEXT LEVEL (whole texts) | <ul style="list-style-type: none"> single word sequences formulas, formulaic sequences single to multiple, dyadic conversational exchanges | <ul style="list-style-type: none"> dyadic conversational episodes formulas, formulaic sequences sustained, collaborative dialogue | <ul style="list-style-type: none"> sustained, collaborative dialogue classroom triadic dialogue single event story turn descriptions explanations | <ul style="list-style-type: none"> sustained collaborative dialogue classroom triadic dialogue class sharing/news/reporting serial event recount stories observation stories descriptive reports procedures | <ul style="list-style-type: none"> sustained collaborative dialogue classroom triadic dialogue class group work, role play class sharing/news/reporting serial event recount stories observation stories simple narrative stories event reports, sequential explanation simple arguments | <ul style="list-style-type: none"> sustained collaborative dialogue classroom triadic dialogue class group work, role play class sharing/news/reporting serial event recount stories observation stories simple narrative stories classification/comparative reports causal explanations, sustained arguments |

TEXT READING COMPLEXITY FRAMEWORK

(adapted from text complexity appendix, 2020 ACARA National Literacy Learning Progression)

| ASPECTS | SIMPLE TEXTS <i>Establishing reading repertoires</i> | PREDICTABLE TEXTS <i>Expanding reading repertoires</i> | COMPLEX TEXTS <i>Extending reading repertoires</i> | SOPHISTICATED TEXTS <i>Enriching reading repertoires</i> |
|----------------------|---|--|--|--|
| DESCRIPTION | Short learner/teacher-created or environmental texts communicating a simple message about objects, people, actions and relationships reflecting learners' personal knowledge, interest or experience | Short patterned and predictable authentic or modified/controlled classroom-based factual and imaginative texts requiring literal reading of explicitly communicated ideas, information and actions relating to learners' personal knowledge, interest or experience | Elaborated, conventional, multi-component, informative, persuasive and imaginative texts, including multimodal texts, requiring literal and inferential reading of directly/indirectly communicated ideas, information and worlds engaging and enlarging learners' personal knowledge, interests and experience | Authentic, complex, multi-faceted, informational and culturally valued literary texts, including multimodal texts, requiring inferential and critical reading and appreciation of directly and indirectly communicated ideas, information, worlds, genres, styles and sentiments beyond learners' present knowledge, interests and experience |
| TEXT EXAMPLES | <ul style="list-style-type: none"> • learner drawings with captions • picture books with captions • simple recounts, narratives, procedures, descriptions • logos, brand names, slogans • labels, signs, lists • cards, class posters • notes | <ul style="list-style-type: none"> • learner-created texts, digital stories • picture books with subtext • formulaic recounts, narratives, procedures, descriptions • classroom rules, wall displays • story board, comic strip, speech bubbles • pattern poems, scripted dialogue • occasion cards - birthday/thanks/festivals/invitations • question-answer jokes, puns • text messages, letters, flyers | <ul style="list-style-type: none"> • conventional recounts, narratives, procedures, summaries, reports • short stories, myths, legends, fairy/folk tales, fables, biographies • poems, role play/drama scripts, speeches • personal journals, letters • culturally-valued texts • persuasive, promotional texts, advertisements • personal literature responses, reviews • blogs, webpages, info-graphics • digital stories, powerpoint presentations | <ul style="list-style-type: none"> • novels, novellas, graphic novels • drama, film, documentary scripts • poetry collections, anthologies • literary essays, letters, journals, reviews, speeches • technical, scientific descriptions explanations • historical accounts, biographies, narratives, explanations • classic and sacred texts • high level texts using culturally-valued rhetorical structures • digital stories, powerpoint presentations • advertisements, infomercials |
