

Professional Development Programme

Developing Students' Self-directed Learning Capabilities: Exploring the Use of Artificial Intelligence in the Secondary English Classroom

Dr. Derek Chan & Dr. Patrick Leung
Centre for Applied English Studies
The University of Hong Kong

Event 5

Part 1: Paradigm Shift in Learning and Teaching

- AI trends, self-directed learning, and changing roles of teachers
- Realigning learning, teaching, and assessment

Part 2: Exploring the Pedagogical Affordances of AI

- Catering for learner diversity
- Enhancing student motivation
- Facilitating self-directed learning
- Promoting formative assessment

Trend: AI Partner in Education

- Explosive use of AI since November 2022
- Support personalised autonomous learning (e.g. chatbots)
- AI as a powerful and transformative partner in education; not just a tool

Self-Directed Learning

SDL: “a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes” (Knowles, 1975, p.18).

****** SDL is not new as a concept and as practice; it overlaps with notions of active learning, self-regulated learning, independent learning, and learner autonomy.

English Language Education

Key Learning Area Curriculum Guide
(Primary 1 – Secondary 6)



It refers to the skill that a learner, who takes the initiative and responsibility for learning with or without the assistance of others, possesses. A self-directed learner may identify his/her learning needs, formulate goals, and choose resources and strategies for learning. SDL enhances students' sense of agency or control and metacognitive skills. SDL may be interpreted as self-regulated learning, self-learning or independent learning in other contexts.

Prepared by
The Curriculum Development Council

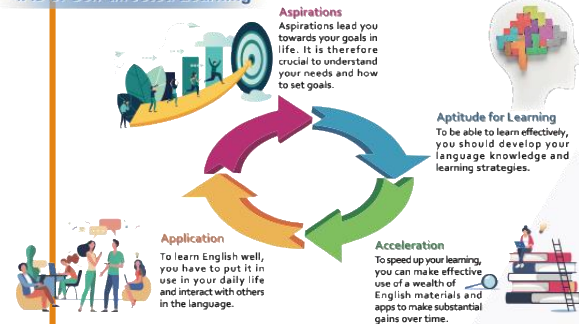
Recommended for use in schools by
The Education Bureau
HKSARG
2017

A Guide on Self-directed Learning for Secondary Students (EDB, 2024)

A Guide on Self-directed Learning for Secondary Students

English learning is no longer confined to the classroom. With more flexible learning time and resources, you can increase your exposure to English and improve your language skills anytime and anywhere through self-directed learning. Self-directed learning is a process in which you take the initiative, with or without the help of others, to identify your learning needs, set learning goals and plans, choose suitable resources and evaluate your learning progress. Good self-learning skills and habits can help you bloom into responsible, lifelong learners.

4As of Self-directed Learning



Understanding Needs and Setting Goals

Students may have different learning needs, ranging from learning English for fun to enhancing English proficiency. Based on your learning needs, you may set **SMART** goals on English learning with reference to the guiding questions below:

Goals should be:	Guiding questions
Specific	What will I achieve? What actions will I take?
Measurable	How can I measure how much I have achieved?
Achievable	Is the goal doable? What skills and resources do I need?
Relevant	Is this relevant to my needs and learning styles?
Time-based	How much time should I spend each day/week working on my goal?

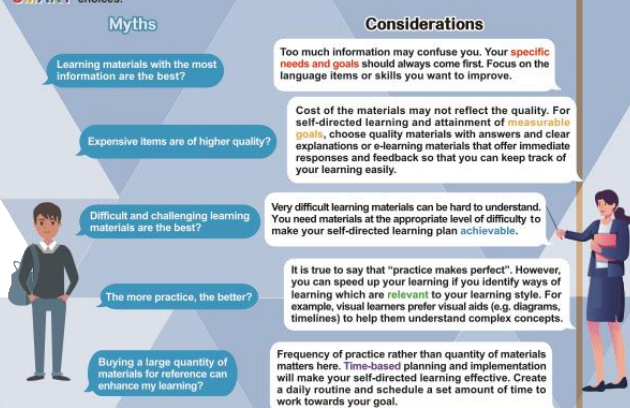
A Closer Look at English Self-learning Resources

Developing language knowledge from different English resources and using appropriate learning strategies is essential to language learning. The following section discusses how you can select appropriate English resources, make the most of them and learn effectively and efficiently.

