Project Proposal

Group 5: Annie Hoang, Ran Kang, Yanny Mak

University of British Columbia

ETEC_V 511 66B 2025SS New Foundations of Educational Technology

Jamilee Baroud

June 22nd, 2025

Project Name

ELLA: AI-powered English News Tutor

※ *ELLA stands for English Language Learner Assistance*

Project Objective

The objective of this project is to create a mobile application that helps adult English Language Learners (ELL) study English using AI-driven personalized content and assessments, without requiring users to create their own AI prompts. The app will provide an intuitive, accessible platform that adapts to individual learning styles and English proficiency levels, enabling users to engage with AI-generated content and features with high usability. This will demonstrate how technology can become more usable, accessible, and inclusive for target users through a usability-focused design, and how learning goals can be achieved within such a design.

Rationale

AI can be a valuable tool for adult learners studying English as an additional language, offering capabilities such as summarizing content, generating questions based on that content, understanding learners' preferences, and facilitating conversations. However, many learners face a barrier to fully utilizing this powerful tool due to limited understanding of how to use AI effectively and how to create prompts that generate meaningful responses. To address this, our project aims to create a mobile application that helps adult English learners leverage AI features to identify their learning styles and engage with content in a way that enhances educational usability. This approach will increase accessibility and inclusivity for AI-driven learning tools.

While there are no limitations on the types of content that can be used, we have chosen news articles as the primary learning medium for this project. Learning English through authentic news content is a highly effective way for adult English Language Learners to improve

their language skills. By interacting with structured, real-world narratives, learners can build vocabulary, improve grammar awareness, and enhance their comprehension skills. Additionally, AI can suggest learning materials customized to each learner's preferences and style, acting as a supportive "learning buddy" to further empower their learning experience.

Since some of our group members have experience studying foreign languages, this project presents a valuable opportunity to leverage our own learning experiences to enhance educational usability in the design process. Additionally, some members expect to apply similar AI-based learning concepts in their own practices within adult education and higher education.

Project Scope, Description and Details

The scope of this project will be to create a proof of concept (POC) that illustrates user interfaces and experiences. It also elaborates on the user flow and key features that address the user needs. We will use Figma, an interactive and collaborative design interface tool, to prototype the Minimum Viable Product.

The brief overview of the user flow and features is as follows:

1. **Main Page**:

   The user is welcomed to the app with the option to either register for a new account or log in as a returning user. First-time users are guided through the account registration process.

2. **Learning Styles Assessment & Planning**:

   Upon registration, users are prompted to complete a Learning Styles Assessment, which includes questions to identify their preferred learning methods. Based on the

results, users can set personalized learning goals, select topics of interest, and define their study schedule (e.g., 10 minutes or 30 minutes per day).

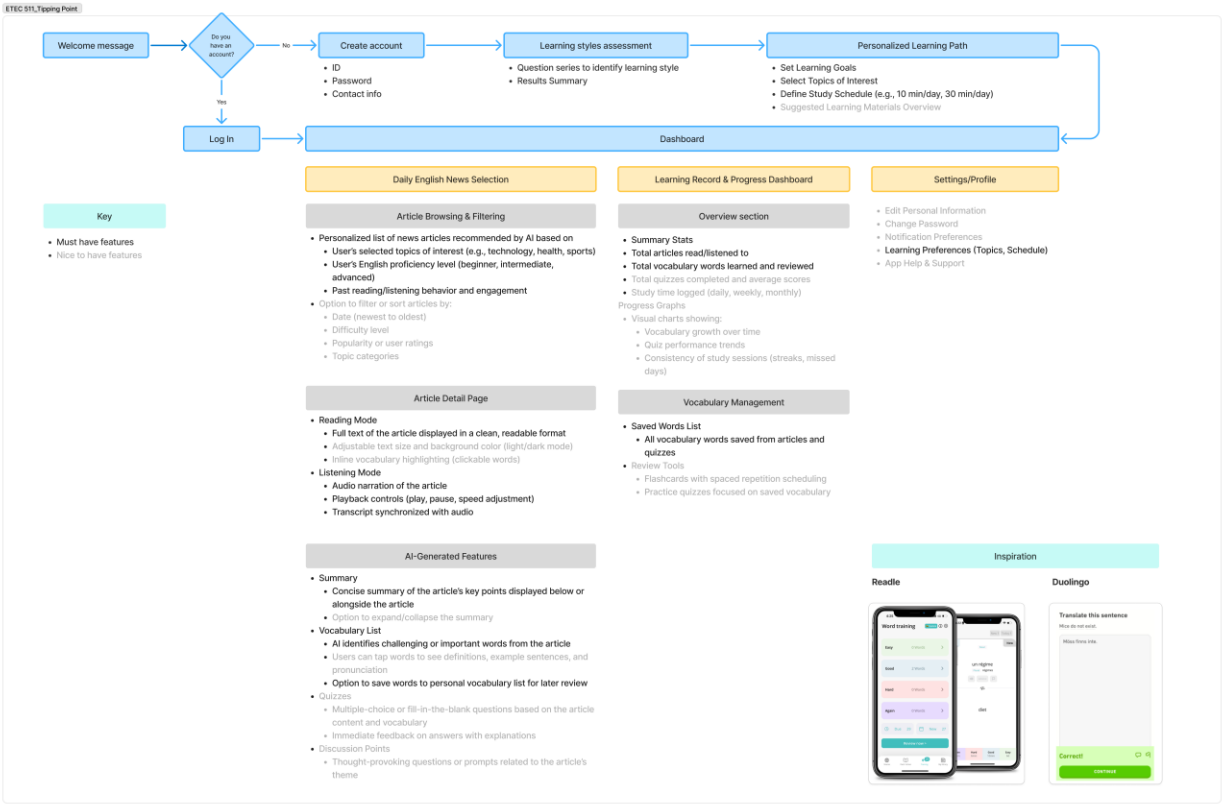
3. **Daily English News Selection**:

   Users can browse and choose news articles based on their interests and English proficiency. After reading or listening to the content, they can interact with the app to receive summaries, save vocabulary words to review later, and engage with quizzes or discussion points generated by the app, powered by AI.

4. **Learning Record & Progress Dashboard**:

   Users can track their learning progress through a dashboard, which displays their completed activities, new vocabulary learned, and overall achievements. A list of words that the user can revisit and review in the future is also provided to aid retention.

After discussing individual goals, skillsets and commitment to the project, the team has divided the product development into 2 phases: Phase 1: Prototype the “Must have features”, which will aid the goal of the POC; Phase 2: Prototype the “Nice to have features” if time and resources allowed. Below you can find the infrastructure for our project.



Consideration for Usability

"Usability" is a dynamic and interactive process in which users and technologies shape one another as emphasized by Woolgar (1990). In this section, we consider how our ELLA mobile application can “configure” its users when the anticipated users’ behaviors, expectations, and capabilities are addressed. It is achieved by design choices that respond to adult learners’ needs and educate them to complete personalized learning activities. We also apply “Performance Measure” and “Preference Measures” from Issa and Isaias (2015) to evaluate the app’s usability and strengthen the educational usability-which is making the AI-powered personalized learning more accessible and inclusive to adult learners through the ELLA app.

With reference to the andragogy principles (Malcolm Knowles), we assume our adult users are:

1. Self-directed and prefer having autonomy over their learning
2. Goal-oriented and prefer efficient, relevant and applicable learning experiences
3. Experienced based, prefer learning new things that connects with prior knowledge
4. Motivated by external (e.g. understanding real-world issues) and internal (e.g. learning achievement) factors

Regarding the above assumptions, we proposed the following user specifications (adapted from Issa & Isaias, 2015).

In the Aspect of Performance Measure (observable and quantifiable)

1. Learnability: Consistent navigation patterns and a clear visual hierarchy of the app interface to facilitate new users to complete major tasks without instruction. This also reduces cognitive load.
2. Efficiency: AI-suggested learning activities (e.g. 20-minute reading and 10-minute listening) that align with the users' preferences and chosen learning schedules without learning AI prompts.
3. Errors: Minimalist interface design and streamlined workflow to guide the user through task completion and reduce errors.
4. Memorability: Universal icons and familiar layouts to minimize the learning and re-learning time of the app even if users return to the app after a long period of time.
5. (Out of scope) For hypothetical ongoing usability measuring, the product can integrate analytic tracking of feature usage patterns to identify friction points, or heat mapping to understand user interaction patterns.

In the Aspect of Preference Measures (subjective and qualitative)

1. Robustness and Flexibility: Users can have the autonomy to choose from a wide variety of personalized, structural and contextualized news articles that are visually appealing, audio-narrative supported and filtered by AI algorithms.
2. Satisfaction: Immediate update on their learning progress and dashboard. Users can also seek learning feedback from the AI learning buddy to personalize their learning experience.

To conclude, these usability considerations explain how ELLA supports users to learn configure them as motivated and autonomous learners, it aims to create sustainable language learning that brings the accessibility and inclusivity of AI-powered learning to ELLA adult learners by personalized and contextualized learning experiences.

References

Issa T. & Isaias P. (2015). Usability and human computer interaction (HCI). *Sustainable Design.* London: Springer. https://doi-org.ezproxy.library.ubc.ca/10.1007/978-1-4471-6753-2_2

NYTLicensing. (n.d.). *News for English learners: The ultimate guide*. NYTLicensing. https://nytlicensing.com/latest/education/learn-english-newspaper-articles/

Reigeluth, C. M., & An, Y. (2009). *Instructional-design theories and models: A new paradigm of instructional theory*. Routledge.

Woolgar, S. (1990). Configuring the user: The case of usability trials. *The Sociological Review, 38* (1_suppl), 58-99. https://journals.sagepub.com/doi/10.1111/j.1467-954X.1990.tb03349.x