| TEXT CONTENT | <ul style="list-style-type: none"> • ideas close to children's experience • content presented from a single perspective • realistic characters, settings and events • simply stated facts or information • images illustrate meaning of text | <ul style="list-style-type: none"> • purpose or main idea is explicit and clear from early in the text • one or two literal ideas identified • explicit connection between ideas • simple plot • imaginary characters, events (e.g. some containing humour) | <ul style="list-style-type: none"> • ideas or information clearly presented and explained • topics or ideas presented with significant details or elaboration • some abstract concepts • discipline-specific content • images enhance, supplement or extend meaning of text • some implicit meanings to be inferred throughout the text (e.g. intertextual references implicit or inferred meaning, levels of meaning) • some implicit or subtle connections between events or ideas • prior or cultural knowledge may be required to understand content (e.g. some understanding of insects to read texts on butterflies) • obvious inter-textual references (e.g. fairy tales) • simple elements of fantasy (e.g. anthropomorphic characters) • complex characters, multiple characters | <ul style="list-style-type: none"> • the purpose of the text may be difficult to determine or deliberately disguised • main idea or message may need to be inferred • main idea may be represented through multiple perspectives • complex abstract concepts, well-developed, synthesised ideas • some subtle connection of ideas, inferences or implicit ideas • ideas can be challenging, unconventional with levels of inferred meaning • several levels of inferred meaning conveyed through highly sophisticated literary devices • complex issues/themes (e.g. the problems of society such as racism) • Ideas re-contextualised for different times, modes, media and cultures • extensive, intricate, essential integrated graphics, tables, charts, etc. necessary to make meaning of a text • topics or ideas may be drawn from a range of sources • extensive descriptive detail, non-literal descriptive details appropriate to the purpose and audience • clear and sustained authorial position or voice • author's position may be disguised or subsumed • sophisticated satire, irony and humour • cultural, historical or literary references • relationships among characters are complex and often embedded • critical thinking required to judge authenticity of informative texts |
| TEXT LAYOUT | <ul style="list-style-type: none"> • text length from single word to a number of sentences • learner's handwriting, not necessarily legible, unconventional/invented spelling • print font mostly large and clear • occasional bolding of text, some labels • illustrations/images engaging, simple and provide visual support • title author, illustrator on front cover title page • digital texts navigable by icons with concise words to describe (e.g. print and colour, food animals) | <ul style="list-style-type: none"> • text length from sentences to paragraphs - read in one sitting • some print in speech or thought bubbles • words with varying font sizes, colour and shape, bolding and italics, learner handwriting • simple table of content, author dedication • images in a variety of forms, labels, captions, maps, photographs, animations • digital texts navigable by a combination of text, icons • digital texts that contain multiple pathways to navigate the same 'page', some use of sidebar navigation | <ul style="list-style-type: none"> • texts of variable length (e.g. chapter books, long illustrated texts, picture books) • texts in a wide variety of forms (e.g. webpages, podcasts) • digital texts containing multiple 'pages' and links with multimodal content • sidebar and breadcrumb navigation • special features that make the text interactive (e.g. flaps, buttons, sound) • acknowledgements, authors notes, index • reference list or bibliography | <ul style="list-style-type: none"> • texts of variable length with some unusual features • extended digital texts with unusual layouts and features • less predictable navigation pathways • visuals that refine or subvert meaning • visual and audio features that add subtlety to text meaning • complex visual and audio features, including an ensemble of print, image, sound and animation • footnotes, endnotes, references bibliography and index |

TEXT READING COMPLEXITY FRAMEWORK

(adapted from text complexity appendix, 2020 ACARA National Literacy Learning Progression)