English self-learning resources	Typical features	Remarks	How the resources can be used	Tips on English self-learning
Collections of vocabulary/idioms/useful expressions	- Items usually grouped under different themes/categories - Sample sentences provided - Chinese translation and exercises sometimes provided for practices and easy understanding	- May not support the development of vocabulary learning skills and strategies - May fail to show the multiple meanings of certain vocabulary items and how they are used - May encourage rote learning	- Select vocabulary items to learn according to themes/functions/frequency of use. - Avoid words which are obsolete and too technical (e.g. beef-witted, masculine rhyme). - Focus on learning a manageable number of words each time.	- Pay attention to the meaning(s), pronunciation and usage instead of just memorising the spelling. - Look up the words in a dictionary for further information (e.g. parts of speech, word formation, word family, collocation, synonyms and antonyms). - Apply the newly learnt items in schoolwork and daily life. - Use graphic organisers/apps to facilitate memory and understanding of the items.
Grammar books	- Explanatory notes provided on forms and functions of grammar items - Exercises with answers included for practice and consolidation	- May focus mainly on mechanical drilling of forms with grammar items not presented in context - May lack explanation of answers and opportunities for application	- Study the notes carefully to understand the functions served by the grammar items. - Think of contexts for suitable use of the items to create and add your own examples. - Find patterns of mistakes after checking answers and consult other reference materials or teachers.	- Learn the usage and functions in addition to the form. Make connections with grammar items learnt before (e.g. the past tense vs the present perfect tense). Highlight the target items when you encounter them in reading texts, and think about their functions in the texts. - Apply the grammar items purposefully in new contexts (e.g. in writing and speaking tasks).
Model essays	- Topic-related vocabulary and expressions included - Explanatory notes, examples on text structure and language use and Chinese translation of the target vocabulary/expressions sometimes provided	- May limit creativity - May encourage text memorisation or rote learning of "advanced" vocabulary/stock phrases/sentence patterns - May encourage over-reliance on Chinese translation in vocabulary learning	- Learn the format, structure and organisation of the text-types. - Highlight useful vocabulary items, expressions and sentence patterns. - Try to identify the tone and style and relate it to the task requirements (e.g. writing purpose, audience).	- Learn the features of the text-types, including the structure, register, tone and style. - Learn how to build coherence within a paragraph and across the text. - Apply your knowledge of text structure and language features to other tasks with similar requirements.
Videos/movies/podcasts/songs	- A wide selection of topics to choose from - More interesting and engaging - Authentic and colloquial use of English featured	- May be designed for entertainment rather than English learning and contain improper content and language - May not have any language focus for purposeful and structured learning - May encourage passive learning	- Use judiciously to enhance listening and viewing skills. - Learn some colloquial expressions in daily life. - Develop awareness of how English is used in different cultures.	- Pay attention to how English is spoken naturally (e.g. intonation, speed, use of pauses). - Note the use of language in natural speech and different contexts (e.g. contractions, idiomatic expressions). - Understand and appreciate different cultures, facilitating mutual and fair appreciation of cultures of different countries, building proper values and attitudes and enhancing our cultural confidence. - Develop awareness of how English is spoken or used differently around the world (e.g. accents, pronunciation, word choice).
e-Learning platforms: interactive language games/websites/apps	- Interactive and fun - Progress of learning often recorded - Adaptive and interactive features (e.g. read-aloud, chat box with tutors, items generated matched to the level of students and answer-checking functions) embedded - Subscriptions often required	- Dependent on access to technology (e.g. devices, internet connection, IT knowledge) - Other online activities (e.g. gaming, chatting, browsing other websites) can be distracting - May require fees for additional features and content	- Study the terms and costs of the subscription plans carefully. - Utilise the interactive features offered by the platform and develop a habit of regular practice. - Review progress with records/data provided by the platform.	- Research to understand the features and functions of different platforms and select those that match your learning needs. - Break everything down into small chunks and create notes and flashcards for revision using apps. - Choose platforms that facilitate interaction and exchange with other learners and online tutors if necessary.
Examination skill books/Mock papers	- May focus on exam skills and format - Explanatory notes, question analysis and answer key often provided	- Focus on assessment rather than development of skills - May be mechanical	- Use the materials to familiarise yourself with the exam format and question types. - Use the materials for structured practice to review and evaluate performance, and improve time management.	- Keep clear records of the results, identify areas of weaknesses from mistakes and devise follow-up plans. - Use the data for regular review of learning performance to inform next step of learning and seek timely advice from teachers.

What Should You Consider When Choosing English Self-learning Resources?

You may be puzzled at the variety of English resources or materials. Here are some tips to help you make **SMART** choices.



Some quality English learning materials are available for free. You can access them via the following web pages:



Parent Corner: How to GEAR your children up for success in English Learning?

