



課 綱 Course Outline
資訊工程學系國際組

中文課程名稱 Course Name in Chinese	科技促進語文學習研究				
英文課程名稱 Course Name in English	Research on Technology-Enhanced Language Learning				
科目代碼 Course Code	CSIEM0660	班 別 Degree	碩士班 Master' s		
修別 Type	選修 Elective	學分數 Credit(s)	3.0	時 數 Hour(s)	3.0
先修課程 Prerequisite					
課程目標 Course Objectives					
<p>Language learning in authentic contexts reflect the kind of activities that people do in the real world, particularly using advanced technologies like recognition technology and AI. Therefore, authentic contexts are very meaningful and relevant to students during their language learning process. In this course, we will focus on sustainable language learning in authentic contexts using advanced technology to facilitate students to develop high-level cognition like creativity with scalability. Creativity is the use of knowledge, imagination, and judgment by students to solve problems in an innovative, high quality, and appropriate manner. Clarke, Dede, Ketelhut, and Nelson (2006) defined the term “sustainability” to refer to an ability to learn programs to remain in use and the term “scalability” as an ability to language learning programs and design to be adapted in a wide variety of contexts.</p> <p>Therefore, how to consider the above three abilities in language learning design with advanced technology becomes very critical to get a success in education. This is because language learning in authentic contexts with help of advanced technologies can potentially realize the above three abilities and complement traditional language learning in class/at school.</p>					
系教育目標 Dept.'s Education Objectives					
1	探究學科知識，善用專業技能 Explore academic knowledge, utilize professional skills.				
2	訓練評析思考，創新解決問題 Exercise analytical thinking, enhance creative problem solving skills.				
3	學習團隊分工，強化溝通表達 Participate in teamwork, strengthen communication skills.				

系專業能力 Basic Learning Outcomes		課程目標與系專業能力相關性 Correlation between Course Objectives and Dept.'s Education Objectives
A	統合資工知識技術之能力 Ability to integrate knowledge and technologies of computer science and information engineering.	●
B	設計技術理論驗證實驗之能力 Ability to design and conduct science experiments and to validate hypotheses.	●
C	資訊軟硬體設計開發之能力 Ability to design and develop computer software and hardware.	
D	團隊專案開發之能力 Ability to design and develop team projects.	
E	批判性思考與創新研發之能力 Ability of analytical thinking, creative research planning, and innovative development.	●
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated		
課程大綱 Course Outline		
Part I Technology-enhanced EFL Speaking in Authentic contexts 1. Collaborative Kinesthetic English Learning with Recognition Technology. 2. Collaborative Drama-Based EFL Learning in Familiar Contexts 3. Collaborative Kinesthetic EFL Learning with Collaborative Total Physical Response 4. Investigating the effectiveness of a learning activity supported by a mobile multimedia learning system to enhance autonomous EFL learning in authentic contexts 5. Facilitating application of language skills in authentic environments with a mobile learning system 6. A Study of the Cognitive Diffusion Model: Facilitating Students' High Level Cognitive Processes with Authentic Support 7. Cognitive Diffusion Model: Facilitating EFL learning in an authentic environment 8. Evaluating Listening and Speaking Skills in a Mobile Game-Based Learning Environment with Situational Contexts 9. Effects of Storytelling to Facilitate EFL Speaking Using Web-Based Multimedia System 10. Review of research on mobile language learning in authentic environments 11. Recognition-based physical response to facilitate EFL learning 12. Cognitive Diffusion Model with User-Oriented Context-to-Text Recognition for Learning to Promote High Level Cognitive Processes 13. Effects of using mobile devices on English listening diversity and speaking for EFL elementary students 14. Users' Familiar Situational Contexts Facilitate the Practice of EFL in Elementary Schools with Mobile Devices Mid-term Presentation(Summary & Reflection& Proposal) Part II Technology-enhanced EFL Writing in Authentic contexts 15. Self-experienced storytelling in an authentic context to facilitate EFL		

<p>writing</p> <p>16. Improving English as a Foreign Language Writing in Elementary Schools Using Mobile Devices in Familiar Situational Contexts</p> <p>17. Affordances and Influences of Multiple Recognitions for EFL Writing in Authentic Contextual Learning</p> <p>Part III GAI -enhanced EFL Learning in Authentic contexts</p> <p>18. "AI-Enhanced Video Drama-Making for Improving Writing and Speaking Skills Among Students Learning EFL</p> <p>19. XoT (Xducation of Things): Harnessing AI and edge computing to educate all things</p> <p>20. AI and recognition technologies to facilitate EFL writing for supporting personalization and contextualization in authentic contexts</p> <p>21. Investigating the impact of Context-Awareness Smart Learning Mechanism on EFL conversation learning</p> <p>22. Facilitating authentic contextual EFL speaking and conversation with smart mechanisms and investigating its influence on learning achievements</p> <p>Final Presentation(Summary & Reflection & Proposal)</p>
<p>資源需求評估（師資專長之聘任、儀器設備的配合．．．等）</p> <p>Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)</p>
<p>Students bring their own laptops</p>
<p>課程要求和教學方式之建議</p> <p>Course Requirements and Suggested Teaching Methods</p>
<p>Flipped Classroom + Reciprocal teaching (SQCP: Summarizing, Questioning, Clarifying, Predicting) or SWOP(Strength, Weakness, Opportunity, Prediction): 3 hours are divided into 3 parts based on Flipped Classroom.</p>
<p>其他</p> <p>Miscellaneous</p>
<p>與華語文教學國際博士班合開(合開老師，目前暫定朱嘉雯教授)。上課時間:星期二早上9:00-12:00</p>