| ASPECTS | SIMPLE TEXTS <i>Establishing reading repertoires</i> | PREDICTABLE TEXTS <i>Expanding reading repertoires</i> | COMPLEX TEXTS <i>Extending reading repertoires</i> | SOPHISTICATED TEXTS <i>Enriching reading repertoires</i> |
|-----------------------|--|---|---|--|
| TEXT STRUCTURE | <ul style="list-style-type: none"> • simple statement • simple cause and effect relationships • images support meaning | <ul style="list-style-type: none"> • clear text purpose • repeated or cumulative patterns • simple chronological patterns • structure is familiar and consistent with typical structure for the type of text • clear signals and transitions to lead the reader through a story, process or set of concepts • little demand on a reader to reference forward or backward to comprehend the text | <ul style="list-style-type: none"> • text type related to specific learning area (e.g. narrative, report, and evaluative response) • follows a predictable structure (e.g. a persuasive text that opens with a statement of position) • identifiable text staging • structural features enhance meaning and impact • explicit signposting using organizational markers such as paragraphs • clearly signaled deviations from predictable structures • explicit and clear connections between parts of the text • clear, logical constructs (e.g. cause and effect relationships or chronological relationships) | <ul style="list-style-type: none"> • may have more than one organizational pattern in a text (e.g. conceptual methodological), hybrid texts • may involve subversion of structural features • may include unique structural elements (e.g. narrative may include concurrent storylines and shifts in time) • complex reading paths (e.g. in an extended academic text) • sophisticated cohesive devices (e.g. class – subclass pattern) • a broader range of lexical cohesion (e.g. through synonyms) • intertextuality through appropriated structure and style • includes citations |
| LANGUAGE | <ul style="list-style-type: none"> • mainly short sentences:3-10 words in length • simple past tense or simple present tense • simple adverbial phrases of place, time (e.g. in the playground, before lunch) • a few simple contractions and possessives • sentences that are questions • simple punctuation marks (e.g. full stop, exclamation mark, comma) • simple rhythm in language | <ul style="list-style-type: none"> • mainly simple, predictable sentences • some compound sentences • repetitive, formulaic phrases or clauses • a range of explicit cohesive devices including pronouns, determiners and temporal connectives • adverbs and prepositional phrases for circumstantial details • simple dialogue with the speaker clearly assigned | <ul style="list-style-type: none"> • a range of sentences including complex sentences with dependent clauses • a range of declarative, imperative and interrogative sentences • longer passages of detailed description • conditional/concessional cohesive devices (e.g. although, instead, compare to) • extended noun groups – nominalization (e.g. forces of attraction and repulsion) • tense varied within the text, active and passive voice • modal language used to express degree of possibility, probability, obligation and permission • some poetic language (e.g. onomatopoeia, alliteration, rhyme) • literary devices (e.g. sarcasm, irony) • rhetorical patterns (e.g. It is accepted that...) • standard punctuation | <ul style="list-style-type: none"> • complex multi-clause sentences as appropriate • text may include multiple voices • dense language with extensive nominalization • extensive noun groups (e.g. the unexpected reaction to the presence of an acid indicates...) • lexical cohesion across the text (herbivore, nocturnal, tree-dwelling) • range of tenses used across the text • subtle evaluative language reflecting author viewpoint • more subtle modal language • rhetorical devices (e.g. metaphor, hyperbole, rhetorical questions) • language devices including analogy, satire and irony, symbolism • modal nouns (e.g. assumption) (?) • complex punctuation used for effect (e.g. clause separation) |
| VOCABULARY | <ul style="list-style-type: none"> • names of familiar people, places things • common adjectives(e.g. red, big happy) • mainly generic words (e.g. cut rather than slice) • words used reflect the most common and literal meaning of the words (e.g. sound meaning ‘noise’) • a few interesting words that may be new, but are easy to understand and are well supported within the text • high frequency words • words that can be used as language play (e.g. rhyming words, nonsense words) | <ul style="list-style-type: none"> • large stock of high frequency words • some learning area-specific vocabulary • meaning of new or less familiar words supported through context cues • synonyms for frequently occurring vocabulary • descriptive language including made-up words and words that are represented playfully | <ul style="list-style-type: none"> • a range of synonyms and antonyms with shades of meaning • technical and learning area specific words and phrases • words with multiple connotations/meanings • figurative language (e.g. similes, metaphors) • common idiomatic language (e.g. ‘on thin ice’) • words that are used ironically to create humour • occasional words from other languages • words that can be understood using root words and knowledge of prefixes and suffixes (e.g. unsure, sleepy) | <ul style="list-style-type: none"> • less common technical and learning area specific words and phrases • words appropriated from academic texts • extensive technical and learning area-specific vocabulary (e.g. increment) • words with less common affixes, prefixes, suffixes (e.g. irresponsible, fusion) words from other languages • root words that are learning area specific • some complex figurative language (e.g. euphemism, hyperbole) integrated in non-fiction texts, effective imagery • some archaic words or phrases • vocabulary that requires use of tools such a glossaries • words requiring advanced word solving strategies |