Bear in mind the following tips:

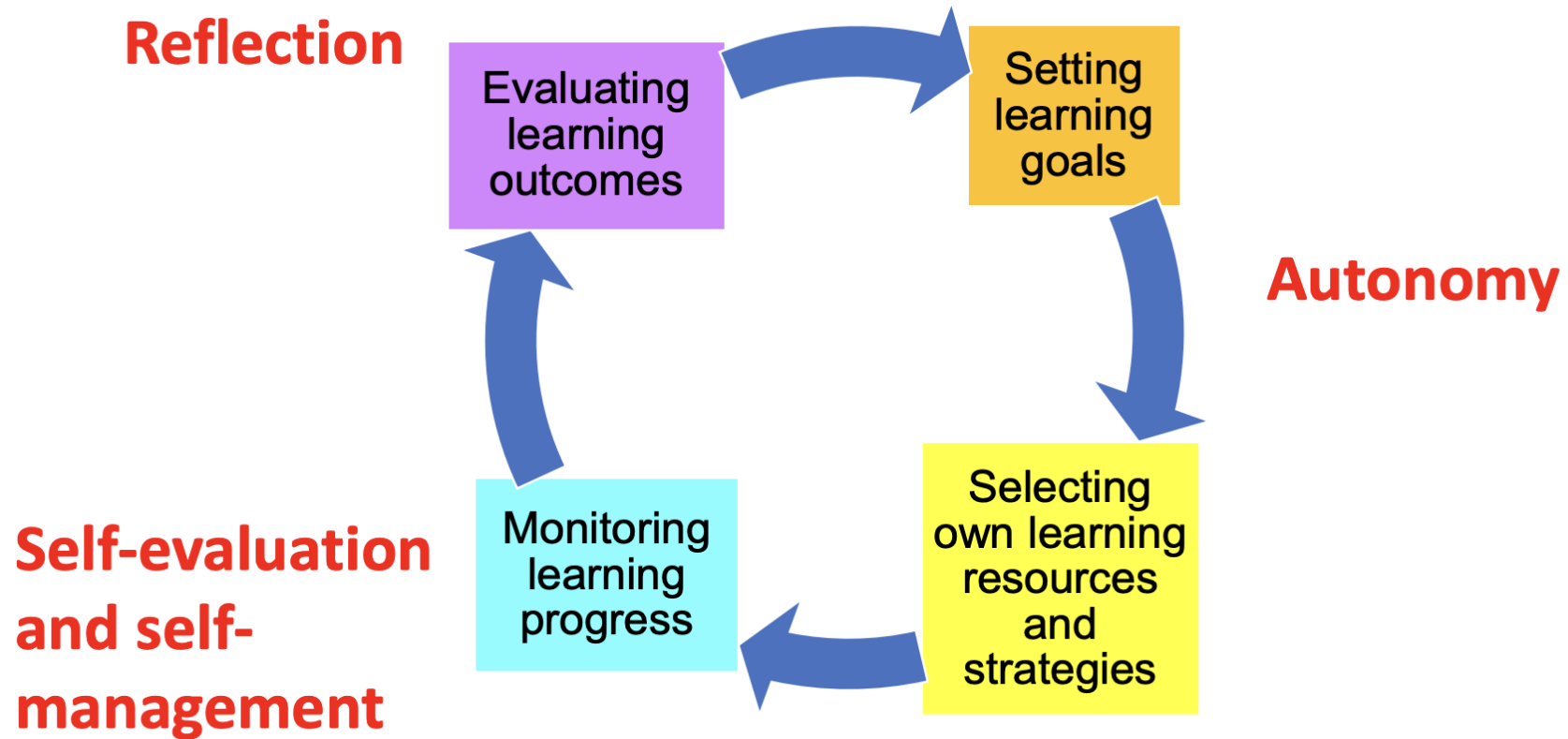
- Guide** your children to understand their needs and set learning goals and plans.
- Encourage** careful selection of self-learning materials according to their needs.
- Arouse** your children's curiosity about how English is used in everyday life, which helps them develop greater language sensitivity.
- Reinforce** positive English-learning strategies and habits (e.g. reading books and listening to English news regularly).