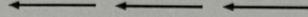
Arabic writing system - challenges

1. Orthographic visual complexity

- Arabic orthography is characterised by a certain visual density and great similarity among letters with variations between appearing as minor features such as letter curves and strokes, presence or absence of diacritics, their letter position and number.
- Similar graphemes can represent different phonemes while different graphemes can represent same phonemes.
- The visual complexity of the Arabic script, outlined below, is responsible for the limited reading fluency and significantly slower mastery of reading Arabic in native speakers
- **Visual and phonological neighbours** – many letters share a basic similar form and differ only by placement and number of diacritic dots. Connecting letter forms can also hinder letter recognition and word segmentation.
- **Ligatures** -22 of 28 Arabic letters are cursively connected to adjacent letters and 6 remaining letters connect only to the preceding letter, hindering letter identification.
- **Allographs** – 23 of 29 letters have four shapes each according to in-word position (word initial, medial and final) when they follow a non-connecting letter. 6 letters have two shapes each, final and separate.
- **Diacritics** – dots above and below the letters used to indicate pronunciation of short vowels within words can be confused with dots used to distinguish similar-looking consonants.

Othographic visual complexity

Direction of Reading Arabic



(a)

صِفْ خَلْقَ خَوْدِ كَمِثْلِ الشَّمْسِ إِذْ بَزَعْتَ — يَحْظِي الضَّجِيعُ بِهَا نَجْلَاءَ مِعْطَارِ

(A poem by Al Farāhīdi)

(b)

| Letter | End | Middle | Initial |
|--------|-----|--------|---------|
| ع | ع | ع | ع |

(c)

| | | | | | | |
|-------------------------|--|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------|
| Orthography | قدر | قُدِّرَ | قَدَّرَ | قَدَّرَ | قَدَّرَ | قَدَّرَ |
| Phonology | /qdr/ | /q ^u d ^{dir} a/ | /q ^a d ^{dar} a/ | /q ^a d ^{ar} un/ | /q ^a dr ^{un} / | /q ⁱ dr ^{un} / |
| Syntactic case | ? | Verb past - passive | Verb past | Noun | Noun | Noun |
| Meaning | ? | [was] estimated / destined | estimated / destined | fate | amount | vessel / pot |
| Disambiguating sentence | ركل الولد الكرة فتحطم القدر الخزفي الجميل. | | | | | |
| Translation | The boy kicked the ball so the beautiful ceramic vessel got smashed. | | | | | |

(d)

(d2) د د د

(d3)

مُحَرِّفٌ اللُّعَاةُ مُحَجَّلٌ

(d1)

محفوظ م + ح

تحذير ت + ح

المحفوظ ل + م + ح

Arabic writing system - challenges

2. Diglossia

- *Modern Standard Arabic (MSA)* is the culturally valued, non-spoken, 'frozen' written register derived from classical Arabic texts shared across Arabic speaking countries.
- *Spoken Arabic Vernacular (SAV)* refers to diverse dialects of everyday spoken Arabic, the linguistic features of which (sounds, words, syntax) may not have representation in conventional written form.
- The linguistic and phonological distance between the two registers means that literacy learning in Arabic is akin to a process of second language learning in which learners are unable to apply their oral language skills to assist orthographic-to-phonological mappings required for initial learning of reading and writing.