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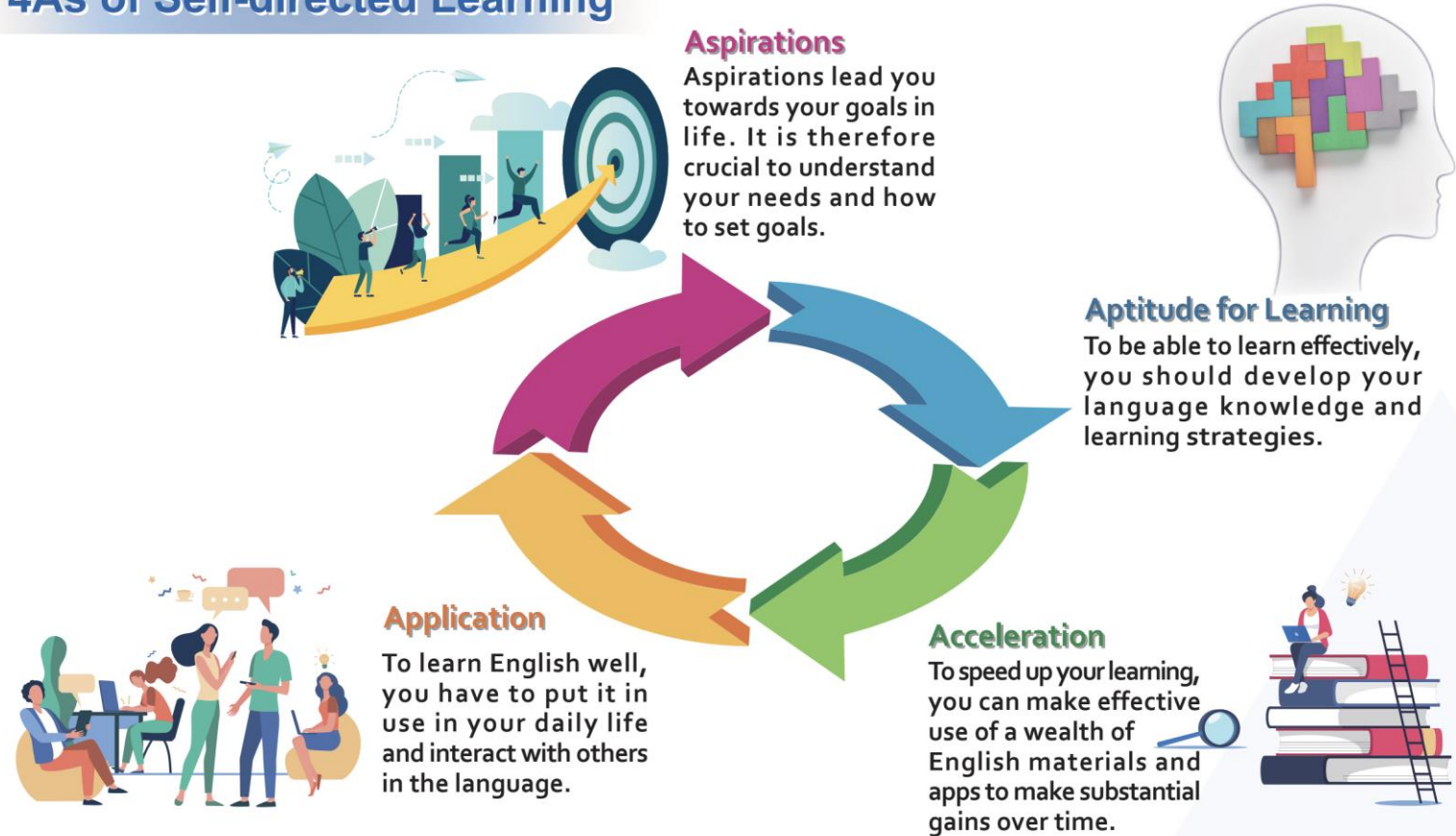
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4-stage Model of Self-Directed Learning



4As of Self-Directed Learning

4As of Self-directed Learning



Self-Directed Learning, with and without AI

- Realigning learning, teaching, and assessment

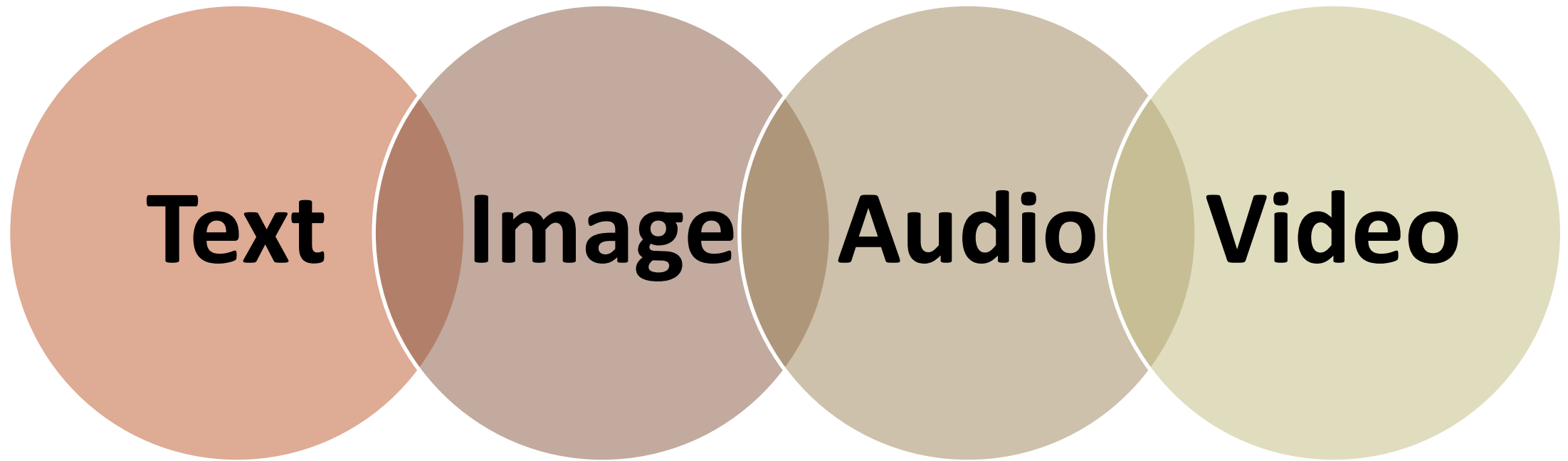
Learning	Teaching	Assessment
Learning gain vs loss	Evidence-based comparisons on teaching efficacy	Backwash effects Transferable skills
Learner readiness and resources	Technical skills, technology, contextual adaptation	Formative vs summative assessment

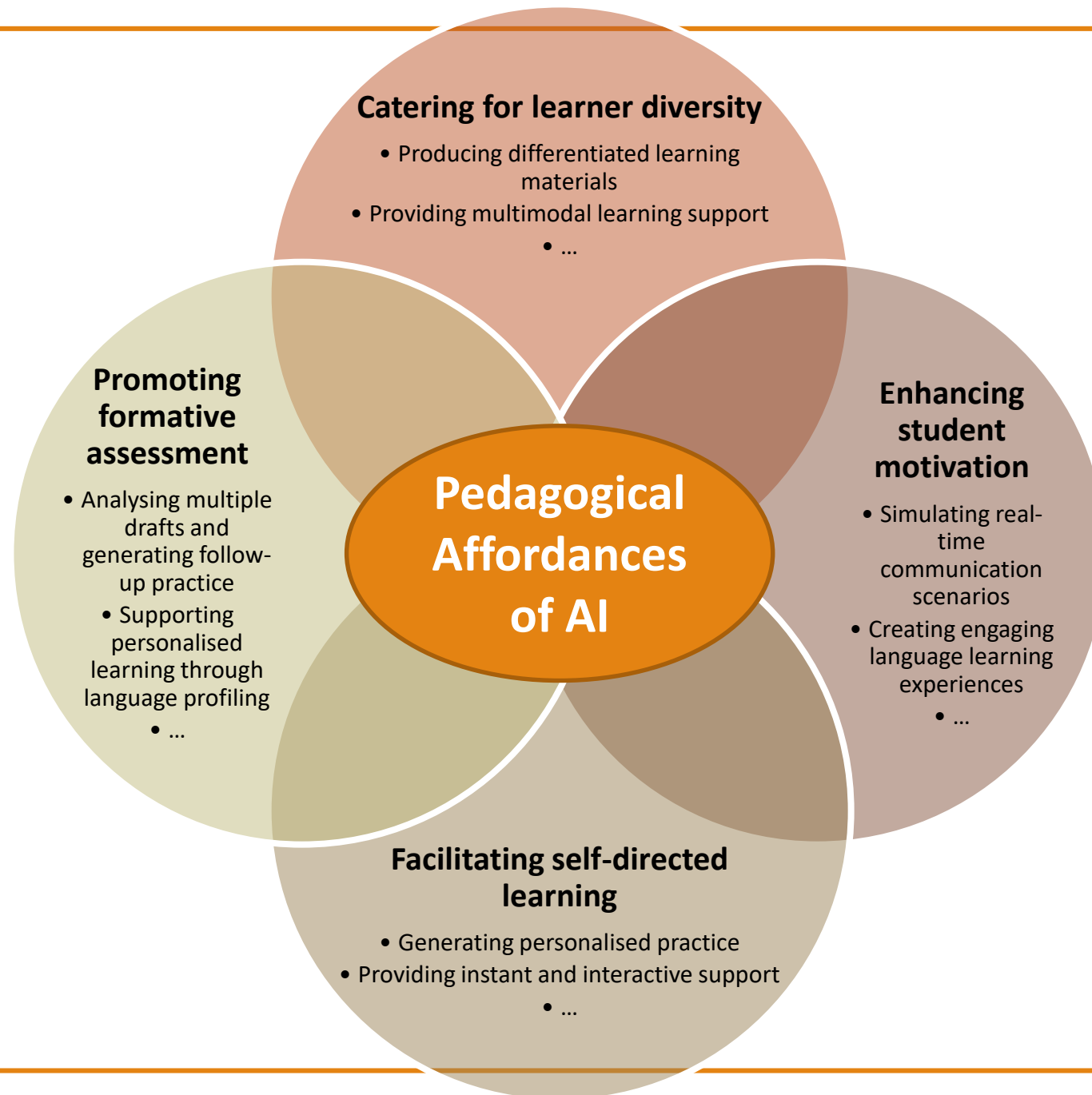
- *Pedagogy first and technology second*

Pedagogical Affordances of AI

What can AI do pedagogically that was difficult or impossible before?