Arabic writing system - challenges

3. Lexical ambiguity

- Arabic words have a *nominal root* (three or four consonant letter string) interwoven in a *verbal pattern*. The consonant string of the nominal root conveys the core meaning and indicates a semantic family to which it belongs. There are seven classes of nominal patterns with an estimated 5000-6000 roots in Arabic, and each word family may have between 3 to 40 forms. Letter transpositions within three or four consonant roots often results in other known roots indicating a different semantic family. This accounts for some 54% of all words in MSA.
- In addition, non-vowelised (without diacritics) three-consonant nominal root system leads to the creation of homographic words (similar orthographic appearance but phonologically and semantically different words).
- Heterophonic -homographs are very common in MSA (every second or third word) and can only be disambiguated by skilled reading that applies the syntactic rules and vocabulary of MSA and draws on semantic information and sentence context.

Lexical ambiguity

| (b) | | | | | |
|-------------------------|---------------------------|-----------------------------------|-------------------------|-------------------------|----------------------------------|
| Root | كتب /ktb/ | | | | |
| Root + Pattern Examples | (i) | (ii) | (iii) | (iv) | (v) |
| | كاتب | تكتب | مكاتب | كتب | يكتبون |
| Phonology | /katib/ | /tʰaktʰubʰ/ | /mkatib/ | /kʰutʰubʰun/ | /yʰaktʰubʰun/ |
| Syntactic case | Noun, singular, masculine | Verb, present, singular, feminine | Noun, plural, masculine | Noun, plural, masculine | Verb, present, plural, masculine |
| Meaning | writer | [she] writes | offices / desks | books | [they] write |

Arabic writing system - challenges

4. Word information density

- MSA word composition and morphological inflections convey dense information. MSA words have a non-pronounceable root-based structure where most words are derived by embedding a nominal root into a morpho-phonological verbal word pattern.
- There are seven nominal root patterns which signal classes of semantically related words. There are fifteen verbal patterns that further specify phono-syntactic information and have morpho-syntactic inflections indicating tense, person, number, gender and mood.
- Articles, prepositions and pronouns are embedded in words as affixes. Clause subjects are implicit in verbal conjugations.
- The mental decomposition and recombination of these different word components, crystallised as separate entities during decoding, demands greater cognitive capacity.

Arabic writing system - challenges

Key questions

1. In what ways do the features of the Arabic writing system affect children's literacy development in Arabic?
2. How are these challenges overcome? What kind of Arabic literacy pedagogies are used to address these challenges?
3. How might Arabic literacy development be best described in a learning progression?

ARABIC – POSSIBLE DEVELOPMENT OF READING SUBSKILLS

| READING MILESTONES | MILESTONE 1 | MILESTONE 2 | MILESTONE 3 | MILESTONE 4 | MILESTONE 5 | MILESTONE 6 | MILESTONE 7 | MILESTONE 8 |
|--|---|---|--|--|---|---|---|---|
| PHASES | <i>Establishing reading repertoires</i> | | <i>Expanding reading repertoires</i> | | <i>Extending reading repertoires</i> | | <i>Enriching reading repertoires</i> | |
| MSA letter recognition | - | isolated LN | isolated, in-word LN positional allographs VN discrimination | isolated, in-word LN positional allographs VN discrimination | In-word/sentence LN positional allographs VN discrimination | In-word/sentence LN VN discrimination | | |
| MSA orthographic-phonological mapping | - | isolated LN PA SAV/MSA com/phonemes | isolated, in-word LN positional allographs PA, PN discrimination SAV/MSA com/phonemes | isolated, in-word LN positional allographs PA, PN discrimination SAV/MSA com/phonemes | In-word/sentence LN positional allographs PN discrimination SAV/MSA com/phonemes | In-word/sentence LN PN discrimination MSA only phonemes | MSA only phonemes | MSA only phonemes |
| MSA word identification | - | vowelized script | vowelized script | vowelized script | vowelized + un/v scripts M/C M identification HD | vowelized + un/v scripts M/C M identification HD | unvowelized script M/C M identification HD | unvowelized script M/C M identification HD |
| MSA morpho-lexical processing | | HF roots/patterns, HF words | HF roots/patterns, HF words | HF roots/patterns, HF words | HF roots/patterns, HF words HF roots/patterns, LF words | HF roots/patterns, HF words HF roots/patterns, LF words | HF root/patterns, LF words LF roots/patterns, LF words | HF root/patterns, LF words LF roots/patterns, LF words |
| MSA sentence processing | LC | LC ARC | LC ARC | LC ARC, GRC | LC ARC, GRC RF | LC ARC, GRC RF | LC GRC RF | LC GRC RF |
| MSA text processing | LC | LC ARC | LC ARC | LC ARC, GRC | LC ARC, GRC RF | LC ARC, GRC RF | LC GRC RF | LC GRC RF |