Multimodal AI





Catering for Learner Diversity

- Our English classrooms typically span a wide range of proficiencies and learning styles.
- Traditionally, catering for this diversity has been one of the most labour-intensive demands on teachers: producing tiered worksheets, sourcing audio at different speeds, finding visual aids that match the level of each text, etc.
- Generative AI makes it possible to differentiate input on demand and to render language learning multimodal in ways that respond to the full spectrum of learner diversity. AI shifts from a one-size-fits-all model to a one-size-fits-any model (serving any learner in their particular context), thereby supporting equity, inclusion and truly personalised learning.

1. Producing Differentiated Learning Materials

- AI's most immediate affordance for students and teachers is the instant generation of differentiated input/learning and teaching materials
- Where a textbook offers one reading/listening text at one level, AI can produce several parallel versions calibrated to different learners
 - simplifying syntax

For learners with lower reading proficiency, working memory limitations, or language processing difficulties
 - swapping low-frequency vocabulary

For learners with limited vocabulary breadth (e.g., students with below-grade-level reading skills)
 - adjusting text length

For learners with attention regulation challenges (e.g., ADHD) or slower reading speed

1. Producing Differentiated Learning Materials

- Assign a role (e.g., “You are an English teacher for a Secondary 3 student in Hong Kong”)
- Specify constraints (e.g., “definitions of no more than 20 words” and “example sentences about clothes or fashion”)
- Generate questions of different difficulty levels (e.g., literal comprehension vs. inferential comprehension)
- Create parallel writing prompts (e.g., a letter to a friend, to siblings, to grandparents)
 - ➔ Embed differentiation directly into task design by varying audience and register

2. Providing Multimodal Learning Support

- Language learning is enriched when learners can see, hear and manipulate language
- Learning prior to the AI era was usually visual-textual
- AI tools can generate visualisations, produce audio with adjustable pacing, animate grammar relationships, etc.

Enhancing Student Motivation

- Motivation in language learning rises when tasks are purposeful, meaningful, communicative and creative
- AI extends what is feasible in a classroom by simulating authentic, real-time interaction and generating immersive, creative learning experiences that traditional materials cannot offer

1. Simulating Real-Time Communication Scenarios

- One of the most motivating affordances of AI is its capacity to play a role (e.g., a customer, a journalist, a historical figure, a fictional character) and sustain a coherent dialogue with the learner
- This transforms a speaking or writing task from a one-way presentation (e.g., a monologue or static exercise) into genuinely interactive communication, where the learner and AI co-construct meaning through turn-taking and responsive dialogue.

2. Creating Engaging Language Learning Experiences

- Beyond dialogue, AI can generate story scenes, illustrations, simulated press conferences, alternative endings etc. that scaffold creative language production
- **Example:** In a reading-into-writing lesson on home remedies, students create an illustrated *Family Wellness Handbook*. Using AI-generated section illustrations of natural remedies, students write descriptive captions that describe the ingredients and explain how each remedy helps.

Facilitating Self-Directed Learning

- Self-directed learning requires students to set their own goals, choose their own paths and reflect on their own progress
- In a class of 25 or more, this has traditionally been hard to implement: teachers cannot personalise practice for each student or be available outside lesson time to support individual goals
- AI extends what is realistic in a classroom of 25+ students by personalising practice and acting as a 24/7 learning companion