KEY:

LN - letter naming

VN – visual neighbours

PA – phonological awareness

PN – phonological neighbours

SAV/MSA com/phonemes – phonemes common to Spoken Arabic Vernacular and Modern Standard Arabic

MSA only phonemes - phonemes exclusive to Modern Standard Arabic

M/CM – morphological and context mediated

HD - homograph disambiguation

HF - high frequency

LF - low frequency

LC - listening comprehension

ARC - analytical reading comprehension- slow serial processing of letters, computing phonological value, combining parts into whole word

GRC - global reading comprehension – faster parallel identification of words based on global shapes along with constituent letters

RF - reading fluency

References

The nature and development of learning progressions

- Alonzo, A. C., & Elby, A. (2019). Beyond empirical adequacy: Learning progressions as models and their value for teachers. *Cognition and Instruction, 37*(1), 1-37.
- Duncan, R. G., & Hmelo-Silver, C. E. (2009). Learning progressions: Aligning curriculum, instruction, and assessment. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching, 46*(6), 606-609.
- Duschl, R., Maeng, S., & Sezen, A. (2011). Learning progressions and teaching sequences: A review and analysis. *Studies in Science Education, 47*(2), 123-182.
- Furtak, E. M., Morrison, D., & Kroog, H. (2014). Investigating the link between learning progressions and classroom assessment. *Science Education, 98*(4), 640-673.
- Goral, D. P., & Bailey, A. L. (2019). Student self-assessment of oral explanations: Use of language learning progressions. *Language Testing, 36*(3), 391-417.
- Krajcik, J. (2011). Learning progressions provide road maps for the development and validity of assessments and curriculum materials. *Measurement: Interdisciplinary research & perspective, 9*(2-3), 155-158.
- Luinge, M. R., Post, W. J., Wit, H. P., & Goorhuis-Brouwer, S. M. (2006). The ordering of milestones in language development for children from 1 to 6 years of age. *Journal of Speech, Language, and Hearing Research.*
- Sheldrick, R. C., & Perrin, E. C. (2013). Evidence-based milestones for surveillance of cognitive, language, and motor development. *Academic pediatrics, 13*(6), 577-586.
- Sikorski, T. R. (2019). Context-Dependent “Upper Anchors” for Learning Progressions. *Science & Education, 28*(8), 957-981.
- Visser-Bochane, M. I., Reijneveld, S. A., Krijnen, W. P., Van der Schans, C. P., & Luinge, M. R. (2020). Identifying milestones in language development for young children ages 1 to 6 years. *Academic pediatrics, 20*(3), 421-429.
- Wilson, M. (2009). Measuring progressions: Assessment structures underlying a learning progression. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching, 46*(6), 716-730.