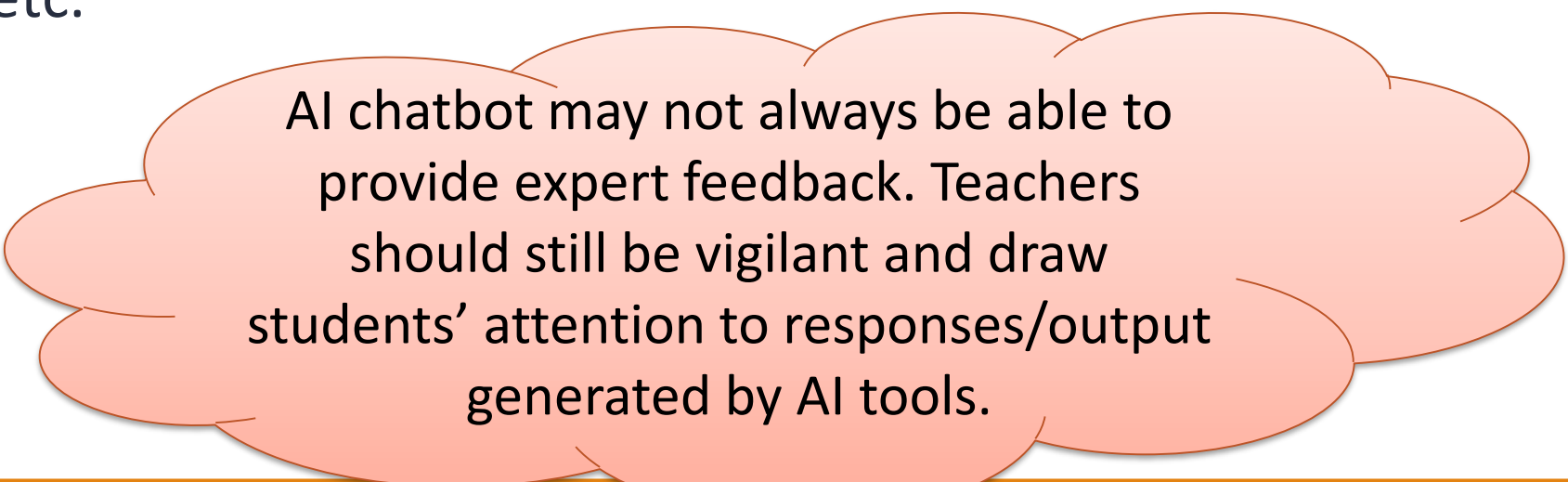
1. Generating Personalised Practice

- Traditionally, a worksheet offers the same 20 items to every student. AI can generate 20 items that respond to individual student's goals, interests and gaps.
- For SDL to work, students need to decide on what they want to focus on (e.g., selecting target vocabulary words, logging the kinds of listening errors they keep making, choosing the audience and topic for their reading-into-writing task) → Feed into AI prompts that generate practice items tailored to this learner

In SDL, students need to be equipped with necessary skills (e.g., learning skills, metacognitive skills, generic skills) **before** they are ready to evaluate and reflect on their own performance independently.

2. Providing Instant and Interactive Support

- Outside the classroom, students rarely have access to immediate language feedback
- An AI chatbot configured as a learning companion can fill this gap: helping students set goals, troubleshoot in the moment, sustain learning between lessons, etc.



AI chatbot may not always be able to provide expert feedback. Teachers should still be vigilant and draw students' attention to responses/output generated by AI tools.

Promoting Formative Assessment

- Formative assessment needs to be timely, specific and actionable
- Teachers cannot easily compare a student's third draft with their first, or surface patterns across a term's worth of listening errors, or generate targeted practice for each student's specific gap
- AI make these practices scalable: continuous, evidence-based vs. periodic snapshot
- Assessment as Learning: AI empowers students to self-monitor and reflect on their own progress in real time, using feedback for goal-setting and self-regulation. This makes self-directed learning scalable rather than reliant on teacher check-ins.