References

First, second and heritage language acquisition and development

- Alhawary, M. T. (Ed.). (2018). *Routledge Handbook of Arabic Second Language Acquisition*. Routledge.
- Benmamoun, E., Montrul, S., & Polinsky, M. (2013). Heritage languages and their speakers: Opportunities and challenges for linguistics. *Theoretical linguistics*, 39(3-4), 129-181.
- Berman, R. A., & Nir-Sagiv, B. (2007). Comparing narrative and expository text construction across adolescence: A developmental paradox. *Discourse processes*, 43(2), 79-120.
- Berman, R. A. (2008). The psycholinguistics of developing text construction. *Journal of child language*, 35(4), 735-771.
- Clark, E. V. (2009). *First language acquisition*. Cambridge University Press.
- Christie, F., & Derewianka, B. (2010). *School discourse: Learning to write across the years of schooling*. A&C Black.
- Doughty, C. J. (2008). Instructed SLA: Constraints, Compensation, and Enhancement. *The handbook of second language acquisition*, 27, 256.
- D'warte, J. (2014). Exploring linguistic repertoires: Multiple language use and multimodal literacy activity in five classrooms. *Australian Journal of Language and Literacy*, The, 37(1), 21.
- Flores, C., Gürel, A., & Putnam, M. T. (2020). Different perspectives on critical factors in heritage language development and maintenance. *Language Learning*, 70, 5-14.
- Flynn, E. E. (2018). Storying experience: Young children's early use of story genres. *Text & Talk*, 38(4), 457-480.
- Flynn, E. E., Hoy, S. L., Lea, J. L., & Garcia, M. A. (2019). Translanguaging through story: Empowering children to use their full language repertoire. *Journal of Early Childhood Literacy*.
- Gabryś-Barker, D., & Bielska, J. (Eds.). (2013). *The affective dimension in second language acquisition (Vol. 68). Multilingual matters*.
- Goswami, U. (1999). The relationship between phonological awareness and orthographic representation in different orthographies. *Learning to read and write: A cross-linguistic perspective*, 134-156.
- Gumperz, J. J. (1964). Linguistic and social interaction in two communities. *American anthropologist*, 66(6), 137-153.
- Gürel, A. (2020). Towards a comprehensive model of heritage language development. *Bilingualism: Language and Cognition*, 23(1), 27-28.
- Gutiérrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual traits or repertoires of practice. *Educational researcher*, 32(5), 19-25.
- He, A. W. (2014). Heritage language development and identity construction throughout the life cycle. In *Handbook of Heritage, Community, and Native American Languages in the United States* (pp. 338-346). Routledge.

References

First, second and heritage language acquisition and development

- Jones, C. (Ed.). (2018). *Practice in Second Language Learning*. Cambridge University Press.
- Juan-Garau, M. (2014). Heritage language use and maintenance in multilingual communities. *Applied Linguistics Review*, 5(2), 425-440.
- Ke, C. (Ed.). (2018). *The Routledge Handbook of Chinese Second Language Acquisition*. Routledge.
- Kessler, J. U., & Keatinge, D. (Eds.). (2009). *Research in second language acquisition: Empirical evidence across languages*. Cambridge Scholars Publishing.
- Kirsch, C. (2018). Young children capitalising on their entire language repertoire for language learning at school. *Language, Culture and Curriculum*, 31(1), 39-55.
- Meisel, J. M. (2004). The bilingual child. *The handbook of bilingualism*, 91, 113.
- Meisel, J. M. (2007). The weaker language in early child bilingualism: Acquiring a first language as a second language?. *Applied psycholinguistics*, 28(3), 495.
- Montrul, S. (2008). *Incomplete acquisition in bilingualism: Re-examining the age factor (Vol. 39)*. John Benjamins Publishing.
- Montrul, S. (2013a). Bilingualism and the heritage language speaker. *The handbook of bilingualism and multilingualism*, 168-189.
- Montrul, S. (2013b). Incomplete L1 acquisition. *The Cambridge handbook of second language acquisition*, 353-371.
- Montrul, S. (2016). *The acquisition of heritage languages*. Cambridge University Press.
- Montrul, S. (2018). Heritage language development: Connecting the dots. *International Journal of Bilingualism*, 22(5), 530-546.
- Montrul, S., & Bowles, M. (2017). Instructed heritage language acquisition. In *The Routledge handbook of instructed second language acquisition* (pp. 488-502). Taylor and Francis Inc..
- Moore, L. (2011). Language socialization and repetition. *The handbook of language socialization*, 1, 209-226.
- Ogawa, J. (2001). Heritage Language Development: Stephen Krashen, Lucy Tse and Jeff McQuillan (eds). *International journal of bilingual education and bilingualism*, 4(2), 154-157.
- Ortega, L. (2009). Sequences and processes in language learning. *Handbook of language teaching*, 81-105.
- Polinsky, M., & Scontras, G. (2020). Understanding heritage languages. *Bilingualism: Language and Cognition*, 23(1), 4-20.
- Schmid, M. S., & Köpke, B. (Eds.). (2019). *The Oxford handbook of language attrition*. Oxford University Press.
- Somerville, M., D'warte, J., & Sawyer, W. (2016). *Building on Children's Linguistic Repertoires to Enrich Learning: A Project Report for the NSW Department of Education*.