1. Analysing Multiple Drafts and Generating Follow-up Practice

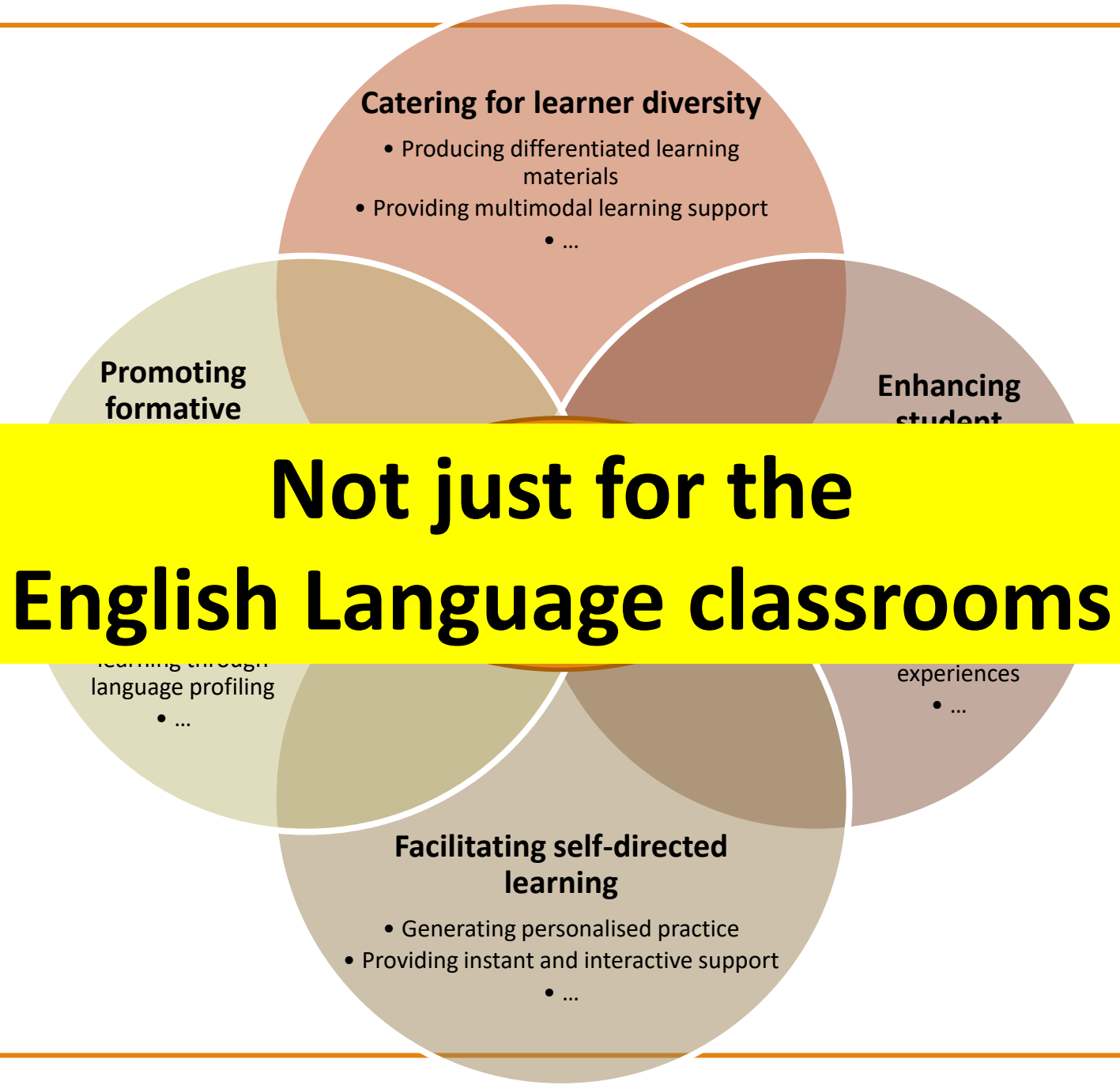
- Give AI careful instructions “evaluate, not rewrite” so that it can give targeted feedback while protecting student authorship
- “Do not rewrite the letter for me”: A ghostwriter vs. a coach
- When students submit multiple drafts of the same piece, or several pieces of writing across a term, AI can compare them, identify recurring grammar issues, lexical gaps, and rhetorical strengths and weaknesses, and then generate short follow-up practice items targeting the most frequent error pattern
- Formative feedback: Generic vs. grounded in the student’s own learning history

2. Supporting Personalised Learning through Language Profiling

- Language profiling extends beyond a single skill to build a longitudinal portrait of the learner
- This profile turns disparate worksheets into a coherent learner story
- **Teachers:** see patterns across the class and can plan whole-class teaching responsively
- **Students:** see their own trajectory and can recalibrate their goals
- **Parents and curriculum leaders:** see evidence of growth that goes beyond a single grade

2. Supporting Personalised Learning through Language Profiling

- Reflection prompt: “What is one thing you will do differently next time?”
- Each reflection becomes data
- Each subsequent task becomes evidence of whether the stated change has been enacted
- Each cycle deepens the student’s self-knowledge as a language learner



Catering for learner diversity

- Producing differentiated learning materials
- Providing multimodal learning support
- ...

Promoting formative

learning through
language profiling

- ...

Enhancing student

experiences

- ...

**Not just for the
English Language classrooms**

Facilitating self-directed learning

- Generating personalised practice
- Providing instant and interactive support
- ...

Important Reminders

- These four affordance areas are interlocking dimensions of one coherent pedagogy
- A single well-designed AI-supported lesson should address learner diversity, motivate students, foster self-direction and support formative assessment
- Paradigm shift in learning and teaching ➔ The teacher's role is to sequence the scaffolds and protect the spaces where student thinking must remain human
- Make effective use of student-device interactions to promote student-student interactions (human-human), with the latter being the priority

An orange, hand-drawn style cloud graphic with a dark orange outline, containing the text "Ethical use of AI".

Ethical use of AI

Risks, Responsibilities and Teacher's Role

Hallucination

- AI can fabricate detail. What classroom routines reduce risk?

Over-reliance

- How do we ensure students develop, not outsource, thinking?

Equity

- Not all students have access to paid, advanced functions of AI tools. How can we design lessons so AI enhances learning?

Privacy and policy

- What does your school's AI policy say? What do students need to know?

References

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Thank you 😊