References

Learning to read Arabic

- Abu-Rabia, S. (2000). Effects of exposure to literary Arabic on reading comprehension in a diglossic situation. *Reading and writing*, 13(1), 147-157.
- Abu-Rabia, S. (1997). Reading in Arabic orthography: The effect of vowels and context on reading accuracy of poor and skilled native Arabic readers. *Reading and Writing*, 9(1), 65-78.
- Asaad, H., & Eviatar, Z. (2014). Learning to read in Arabic: The long and winding road. *Reading and Writing*, 27(4), 649-664.
- Asadi, I. A., & Ibrahim, R. (2018). The Simple View of Reading model in the transparent and deep versions of Arabic orthography. *Reading Psychology*, 39(6), 537-552.
- Hermena, E. W., & Reichle, E. D. (2020). Insights from the study of Arabic reading. *Language and Linguistics Compass*, 14(10), 1-26.
- Ibrahim, R., Eviatar, Z., & Aharon-Peretz, J. (2002). The characteristics of Arabic orthography slow its processing. *Neuropsychology*, 16(3), 322.
- Saiegh-Haddad, E. (2012). Literacy reflexes of Arabic diglossia. In *Current issues in bilingualism* (pp. 43-55). Springer, Dordrecht.
- Saiegh-Haddad, E., & Joshi, R. M. (Eds.). (2014). *Handbook of Arabic literacy: Insights and perspectives* (Vol. 9). Springer Science & Business Media.
- Taouka, M., & Coltheart, M. (2004). The cognitive processes involved in learning to read in Arabic. *Reading and writing*, 17(1), 27-57.

Learning to read Chinese

- Bai, J., Li, W., Yang, Y., W. J., He, W., Xu, M. (2020). Cognitive correlates of reading fluency in Chinese school-aged children. *Frontiers in Psychology*, June, Vol 11, 1-15.
- Ho, C. S. H., Ng, T. T., & Ng, W. K. (2003). A “radical” approach to reading development in Chinese: The role of semantic radicals and phonetic radicals. *Journal of literacy research*, 35(3), 849-878.
- Kuo, L. J., Li, Y., Sadoski, M., & Kim, T. J. (2014). Acquisition of Chinese characters: the effects of character properties and individual differences among learners. *Contemporary Educational Psychology*, 39(4), 287-300.
- Li, X., Zang, C., Liversedge, S. P., & Pollatsek, A. (2015). 16 The Role of Words in Chinese Reading. *The Oxford handbook of reading*, 232.
- Reichle, E. D., & Yu, L. (2018). Models of Chinese reading: Review and analysis. *Cognitive Science*, 42, 1154-1165.
- Shu, H. (2003). Chinese writing system and learning to read. *International Journal of Psychology*, 38(5), 274-285.
- Shu, H., Chen, X., Anderson, R. C., Wu, N., & Xuan, Y. (2003). Properties of school Chinese: Implications for learning to read. *Child development*, 74(1), 27-47.
- Xing, H., Shu, H., Li, P. (2004). The acquisition of Chinese characters: Corpus analysis and connectionist simulations. *Journal of Cognitive Science*, 5: 1-49.
- Zhou, W., Shu, H., Miller, K., & Yan, M. (2018). Reliance on orthography and phonology in reading of Chinese: A developmental study. *Journal of Research in Reading*, 41(2), 370-391.

THANK YOU

COMMENTS, QUESTIONS?